

TOUGHBOOK

95 NT

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Illustrations 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.

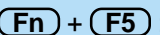
[Start]-[Shut Down]:

This illustration means to click [Start], then to click [Shut Down].

(For some applications, you may need to double-click.)

 :

This illustration means to press the [Enter] key.

 :

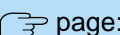
This illustration means to press and hold the [Fn] key, then press the [F5] key.



 :

Information for Microsoft Windows® 95 users.

 :

Information for Microsoft Windows NT® Workstation Version 4.0 users.

 page:

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.

 :

This illustration means to refer to the Operating Instructions.

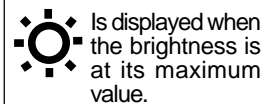
- Some of the illustrations and screens in this manual may differ slightly in shape from the actual items in order to make the explanation easier to understand. The illustrations and screens in this manual feature CF-27FCCKFAM.

Key Combinations

CAUTION

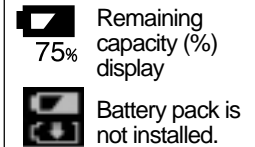
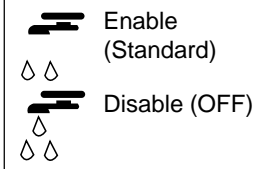
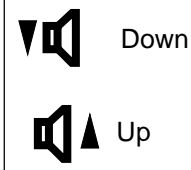
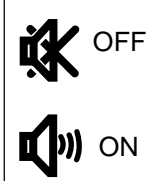
- Do not press the following key combinations repeatedly in (quick) succession.
- Do not press the following key combinations while using the touch pad (touchscreen or mouse) or other keys.

Key	Functions	Popup Window
Fn + F2	LCD brightness control	Hold down the Fn key and press F2 to change the brightness.
Fn + F3	Display change	By pressing this key combination, you can select either an external display ^{*1} , LCD or simultaneous. Rebooting the computer, or powering off then on, restores the display setting of the Setup Utility.
Fn + F4	Speakers on/off switch	Pressing this key combination turns on/off audio from the internal speakers and headphone jack. Rebooting the computer, or powering off then on, restores the speaker setting of the Setup Utility.
Fn + F5 Fn + F6	Volume control (▼down) Volume control (▲up) Holding down on the keys changes the sound level.	Pressing this key combination adjusts the volume of the internal speakers and headphone jack.
Fn + F7 ^{*2}	Power off using the suspend function	Pressing this key combination causes the current screen on the display to be saved to memory, and powers off the computer. When the computer is powered on, by sliding the power switch, the saved screen will be displayed. (The computer must be plugged into the AC adapter or have a battery pack with sufficient remaining power installed.)
Fn + F8	Power management enable/disable switch	Pressing this key combination temporarily disables the power management feature of the Setup Utility. Rebooting the computer, or powering off then on, restores the power management setting of the Setup Utility. page 22
Fn + F9	Remaining capacity of the battery pack	Pressing this key combination displays the remaining battery capacity on the screen. page 24
Fn + F10 ^{*2}	ECO mode for conserving power	Pressing this key combination turns off the LCD and hard disk drive until operation is resumed by pressing any key or mouse ^{*3} (Windows 95 except the keyboard and mouse connected to the USB port).











CAUTION
Disabling the speakers will also disable the warning beep.

NOTE
● This key combination cannot be used to adjust the volume of the warning beep.
● A dull elongated sound may be heard while adjusting the volume.

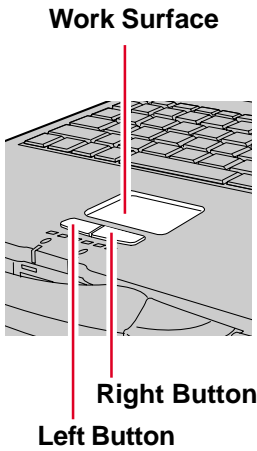



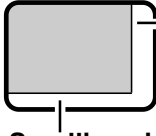
^{*1} The optional port replicator or external display port adapter is required for use with an external display. ([page 35](#), [page 37](#))
^{*2} When [Disable] is set for [Fn+F7/Fn+F10 key] with the Setup Utility, these key combinations become inoperable.
^{*3} This "mouse" indicates the touch pad, the touchscreen and an external mouse.


	Caps Lock	<p>This indicator lights green when Caps Lock is pressed. Subsequent non-shifted input is capitalized.</p>
	NumLk (Numeric key)	<p>These indicators light green when NumLk is pressed and the Key Pad is pressed while holding down the Fn key. This causes a portion of the keyboard to function as a numeric keypad. The [Enter] key functions differently depending on the application.</p>
	ScrLk (Scroll lock)	<p>This indicator lights green when ScrLk is pressed. Scroll lock functions differently depending on the application.</p>
	KeyPad (Arrow key)	<p>This indicator lights green when Key Pad is pressed while holding down the Fn key. When the indicator is lit, a portion of the keyboard functions as arrow keys. The [Enter] key functions differently depending on the application.</p>
	Multimedia pocket device status	<p>This indicator lights when the multimedia pocket device (floppy disk drive, CD-ROM drive, DVD-ROM drive or Superdisk™ drive) 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.)</p>
	Hard disk status	<p>This indicator lights when the hard disk drive is accessed.</p>
	Battery pack status	<p>Not lit : AC adapter not connected or charging not being performed. Orange : Charging in progress. Green : Charging finished. Red : Battery is low (remaining battery capacity is approx. 9% or less). Blinking red : Battery pack or charging malfunction. Blinking orange : Battery capacity being refreshed. Blinking orange five times after the AC adapter is connected : Charging on standby. (The ambient temperature is outside the allowable range. Once the allowable range requirement is satisfied, charging begins automatically.)</p>
	Power status	<p>Not lit : Power off / Hibernation mode Green : Power on Blinking green : Suspend mode</p>

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>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.

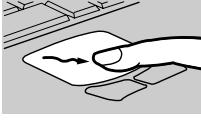
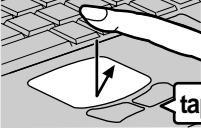
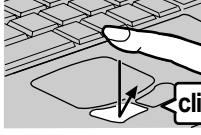
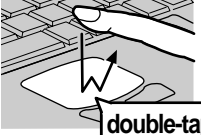
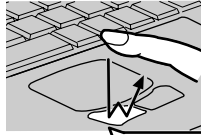
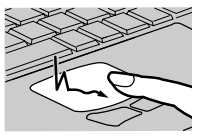
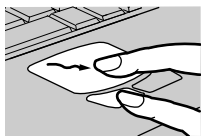
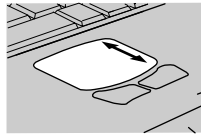
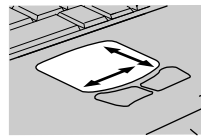
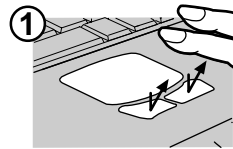
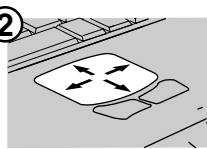
● **Changing the mode of the touch pad**

- 1 Select  from the taskbar and then select [Touch Pad] or select [Touch Pad] in [Start] - [Settings] - [Control Panel] - [Mouse].
- 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 add the check mark ✓ for [Horizontal] and/or [Vertical] .
- 3 Press [OK].

