

Personal Computer Reference Manual

Model No. **CF-28 Series**

TOUGHBOOK



2000 XP

Contents

Read Me First	2
Key Combinations	3
LED Indicators	4
Touch Pad (Advanced)	5
Touchscreen*1	11
Panasonic Hand Writing	14
Standby/Hibernation Functions	16
Security Measures	20
Computing on the Road	25
Battery Power	27
Multimedia Pocket	32
PC Cards	36
RAM Module	38
Port Replicator	39
Printer	40
External Display	41
USB Device	44
Infrared Data Communications	45
Modem	47
LAN*2	49
Hard Disk Drive	51
Setup Utility	52
Technical Information	58
DMI Viewer	59
List of Error Codes	60
Dealing with Problems (Advanced)	62

*1 Only for models with touchscreen

*2 Only for models with LAN port

When the cursor is moved to an item under [Contents] or to  page (green display), the shape of the cursor will change to . Under this condition, if characters are tapped (or a click is made), the corresponding page in the Reference Manual will be displayed.







- If the user has logged on without the administrator authority, some functions may not be executable, and some screens may be not displayed as shown in this manual. If this happens, log on with administrator authority to enable these functions.
- This manual covers two types of models, as distinguished by the type of LCD screen (models with touchscreen and models without touchscreen).
- Confirm the latest information on optional products in catalogs, etc.

Terminology used in this Reference Manual

The following terminology is used in this Reference Manual particularly when notes are not used.

- Circular media such as DVD-ROM and CD-ROM are described as “discs”.
(With the Setup Utility, these media are described as “CD”).
- The following drives are described as “CD drive”.
CD-ROM drive, DVD-ROM drive, CD-R/RW drive, DVD-ROM & CD-R/RW drive

Illustrations used 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.
WARNING:	WARNING indicates a hazard that may result in moderate or serious injury.
[Start] - [Run]:	This illustration means to click [Start], then to click [Run]. For some applications, you may need to double-click.
 :	This illustration means to press the [Enter] key.
 +  :	This illustration means to press and hold the [Fn] key, then press the [F5] key.
 :	Information for Microsoft® Windows® 2000 Professional users.
 :	Information for Microsoft® Windows® XP Professional users.
 :	This illustration means to refer to the Operating Instructions or Supplementary Instructions.

- Windows 2000 screens are used in this manual when no specific operating system notes are required.
- Some of the illustrations in this manual may differ slightly in shape from the actual items in order to make the explanation easier to understand.

Key Combinations


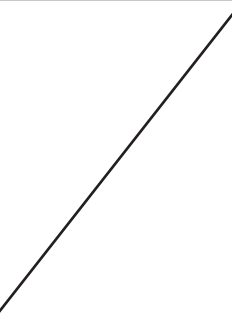





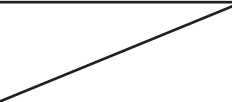







CAUTION

Do not press the following key combinations while using the touch pad (mouse), touchscreen (only for models with touchscreen) or other keys.




















NOTE

Windows XP

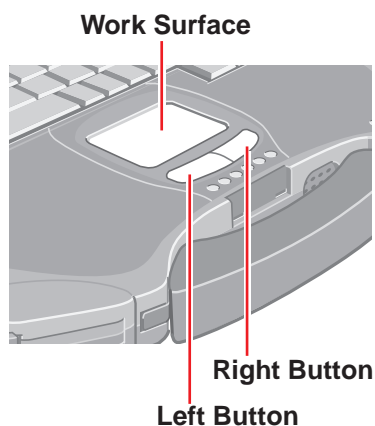
When switching to a different user with the Fast User Switching function, these key operations may not work. In this case, log on with the administrator authority again, not using the Fast User Switching function, and try the operation once more.

Key	Functions	Popup Window
Fn + F1 Fn + F2	LCD brightness control (▼down) LCD brightness control (▲up)	
Fn + F3	Display change <div> CAUTION <ul style="list-style-type: none"> Do not press another key until the display destination has been completely switched. Do not press this key combination while MPEG files are playing. </div>	
Fn + F4	Speaker on/off switch <div> CAUTION <ul style="list-style-type: none"> Disabling the speaker will also disable the warning beep. This key combination may not work when speaker is connected to the USB port. </div>	 OFF  ON
Fn + F5 Fn + F6	Volume control (▼down) Volume control (▲up) <div> NOTE <p>This key combination cannot be used to adjust the volume of the warning beep or speakers connected to the USB port.</p> </div>	 Down  Up
Fn + F7 *	Power off using the standby function Pressing this key combination causes the current screen on the display to be saved to memory, and powers off the computer. ( page 16)	
Fn + F9	Remaining capacity of the battery pack Pressing this key combination displays the remaining battery capacity on the screen. ( page 27)	 78% Remaining capacity (%) display  --%  --% Battery pack is not inserted  --%
Fn + F10 *	Power off using the hibernation function Pressing this key combination causes the current screen on the display to be saved to the hard disk, and powers off the computer. ( page 16)	

* When [Disable] is set for [Fn+F7/Fn+F10 Key] with the Setup Utility, these key combinations become inoperable.


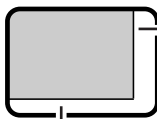
	Caps Lock	This indicator lights green when Caps Lock is pressed. Subsequent non-shifted input is capitalized.
	NumLk (Numeric key lock)	This indicator lights green when NumLK is pressed. This causes a portion of the keyboard to function as a numeric keypad. The [Enter] key functions differently depending on the application. (If an external keyboard or ten-keyboard is connected to the external keyboard/mouse port, the numeric keypad of the internal keyboard will not operate.)
	ScrLk (Scroll lock)	This indicator lights green when ScrLk is pressed. Scroll lock functions differently depending on the application.
	Multimedia pocket device status	<ul style="list-style-type: none"> This indicator lights when the multimedia pocket device (floppy disk drive, DVD-ROM drive, CD-ROM drive etc.) is accessed. (When using the floppy disk drive as an external floppy disk drive, only the access lamp on the side of the floppy disk drive is lit.) This indicator shows the status of a second battery pack when a second battery pack is installed in the multimedia pocket. The details of the status display are the same as for the main battery pack status (see below ).
	Hard disk drive status	This indicator lights when the hard disk drive is accessed.
	Power status of the multimedia pocket	This indicator lights when power is supplied to a device in the multimedia pocket. It is not lit when a second battery pack is installed in the multimedia pocket. You can confirm the status of the second battery pack with  (multimedia pocket device status).
	Battery pack status	<p>Not lit : AC adaptor not connected or charging not being performed.</p> <p>Orange  : Charging in progress.</p> <p>Green  : Charging finished.</p> <p>Red  : Battery is low (remaining battery capacity is approx. 9% or less).</p> <p>Blinking red  : Battery pack or charging malfunction.</p> <p>Blinking orange  : Unable to recharge due to violation of temperature limits. (The ambient temperature is outside the allowable range. Once the allowable range requirement is satisfied, charging begins automatically.)</p> <p>Blinking green and orange alternately  /  : Warming up the system to prevent hard disk drive malfunctions at low temperature.</p>
	Power status	<p>Not lit : Power off / Hibernation mode</p> <p>Green  : Power on</p> <p>Blinking green  : Standby mode</p>


* MP is the abbreviation for Multimedia Pocket.



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

The touch pad has the following two modes of operation.

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

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

NOTE



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

● Changing the mode of the touch pad

1 Windows 2000

Select  (models with touchscreen) or  (models without touchscreen) from the taskbar or select [Mouse] in [Control Panel], and then select [TouchPad].

Windows XP

Select  (models with touchscreen) or  (models without touchscreen) from the taskbar or select [Mouse] in [Control Panel] - [Printers and Other Hardware], and then select [TouchPad].

2 ● To set the Microsoft® IntelliMouse™ Wheel mode

Add the check mark ✓ for [IntelliMouse Wheel mode] of [Scroll Configuration].


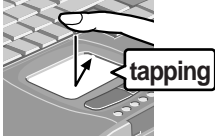

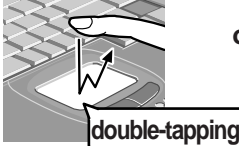
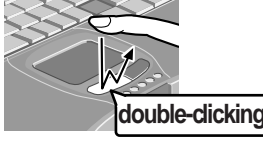



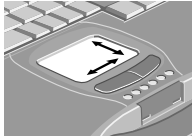



● To set the original mode

Delete the check mark for [IntelliMouse Wheel mode] of [Scroll Configuration] and then add the check mark ✓ for [Vertical] and/or [Horizontal].

3 Select [OK].

(Wheel) Indicates an operation applicable to the Microsoft® IntelliMouse™ Wheel mode.

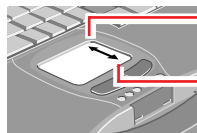

(Original) Indicates an operation applicable to the original mode.

Function	Touch Pad Operation	
Moving the Cursor (Wheel) (Original)	 Move the tip of your finger lightly over the surface.	
Tapping/Clicking (Wheel) (Original)	 tapping or  clicking	
Double-Tapping/ Double-Clicking (Wheel) (Original)	 double-tapping or  double-clicking	
Dragging (Wheel) (Original)	 or  Two quick taps, but on the second tap leaving your finger down (applying pressure) and moving it on the work surface. While holding down the button, moving your finger on the work surface.	
Scroll* (Wheel) (Original) Scroll a document (rotate the wheel)	 (Wheel)	 (Original)
Auto Scroll* (Wheel) Automatically scroll a document (move the mouse after clicking the wheel)	 ①  ② Operate after pressing the two buttons simultaneously. ● When releasing the auto scroll function: One tap on the work surface.	
Pan* (Wheel) Scroll in various directions of a document (move the mouse slightly while holding down the wheel)	 Operate while holding down the two buttons.	

Within the parentheses () are operations to follow when using an external Microsoft® IntelliMouse™.

* The movements will differ depending on the application.

(To next page)

Function	Touch Pad Operation
Zoom* (Wheel) Magnify/reduce the display of a document. (rotate the wheel while holding down (Ctrl))	(Ctrl) +  Magnify Reduce
Data Zoom* (Wheel) Display or hide a document, or perform operations to return to or proceed with Internet Explorer. (rotate the wheel while holding down (Shift))	(Shift) + 

Within the parentheses () are operations to follow when using an external Microsoft® IntelliMouse™.

* The movements will differ depending on the application.

CAUTION

- Do not enter the standby or hibernation mode when an external mouse is connected to the serial port.
- <Models with touchscreen>
- Windows 2000**
Do not remove [touchpad/touchscreen] in [Control Panel] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices].
 - Windows XP**
Do not remove [touchpad/touchscreen] in [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices].
- <Models without touchscreen>
- Windows 2000**
Do not remove [touchpad] in [Control Panel] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices].
 - Windows XP**
Do not remove [touchpad] in [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices].

NOTE

- The double-tapping speed of the touch pad can be changed using the following menu.
Windows 2000 : [Control Panel] - [Mouse] - [Tap and Buttons] - [Double-click Speed]
Windows XP : [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Tap and Buttons] - [Double-click Speed]
- The touch pad cannot be used in the Setup Utility.

● When you want to use an external mouse through the external keyboard/mouse port

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

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

Windows 2000


- 1 In [Control Panel] - [Add/Remove Programs], select [touchpad] (models without touchscreen) or [touchpad/touchscreen] (models with touchscreen) and then select [Change/Remove] to delete it, then select [Yes] to confirm the deletion.
 - The display will ask you to restart Windows. Select [No].
- 2 Power off your computer (👉 📖 “Starting Up/Shutting Down”) and connect the external mouse or trackball device to the computer.
- 3 Turn the power on and run the Setup Utility (👉 page 52). In [Main] menu, set [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Disable].
- 4 Close the Setup Utility by pressing **(F10)**. At the confirmation message, select [Yes].
- 5 Log on to Windows by using the keyboard. (Up to step 6, use the keyboard for all operations. The mouse will not function until the computer restarts. Applications can be changed with **(Alt) + (Tab)**.)
- 6 Restart your computer by using the keyboard (👉 📖 “Starting Up/Shutting Down”).
- 7 Following the operating instructions of the connected external mouse, install the necessary driver.

Windows XP

- 1 In [Control Panel] - [Add or Remove Programs], select [touchpad] (models without touchscreen) or [touchpad/touchscreen] (models with touchscreen) and then select [Change/Remove] to delete it, then select [Yes] to confirm the deletion.
- 2 When the message “The uninstallation was completed.” is displayed, select [OK].
- 3 In [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices], select [touchpad] (models without touchscreen) or [touchpad/touchscreen] (models with touchscreen), then select [Roll Back Driver] at [Driver].
At the confirmation message, select [Yes].
- 4 Select [Close].
 - The display will ask you to restart Windows. Select [No].
- 5 Power off your computer (👉 📖 “Starting Up/Shutting Down”) and connect the external mouse or trackball device to the computer.
- 6 Turn the power on and run the Setup Utility (👉 page 52). In [Main] menu, set [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Disable].
- 7 Close the Setup Utility by pressing **(F10)**. At the confirmation message, select [Yes].
- 8 Select User (only necessary when multiple accounts are created).
- 9 If the display asks you to restart Windows, select [Yes].
- 10 Following the operating instructions of the connected external mouse, install the necessary driver.

● When you want to re-enable the touch pad and touchscreen (only for models with touchscreen)


Windows 2000

- 1 Uninstall the driver or application software of an external mouse or trackball device. (Refer to the operating instructions of the external device on how to uninstall the driver.)
If the explanation of uninstalling the driver or application software can not be found in the operating instructions for the external device, execute the following steps.
In [Control Panel] - [System] - [Hardware] - [Device Manager], when an external mouse or trackball device is displayed in [Mice and other pointing devices], press **Del** to delete it and then select [OK] to confirm the deletion.
 - 2 The display will ask you to restart Windows, select [No].
 - 3 Power off your computer (☞  "Starting Up/Shutting Down") and remove the external mouse or trackball device.
 - 4 Turn the power on and run the Setup Utility (☞ [page 52](#)). In [Main] menu, set [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Enable].
 - 5 Close the Setup Utility by pressing **F10**. At the confirmation message, select [Yes].
 - 6 Log on to Windows by using the keyboard. (Up to step 9, use the keyboard for all operations. The touch pad will not function until the computer restarts. Applications can be changed with **Alt** + **Tab**.)
 - 7 At [Digital Signature Not Found] screen*, press **Enter**.
 - 8 Press **Enter** to close the wizard screen*.
 - 9 The display will ask you to restart Windows*, press **Enter**.
- <Only for models with touchscreen>
- 10 Perform the touchscreen calibration. (☞ [page 12](#))


* When the [Getting Started with Windows 2000] screen is displayed, these screens will be displayed behind it. Press **Enter** one after another.
The [Digital Signature Not Found] screen in step 6 might not be displayed.

● When you want to re-enable the touch pad and touchscreen (only for models with touchscreen)

Windows XP

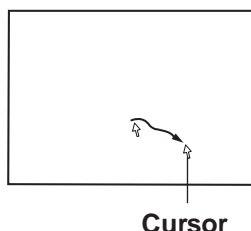
- 1 Uninstall the driver or application software of an external mouse or trackball device. (Refer to the operating instructions of the external device on how to uninstall the driver.)
If the explanation of uninstalling the driver or application software can not be found in the operating instructions for the external device, execute the following steps.
In [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager], when an external mouse or trackball device is displayed in [Mice and other pointing devices], press **(Del)** to delete it and then select [OK] to confirm the deletion.
- 2 The display will ask you to restart Windows. Select [No].
- 3 Power off your computer (☞  "Starting Up/Shutting Down") and remove the external mouse or trackball device.
- 4 Turn the power on and run the Setup Utility (☞ [page 52](#)). In [Main] menu, set [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Enable].
- 5 Close the Setup Utility by pressing **(F10)**. At the confirmation message, select [Yes].
- 6 Select User (only necessary when multiple accounts are created).
- 7 In [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Hardware], select the external mouse or trackball device and then select [Properties].
- 8 Select [Driver] and then select [Update Driver].
- 9 At [Welcome to the Hardware Update Wizard], select [Install from a list or specific location] and then select [Next].
- 10 Select [Don't search. I will choose the driver to install.] and then select [Next].
- 11 Select [Have Disk], input [c:\util\drivers\mouse] at [Copy manufacturer's files from], then select [OK].
- 12 Select [touchpad] (models without touchscreen) or [touchpad/touchscreen] (models with touchscreen) and then select [Next]. If [xx has not passed Windows Logo testing....] is displayed, select [Continue Anyway].
If same item names are displayed, select one.
- 13 Select [Finish] and then select [Close].
- 14 The display will ask you to restart Windows. Select [Yes].
<Only for models with touchscreen>
- 15 Perform the touchscreen calibration. (☞ [page 12](#))

Handling the Touch Pad

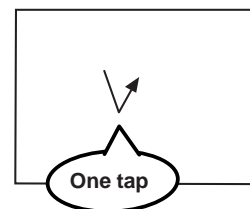
- If a key combination such as **(Fn) + (F5)** is used while the pad is being touched, the function of the key combination will not work. In addition, it is possible that control of the cursor will be lost and the cursor will not show proper movements. In such cases, the computer has to be restarted by using the keyboard (e.g., .
- Do not place any object on the work surface or press down forcefully with sharp-pointed objects (e.g., nails), hard objects that can leave marks (e.g., pencils and ball point pen).
- Do not allow things that could dirty the touch pad, such as oil. The cursor may not work properly in such cases.
- When the touch pad becomes dirty:
Wipe to remove dirty areas 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 disinfectant-type alcohol.

Your computer is equipped with a touchscreen display 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 12)

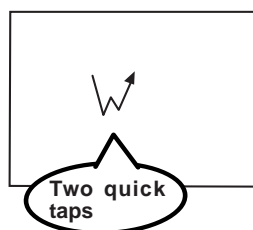
● Moving the cursor



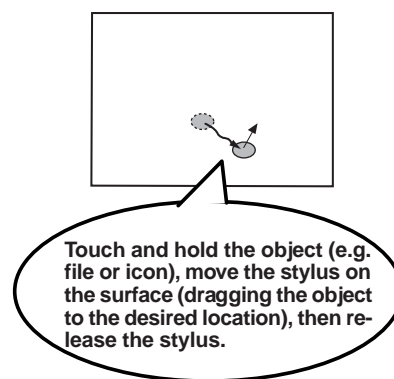
● Clicking



● Double-clicking



● Dragging



CAUTION

- When the 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 screen resolution.
- When mouse drivers are installed (e.g., Intellimouse), the touchscreen function may not be used.
- When you want to uninstall or reinstall the touchscreen (touch pad) driver, refer to the "Touch Pad (Advanced)". (☞ page 8)
- If a change is made to the screen resolution, or the cursor can not be pointed correctly, be sure to perform [Calibration]. (☞ page 12)
- 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 LCD when only an external display is in use.
- The touchscreen function can not be used when using the full screen in [Command Prompt].

Configuring the Touchscreen

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

1

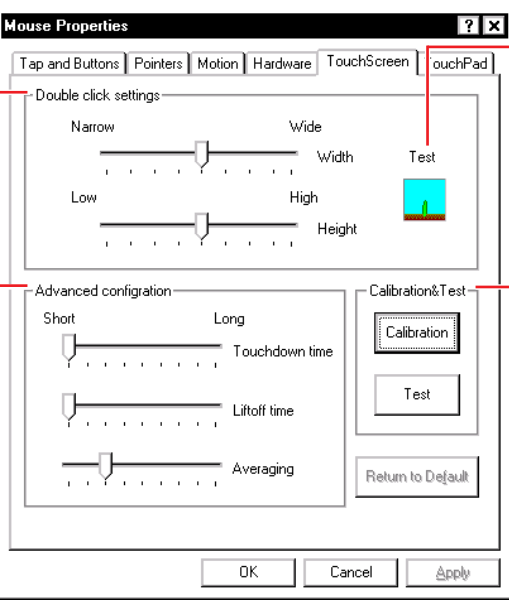
Windows 2000

Select  from the taskbar and then select [TouchScreen] or select [TouchScreen] in [Control Panel] - [Mouse]

Windows XP

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

The following screen will appear.




Double click settings
Set the width and height of the double click.

Advanced configuration
Set the advanced settings.

Test
Test for the "Double click settings".

Calibration & Test
Define the calibration setup. Use this procedure when the cursor, the stylus (included) and your finger touches do not appear to agree. (Necessary for changes in the alignment of the touchscreen with visual images or an adjustment of the display resolution.) Touch the "+" mark on the calibration screen for about one second. After the calibration procedure is executed (e.g., after the nine "+" marks are touched), the procedure ends when **(Enter)** is pressed.

NOTE

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

2

Make necessary changes

3

Select [OK]


Handling the Touchscreen

- Use the stylus included with the computer. Do not use an implement other than the stylus that comes with the computer.
- Do not place any object on the surface or press down forcefully with sharp-pointed objects (e.g., nails), hard objects that can leave marks (e.g., pencils and ball point pen).
- 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. The cursor may not work properly in such cases.
- When the touchscreen becomes dirty:
Wipe lightly to remove dirty areas by using a dry soft cloth included with the computer.
Do not use benzene or thinner, or disinfectant-type 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 accessory stylus only for the computer screen. Using it for any other purpose may damage the stylus and scratch the screen.
- Do not use pencils, implements with sharp tips or hard objects for screen operations. The screen may be damaged as a result.
- Since the stylus is retractable tip, be sure to use the stylus only after the stylus tip is ready for use (i.e., clicked open). Otherwise, scratches may result on the screen.

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

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

CAUTION

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

Drawing Characters or Figures

1

Windows 2000

Select  from the taskbar or select [Panasonic Hand Writing] from [Start] - [Programs] - [Panasonic]

Windows XP

Select  from the taskbar or select [Panasonic Hand Writing] from [Start] - [All Programs] - [Panasonic]

2

Draw a character or figure

<When using the Touch Pad mode>

CAUTION

- In the Touch Pad mode, an external mouse or trackball connected to the external keyboard/mouse port will not operate.
- The Touch Pad mode does not work properly when the computer is in the Extended Desktop.
- Do not operate any of the followings when using the Panasonic Hand Writing in the Touch Pad mode. The Touch Pad mode will be cancelled.
 - Switch to another application
 - Resume operation from the standby or hibernation mode
 - Display the settings screen for [Panasonic Hand Writing]
 - Select a menu after pressing **(Alt)**
 - Touch the touchscreen (only for models with touchscreen)

1 Select  or select [Touch Pad mode] in [Option].

(To next page)

2 Draw a character or figure using the touch pad.

Positions on the work surface of the touch pad have corresponding positions in the Panasonic Hand Writing window. For example, a character or figure made in the top-left part of the work surface of the touch pad will be displayed in the top-left part of the Panasonic Hand Writing window.

Determine the position to begin drawing:


Determine the position to begin drawing while pressing down on the right button of the touch pad. After determining this position, release your finger from the button and draw. Drawing is not possible while the right button of the touch pad is being pressed.


The above function will not work even when the right-side button of a USB mouse is pressed.

3 Press the left button of the touch pad to end the Touch Pad mode.

<When not using the Touch Pad mode>

Drag* across the Panasonic Hand Writing window to draw a character or figure.

* Touch pad:  page 6

Touchscreen (only for models with touchscreen):  page 11

CAUTION

<Only for models with touchscreen>

- When using the touchscreen, an object with a rounded tip (e.g., a stylus) can be used.

Do not use any of the following objects, as they may damage the work surface.

- Objects with an extremely sharp tip, like screwdrivers and nails.
- Objects that leave marks, like ball-point pens.
- When using the touchscreen, do not perform a drag operation by the touch pad or the external mouse as the movement will be input on the display.

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

Starting Up Your Computer Quickly

If you want to immediately start up and continue an application after shutting down your computer, you can do so by using either the standby or hibernation function.

● Differences between the standby and hibernation functions

Function	Standby function	Hibernation function
Where data is saved to	Memory	Hard disk
Speed	Fast	Somewhat slow
Requires power supply	Yes (if power is cut, all data is lost)	Power is not required to maintain data

NOTE

- If the computer will not be operated for an extended period of time, it is recommended that hibernation mode be used instead of the standby mode.
- If the standby or hibernation function is used repeatedly, the computer may not work properly. To stabilize computer operations, we recommend shutting down Windows on a regular basis (about once a week) without using the standby or hibernation function.

Entering the Standby or Hibernation Mode

Use any of the following methods to enter the standby or hibernation mode. To use the hibernation mode, make the setting below in advance. (Enabled in factory preset.)

- Fn key combinations (☞ page 3)
- Using the power switch (☞ page 18)
- From the shut down screen:
 - Standby
 - Windows 2000** : In [Start] - [Shut Down], select [Stand by].
 - Windows XP** : In [Start] - [Turn Off Computer], select [Stand By].
 - Hibernation
 - Windows 2000** : In [Start] - [Shut Down], select [Hibernate].
 - Windows XP** : In [Start] - [Turn Off Computer], press and hold **(Shift)** , then select [Hibernate].

Setting for using the hibernation mode

Windows 2000


- 1 Select [Start] - [Settings] - [Control Panel] - [Power Options].
- 2 In [Hibernate], add the check mark for [Enable hibernate support] and select [OK].

Windows XP

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

Precautions

● Before entering the standby or hibernation mode



- Save all data.
- When a file in an external device such as a CD drive, external hard disk, or ATA card is opened, close the file.
- Even when a password has been set in the Setup Utility,  does not appear when the computer resumes from the standby or hibernation mode.
If you want to use the security function when using the standby or hibernation mode, use the Windows password as follows:

Windows 2000

Set the password in [Control Panel] - [Users and Passwords], then add the check mark for [Prompt for password when computer goes off standby] in [Control Panel] - [Power Options] - [Advanced].

Windows XP

Select the account to change in [Control Panel] - [User Accounts] and set the password, then add the check mark for [Prompt for password when computer resumes from standby] in [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].