Basic Operation

(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)	 <p>Move the tip of your finger lightly over the surface.</p>
Tapping/Clicking (Wheel) (Original)	 or 
Double-Tapping/Double-Clicking (Wheel) (Original)	 or 
Dragging (Wheel) (Original)	 or  <p>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.</p>
Scroll* Scroll a document (rotate the wheel)	(Wheel)  (Original) 
Auto Scroll* Automatically scroll a document (move the mouse after clicking the wheel)	①  ②  <p>Operate after pressing the two buttons simultaneously.</p> <ul style="list-style-type: none"> ● When releasing the auto scroll function: One tap on the work surface.

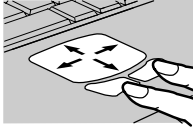
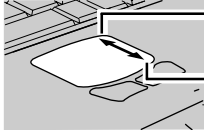
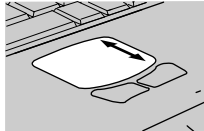
Within the parentheses () are operations to follow when using an external Microsoft® IntelliMouse™.

* Indicates that the movements will differ depending on the application.

NOTE

- **When a check mark ✓ is added for [use Drag Lock] ***
 After the drag operation (above : left side), it is necessary to determine the destination (i.e., location of drop) by one tap. Under the condition no destination is selected, do not use the suspend or hibernation function. Nothing is shown on the display, even after resuming from the suspend or hibernation mode. In this case, the display will return after a tap or click is made.

* In [Start] - [Settings] - [Control Panel] - [Mouse] - [Tap and Buttons]

Function	Touch Pad Operation
Pan* (Wheel) Scroll in various directions of a document (move the mouse slightly while holding down the wheel)	 <p>Operate while holding down the two buttons.</p>
Zoom* (Wheel) Magnify/reduce the display of a document. (rotate the wheel while holding down (Ctrl))	Ctrl +  <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <p>Magnify</p> <p>Reduce</p> </div>
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™.

* Indicates that the movements will differ depending on the application.

CAUTION

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, install the driver or application software of the external device by following the procedure below. However, once the driver or application software is installed, touch pad functions (e.g., auto scroll) and touchscreen may not operate even if the touch pad and touchscreen are enabled (see the procedure for “When you want to re-enable the touch pad and touchscreen.”).

- 1 In [Control Panel] - [Add/Remove Programs], select [touch pad/touchscreen] from the list, press [Add/Remove...] to delete it, then press [Yes] to confirm the deletion. The computer will reboot.
- 2 Power off your computer (☞ "Operating Instructions" page 18) and connect the external mouse or trackball device to the computer.
- 3 Turn the power on and run the Setup Utility (☞ page 44). In [Main] menu, set [Touch Pad] and [Touchscreen] to [Disable] and close the Setup Utility.
- 4 Following the operating instructions for the connected external mouse, install the necessary driver.

When you want to re-enable the touch pad and touchscreen: ☞ page 7

When [PS/2 Compatible Mouse Port] is displayed in [Mouse]: ☞ page 7

(To next page)

CAUTION


When you want to re-enable the touch pad and touchscreen;


- 1 Uninstall the driver or application software of an external mouse or trackball device. (please refer to the manual of the external device.)
If the explanation of uninstalling the driver or application software can not be found in the manual of the external device, execute the following steps.
In [Control Panel] - [System] - [Device Manager], when an external mouse or trackball device is displayed in [Mouse], press [Remove] to delete it, and then press [OK] to confirm the deletion.
- 2 Power off your computer (☞ "Operating Instructions" page 18) and remove the external mouse or trackball device.
- 3 Turn the power on and run the Setup Utility (☞ page 44). In [Main] menu, set [Touch Pad] and [Touchscreen] to [Enable] and close the Setup Utility.
- 4 In [Control Panel] - [Mouse] - [General], press [Change...], then select [Have Disk...]. Select "c:\util\drivers\mouse" at [Browse...] and press [OK]. Follow the on-screen instructions, then select [Close]. The computer will reboot.
- 5 Confirm whether [touch pad/touchscreen] exists in [Mouse] (in [Control Panel] - [System] - [Device Manager]).

When [PS/2 Compatible Mouse Port] is displayed in [Mouse]:

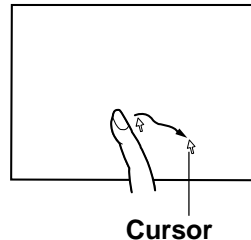
- 1 Select [PS/2 Compatible Mouse Port] and then press [Properties].
- 2 Select [Driver] - [Update Driver] and then press [Next].
- 3 Select [Display a list of all the drivers....] and then press [Next].
- 4 Press [Next].
- 5 At the [Update Driver Warning], press [Yes] and then press [Next].
- 6 At the [Insert Disk], press [OK].
- 7 Input [c:\util\drivers\mouse] and then press [OK].
- 8 Press [Finish].
- 9 The display will ask you to restart Windows, press [Yes].

Handling the Touch Pad

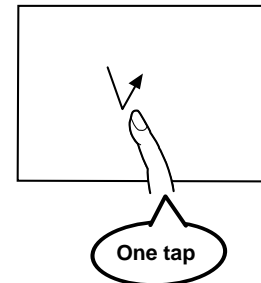
- When using a key combination such as **(Fn) + (F5)**, do not touch the touch pad. If a key combination is used while the pad is being touched, the function of the key combination will not work. In addition, it is possible that control of the cursor will be lost and the cursor will not show proper movements. 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 (i.e. nails), hard objects that can leave marks (i.e. 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 your finger. The following explanation gives one example (for the default settings). The operation settings can be changed.  [page 9](#)

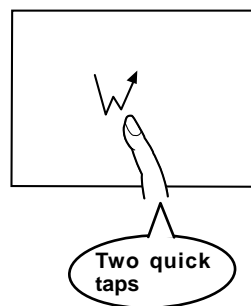
● Moving the cursor



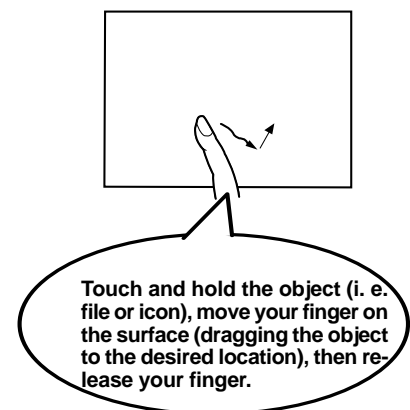
● Clicking





● Double-clicking



● Dragging



CAUTION

- The touchscreen function can not be used in the MS-DOS mode and when using the full screen in [MS-DOS prompt].
- When the operation of panning (LCD only) is performed, while the screen resolution is set to either [1280 x 1024 dots], or [1024 x 768 dots] (for models equipped with a 12.1 " (SVGA) LCD), the touchscreen function will not operate properly.
- When mouse drivers are installed (i.e.Intellimouse), the touchscreen function can not be used.
- When you want to uninstall or reinstall the touchscreen (touch pad) driver, refer to the "Touch Pad (Advanced)" ( [page 6](#) "CAUTION").
- If a change is made to the screen resolution, or the cursor can not be pointed correctly with your finger, be sure to perform [Calibration].  [page 9](#)


Handling the Touchscreen

- Do not place any object on the surface or press down forcefully with sharp-pointed objects (i.e. nails), hard objects that can leave marks (i.e. pencils and ball point pen).
- Do not apply pressure within 5 mm of the perimeter of the display panel. The cursor may move to the edge of the display.
- Do not operate the computer when such things as dust are on the screen. Do not allow contact with substances that could dirty the touchscreen, such as oil. The cursor may not work properly in such cases.
- When the touchscreen becomes dirty:
Wipe to remove dirty areas by using a dry soft cloth such as a gauze.
Do not use benzene or thinner, or disinfectant-type alcohol.