- Do not enter either the standby or hibernation mode under the following conditions. You may corrupt your data or file, the standby or hibernation function may not work, or the computer (or peripherals) may fail to work properly.
 - When the MP indicator ()^{*1} or hard disk drive indicator () is on.
 - When playing/recording audio files and displaying images (such as MPEG files).
 - When communications software is being used.
 - When using LAN cards (port), SCSI cards and modem cards (port) etc. (If these cards fail to work properly, restart the computer.)
 - When using the network function.

^{*1} Except when using a second battery pack

● When entering the standby or hibernation mode^{*2}

- Avoid the following:
 - Touching the keyboard, pointing device (touch pad, touchscreen^{*3}, external mouse, etc.), or power switch.
 - Connecting or disconnecting the AC adaptor.
 - Closing or opening the display.

^{*2} Standby mode: until the power indicator blinks green
Hibernation mode: until the power indicator goes off

^{*3} Only for models with touchscreen

● In standby or hibernation mode

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

Using the Power Switch

● Setting

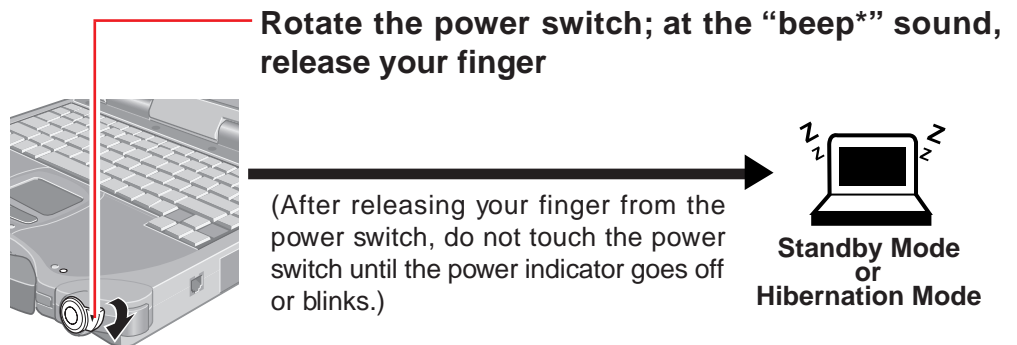
Windows 2000

- 1 Select [Start] - [Settings] - [Control Panel] - [Power Options].
- 2 In [Advanced], select [Standby] or [Hibernate] for [When I press the power button on my computer] and then select [OK].

Windows XP

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

● Shutting Down



CAUTION

At the “beep*” sound, release your finger from the power switch. If you continue to rotate the power switch and hold it for more than four seconds, the computer will emit a second “beep*” and the power will be turned off forcibly. Data not previously saved will be lost.

Windows 2000

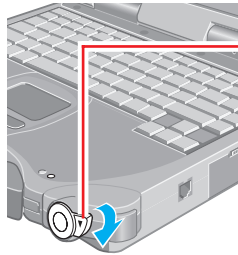
Even when [When I press the power button on my computer] is set to [Power Off] with [Control Panel] - [Power Options] - [Advanced], if you rotate the power switch for more than four seconds and do not release it, a second “beep*” will sound and the power will be turned off forcibly. Data not previously saved will be lost.

Windows XP

Even when [When I press the power button on my computer] is set to [Shut down] with [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced], if you rotate the power switch for more than four seconds and do not release it, a second “beep*” will sound and the power will be turned off forcibly. Data not previously saved will be lost.

* When the speaker function is disabled, e.g., by setting [Disable] for [Speaker] with the Setup Utility (🔧 page 53) or by the key combination **(Fn)+(F4)**, there will be no beep sound.

Resuming Operation



Rotate the power switch

When [Standby]* or [Hibernate] is selected as the setting for [When I close the lid of my portable computer], the computer will enter either the standby or hibernation mode when the LCD panel is closed. Operation will resume when the LCD panel is opened. Even if the display is closed after the computer has entered either the standby or hibernation mode, operation will resume when the display is opened. If the computer does not resume when the LCD panel is opened, slide the power switch.






* **Windows XP** : [Stand by]

CAUTION

- After the display returns, the computer needs about 15 seconds to reinitialize. Do not shut down or restart Windows, or enter either the standby or hibernation mode again during this time, as this may subsequently cause Windows to operate abnormally.
- When resuming operation, avoid the following:
 - Touching the keyboard (except for password input), pointing device (touch pad, touchscreen* external mouse, etc.), or power switch.
 - Connecting or disconnect the AC adaptor.
 - Closing or opening the display.

* Only for models with touchscreen

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

Situation	Function to use	Reference
You do not want your computer to be used without permission	Supervisor Password/ User Password	 below
You do not want the data on the hard disk to be read, or data to be written to the hard disk, in cases including theft.	Hard Disk Lock	 page 23
You want to prevent theft or damage to data by using a disk	Prevent operation by using a disk	 page 24
You want to prevent theft of your computer	Use security locks	  “Names and Functions of Parts”

NOTE

Windows has a security function that differs from the above security measures. For detailed information, refer to the Windows help.

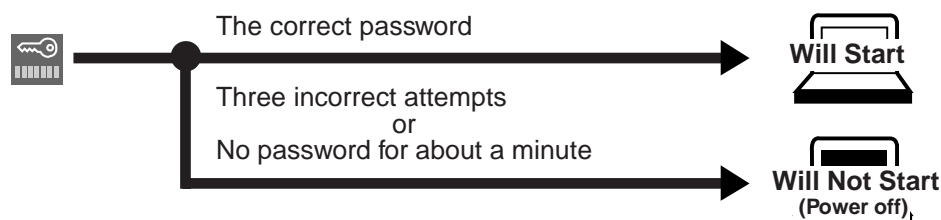
When you do not want your computer to be used without permission

You should set your “Supervisor Password” and “User Password” (The User Password can only be set when the Supervisor Password has been set).
Without the password, access to your computer is impossible.

● Starting up when the password is set

(When [Password on boot] of the [Security] menu is set to [Enable].)

Enter your password* and press **(Enter)**.



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

● When the Setup Utility is started with Supervisor Password

You can access all items in the Setup Utility ( [page 52](#)).

● When the Setup Utility is started with User Password

- You can not register [Advanced] menu and [Boot] menu.
- The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.
- In [Security] menu, only [Password on boot] and [Set User Password] are displayed.
- **(F9)** does not work.

NOTE

When [Password on boot] in the Setup Utility is set to [Disable], the password is not necessary when the computer is started up, but the password becomes necessary when the Setup Utility is started up. This alternative makes it possible to prevent the contents of the Setup Utility from being changed.

Setting the Supervisor Password (enabling, changing, disabling)

- 1 Run the Setup Utility (➞ page 52)
- 2 Using either **→** or **←**, select [Security]
- 3 Using either **↑** or **↓**, select [Set Supervisor Password] and then press **Enter**
- 4 <Only when the Supervisor Password has been set>
Enter your password at the [Enter Current Password] and then press **Enter**
- 5 Enter your password at the [Enter New Password] and then press **Enter**

● To disable the Supervisor Password

Press only **Enter**

NOTE

- Your password will not be displayed on the screen.
- Limit your password to seven characters. Note that there is no distinction between upper and lower case letters.
- Only the alphabet keys or number keys can be used. Note that the space bar and function keys cannot be used.

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

● To disable the Supervisor Password

Press only **Enter**

- 7 At the [Setup Notice], press **Enter**

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

CAUTION

- Do not input your password while holding down on **Shift** or **Ctrl**.
- Use only the upper horizontal row of numeric keys to input your password.
- Do not forget your password. If your Supervisor Password is forgotten you will be unable to use your computer. Contact Panasonic Technical Support.
- When running the Setup Utility, do not leave your computer even for a short time, as the possibility exists for the password to be set/changed by another person.

Setting the User Password (enabling, changing, disabling)

1 Run the Setup Utility (👉 page 52)

NOTE

When the Supervisor Password has not been set, the User Password can not be set.

Set the Supervisor Password if you have not done so. (👉 page 21)

2 Using either or , select [Security]

3 Using either or , select [Set User Password] and then press

4 <Only when the User Password has been set> Enter your password at the [Enter Current Password] and then press

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

<When the Setup Utility is started up with Supervisor Password>

● To disable the User Password

Press only 

NOTE

- Your password will not be displayed on the screen.
- Limit your password to seven characters. Note that there is no distinction between upper and lower case letters.
- Only the alphabet keys or number keys can be used. Note that the space bar and function keys cannot be used.

6 Re-enter your password at the [Confirm New Password] and then press



● To disable the User Password

Press only 

7 At the [Setup Notice], press

8 Press and then select [Yes], then press

CAUTION

- Do not input your password while holding down on  or .
- Use only the upper horizontal row of numeric keys to input your password.
- Do not forget your password. If a password is forgotten, you will be unable to use your computer. Contact Panasonic Technical Support.
- When running the Setup Utility, do not leave your computer even for a short time.

NOTE

When you do not want the User Password enabled or changed without permission:

1 Using either  or , select [User Password Protection] and then press .

2 Using either  or , select [Protected] and then press .

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











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

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

NOTE

- In the default setting, [Hard Disk Lock] is set to [Disable].
- You cannot set the [Hard Disk Lock] without setting the Supervisor Password. Set the Supervisor Password if you have not done so. (👉 page 21)
- The hard disk protection function only works with the internal hard disk. This function does not work with the second hard disk or external hard disk.

Procedure

- 1 Run the Setup Utility (👉 page 52)
- 2 Using either  or , select [Security]
- 3 Using either  or , select [Hard Disk Lock] and then press 
- 4 ● To enable the Hard Disk Lock
Select [Enable] and press 
At the [Caution], press .
● To disable the Hard Disk Lock
Select [Disable] and press 
- 5 Press  and then select [Yes], then press 

CAUTION

To change your hard disk drive

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

Preventing theft or damage to data using a disk

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

Procedure

- 1** Run the Setup Utility (🖱️ page 52)
- 2** Using either **→** or **←**, select [Security]
- 3** Using either **↑** or **↓**, select [Floppy Operation] and then press **Enter**
- 4** Using either **↑** or **↓**, select [Disable] and then press **Enter**
 - To enable the floppy operation
Select [Enable].
- 5** Press **F10** and then select [Yes], then press **Enter**

Conserving Power

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

● Four Important Points

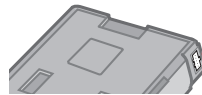
POINT 1 Be sure to charge your battery before and after use.

POINT 2 To get the maximum use of your battery, set the power management mode.

POINT 3 Check to see that you have your AC adaptor with you before leaving your home or office.

Purchasing a spare battery (CF-VZSU18), the optional battery charger (CF-VCB371) or the second battery pack (CF-VZSU1428) is highly recommended.

When using the battery charger



Connect to this connector.
(Refer to the Operating Instruction of the battery charger.)

POINT 4 Always watch your battery level!

Things to Remember

● Leave your computer off when it is not in use

(☞ "Starting Up/Shutting Down")

● Adjust the brightness (darker) with **[Fn] + [F1]**

By holding down on the keys (will be displayed), the degree of brightness will be lowered, thereby lowering the power consumption.

● Before stepping away from your computer, press **[Fn] + [F7]** or **[Fn] + [F10]** to put your computer in the standby or hibernation mode (☞ page 3, page 16)

● Windows 2000

In [Control Panel] - [Power Options], make settings in detail

By making settings in detail for the timeout, alarm, etc., it is possible to control the consumption of power.

Windows XP

In [Control Panel] - [Performance and Maintenance] - [Power Options], make settings in detail

By making settings in detail for the timeout, alarm, etc., it is possible to control the consumption of power.

By selecting [Max Battery] in [Power Schemes], the battery's operating time can be extended even further.

Windows 2000

● Setting the Intel® SpeedStep™ technology (☞ page 26)

By using the Intel® SpeedStep™ technology applet, you can set the computer's performance to optimize power consumption.

CAUTION

When installed in a network environment (except when the Wake up from LAN function is in use).

Do not enter either the standby or hibernation mode.

After resuming operation from the standby or hibernation mode, the network connection may be severed or the computer will not work properly.





Setting the Intel(R) SpeedStep (TM) technology Windows 2000

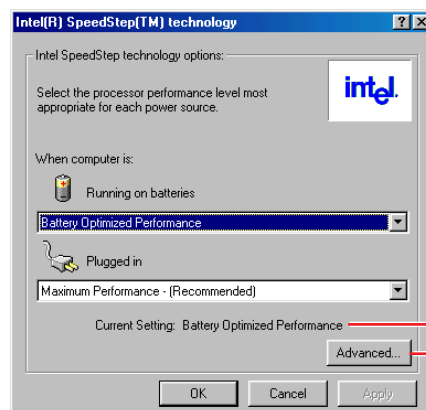
By using the Intel® SpeedStep™ technology applet, you can set the computer's performance to optimize power consumption.

Start-up methods

Select  on the taskbar

NOTE

- The icon differs depending on the current setting.
 -  Maximum Performance (The CPU performance is maximized at all times.)
 -  Automatic (The CPU performance is automatically maximized only when necessary.)
 -  Battery Optimized Performance
 -  Maximum Battery (Maximum battery life)
- You can also start using [Start] - [Settings] - [Control Panel] - [Power Options] - [Intel(R) SpeedStep(TM) technology].