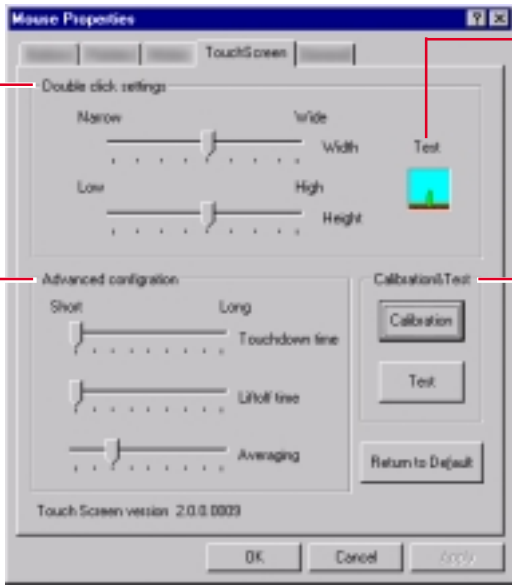
(To next page)

Configuring the Touchscreen

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

- 1 Select  from the taskbar and then select [Touchscreen] or select [Touchscreen] in [Start] - [Settings] - [Control Panel] - [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 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 (i.e., after the nine “+” marks are touched), the procedure ends when the **(Enter)** is pressed.

NOTE

For more information, click  at the upper right corner.

2 Make necessary changes

3 Click [OK]

NOTE

- The double-click speed of the Touchscreen can be changed in [Tap and Buttons]* in [Start] - [Settings] - [Control Panel] - [Mouse].

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- [Name:] in [General] can not be changed even when the touchscreen driver is installed.

* [Buttons] is displayed, depending on the computer.

Drawing Characters or Figures

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

CAUTION

- To draw, an object with a rounded tip (e.g., a pen for tablets) 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.

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

2 Draw a character or figure using the work surface of the touchscreen

NOTE

- The file size of a bitmap image to be saved or pasted to another application can be changed with [Option] - [Window size].
- 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.

CAUTION


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]

CAUTION



Drawing accuracy may be degraded if another application, such as FD accessing, is being executed simultaneously. Begin drawing only after other applications have been closed.

NOTE

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], and then run Panasonic Hand Writing again.

Using the Touch Pad mode

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

- 1 Select  from the taskbar or select [Panasonic Hand Writing] from [Start] - [Programs] - [Panasonic]
- 2 Select  or select [Touch Pad mode] in [Option]
- 3 Draw a character or figure using the work surface of 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.

NOTE

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.

- 4 Cancel the Touch Pad mode

Confirm that the [Panasonic Hand Writing] window is active, and then press the left button of the touch pad.

NOTE

In the following cases, the Touch Pad mode is automatically cancelled.


- When a switch is made to another application.
- When the computer resumes operation from the suspend or hibernation mode.
- When the settings window for [Panasonic Hand Writing] is shown.
- When selecting a menu after pressing **(Alt)**.

- 5 Select [Save As] or [Save] from [File] ( page 10)

CAUTION

Drawing accuracy may be degraded if another application, such as FD accessing, is being executed simultaneously. Begin drawing only after other applications have been closed.

NOTE

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], and then run Panasonic Hand Writing again.

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 the suspend or hibernation function.

● Differences between the suspend and hibernation functions

Function	Suspend 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 not required to maintain data

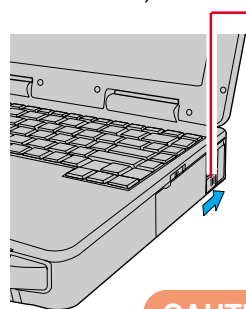
Setting the Suspend or Hibernation Function

[Off] is factory set.

- 1 Run the Setup Utility (👉 page 44)
- 2 Using **→** and **←**, select [Power]
- 3 Using **↑** and **↓**, select [Power Switch] and press **Enter**
- 4 Using **↑** and **↓**, select [Suspend] or [Hibernation] and press **Enter**
- 5 Press **F10**, then select [Yes]

Shutting Down Using the Suspend or Hibernation Function

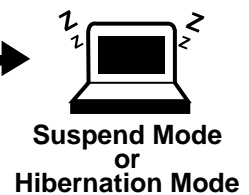
The computer should be set for suspend or hibernation (👉 see the above procedure).



Slide the power switch



(After releasing your finger from the power switch, do not touch the power switch, keyboard or pointing device while the computer is entering in the suspend or hibernation modes.)



CAUTION

- At the "beep*" sound, release your finger from the power switch. If you continue to slide the switch and hold it for more than four seconds, the power will go off. Data not previously saved will be lost. Slide the power switch to power on.
- If the computer will not be operated for an extended period of time, it is recommended that hibernation mode be used instead of the suspend mode.

* When the speaker function is disabled, e.g., by setting [Disable] for [Speaker] with the Setup Utility (👉 page 44) or by the key combination **Fn**+**F4**, there will be no beep sound.

NOTE

With the method below, you can shut down the computer by using the suspend function.

- **Fn** + **F7** (👉 page 2)

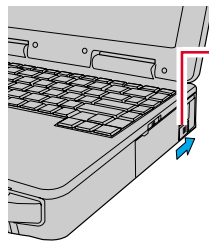
Windows 95

- Select [Suspend] from the [Start] menu.
[Suspend] is deleted from the [Start] menu by unchecking [Allow Windows to manage power use on this computer.] in [Start] - [Settings] - [Control Panel] - [Power] or by unchecking [Show suspend command on Start menu] in [Advanced].

Windows NT

- In [Start] - [Settings] - [Control Panel], select [Power Control] in [APM 2.0 for NT] and then press [Click Here to Suspend].

Resuming Operation



Slide the power switch

If the security indicator (🔑) is displayed, your password has been set.

Windows NT

This password has been set in the Setup Utility and is not an Windows NT password.

CAUTION

- After the display returns, the computer needs a short period of time to reinitialize. This takes about 15 seconds. Do not shut down or restart Windows, or use the suspend or hibernation functions again during this time, as this may subsequently cause Windows to operate abnormally.
- Do not install or remove peripherals while your computer is in the suspend or hibernation mode; abnormal operation may result.
- When operation resumes, 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.
- Do not use the suspend or hibernation function when using the network function.
- Avoid the following until the computer is completely turned off when powering down using the suspend or hibernation functions, or resuming operation by pressing the power switch from the suspend or hibernation.
 - Touch the keyboard (excluding password input), touch pad, touchscreen, external mouse, or power switch.
 - Connect the AC adapter.
 - Close the display.

Precautions for Using the Suspend or Hibernation Function

- Save all data before powering off your computer.
- When restarting from or shutting down to the suspend or hibernation mode, do not touch the touch pad or touchscreen (or move the mouse (serial or PS/2 type) if one is connected). These devices may fail to operate, you will then need to restart your computer.
- Do not shut down by using the suspend or hibernation function during the following periods (you may corrupt your data or file):
 - While the MP indicator (MP) or HDD indicator (HDD) is on.
 - While playing/recording audio files.
 - While communications software is being used.
- Do not use the suspend or hibernation function when using an operating system other than the one provided with your computer, the Setup Utility, or when experiencing static electricity or noise.
- If you hold down on the **Alt**, **Ctrl** or **Shift** key to enter the suspend or hibernation mode, after resuming operation, you must press the same key. For example, if you hold down on the **Shift** key while pushing the power switch, upon resuming, if you do not press the **Shift** key again, only capital letters will result from typing.
- Only when the computer stops operating or locks up should the power switch be held more than four seconds to power off the computer. Slide the power switch to power on and data not previously saved will be lost.
- In the suspend mode, power is consumed. If PC Cards (e.g., a modem card) are inserted, more of that power may be consumed. When all power has been consumed, all data saved in suspend is lost since it is retained in memory. We therefore recommend plugging in the AC adapter when using the suspend function.
- Repeatedly using the suspend or hibernation function will use up a lot of the system resources and the computer may not work properly. Shut down Windows ([Start]-[Shut Down]) on a regular basis, i.e. approximately once a week, without using the suspend or hibernation function. Doing so will restore the system resources.
- Do not use the suspend or hibernation function during the following periods. The suspend or hibernation function, or peripherals may not work.
 - When a file in external devices such as a CD-ROM drive, external hard disk, or ATA card is opened, the suspend or hibernation function may not work. In such cases, close the file.
 - LAN, SCSI and modem functions may not recover after entering the suspend or hibernation mode. If this occurs, restart the computer.
- Do not use the suspend or hibernation function when using in a network environment.

Windows 95

- When inserting a CardBus type card with one already inserted, after entering the suspend or hibernation mode, the computer may not function properly.
- After a Windows 95 USB device driver has been installed, do not use the suspend or hibernation function. If the suspend or hibernation mode is activated, the computer may not function properly. Power off, then on, using the power switch to resume proper operation.

If you want to use the suspend or hibernation function after the USB driver is installed, disable the USB device function of the computer by following the procedure below.

- 1 In [Start] - [Settings] - [Control Panel] - [System] - [Device Manager], select [Intel 82371AB/EB PCI to USB Universal Host Controller] in [Universal serial bus controller].
- 2 Add the check mark ✓ for [Disable in this hardware profile] in [Properties] - [General], press [OK], and then press [Close].
- 3 In [Start] - [Shut Down], select [Restart], then press [OK].





If you want to enable the USB device function again, delete the check mark for [Disable in this hardware profile] in step 2. When the message appears asking whether to reboot the computer, select [Yes]. If the message is not displayed, go to step 3.

(To next page)

Windows NT

- Confirm that Phoenix APM 2.0 for Windows NT® is installed, in order for the date and time to be normally displayed with the suspend or hibernation function. (If [APM 2.0 for NT] is displayed in [Control Panel], this means that the program is installed.)

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

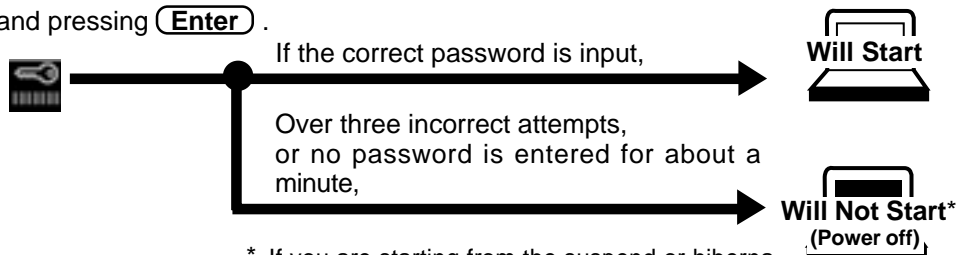
Situation	Function to use	Reference
You do not want your computer to be used without permission	Supervisor Password User Password	 below
You want to prevent theft or damage to data by using a floppy disk	Prevent operation by using a floppy disk	 page 19
You want to prevent theft of your computer	Use security locks	  "Names and Functions of Parts"

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

Upon entering your Supervisor Password or User Password and pressing **Enter**.




* If you are starting from the suspend or hibernation mode, if after three attempts the correct password is not input, or if no password is entered for about a minute, the computer returns to the suspend or hibernation mode.

● If entering the Setup Utility with Supervisor Password

You can register all items of the Setup Utility ( page 44).

● If entering the Setup Utility with User Password

- You can not register [Advanced] menu.
- When [User Password Protection] has been set to [Protected], you can not register the User Password.
When [User Password Protection] has been set to [No Protection], you can register the User Password. ( page 44)
- **F9** does not work.

NOTE

When only the supervisor password has been set, 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 44)
- 2 Using **→** and **←**, select [Security]
- 3 Using **↑** and **↓**, select [Set Supervisor Password], then press **Enter**
- 4 <Only when the Supervisor Password has been set>
Enter your password at the [Enter Current Password], then press **Enter**
- 5 Enter your password at the [Enter New Password], then press **Enter**
 - To disable the Supervisor Password
Press only **Enter**
- 6 Re-enter your password at the [Confirm New Password], then press **Enter**
 - To disable the Supervisor Password
Press only **Enter**
- 7 At the [Setup Notice], press **Enter**
- 8 Press **F10**, then select [Yes]

CAUTION

- 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.
- White colored keys can be used. Note that the space bar and function keys cannot be used.
- Do not input your password while holding down on **Shift** or **Ctrl**.
- Use only the upper horizontal row of numeric keys to input your user 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, changed, or disabled without permission,

- 1 Using **↑** and **↓**, select [User Password Protection] and press **Enter**
- 2 Using **↑** and **↓**, select [Protected] and press **Enter**.

Setting the user password (enabling, changing, disabling)

1 Run the Setup Utility (☞ page 44)

NOTE

Set the Supervisor Password if you have not done so. (☞ page 17)

2 Using **→** and **←**, select **[Security]**

3 Using **↑** and **↓**, select **[Set User Password]**, then press **Enter**

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

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

● To disable the User Password

Press only **Enter**

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

● To disable the User Password

Press only **Enter**

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

8 Press **F10**, then select **[Yes]**

CAUTION

- 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.
- White colored keys can be used. Note that the space bar and function keys cannot be used.
- Do not input your password while holding down on **Shift** or **Ctrl**.
- Use only the upper horizontal row of numeric keys to input your user password.
- Do not forget your password. If a password is forgotten, you will be unable to use your computer. Contact Panasonic Technical Support.

To prevent the changing of your password without permission

- When running the Setup Utility, do not leave your computer even for a short time.
- Set the User Password Protection option (☞ page 16).

Preventing theft or damage to data using a floppy disk

You may choose to protect the data on your computer from being accessed illegally or overwritten accidentally by using a floppy disk. You can also set your computer to be unbootable from a floppy disk.

● Preventing the use of a floppy disk

This error message is displayed when access to the floppy disk drive is attempted.



Procedure

- 1 Run the Setup Utility (👉 page 44)
- 2 Using **→** and **←**, select [Security]
- 3 Using **↑** and **↓**, select [Boot Up Drive] and press **Enter**
- 4 Using **↑** and **↓**, select either [C:] or [CDD,DVD / A: / C:] and press **Enter**
- 5 Using the **↑** and **↓**, select [Floppy Operation] and press **Enter**
- 6 Using **↑** and **↓**, select [Disable] and press **Enter**
- 7 Press **F10**, then select [Yes]

● To enable the floppy operation

Select [Enable] at Step 6.

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 adapter with you before leaving your home or office.
Purchasing a spare battery (CF-VZSU04) and the optional battery charger (CF-VCB251A) is highly recommended.


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 (dark) with **Fn** + **F2**

By repeatedly pressing the keys to maximize the brightness ( will be displayed), following this, if the keys are pressed again, the brightness will be minimized, thereby lowering the power consumption.