Displays settings currently in effect.

Display detailed settings (⏏ screen in the "CAUTION" shown below)



CAUTION

Do not add the check mark for [Disable Intel SpeedStep technology control].



Battery Status

Use the Battery Indicator to Check the Battery Status





 :Status of main battery pack
 :Status of second battery pack

Battery Indicator	Battery Status
Orange*	Charging
Green*	Fully-charged
Red	Battery charge is low (the charge is less than approx. 9% capacity)
Blinking red*	Battery pack or charger may not be working properly. Quickly remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact Panasonic Technical Support.
Blinking orange*	Unable to recharge due to violation of temperature limits. (The ambient temperature is outside the allowable range. Once the allowable range requirement is satisfied, charging begins automatically.)
Blinking green and orange alternately	Warming up the system to prevent hard disk drive malfunctions at low temperature.
Not lit	Battery pack is not connected or charging not being performed.



* When the AC adaptor is connected.

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

● Getting a detailed reading

 +  →  78% :The remaining power of the main battery
 --% :The remaining power of the second battery

NOTE

- The actual remaining battery capacity and the displayed indication may differ. To correct this, perform the “Refresh Battery” utility. ( page 29)
 - The battery indicator light remains red.
 - The battery remaining displays 99% and the indicator light is orange for a long period of time.
 - Low battery warning appears after a short period of time.
This may be caused by the use of standby mode for long periods of time. The battery is discharging while the computer is in standby mode when the AC adaptor is not connected.
- When the battery pack is not in the computer,  is displayed.
- There may be a discrepancy with the % value that is displayed on the taskbar of Windows, but this is not a malfunction.

Remaining Battery Level Confirmation by Alarm

The computer can be set to notify of a low battery level, etc. using the following menu. When the battery level goes down to the level specified, the computer sets off an alarm and displays a message indicating the low battery level.

Windows 2000

[Control Panel] - [Power Options] - [Alarms]

Windows XP

[Control Panel] - [Performance and Maintenance] - [Power Options] - [Alarms]

- Set the value for the [Critical battery alarm] to 5% or more. This is necessary for the standby or hibernation function to be completed (assuring data is saved) when the battery level is low.
- When making a setting for [When the alarm goes off, the computer will:] in [Alarms] -[Alarm Action], add a check mark for [Force standby or shutdown even if a program stops responding.].
- If the computer shuts down or enters the standby or hibernation mode by the alarm settings function, start up the computer or resume operations after connecting the AC adaptor. If the computer starts up or resumes while the AC adaptor is not connected, Windows may not operate properly or alarm operations may stop working.
- When disabling the speakers with the Setup Utility (or pressing **(Fn) + (F4)**), the alarm beep is also disabled.

When the Remaining Battery Charge Becomes Low

Save your data and power off your computer

Then:

- Plug in the AC adaptor, and fully charge your battery.
- Use a spare battery if you have one.
In the standby mode, do not remove/change the battery pack.
- If you have neither the AC adaptor nor an extra battery, power the computer off.

About High Temperature Mode

This computer has a high temperature mode function that prevents the degradation of the battery in high temperature environments.

We recommend setting the high temperature mode function when installing the computer in a car, etc. To do this, set [Environment] in the [Main] menu of the Setup Utility to [High Temperature]. Note that a level of 100% in the [High Temperature] mode is about a level of 80% in the [Normal Temperature] mode.

After switching from [Normal Temperature] to [High Temperature], or vice versa, the remaining battery will not be displayed properly until the battery pack is completely discharged or fully charged.

Accurately Displaying Battery Capacity

The battery pack has a function for measuring, storing, and learning about battery capacity. Using this function properly to accurately display remaining battery capacity requires that the battery pack be fully charged (charged to 100%), then fully discharged, and then fully charged again.

This procedure should be performed once after you purchase the computer. As you use the battery pack over a long period of time, the remaining capacity display may become inaccurate due to aging of the battery pack and other factors. The procedure described below should be performed again.

1 Attach the battery pack, then connect the AC adaptor

Remove all peripherals (except for the battery pack and AC adaptor).

2 Use the “Refresh Battery” utility to fully discharge the battery pack

1 Run the Setup Utility. (👉 page 52)

2 Select [Refresh Battery] from the [Exit] menu and then press **Enter**.

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

Once the battery indicator turns green, the battery pack will be completely discharged. It takes approximately 3.5 hours* until the power automatically goes off through the complete discharge of the battery from the fully charged state.

* When the second battery has been inserted in addition to the main battery: approximately 6 hours

NOTE

If the computer is turned off (electrical power outage, accidental removal of the AC adaptor or battery pack, etc.), the battery will not be refreshed correctly.

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

Charging Time: Approximately 3 hours.

Replacing the Battery Pack

When the charge provided by your battery pack is supplied for only a short period of time, even after fully charging according to the instructions, it may be time to replace your battery pack. The battery pack is a consumable item and therefore will require replacement (CF-VZSU18).

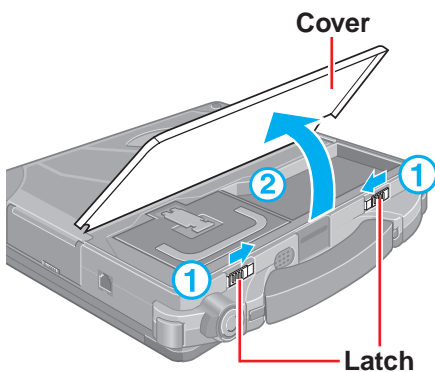
CAUTION

- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- The battery pack is not charged when the computer is first purchased. Be sure to charge it before using it for the first time. When the AC adaptor is connected to the computer, charging begins automatically.
- Use only the specified battery pack (CF-VZSU18) with your computer.

- 1 Power off your computer** (👉📖 “Starting Up/Shutting Down”)
Do not shut down using the standby function.

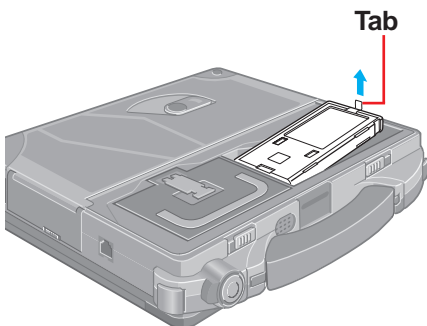
CAUTION

In the standby mode, do not remove/change the battery pack. Removing the pack in the standby mode will erase your data and may damage the computer.



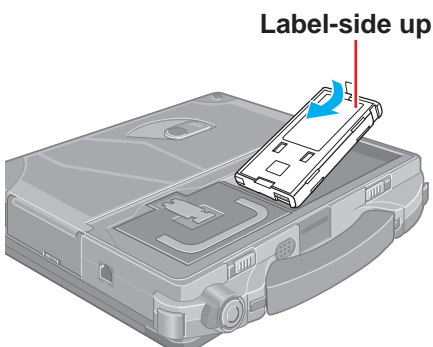
- 2 Remove the cover**

- ① Turn your computer over and slide the latches inward.
- ② Lift open the cover holding both sides and remove the cover.



- 3 Remove the battery pack**

- ① Lift the battery pack slightly by pulling the tab.
- ② Hold the battery pack and remove it from the computer.



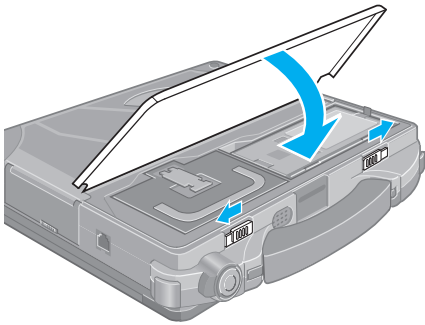
- 4 Insert the new battery pack**

Insert the battery pack into the computer with the label-side up.

CAUTION

- Be sure the battery pack is properly connected to the connector.
- Do not allow the battery connector to touch any portion of the computer. The computer may not operate properly.

(To next page)



5 Put the cover back into place

Put the cover back into place holding both sides, and slide the latches outward.

CAUTION

- If the cover is not attached properly, the battery may fall out while the computer is being carried.
- When attaching the cover, be careful not to get your fingers and the tab caught in the cover.

You may use any of the following devices.

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

Confirm the latest information on optional products in catalogs, etc.

NOTE

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

Preparation for Inserting/Removing

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



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

① Windows 2000

Double-click  on the taskbar.



Windows XP

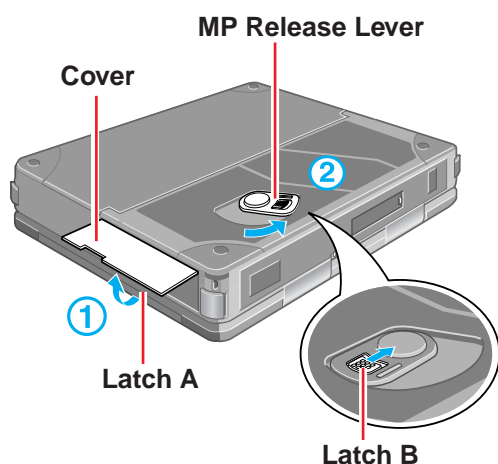
Double-click  on the taskbar.

- ② Select the multimedia device and then select [Stop].
Follow the on-screen instructions.
- ③ Confirm that  and  indicators are not lit.

Inserting/Removing

CAUTION

Do not insert/remove the multimedia pocket device in the standby or hibernation mode, or when  (multimedia pocket indicator) or  (hard disk drive indicator) is on.

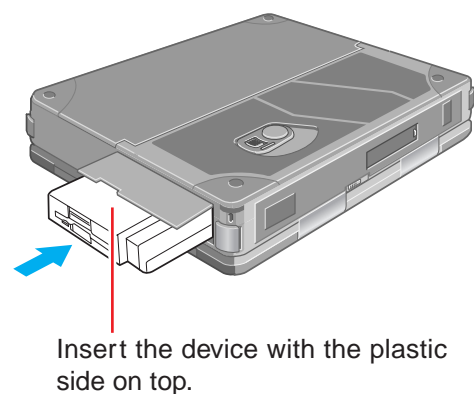
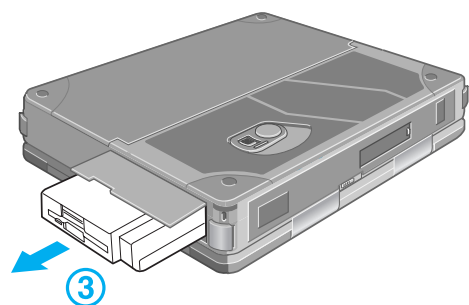
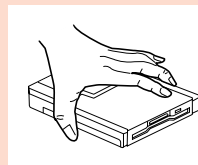


● Removing the device

- ① Turn your computer over and open the cover by sliding the latch A.
- ② Slide and hold the latch B on the MP release lever, then turn the MP release lever.
- ③ Remove the device by holding both sides of the device.

CAUTION

Handle the device as shown (holding both sides). Otherwise, the device may be damaged. Also, do not apply excessive downward force on the device. The projections at the bottom of a device become deformed.



● Inserting the device

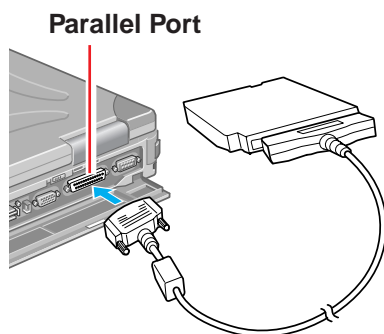
Gently insert the device into the multimedia pocket by pushing on both corners until it clicks into place.

CAUTION

Do not insert the device upside-down.
The bottom of the drive may become disfigured.

NOTE


- Whether the device is properly recognized or not can be confirmed in [Information] of the Setup Utility. If the device is not recognized (or if a CD/DVD cannot be read or an FD/HDD/CD-R/CD-RW cannot be read or written to), power off the computer and reinsert the device.
- When the CD drive is installed:
If the vibration of the CD drive is excessive, set the [CD Drive Speed] to [Low] in the Setup Utility.




Using the Floppy Disk Drive as an External Drive

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

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

Windows 2000 : To remove the floppy disk drive while the computer is on, select  on the taskbar before removing the floppy disk drive, select [Standard floppy disk controller], and then select [Stop].

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

CAUTION

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

NOTE

- When the computer is on or in the standby or hibernation mode, if the floppy disk drive is accessed after it had earlier been disconnected, there are instances where the contents of the floppy disk set prior to the drive removal are displayed.

Do not try to access any of the files. If an attempt is made, an error message may be displayed or a message prompting you to format the disk may appear. (When this message appears, select [Cancel] or [No] to close the display.)

The above contents will no longer be displayed when the drive is re-connected or when the computer is restarted.

- When the floppy disk drive is not connected to both the multimedia pocket and parallel port, do not access the floppy disk drive through Explorer, etc.
- The CD drive cannot be used as an external device.