● Before stepping away from your computer, press **Fn** + **F10** to put your computer in the ECO mode

The ECO mode helps you conserve power by cutting off power to the LCD and turning off the hard disk motor. To resume, you may press a key unrelated to the direct triggering of a selection, like **Ctrl** key.

● Setting the suspend/hibernation timeout (page 21)

The suspend or hibernation function ( page 12) allows you to save power by automatically cutting off power when the computer is idle or there is no access to individual devices for 4 or 16 minutes. If [Enable (Always)] is selected for [Power Management Mode], the suspend/hibernation timeout function will go into effect for both the battery pack and the AC adapter. If [Enable (Battery)] is selected for [Power Management Mode], it will go into effect only during operation by the battery. The ECO mode timeout function will always work if [Enable (Always)] is selected for [Power Management Mode]. If [Enable (Battery)] is selected for [Power Management Mode], it will work only during operation by the battery. Note that the ECO mode timeout precedes the suspend/hibernation timeout.

It should be noted that for some applications, the suspend/hibernation timeout will not work properly.

CAUTION Windows 95




Do not delete the check mark ✓ for [Allow Windows to manage power use on this computer] in [Start] - [Settings] - [Control Panel] - [Power].
If it is unmarked, the time may not be displayed properly when operation is resumed from the suspend or hibernation mode or the operating time with the battery pack may become short (the power management function of Windows does not work).

Setting Power Management


- 1 Run the Setup Utility (☞ page 44)
- 2 Using **→** and **←**, select **[Power]**
- 3 Using **↑** and **↓**, select **[Power Management Mode]** and press **Enter**
- 4 Using **↑** and **↓**, select either **[Enable(Battery)]** or **[Enable(Always)]** and press **Enter**
- 5 Using **↑** and **↓**, select **[Power Switch]** and press **Enter**
- 6 Using **↑** and **↓**, select either **[Suspend]** or **[Hibernation]** and press **Enter**
- 7 Using **↑** and **↓**, select **[Suspend Timeout]** (or **[Hibernation Timeout]**) and press **Enter**
- 8 Using **↑** and **↓**, select either **[4 min]** or **[16 min]** and press **Enter**
- 9 Press **F10**, then select **[Yes]**



(To next page)

● Power Management settings

Power Management Functions automatically set	Enable (Always) (Setting at the time of purchase)	Enable(Battery)*	Disable
HDD motor timeout	1 min	1 min	Never
ECO mode timeout	2 min	2 min	Never
Power Conservation (AC Adapter Connected)	Enable	Disable	Disable
Popup window display by pressing (Fn) + (F8)**	 △ △	 △ △	 △ △

* Enabled only when the battery itself is being used.

**  is displayed by pressing (Fn) + (F8) to disable the power management function.

The (Fn) + (F8) key combination may not function during certain operations, such as during HDD access. Operability can be checked by confirming that  or  is being displayed).

- **HDD motor timeout:** When the hard disk drive is not accessed for more than a minute, the hard disk motor is turned off. (except when the power management is set to disable)
- **ECO mode timeout:** If there is no input from the keyboard, touch pad, touchscreen or an external mouse for more than two minutes, the LCD and the hard disk drive will be powered off. Even when an application software is being installed, the computer may enter the ECO mode. (except when the power management is set to disable)

NOTE


When the power management setting is disabled in the Setup Utility, (Fn) + (F8) does not work.

CAUTION

When installed in a network environment.

Be sure to disable the suspend/hibernation timeout settings with the Setup Utility. After resuming operation from the suspend or hibernation mode, the network connection may be severed or the computer will not work properly.

When a device like a high-speed modem or ISDN terminal adapter is connected to the serial port, etc.

There are times when high-speed communication is adversely affected if the power management function is enabled. Confirm that  is displayed by pressing (Fn) + (F8) to disable the power management function. After you have finished using a communications device, you can enable the power management function by pressing (Fn) + (F8).

Key operation and music playback.

When the power management function is running, you may feel that keyboard, touch pad, or touchscreen (or mouse) operations are sluggish. Furthermore, music may not be played back correctly when entering the ECO mode during playback.

(To next page)

Enabling Power Conservation Windows NT

Confirm that Phoenix APM 2.0 for Windows NT® is installed. (If [APM 2.0 for NT] is displayed in [Control Panel], this means that the program is installed.) If the program is not installed, be sure to install it.

(To install the Phoenix APM 2.0 for Windows NT®, execute the following procedure. In [Start] - [Run], input c:\util\drivers\apm\setup.exe, then press [OK]. Follow the on-screen instructions.)

Battery Status

Use the Battery Indicator to check the battery status

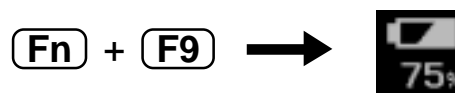
Battery Indicator	Battery Status
Orange*	Charging
Green*	Fully-charged
Red	Battery charge is low (the charge is less than approx. 9% capacity)
Blinking red*	Battery pack or charger may not be working properly. Quickly remove the battery pack and disconnect the AC adapter, then connect them again. If the problem persists, contact Panasonic Technical Support.
Blinking orange	Battery capacity being refreshed.
Blinking orange five times after the AC adapter is connected*	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.)
Not lit	Battery pack is not connected or charging not being performed.

* When the AC adapter 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



NOTE

- The actual remaining battery capacity and the displayed indication may differ.


- The battery indicator light remains red.
- The battery remaining displays 99% and the indicator light is orange for a long period of time.

→ **Windows 95**
Perform the Battery Capacity refresh utility. (☞ page 27)

Windows NT
Charge the battery until the indicator is green, then completely discharge the battery.

Low battery warning appears after a short period of time. This may be caused by the use of suspend mode for long periods of time. The battery is discharging while the computer is in suspend mode when the AC adapter is not connected.

→ Completely discharge the battery (reaches 0%).

- When the battery pack is not in the computer,  is displayed.

When the remaining battery charge becomes low

Save your data and power off your computer

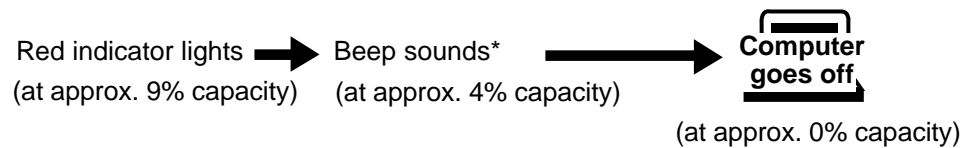
Following that:

- Plug in the AC adapter, and fully charge your battery.
- Use a spare battery if you have one.
- If you have neither the AC adapter nor an extra battery, power the computer off.