Information for the CD Drive

Windows 2000

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

Windows XP

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

Information for the Second Hard Disk Drive

Windows 2000

Refer to the Operating Instructions of the Second Hard Disk Drive Pack.

Windows XP

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

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

● When changing the partition (after First Time Operation)

CAUTION

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

Windows 2000

Refer to the Operating Instructions of the Second Hard Disk Drive Pack.

Windows XP

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

Your computer has two PC Card slots. These slots conform to the PC Card Standard; therefore, communications or SCSI devices, etc., may be utilized. The slots allow you to use two Type I or Type II cards (or one Type I and one Type II), or one Type III card.

● Type I or II

Two cards can be used simultaneously.



● Type III

One card can be used only in the slot 1.



CAUTION

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

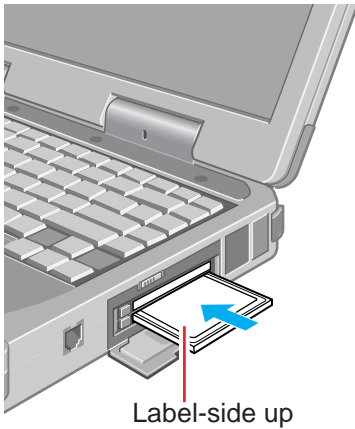
NOTE

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

Inserting/Removing PC Card

● Inserting PC Cards

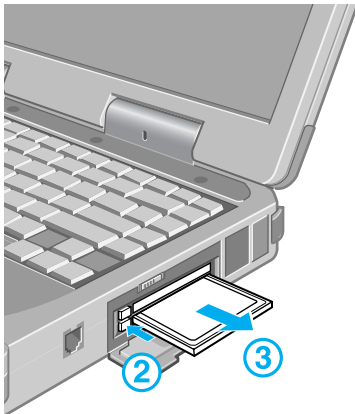
Slide the PC Card in until it snaps into place. Refer to the operating instructions of each card on how to Insert the card (insertion is typically label-side up).



CAUTION

- When using a PC Card to connect a peripheral device (SCSI, IEEE 1394, etc.):
 - 1 Connect the peripheral device to the card.
 - 2 Turn the device on.
 - 3 Insert the card.
- When inserting a card, do not force the card in if difficulty is encountered. You may damage the slot, making it impossible to remove the card.


● Removing PC Cards



CAUTION


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

① Windows 2000

Double-click  on the taskbar, select the PC Card, then select [Stop]. Follow the on-screen instructions.

(When the PC Card has been removed after the computer is turned off, this step is not necessary.)

Windows XP

Double-click  on the taskbar, select the PC Card, then select [Stop]. Follow the on-screen instructions.

(When the PC Card has been removed after the computer is turned off, this step is not necessary.)

② Press the button.

③ Slide the PC Card out.

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

RAM module specifications

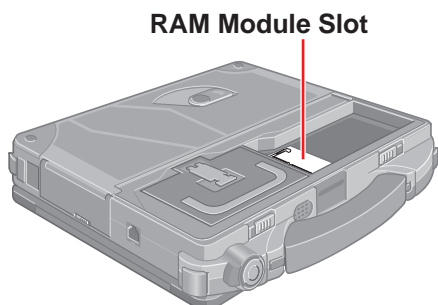
144 pins, SO-DIMM, 3.3 V, SDRAM, PC133 Compliant

Only a RAM module designed for PC133 can be added.

CAUTION

RAM modules are extremely sensitive to static electricity. There are cases where static electricity generated by the human body has adversely affected such modules. In addition, it is easy to damage the RAM modules or internal components of the computer. Therefore, when Inserting or removing a RAM module, handle the module with extreme care.

Inserting/Removing RAM Module

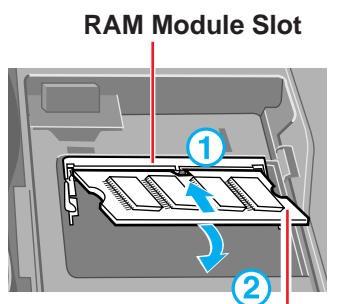


- 1 Power off your computer** (☞ "Starting Up/Shutting Down")
Do not shut down using the standby or hibernation function.
Disconnect the AC adaptor and remove the second battery pack if one is inserted.

- 2 Remove the battery pack** (☞ page 30)

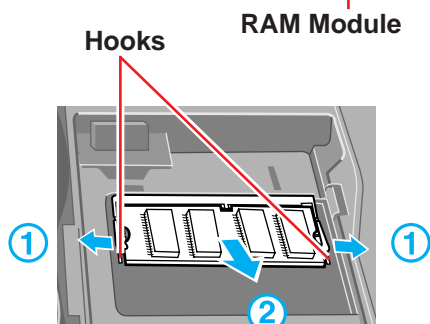
CAUTION

Do not touch the terminals or internal components, insert objects other than the module, or allow foreign particles to enter. Doing so has been known to cause damage, fire or electric shock.



- 3 ● Inserting the RAM module**

- ① Slide in the module at an angle.
- ② Snap the module into place by pushing down on it.



- Removing the RAM module**

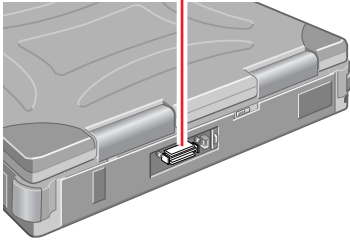
- ① Open the left and right hooks.
- ② Gently remove the RAM module from the slot.

- 4 Put the battery pack back into place and attach the cover**
(☞ page 30)

NOTE

Whether the RAM module is properly recognized or not can be confirmed in [Information] of the Setup Utility. If the RAM module is not recognized, power off the computer and insert it again.

Expansion Bus Connector



A port replicator is available as an option (CF-VEB272A). This device eliminates the hassles of having you connect/disconnect the various cables when carrying your computer around and allows a variety of peripherals to be connected including a head-phone or microphone, etc.

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

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

NOTE

- Hot/Warm Docking and Hot/Warm Undocking are not possible with the port replicator.
- When connecting the external display to the display port on the port replicator, the characters on the external display may be blurred if 1280 x 1024 (or a higher resolution) is set.
In this case, select a resolution that is lower than 1280 x 1024.

Setting the Port Replicator

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

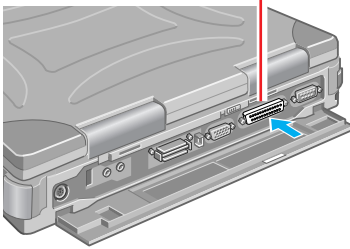
- 1 Run the Setup Utility. (👉 page 52)
- 2 Select [Advanced] menu and then set [Serial Port B] to [Enable] or [Auto].
- 3 Press **F10**. At the confirmation message, select [Yes] and press **Enter**. The computer will restart.

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

NOTE

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

Parallel Port



- 2 Connect the printer to your computer**

- 3 Turn on the printer, then turn on your computer**

- 4 Setting your printer**

Windows 2000

Select [Start] - [Settings] - [Printers].

Find your printer's icon, click on it, then select [File] - [Set as Default Printer]. If no icon is available, select the [Add Printer] icon and follow the on-screen instructions.

Windows XP

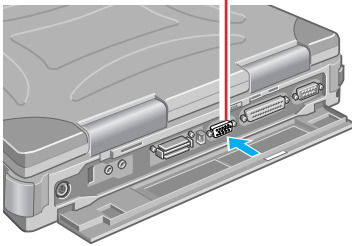
Select [Start] - [Printers and Faxes].

Find your printer's icon, double-click on it, then select [Printer] - [Set as Default Printer]. If no icon is available, select [Add a printer] and follow the on-screen instructions.

NOTE

- You may need to install a driver for your printer. Follow the on-screen instructions and refer to the operating instructions of the printer on how to install the driver.
- Confirm whether or not the setting for the [Parallel Port] in the Setup Utility is optimal. (☞ [page 54](#))

External Display Port



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

- 2 Connect the external display to your computer**

- 3 Turn on the external display, then turn on your computer**

After Windows starts up, the screen is displayed on the display destination set in the following menu.

Windows 2000 : [Start] - [Settings] - [Control Panel] - [Intel® Extreme Graphics] - [Devices]

Windows XP : [Start] - [Control Panel] - [Other Control Panel Options] - [Intel® Extreme Graphics] - [Devices]

The screen is not displayed based on the [Display] setting in the Setup Utility.

It is possible to change the setting to display only on the external display or on both the internal LCD and the external display with **(Fn) + (F3)**.

This combination does not work when the [Command Prompt] screen is set to "Full Screen".

CAUTION

Do not press the **(Fn) + (F3)** combination while MPEG files are playing.

- 4 Select your external display**

Windows 2000

Set your external display for [Monitor] in [Control Panel] - [Display] - [Settings] - [Advanced].

When a monitor that does not conform to the Plug & Play standards is connected, select [Monitor] - [Properties] - [Driver] - [Update Driver] and make the monitor settings.

Windows XP

Set your external display for [Monitor] in [Control Panel] - [Appearance and Themes] - [Display] - [Settings] - [Advanced].

When a monitor that does not conform to the Plug & Play standards is connected, select [Monitor] - [Properties] - [Driver] - [Update Driver] and make the monitor settings.

NOTE

- Set number of colors, resolution, or refresh rate correctly to suit the external display.
- For more detailed information, refer to the operating instructions of the external display.

About [Intel® Extreme Graphics]

The selection of the display destination, adjustment of the brightness and contrast, and setting of the hotkey to change the display destination can be done in the following menu.

Windows 2000 : [Control Panel] - [Intel® Extreme Graphics] - [Devices]

Windows XP : [Control Panel] - [Other Control Panel Options] - [Intel® Extreme Graphics] - [Devices]

Extended Desktop

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

1 Windows 2000

Select [Start] - [Settings] - [Control Panel] - [Intel® Extreme Graphics] - [Devices].

Windows XP

Select [Start] - [Control Panel] - [Other Control Panel Options] - [Intel® Extreme Graphics] - [Devices].

2 Select [Extended Desktop], make the settings for [Primary Device] and [Secondary Device].

To make the settings for each display (colors, screen area, etc.), select [Device Settings] and change the settings where necessary, then select [OK].

3 Select [OK].

At the confirmation message, select [OK].

NOTE

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

(To next page)

CAUTION

- When the application running is not shown on the display, refer to the following items.

Under the condition the application is in the external display, or after the application is closed in the external display, there are cases the application will not be shown in the display when executed the next time if the position of the extended display is changed or the Extended Desktop is closed.

When there is no display after the position of the extended display is changed:

The application running is being displayed at the position of the extended display before the change. Return the position of the extended display to the condition before the change. Move the application to the internal LCD, and then correct the position of the extended display.

When there is no display when the Extended Desktop is disabled:

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

- To prevent images from being burned onto the external display, manually shut off the power to the external display when the display does not have to be used.
- When the display domain for the Extended Desktop is changed, there are cases the wallpaper and icons become displaced.

Wallpaper: Change the setting for the wallpaper.

Icons: Run the command to automatically realign the icons. (Auto Arrange)

- When an animated pointer is used for the mouse pointer (e.g., when changing the theme in [Appearance and Themes] of the [Control Panel]), an error may occur when resuming from the standby or hibernation mode. In such cases, change the mouse pointer to the standard pointer with the following procedure.

1 Windows 2000

In [Control Panel], select [Mouse].

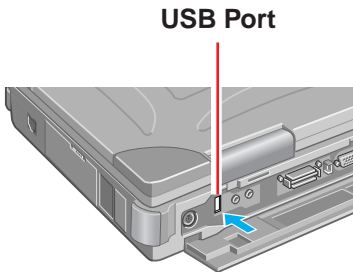
Windows XP

In [Control Panel], select [Printers and Other Hardware] - [Mouse].

2 Select [Pointers].

3 Select [Windows Default (system scheme)] in [Scheme], then select [OK].

Inserting a USB Device



Connect the USB device to your computer, referring to the operating instructions of the USB device

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

NOTE

- USB devices may be attached or removed without turning off the computer's power.
- When a USB device is connected, there are cases the standby or hibernation function will not operate in a normal manner due to the USB device. In addition, a USB device may have to be removed temporarily and the computer restarted in cases where the computer is unable to start up properly.

Removing a USB Device

CAUTION


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

1


Windows 2000

Double-click  on the taskbar and select the USB device, then select [Stop]


Follow the on-screen instructions.

(When  is not displayed or when the USB device has been removed after the computer is turned off, this step is not necessary.)

Windows XP

Double-click  on the taskbar and select the USB device, then select [Stop]

Follow the on-screen instructions.

(When  is not displayed or when the USB device has been removed after the computer is turned off, this step is not necessary.)

2

Remove the USB device

Your computer is equipped with an infrared communications port enabling you to transfer data without a cable.



Infrared Communication Port

NOTE

When switching to a different user with the Fast User Switching function, you cannot use the infrared communication port. Use the infrared communication port only with the user whom you first logged on with.