● If the suspend or hibernation function is set



● If the suspend or hibernation function is not set

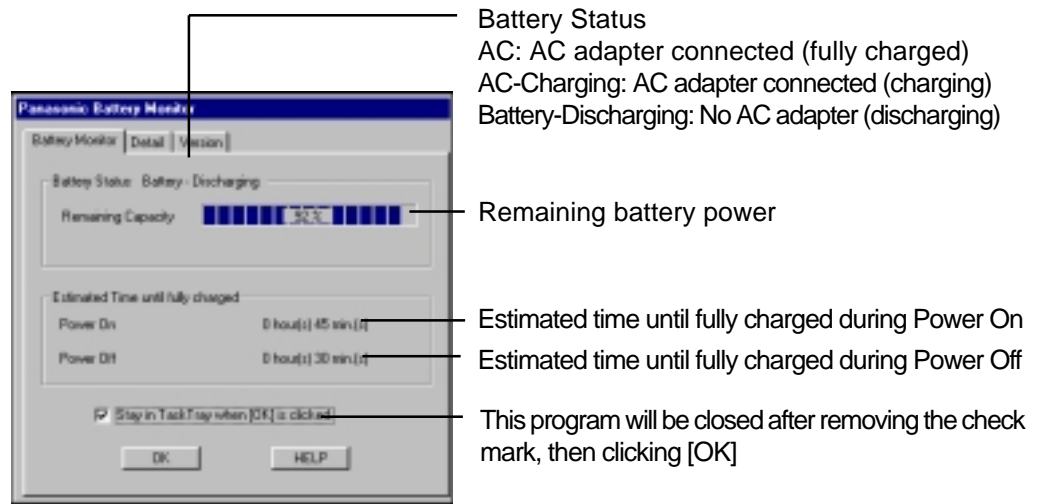


* When disabling the speakers with the Setup Utility (or pressing **Fn** + **F4**), the warning beep is also disabled.

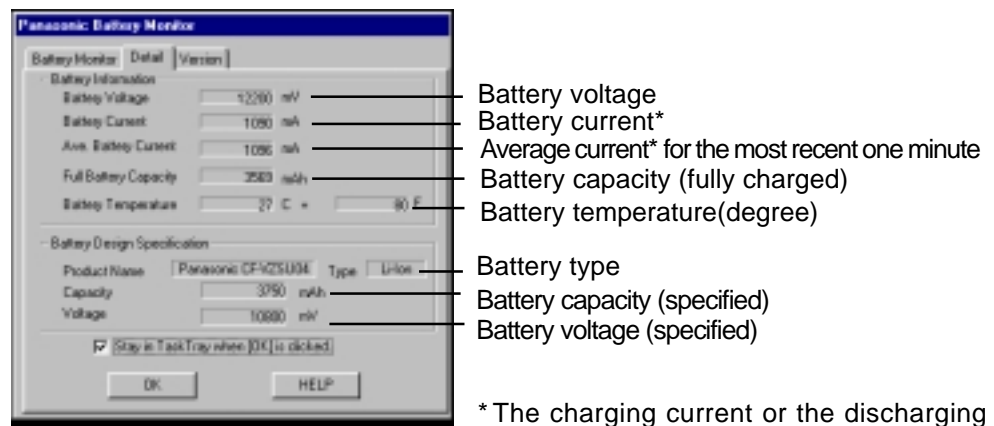
Panasonic Battery Monitor Windows 95

It is possible to display the current battery status and the remaining battery power by running the Panasonic Battery Monitor.

- 1 Select  from the taskbar or select [Panasonic Battery Monitor] from [Start]-[Programs]-[Panasonic].



- 2 Click [Detail]



NOTE

- The deviations for the estimated time can occur depending on the condition of the battery.
- There are cases [0] (indicating a full charge) may be shown for the [Estimated Time until fully charged] even if the remaining battery power is about 97% (e.g., when unplugging then plugging the AC adapter above 95%).

Accurately Displaying Battery Capacity Windows 95

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.

Use the procedure presented below to fully charge the battery pack, then discharge it, then charge it 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 repeated.

1 **Attach the battery pack, then connect the AC adapter**

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

2 **Once the battery indicator turns green, use the Battery Capacity refresh utility to fully discharge the battery pack**

1 Choose [Start]-[Shut Down]-[Restart in MS-DOS mode], and then click [OK].

2 Type the following after the MS-DOS prompt (C:\WINDOWS>).

```
battref /g Enter
```

3 At the confirmation message, press **Y**.

The battery indicator blinks orange, the battery pack will be discharged fully and the computer will power off automatically.

CAUTION

When the above operation is performed, do not turn the computer off. Doing so will make it impossible to measure the battery capacity.

NOTE

When the Battery Capacity refresh utility starts, it will take approximately 2.5 hours until the computer powers off automatically.

3 **Charge the battery pack until the battery indicator turns green** (full charge)

(Charging commences automatically.)

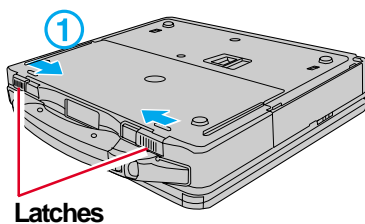
Replacing the Battery Pack

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-VZSU04).

CAUTION

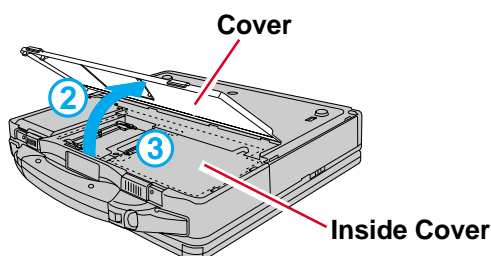
- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- The battery pack is not charged when the computer is first purchased. Be sure to charge it before using it for the first time. When the AC adapter is connected to the computer, charging begins automatically.
- Use only the specified battery pack (CF-VZSU04) with your computer.

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



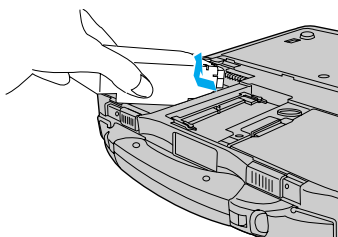
- 2 Remove the cover**

- ① Turn your computer over and slide the latches.
- ② Lift open the cover holding both sides and remove it.
- ③ Remove the inside cover (This is shown by dotted line in the figure).



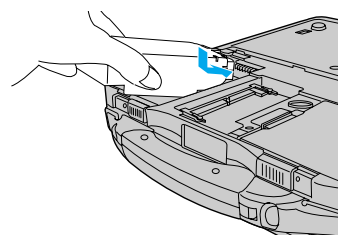
- 3 Remove the battery pack**

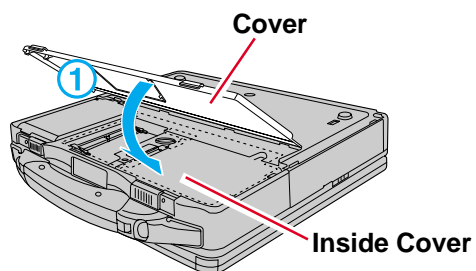
Slide the battery pack outward and gently lift the battery pack.



- 4 Connect the battery pack**

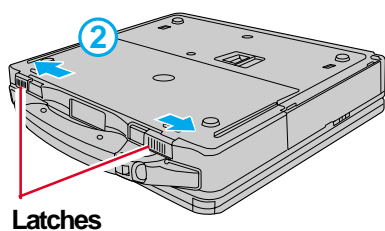
Put a battery pack into the computer and slide the battery pack inward until it is firmly in place.





5 Put the cover back into place

- 1 Put the inside cover (This is shown by dotted line in the figure) back into place and attach the cover holding both sides.
- 2 Slide the latches.



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.

When attaching the cover;

Be careful not to get your fingers caught in the cover.

You may use an optional CD-ROM pack (CF-VCD271), DVD-ROM drive pack (CF-VDD272) or Superdisk drive pack (CF-VFS271) by removing your floppy disk drive from the multimedia pocket. For more information, please read the manual that accompanies the CD-ROM pack, DVD-ROM drive pack or Superdisk drive pack.

Installing/Removing a Multimedia Pocket Device

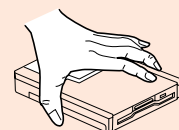
- 1 Power off your computer** (👉📖 "Starting Up/Shutting Down")
Do not shut down using the suspend or hibernation mode.

2 ● Removing the device

- ① Turn your computer over and open the cover by sliding the latch.
- ② Firmly press the MP release button. The device will eject slightly.
- ③ Remove the device by holding both sides of the device.

CAUTION

Please 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.



● Installing the device

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

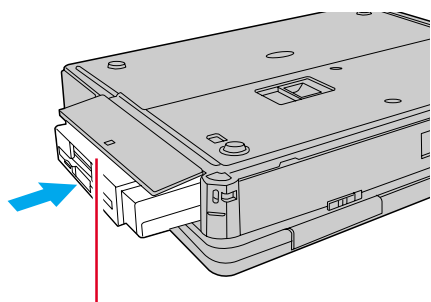
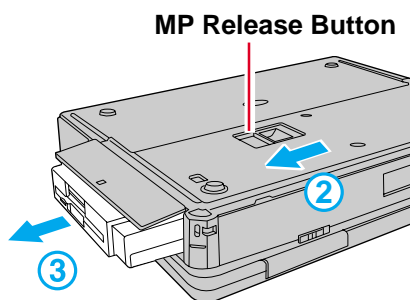
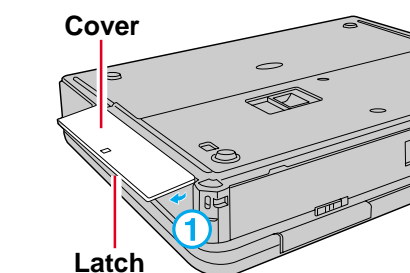
CAUTION

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

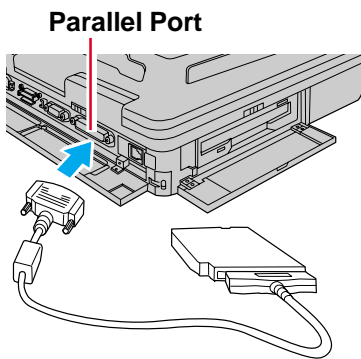
3 Turn your computer on

NOTE

When the CD-ROM pack or DVD-ROM drive pack is installed:
If the vibration of the CD-ROM or DVD-ROM drive is excessive, set the [CD-ROM /DVD-ROM Drive Speed] to [Low] in the Setup Utility.



Install the device with the black plastic side on top.
(If a label is attached, install the device with the label side on top.)



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.

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 suspend 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, press the [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 Superdisk drive pack is installed in the multimedia pocket, the floppy disk drive cannot be used as an external floppy disk drive.
- The CD-ROM pack, DVD-ROM drive pack and Superdisk drive pack cannot be used as an external device.

Superdisk Drive Pack Windows NT

A floppy disk can not be formatted with a Superdisk Drive Pack.

Power off, replace a Superdisk Drive Pack with a floppy disk drive, then power on.

Format a floppy disk with a floppy disk drive.

PC Card

Your computer has two PC Card slots. These slots conform to the PC Card Standard; therefore, communications and SCSI devices 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

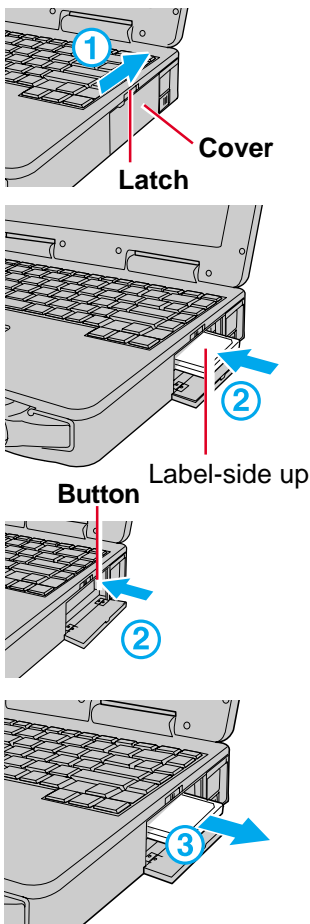
- Please check the PC Cards' specifications. Be sure the total operating current does not exceed the specified limit. Damage may result otherwise. Allowable Current (total for two slots) : 3.3 V: 400 mA, 5 V: 400 mA
- There are times when both a Type I card and a Type II card will not work at the same time.
- SRAM and FLASH ROM (except for an ATA interface) cards are not supported.

Windows 95

- For the following cases, be sure the power has been turned off before proceeding.
 - When removing a network card
 - When replacing a CardBus type card with another card (including another CardBus type card)
 - When inserting one more CardBus type card with one already inserted
- Do not use a CardBus type card and a non-CardBus type card at the same time.

Windows NT

- ZV and CardBUS cards are not supported.



Installing/Removing the PC Card

● Installing a PC Card

- ① Open the cover by sliding the latch.
- ② Simply slide the PC Card in until it snaps into place. Please refer to the manual for each card on how to install the card (insertion is typically label-side up).

CAUTION

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 a PC Card

CAUTION

Do not remove a PC Card while your computer is in the suspend or hibernation mode.

- ① **Windows 95**
Go to [Socket Status] (in [Start] - [Settings] - [Control Panel] - [PC Card (PCMCIA)]), select the PC Card slot and press [Stop]. (When removing a PC Card after turning off the computer, this step ① is not need.)
- ② Press the button.
- ③ Slide the PC Card out.

(To next page)

PC Card Utility Program Windows NT

About Phoenix Card Executive™ 2.0 for Windows NT®

When using a Windows NT® model, confirm that Phoenix Card Executive™ 2.0 for Windows NT® is installed. If [Card Executive 2.0 for NT] is displayed in the [Control Panel], this indicates that the program is installed.

If Phoenix Card Executive™ 2.0 for Windows NT® has been uninstalled, or Windows NT® Service Pack has been reinstalled, reinstall Phoenix Card Executive™ 2.0 for Windows NT® .

- 1 Select [Start] - [Run].
- 2 Type "c:\util\drivers\pccard\setup.exe", press [OK], then follow the on-screen instructions.

CAUTION

- 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 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 installing or removing a RAM module, handle the module with extreme care.

Installing/Removing the RAM Module

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

2 Remove the cover (👉 page 28)

3 ● Installing the RAM module

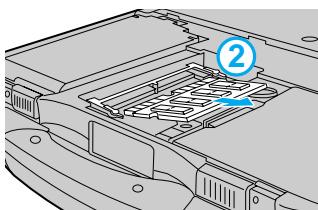
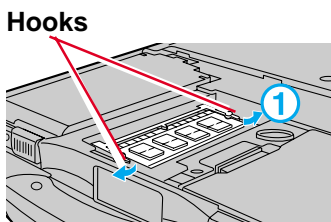
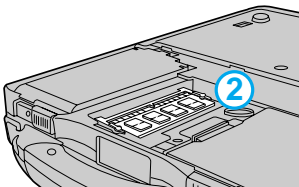
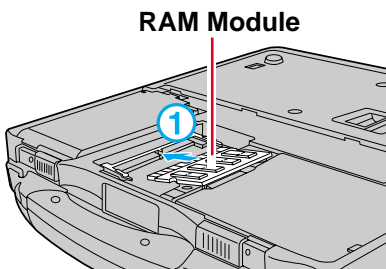
- ① Slide in the module at an angle.
- ② Snap the module into place by pushing down on it.