Preparations for Infrared Data Communications

- Be sure the computers are not in direct contact with one another.
- A port-to-port distance of 20 cm to 50 cm {8" to 20"} is recommended.
- If [IrDA Port] is set to [Disable] in the Setup Utility, set [IrDA Port] to [Enable] or [Auto] as follows.
 - 1 Run the Setup Utility. (→ page 52)
 - 2 Select [Advanced] menu and then set [IrDA Port] to [Enable] or [Auto].
 - 3 Press **(F10)**. At the confirmation message, select [Yes] and press **(Enter)**. The computer will restart.

Problems with Infrared Data Communications

The following conditions can cause interference of the infrared data communications:

- An object is obstructing the path between the two infrared ports.
- Other electronic devices (television, VCR, wireless headphones, etc.) are operating near the computers.
- The computers are exposed to direct sunlight or white glowing light such as fluorescent lighting.
- A computer is being moved while transmitting/receiving data.

Setting for Infrared Data Communications

NOTE

Be sure to enable the use of the infrared communication port in the same way for the computer with which communications will take place.

Windows 2000

Add the check mark for [Allow others to send files to your computer using infrared communications] in [Start] - [Settings] - [Control Panel] - [Wireless Link] - [File Transfer] and then select [OK]

Windows XP

Add the check mark for [Allow others to send files to your computer using infrared communications] in [Start] - [Control Panel] - [Printers and Other Hardware] - [Wireless Link] - [Infrared] and then select [OK]

Data Communications

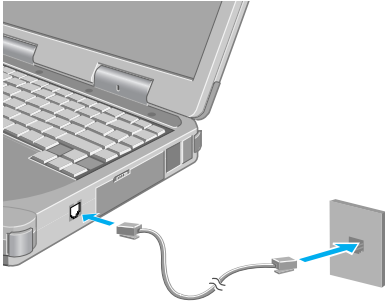
Windows 2000

- 1** Position your computer so that the infrared communication port is face-to-face with the port of another computer
- 2** Double-click [Wireless Link] on the desktop on the computer that will send a file
- 3** Select the file to be sent and then select [Send]
- 4** Select [Yes] on the computer that will receive the file and after receiving the file, select [Close]
(It will be sent to the desktop if the receiving computer is running Windows 2000.)

Windows XP

- 1** Position your computer so that the infrared communication port is face-to-face with the port of another computer
- 2** Double-click [Send files to another computer] on the desktop on the computer that will send a file
- 3** Select the file to be sent and then select [Send]
- 4** Select [Yes] on the computer that will receive the file and after receiving the file, select [Close]
(It will be sent to the desktop if the receiving computer is running Windows XP.)

Connecting to a Telephone Line and Settings



1 Connecting a telephone line to the modem

It is not possible to connect the modem to any of the following lines.

- Internal home phones
- Intercoms

CAUTION

Do not use the PBX internal phone lines installed in company offices. Doing so may lead to a fire or electric shock.

NOTE

There are cases telephone construction (or installation) work will be necessary depending on the shape of the connector of the telephone line.

2 Windows 2000

Select [Edit] in [Control Panel] - [Phone and Modem Options] - [Dialing Rules]

Input the necessary information (items such as the country, area code, etc.) and then select [OK].

Windows XP

Select [Edit] in [Control Panel] - [Printers and Other Hardware] - [Phone and Modem Options] - [Dialing Rules]

Input the necessary information (items such as the country, area code, etc.), select [OK], then select [OK].

NOTE

Do not enter either the standby or hibernation mode during communications.

Ring Resume Function

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

This function is convenient when using automatic information receiving applications such as a FAX application when not at home or not in the office.

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

To use this function;

1 Windows 2000

In [Control Panel] - [System] - [Hardware] - [Device Manager] - [Modems], select the modem you are using.

Windows XP

In [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Modems], select the modem you are using.

2 Select [Power Management] and add a check mark for [Allow this device to bring the computer out of standby].

NOTE

- This function does not work when the computer is off or is in hibernation mode.
- When using this function, it is recommended that the AC adaptor be connected to the computer.
- The computer cannot resume if a telephone is connected to the line of a modem (e.g., a PC Card modem) other than the internal modem.
- Concerning the setting for [System standby]*, roughly consider the communication time and then set [System standby].

There may be cases where the computer enters the standby mode after the time set for [System standby] elapses even during communications, and cuts off the communications. If [Never] is set, the computer will not enter the standby mode during communications, but once the computer resumes, the power of the computer will remain on while the user is absent.

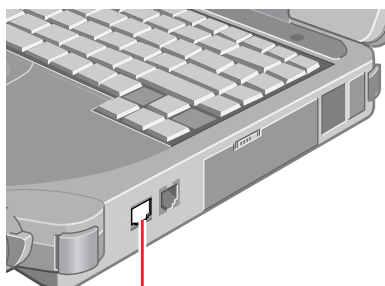
* **Windows 2000** : In [Control Panel] - [Power Options] - [Power Schemes]

Windows XP : In [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes]

- When the Ring Resume function is being used, some time elapses before a connection is established (equal to the time for the computer to resume). To allow the computer to resume, set the "call" (with the software application that is able to maintain the condition to receive telephone calls) to a larger value than a typical telephone call.

If it is not possible for the sending side to set a long "call", set the "number of rings until answer" (with the software application that is able to maintain the condition to receive telephone calls) to a small value.

Using LAN



LAN Port

Using the computer as a network 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.

NOTE

- Do not use the standby or hibernation functions during communications (except when the Wake up from LAN function is in use), as this may cause an error in data transmission or reception. The timeout function may engage even during data transmissions, causing the computer to automatically go into standby or hibernation mode. When not using the Wake up from LAN function, we recommend disabling the timeout function using the following menu.
 - Windows 2000** : [Control Panel] - [Power Options] - [Power Schemes]
 - Windows XP** : [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes]
- If you are unable to connect to the network (when the indicator of your HUB unit does not light):
 - 1 Windows 2000**
Select [Device Manager] in [Start] - [Settings] - [Control Panel] - [System] - [Hardware].
 - Windows XP**
Select [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].
 - 2** Select the network adaptor you are using from [Network adapters].
 - 3** Select [Advanced].
 - 4** Confirm the settings of each item.

Wake up from LAN

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

1 Windows 2000

Select [Device Manager] in [Start] - [Settings] - [Control Panel] - [System] - [Hardware].

Windows XP

Select [Device Manager] in [Start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].

2 Select the network adaptor you are using from [Network adapters].

3 Select [Power Management], add the check mark for [Allow this device to bring the computer out of standby.] and [Allow the computer to turn off this device to save power.], then select [OK].

NOTE

- Be sure to connect the AC adaptor, and enable the supply of power.
- Make settings to allow the use of a LAN.
- The computer will not “wake up” if the LAN cable is disconnected and reconnected.
- When using the Wake up from LAN function, delete the check mark for the following:

Windows 2000

[Prompt for password when computer goes off standby] in [Start] - [Settings] - [Control Panel] - [Power Options] - [Advanced]

Windows XP

[Prompt for password when computer resumes from standby] in [Start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced]

- The Wake up from LAN function will not operate under the following conditions:
 - When the computer has been shut down.
 - When the AC adaptor and battery pack are removed from the computer or reattached to the computer.

To Change Your Hard Disk Drive, Contact Panasonic Technical Support

CAUTION

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

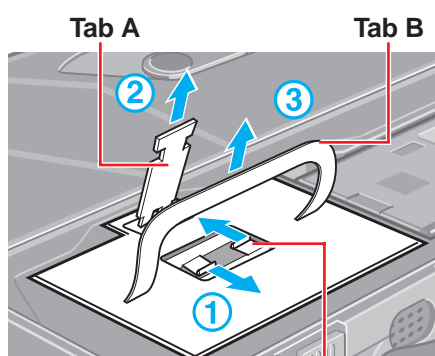
Inserting/Removing the Hard Disk Drive

- 1 Power off your computer** (☞ "Starting Up/Shutting Down")
Do not shut down using the standby or hibernation function.
Disconnect the AC adaptor and remove the second battery pack if one is inserted.

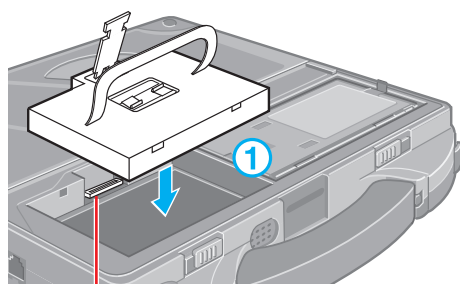
- 2 Remove the cover** (☞ page 30)

- 3 Removing the hard disk drive**

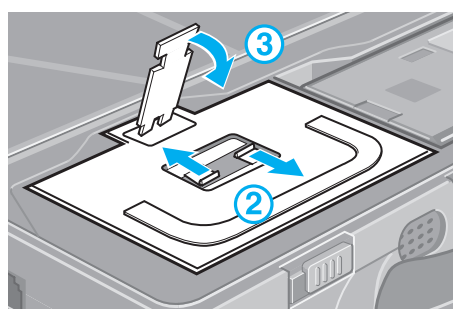
- ① Slide the hooks of the hard disk drive toward the inside.
- ② Pull the tab A and release the hard disk drive from the connector.
- ③ Pull the tab B up and gently lift the hard disk drive.



Hook



Connector



- Inserting the hard disk drive**

- ① Insert the hard disk drive as shown in the figure.
Push the base part of the tab A and firmly connect the hard disk drive to the connector.

- ② Slide the hooks of the hard disk drive toward the outside.
- ③ Close the tab A.

- 4 Put the cover back into place** (☞ page 31)

Running the Setup Utility

- 1 Turn on or restart the computer
- 2 Press **(F2)** while **[Press F2 to enter SETUP]** is displayed soon after the computer begins the startup procedure

(If you fail to press **(F2)** at this time, restart your computer.)

- **If [Enter Password] is displayed**

Enter your password.

The Supervisor Password must be entered to change items of the [Advanced] menu, [Boot] menu or [Security] menu. (When a user password is entered, the [Advanced] menu contents, [Boot] menu contents and some parts of the [Security] menu cannot be changed.)

NOTE

To close the Setup Utility;  [page 57](#).

- **Key Operations**

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

Information Menu

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

Parameters (_ : Default)

Language*	<u>English</u> Japanese
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* Select the language for displaying the Setup Utility.

Main Menu

System Time:	[xx:xx:xx]
System Date:	[xx/xx/xxxx]
Touch Pad:	[Enable]
Touchscreen* ¹ :	[Enable]
Speaker:	[Enable]
Internal MIC:	[Enable]
Display:	[Simultaneous]
Environment:	[Normal Temperature]

Parameters (_ : Default)

Touch Pad	Disable <u>Enable</u>
Touchscreen* ¹	Disable <u>Enable</u>
Speaker	Disable <u>Enable</u>
Internal MIC* ²	Disable <u>Enable</u>
Display* ³	External Monitor Internal LCD <u>Simultaneous</u>
Environment	<u>Normal Temperature</u> High Temperature

*¹ Only for models with touchscreen.

*² Select [Disable] to be able to use the external microphone connected to the port replicator.

*³ After Windows starts up, the screen is displayed on the display destination set in the following menu.

Windows 2000

[Control Panel] - [Intel® Extreme Graphics] - [Devices]

Windows XP

[Control Panel] - [Other Control Panel Options] - [Intel® Extreme Graphics] - [Devices]

Advanced Menu

Serial Port A:	[Auto]
Serial Port B:	[Disable]
IrDA Port:	[Auto]
MP Serial Port:	[Disable]
Parallel Port:	[Auto]
Mode:	[ECP]
CardBus Controller A:	[Enable]
Modem:	[Enable]
LAN* ¹ :	[Enable]
Boot up from LAN:	[Disable]

*¹ Only for models with LAN port

Parameters (_ : Default)

Serial Port A		Disable Enable <u>Auto</u>
	I/O IRQ* ²	<u>3F8/IRQ4</u> 2F8/IRQ3 3E8/IRQ11 2E8/IRQ10
Serial Port B		Disable Enable Auto
	I/O IRQ* ²	3F8/IRQ4 <u>2F8/IRQ3</u> 3E8/IRQ11 2E8/IRQ10
IrDA Port		Disable Enable <u>Auto</u>
	I/O IRQ* ²	3F8/IRQ4 <u>2F8/IRQ3</u> 3E8/IRQ11 2E8/IRQ10
MP Serial Port		<u>Disable</u> Enable Auto
	I/O IRQ* ²	3F8/IRQ4 2F8/IRQ3 <u>3E8/IRQ11</u> 2E8/IRQ10

*² This item is displayed only when the setting of each port is [Enable].
In addition, an asterisk (*) displayed in front denotes competing resources. Change the I/O IRQ setting.

(To next page)

Advanced Menu

Parallel Port		Disable Enable <u>Auto</u>	*1 This item is displayed only when [Parallel Port] is set to [Enable] or [Auto]. *2 This item is displayed only when the setting of each port is [Enable]. In addition, an asterisk (*) displayed in front denotes competing resources. Change the I/O IRQ setting.
	Mode*1	Uni-directional Bi-directional EPP ECP	
	I/O IRQ*2	<u>378/IRQ7</u> 278/IRQ5	
CardBus Controller A		Disable <u>Enable</u>	*3 This item is displayed only for models with LAN port. *4 [Disable] is automatically set when [LAN] is set to [Disable].
Modem		Disable <u>Enable</u>	
LAN*3		Disable <u>Enable</u>	
	Boot up from LAN*4	<u>Disable</u> Enable	

Security Menu

Password on boot:	[Enable]
►Set Supervisor Password:	[Enter]
Display Boot Menu:	[Enable]
Hard Disk Lock:	[Disable]
User Password Protection:	[No Protection]
►Set User Password:	[Enter]
Floppy Operation:	[Enable]

NOTE

When the Setup Utility is started up with the User Password:

- The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.
- Only [Password on boot] and [Set User Password] are displayed.

Parameters

(__: Default)

Password on boot	Disable <u>Enable</u>	* Setting impossible when the Supervisor Password is not set.
Set Supervisor Password	To the sub-menu	
Display Boot Menu	Disable <u>Enable</u>	
Hard Disk Lock*	<u>Disable</u> Enable	
User Password Protection	<u>No Protection</u> Protected	
Set User Password*	To the sub-menu	
Floppy Operation	Disable <u>Enable</u>	

Power Menu

Fn+F7/Fn+F10 Key:	[Enable]
CD Drive Speed:	[High]

Parameters (_ : Default)





Fn+F7/Fn+F10 Key	Disable Enable
CD Drive Speed	High Low

Boot Menu

Floppy Drive* ¹
Hard Disk
CD Drive
LAN* ²

*¹This item is shown even when the floppy disk drive is not installed or [Floppy Operation] is set to [Disable].

*² This item is displayed only when [Boot up from LAN] in [Advanced] menu is set to [Enable]. ( page 55)

The default order is as follows:
[Floppy Drive] → [Hard Disk] → [CD Drive] → [LAN]
To move a device up by one in the order, select the device with  and , and then press **F6**.
To move a device down by one in the order, select the device with  and , and then press **F5**.

NOTE

Boot First Menu

The device for starting up the operating system can also be selected during computer start-up. After the computer is turned on, the device selection display will appear when **Esc** is pressed while “Press Esc to enter Boot First Menu” is shown.
When the setting of the [Boot] menu is changed, the selection screen display will also change. The [Boot Menu] is displayed only when [Display Boot Menu] in [Security] menu is set to [Enable].

Exit Menu

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

- Refresh Battery

Parameters

Save Values & Exit	Exit the Setup Utility and save your changes to CMOS.
Exit Without Saving Changes	Exit the Setup Utility without saving your changes to CMOS.
Get Default Values*	Set the default settings. The password remains.
Load Previous Values	Load previous values from CMOS for all Setup items.
Save Current Values	Save your changes to CMOS.
Refresh Battery	Refreshing the battery (👉 page 29)

* This item may not be displayed when starting up the Setup Utility with the User Password.

Network

When the power saving function is running, communications software may malfunction. For example, communications may be halted if the standby (hibernation) mode is activated. The computer must be restarted if one of these modes is entered during data communications.

Windows 2000

When network or communication software is to be used, set [Turn off monitor] and [Turn off hard disks], [System standby] and [System hibernates] (in [Control Panel] - [Power Options] - [Power Schemes]) to [Never].

Windows XP

When network or communication software is to be used, set [Turn off monitor] and [Turn off hard disks], [System standby] and [System hibernates] (in [Control Panel] - [Performance and Maintenance] - [Power Options]) to [Never].

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:

Windows 2000

c:\winnt\cdimage

Windows XP

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

Precautions When Using a CardBus Type LAN Card Windows 2000

Prior to usage, optimize the LAN card settings by following the procedure given below. Failure to do so may result in an error message being displayed when performing a copy operation via the LAN card with a computer on the network.

- 1 Select the LAN card you are using from [Network adapters] in [Control Panel] - [System] - [Hardware] - [Device Manager].
- 2 Select [Advanced] and then choose [Store And Forward] from [Property], then set [Enabled] for [Value] if it is set to [Disabled].
(This item may be unavailable for some types of LAN cards.)


Recovery Console Windows XP

If you install the Recovery Console, you can use the command prompt to execute operations such as CHKDSK in cases where, for example, Windows XP will not start. Use the following procedure to install Recovery Console. This procedure allows you to select Recovery Console as a startup option during startup.

- 1 Select [Start] - [Run].
- 2 Input [c:\windows\i386\winnt32.exe /cmdcons], then select [OK].
Follow the on-screen instructions.

NOTE

For an overview of Recovery Console, refer to [Help and Support].

- 1 Select [Start] - [Help and Support].
- 2 Enter "Recovery Console" under [Search], then select .

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

Running DMI Viewer

Windows 2000

Select [DMI Viewer] from [Start] - [Programs] - [Panasonic]

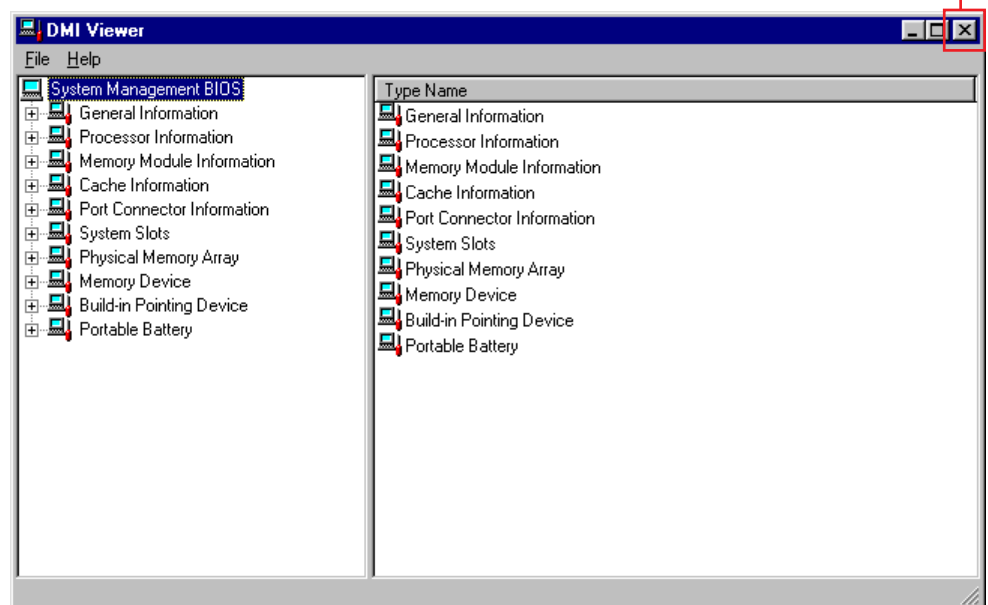
Windows XP

Select [DMI Viewer] from [Start] - [All Programs] - [Panasonic]

The screen shown below is displayed.

When you click on an item, detailed information on that item will be displayed.

Click to close the DMI Viewer



Saving Information to a File

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

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

- 2** Input the file name (and select the folder) and then select [Save]

The following is a list of the messages that BIOS can display. Most of them occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured. Following the list are explanations of the messages and remedies for reported problems.

If your system displays one of except the messages marked below with an asterisk (*), write down the message and contact Panasonic Technical Support. If your system fails after you make changes in the Setup menus, reset the computer, enter Setup and install Setup defaults or correct the error.

0200 Failure Fixed Disk

Fixed disk in not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup. Find out if the fixed-disk type is correctly identified.

0210 Stuck key

Stuck key on keyboard.

0211 Keyboard error

Keyboard not working.

0212 Keyboard Controller Failed

Keyboard controller failed test. May require replacing keyboard controller.

0213 Keyboard locked - Unlock key switch

Unlock the system to proceed.

0230 System RAM Failed at offset : *nnnn*

System RAM failed at offset *nnnn* of in the 64k block at which the error was detected.

0231 Shadow RAM Failed at offset : *nnnn*

Shadow RAM failed at offset *nnnn* of the 64k block at which the error was detected.

0232 Extended RAM Failed at offset : *nnnn***Extended RAM Failed at address line : *nnnn***

Extended memory not working or not configured properly at offset or address line *nnnn*.

0250 System battery is dead - Replace and run SETUP

The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

***0251 System CMOS checksum bad - Default configuration used**

System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. The BIOS installed Default SETUP Values. If you do not want these values, enter Setup and enter your own values. If the error persists, check the system battery or contact Panasonic Technical Support.

0260 System timer error

The timer test failed. Requires repair of system board.

0270 Real time clock error

Real-time clock fails BIOS test. May require board repair.

***0280 Previous boot incomplete - Default configuration used**

Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of **wait states**, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that the wait-state configuration is correct. This error is cleared the next time the system is booted.

0281 Memory Size found by POST differed from EISA CMOS

Memory size found by POST differed from EISA CMOS.

02B0 Diskette drive A error**02B1 Diskette drive B error**

Drive A: or B: is present but fails the BIOS POST diskette tests. Check to see that the drive is defined with the proper diskette type in Setup and that the diskette drive is attached correctly.

02B2 Incorrect Drive A type - run SETUP

Type of floppy drive A: not correctly identified in Setup.

02B3 Incorrect Drive B type - run SETUP

Type of floppy drive B: not correctly identified in Setup.

02D0 System cache error - Cache disabled

Contact Panasonic Technical Support.

02F0: CPU ID:

CPU socket number for Multi-Processor error.

02F4: EISA CMOS not writable

ServerBIOS2 test error: Cannot write to EISA CMOS.

02F5: DMA Test Failed

ServerBIOS2 test error: Cannot write to extended DMA (Direct Memory Access) registers.

02F6: Software NMI Failed

ServerBIOS2 test error: Cannot generate software NMI (Non-Maskable Interrupt).

02F7: Fail - Safe Timer NMI Failed

ServerBIOS2 test error: Fail-Safe Timer takes too long.

device address Conflict

Address conflict for specified *device*.

Allocation Error for: device

Run ISA or EISA Configuration Utility to resolve resource conflict for the specified *device*.

Failing Bits : *nnnn*

The hex number *nnnn* is a map of the bits at the RAM address which failed the memory test. Each 1 (one) in the map indicates a failed bit. See error 230,231 or 232 for offset address of the failure in System, Extended or Shadow memory.

Invalid System Configuration Data

Problem with NVRAM (CMOS) data.

I/O device IRQ conflict

I/O device IRQ conflict error.

Operating System not found

Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.

Parity Check 1 *nnnn*

Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ?????. Parity is a method for checking errors in binary data. A parity error indicates that some data has been corrupted.

Parity Check 2 *nnnn*








Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.

Press <F1> to resume, <F2> to Setup


Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter a Setup and change the settings. Write down and follow the information shown on the screen.

When a problem occurs, refer to this page. If you still cannot troubleshoot the problem, contact Panasonic Technical Support.

Starting Up

The power indicator or battery indicator is not lit	<ul style="list-style-type: none"> ● Check the cable connection for the AC adaptor. ● Check to see if a fully charged battery is properly inserted. ● Remove the battery pack and disconnect the AC adaptor, then connect them again.
 is displayed	Input your password. If you have forgotten it, contact Panasonic Technical Support.
POST Startup Error(s) is displayed	 page 60
Windows startup, or an operation is extremely slow	Press (F9) in the Setup Utility ( page 52). This will restore the Setup Utility's settings to their default values (except the password settings). Then, the Setup Utility must be run once again for you to input the appropriate operating environment settings. (The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.)
The date and time are incorrect	<ul style="list-style-type: none"> ● You can set the date and time using the following menu. <ul style="list-style-type: none"> Windows 2000 : [Control Panel] - [Date/Time] Windows XP : [Control Panel] - [Date, Time, Language, and Regional Options] - [Date and Time] ● When the computer is connected to a LAN, confirm the date and time of the server. ● If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact Panasonic Technical Support. ● This computer will not correctly recognize the date and time starting from the year 2100 A.D.
When resuming from the standby or hibernation mode,  does not appear even if a password has been set in the Setup Utility	<p>Use the Windows password as follows:</p> <p>Windows 2000</p> <p>Set the password in [Control Panel] - [Users and Passwords], then add the check mark for [Prompt for password when computer goes off standby] in [Control Panel] - [Power Options] - [Advanced].</p> <p>Windows XP</p> <p>Select the account to change in [Control Panel] - [User Accounts] and set the password, then add the check mark for [Prompt for password when computer resumes from standby] in [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].</p>
When the administrator password is forgotten	<p>Windows 2000</p> <p>After reinstalling, setup Windows and then set the password again.</p> <p>Windows XP</p> <p>If you have created a password reset disk (  "First-time Operation"), a message is displayed when you fail to correctly enter the password. Follow the message's instructions and set the password again by using the password reset disk.</p> <p>If you have not created a password reset disk, after reinstalling, setup Windows and then set the password again.</p>
When the previous item is not the cause	<ul style="list-style-type: none"> ● Press (F9) in the Setup Utility ( page 52). This will restore the Setup Utility's settings to their default values (except the password settings). ● Try removing all peripheral devices. ● Windows 2000 <p>Click [Local Disk(C:)] in [My Computer] with the right button, select [Properties], then select [Tools] - [Check Now].</p> ● Windows XP <p>Click [Local Disk(C:)] in [Start] - [My Computer] with the right button, select [Properties], then select [Tools] - [Check Now].</p> ● At start-up, press (F8) to operate the computer in the Safe mode.

● Battery Indicator

The red indicator lights	The battery level is low. Save your data and power off your computer. After connecting the AC adaptor or replacing the battery pack with a fully charged one, turn your computer on.
The red indicator blinks	<ul style="list-style-type: none"> ● The battery pack or recharging function may be defective. Quickly remove the battery pack and disconnect the AC adaptor, then connect them again. ● If the problem persists, contact Panasonic Technical Support.
The orange indicator blinks	Unable to charge because of an improper temperature range. (☞  "Precautions")
The battery indicator blinks green and orange alternately	Warming up the system to prevent hard disk drive malfunctions at low temperature.

● Touchscreen <Only for models with touchscreen>

Unable to input by touching the display	<ul style="list-style-type: none"> ● Has the Setup Utility been used to set [Touchscreen] to [Enable]? (☞ page 53) ● When mouse drivers are installed (e.g., Intellimouse), the touchscreen is unable to be used. ● Has the touchscreen driver been properly installed? ● It is necessary to perform [Calibration] to point correctly with the stylus included with the computer.
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● Touch Pad

Unable to input using the touch pad	<ul style="list-style-type: none"> ● Has the Setup Utility been used to set [Touch Pad] to [Enable]? (☞ page 53) ● When mouse drivers are installed (e.g., Intellimouse), the touch pad is unable to be used. ● Has the touchpad driver been properly installed?
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● Keyboard

Only capital letters are being input	If CapsLock is on, the Caps Lock function is on. To switch it off, press Caps Lock .
How to input European characters (ß, à, ç), symbols or Euro Currency Symbol is unclear	<p>Windows 2000</p> <p>Select [Start] - [Programs] - [Accessories] - [System Tools] - [Character Map].</p> <p>Windows XP</p> <p>Select [Start] - [All Programs] - [Accessories] - [System Tools] - [Character Map].</p> <p>The Character Map will be displayed. Point to the desired font name and select it.</p>
Windows 2000 After resuming, input keys do not work properly	When the computer enters standby or hibernation mode while Alt , Ctrl or Shift are held down, these keys may remain in "pressed" mode when the computer resumes operation. Pressing these keys once will return the keys to normal.

● Setup Utility

[Enter Password] is displayed	Enter the User Password or Supervisor Password. If you have forgotten it, contact Panasonic Technical Support.
[Advanced] and [Boot] menu can not be registered	Restart the Setup Utility with the Supervisor Password.
All or some items in [Security] menu can not be registered	Restart the Setup Utility with the Supervisor Password.
F9 does not work	Restart the Setup Utility with the Supervisor Password.





● Display

No display after powering on	<ul style="list-style-type: none"> When there is no display to an external display, <ul style="list-style-type: none"> Check your cable connection to the external display. Confirm your display is powered on. Check the settings for your external display. Try changing the display by pressing (Fn) + (F3).
The power has not been turned off, but after a certain period of time, there is no display	<ul style="list-style-type: none"> Has the computer been set to the power-saving mode? To resume operation of your computer from the condition the power of the display is off (for energy conservation purposes), press any key unrelated to the direct triggering of a selection, like (Shift). To save power, your computer may have automatically entered the standby or hibernation mode. Rotate the power switch.
The cursor cannot be controlled	Restart the computer by using the keyboard (e.g., (F10)).
An afterimage appears (e.g., green, red, and blue dots remain on the display) or there are dots not displaying the correct colors	<ul style="list-style-type: none"> If an image is displayed for a prolonged period of time, an afterimage may appear. This is not a malfunction. The afterimage will disappear when a different screen is displayed. High-precision and advanced technologies are necessary in the production of color liquid crystal displays (color LCDs). Therefore, if 0.002% or less of the picture elements either fail to light or remain constantly lit (that is, more than 99.998% of elements are functioning properly), no defect is considered to exist.
The external display no longer displays properly	When an external display is used that is incompatible with the power saving modes of the computer, the display may not function correctly when the computer enters the power saving mode. In such cases, turn off the power to the external display.
The screen becomes disordered	Changing the number of colors and refresh rate of the display may affect the screen. Restart the computer.
During simultaneous display, the screen of the external display becomes disordered	<ul style="list-style-type: none"> Try changing the display by pressing (Fn) + (F3). If you continue to experience problems, try changing the display in the following menu. <ul style="list-style-type: none"> Windows 2000 : [Start] - [Settings] - [Control Panel] - [Intel® Extreme Graphics]. Windows XP : [Start] - [Control Panel] - [Other Control Panel Options] - [Intel® Extreme Graphics].
The screen does not fill up the entire display (i.e., the screen is shown in the center of the display)	If the resolution is set to less than the resolution of the internal LCD and the screen is set to simultaneous display, the screen will not fill up the entire display. Also, if the screen is set to Extended Desktop, the screen may not fill up the entire display.

● Sound




The sound is not heard	<ul style="list-style-type: none"> Try changing the mute by pressing (Fn) + (F4) or (Fn) + (F6). Has the Setup Utility been used to set [Speaker] to [Disable]? (page 53)
The computer produces a strange sound	If the computer enters the power management mode such as the standby mode/ Hibernation mode or the LCD is closed while the computer is making a sound, the computer may produce a strange sound, but this does not indicate a problem.

● Connecting Peripherals


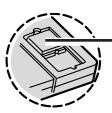
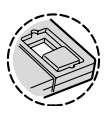
An error occurs while installing the driver	When you install the driver for a PC Card or peripheral device, be sure to use a driver that is compatible with the operating system. If you use an incompatible driver, malfunction may occur. For information on drivers, contact the manufacturer of the peripheral device you purchased.
Your peripheral does not work	When operation resumes from the standby or hibernation mode, serial devices such as a mouse, modem or PC Cards may not function properly. In such cases, you will need to restart your computer or reinitialize the individual devices.
Unable to print	<ul style="list-style-type: none"> ● Check the computer-printer connection. ● Make sure the printer is on. ● Make sure the printer is in the online state. ● Make sure paper is in the printer tray and there is no paper jam. ● Has the Setup Utility been used to set [Parallel Port] to [Enable] or [Auto]. ● Depending on the printer, EPP or ECP may not work at times.
The cursor does not move from mouse operations	<p>Check your mouse connection, then reboot the computer from the keyboard.</p> <p>Windows 2000 From the keyboard, you may choose to press down on , then select [Shut Down].</p> <p>Windows XP From the keyboard, you may choose to press down on , then select [Turn Off Computer].</p>
The device connected to the serial port does not work	<ul style="list-style-type: none"> ● Check the connection. ● Confirm that the device driver for the serial port works. Refer to the operating instructions of the device. ● Confirm that two mouse devices are not connected, one through the external keyboard/mouse port and the other through the serial port. ● Try setting [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Disable] in the Setup Utility. ● Confirm that [Serial Port] has not been set to [Disable] in the Setup Utility. ● Depending on the device, the operable I/O and IRQ may be limited. Try different I/O and IRQ settings in the Setup Utility.
External mouse or trackball connected to the external keyboard/mouse port does not work	<ul style="list-style-type: none"> ● Try setting [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Disable] in the Setup Utility. ● In some circumstances, if a PS/2 external mouse with a serial interface conversion function is connected to the port, it may not operate normally. Try connecting it to the serial port.
A PC Card does not work	<ul style="list-style-type: none"> ● Make sure the card is properly inserted. ● Confirm that the card conforms to the PC Card Standard. ● Note that after a driver is installed, the computer must be rebooted. ● Check that the proper port settings have been made. ● Read the operating instructions for the PC Card. Or, you may need to call the manufacturer of the PC Card. ● Try removing/reinserting the PC Card by following the proper procedure. ( page 37) ● Confirm that a driver for your operating system has been installed.
You do not know the available RAM module	 page 38
The RAM module has not been recognized	<ul style="list-style-type: none"> ● Make sure the RAM module has been properly inserted. ● Use the RAM module that supports the recommended specifications.

(To next page)

● Connecting Peripherals

The address map for IRQ, I/O port address, etc. is unclear	<p>Windows 2000</p> <p>Check the address map by going to [View] - [Resources by type] in [Control Panel] - [System] - [Hardware] - [Device Manager].</p> <p>Windows XP</p> <p>Check the address map by going to [View] - [Resources by type] in [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].</p>
A USB device does not work	<ul style="list-style-type: none"> ● Make sure a driver is installed. ● Contact the manufacturer of the product.
It is not easy to hear of the microphone sound	<p>1 Windows 2000</p> <p>Select  on the taskbar.</p> <p>Windows XP</p> <p>Select  on the taskbar.</p> <p>2 Select [Options] - [Properties].</p> <p>3 Check [Playback] and then add the check mark ✓ for [Microphone], then select [OK].</p> <p>4 Select [Options] - [Advanced Controls].</p> <p>5 Select [Advanced] in [Microphone].</p> <p>6 Delete the check mark ✓ for [Microphone Boost] and then select [Close].</p> <p>7 Click  in the top of right corner of the window.</p>

● Disk Operations

Cannot read/write to a floppy disk	<ul style="list-style-type: none"> ● Has the floppy disk been correctly inserted? ● Has the floppy disk been correctly formatted? ● Has the Setup Utility been used to set [Floppy Operation] to [Enable]? ( page 55) ● Your disk content may be corrupted.
Unable to write to a floppy disk	<p>Is the floppy disk write-enabled?</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Write Enable</p> </div> <div style="text-align: center;">  <p>Write Disable</p> </div> </div>
How to format a floppy disk is unclear	<p>Windows 2000</p> <p>Select [Format] in [My Computer] - [3 1/2 Floppy (A:)] - [File]. After confirming the disk volume and format type, start formatting.</p> <p>Windows XP</p> <p>Select [Format] in [Start] - [My Computer] - [3 1/2 Floppy (A:)] - [File]. After confirming the disk volume and format type, start formatting.</p>
Unable to read/write to the hard disk	<ul style="list-style-type: none"> ● Your drive or file may not have been properly set. ● Check to see if the hard disk is full. If it is full, delete unnecessary files. ● Your hard disk content may be corrupted. Contact Panasonic Technical Support.
When the previous item is not the cause	<p>Try testing another drive or media.</p>

● Standby/Hibernation Function

Unable to enter standby or hibernation mode	If a USB device is connected to the computer (note: only for some USB devices), remove the USB device temporarily. If the problem persists, restart the computer.
Unable to automatically enter standby or hibernation mode	If a peripheral device is connected to the computer, disconnect the device.
The computer does not resume	Did you rotate the power switch and hold it for four seconds or more? If you rotate the power switch and hold it for four seconds or more, the power will be turned off forcibly. In this case, all unsaved data will be lost.

● Network

Unable to connect to a network	<ul style="list-style-type: none"> ● Confirm that either [Modem] or [LAN] is set to [Enable] in the Setup Utility. ● When using the computer as a network computer, some additional settings may have to be made depending on the usage conditions. We recommend asking your system administrator or the person in charge of the network. ● If the standby or hibernation mode is entered, the computer may have to be restarted.
Windows 2000 When performing a copy operation via a LAN card with a computer on the network, an error message is displayed and the copy operation fails	<ul style="list-style-type: none"> ● The settings for the network adaptor you are using may not be optimized. Confirm this with the following procedure. <ol style="list-style-type: none"> 1 Select the network adaptor you are using from [Network adapters] in [Control Panel] - [System] - [Hardware] - [Device Manager]. 2 Select [Advanced], choose [Store And Forward] from [Property], and then set [Enable] for [Value] if it is set to [Disable]. (This item may be unavailable for some types of network adaptor.) ● Confirm that the computer on the network is operating properly and that the file is not corrupt.

● Shutting Down

Windows cannot be shut down or restarted	<ul style="list-style-type: none"> ● Do not shut down Windows during music playback. ● If a USB device is connected, try removing it.
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● Others

Computer hangs	<ul style="list-style-type: none"> ● Do not switch screens continuously (e.g., using the [Command Prompt] full screen display) while an MPEG file is running. ● Press Ctrl + Shift + Esc to open Task Manager and close the software application which is not responding. ● After shutting down by sliding the power switch for more than four seconds, slide the power switch to power on and open the application again. If the program no longer works normally, delete the program using the following menu. Then reinstall the program. Windows 2000 : [Control Panel] - [Add/Remove Programs] Windows XP : [Control Panel] - [Add or Remove Programs]
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● Fast User Switching function **Windows XP**

Some applications may not work properly	<p>When switching to a different user with the Fast User Switching function, the following problems may occur.</p> <ul style="list-style-type: none"> ● Some applications may not work properly (for example, PDF files may not be printed properly). ● Key combinations with Fn may not work. ● It may not be possible to set the settings of the display. <p>If any of the above occur, log on with the administrator authority again, not using the Fast User Switching function, and try the operation once more.</p>
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