RAM module specifications

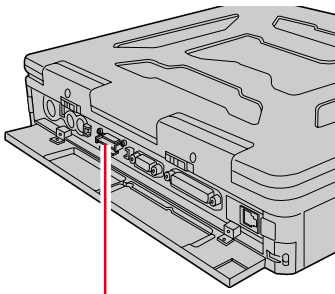
144 pins, SO-DIMM, 3.3 V, SDRAM

● Removing the RAM module

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



4 Put the cover back into place (👉 page 29)



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, microphone, or external display, etc.

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

For more detailed information, refer to the operation manual of the port replicator.

CAUTION

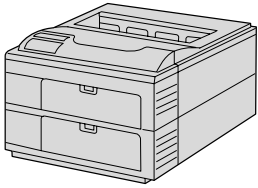
- The serial port B of the port replicator cannot be used with the default settings.
- Hot/Warm Docking and Hot/Warm Undocking are not possible with the port replicator.

Windows 95

Setting the Port Replicator

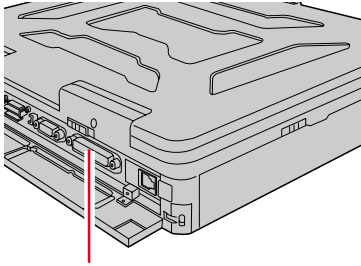
To be able to use the serial port B of the port replicator, be sure to follow the steps below.

- 1 Turn your computer on.
- 2 When the message [Press <F2> to enter SETUP] is displayed, press **(F2)** and then run the Setup Utility.
- 3 Select [Advanced] menu and set [Serial Port B] to [Enable] and [Device] to [Port Replicator]. Press **(F10)**. At the confirmation message, select [Yes] and press **(Enter)**. The computer will reboot.



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

- 2 Connect the printer to your computer**



Parallel Port

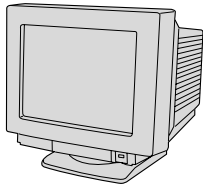
- 3 Turn on the printer, then turn on your computer with the LCD panel opened**

- 4 Setting your printer**

Go to [My Computer] - [Printers]. Find your printer's icon, double-click on it, and click [File] - [Set As Default]. If no icon is available, select [Add Printer] and then follow the on-screen instructions.

NOTE

You may need to install a driver for your printer. Simply follow the on-screen instructions and refer to the operation manual of the printer on how to install the driver.



The optional port replicator (☞ page 35) or the external display port adapter (CF-VEB274) is required for use with an external display.

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

2 Connect the external display

NOTE

For more detailed information, refer to the operation manual of the port replicator, the external display port adapter or the external display.

3 Turn on the external display, then turn on your computer with the display opened and make settings during start-up

You can select either an external display, LCD or simultaneous with **(Fn) + (F3)**. In addition, you can set the display to use during start-up with the following procedure.

- 1 Run the Setup Utility** (☞ page 44)
- 2 Using** **(→)** **and** **(←)**, **select [Main]**
- 3 Using** **(↑)** **and** **(↓)**, **select [Display] and press** **(Enter)**
- 4 Using** **(↑)** **and** **(↓)**, **select the display to use and press** **(Enter)**
- 5 Press** **(F10)**, **then select [Yes]**

6 **Windows 95**

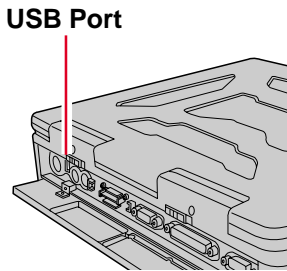
Select your external display

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

When a monitor that does not conform to the Plug & Play standards is connected, select [Change] and make the monitor settings.

Windows NT

USB devices are not supported.



Installing USB Devices

- 1 Run the Setup Utility (☞ page 44)
- 2 Using **→** and **←**, select **[Power]**
- 3 Using **↑** and **↓**, select **[Power Management Mode]** and press **Enter**
- 4 Using **↑** and **↓**, select **[Off]** and press **Enter**
- 5 Using **↑** and **↓**, select **[Power Switch]** and press **Enter**
- 6 Using **↑** and **↓**, select **[Off]** and press **Enter**
- 7 Using **↑** and **↓**, select **[Fn+F7/Fn+F10]** and press **Enter**
- 8 Using **↑** and **↓**, select **[Disable]** and press **Enter**
- 9 Press **F10**, then select **[Yes]**

10 Install the Windows 95 USB device drivers

- 1 In [Start] - [Run], input [c:\util\msupdate\usb\usbsetup.exe], then press [OK]. At the confirmation message, press [Yes].
- 2 Read the [END-USER LICENSING AGREEMENT] and press [Yes] or [No].
 - Installation will start if [Yes] is pressed.
 - Installation will be aborted if [No] is pressed.
- 3 At the display indicating the completion of installation, press [OK]. The computer will automatically restart.
- 4 In [Start] - [Run], input [c:\util\msupdate\usb\usbcopy.bat], then press [OK].
- 5 Click at the upper right corner to close the display.
- 6 In [Start] - [Settings] - [Control Panel] - [System] - [Device Manager], select [PCI Universal Serial Bus] in [Other devices], press [Remove], then press [OK].
- 7 Press [Refresh] and press [Close] at the [System Properties],
- 8 Restart the computer.

CAUTION

After a driver has been installed, do not use the suspend or hibernation function. If the suspend or hibernation mode is activated, the computer may not function properly. Power off, then on, using the power switch to resume proper operation.

If you want to use the suspend or hibernation function when the USB driver is installed, disable the USB device function of the computer. (☞ page 14)


(To next page)

NOTE

Execute the following steps if the operation of a USB device is unstable. When the steps below are implemented, however, faults such as Windows being unable to shut down exist when the USB HUB remains connected. (In such cases, remove the USB HUB.)

- 1 In [Start] - [Run], input [c:\util\msupdate\usb\usbupd2.exe], then press [OK].
- 2 When the [Version Conflict] appears, then select [Yes].
- 3 In [Start] - [Shut Down], select [Restart], then press [OK].
- 4 In [Start] - [Run], input [c:\util\msupdate\usb\usbcopy.bat], then press [OK].
- 5 Click at the upper right corner to close the display.
- 6 In [Start] - [Settings] - [Control Panel] - [System] - [Device Manager], select [xxxx PCI to USB Universal Host Controller] in [Universal serial bus controller], press [Remove], then press [OK].
- 7 Press [Refresh] and press [Close] at the [System Properties].
- 8 In [Start] - [Shut Down], select [Restart], then press [OK].

Connecting USB Devices

- 1 **Power off your computer**  "Starting Up/Shutting Down"
Do not shut down using the suspend or hibernation mode.

- 2 **Connect the USB device to your computer**

NOTE

For more detailed information, refer to the operation manual provided with the USB device.

- 3 **Turn on the USB device, then turn on your computer**

NOTE

You may need to install drivers for your USB devices, simply follow the on-screen instructions and refer to the operation manual provided with the USB device.

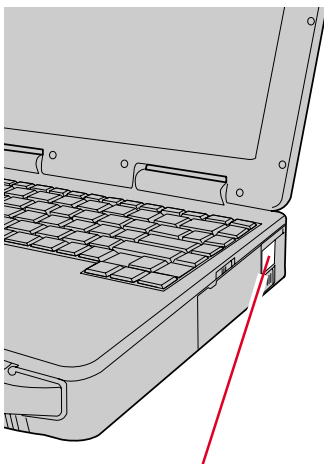
Removing USB Devices

- 1 **Power off your computer and the USB device**
Do not shut down using the suspend or hibernation mode.

- 2 **Remove the USB device**

- 3 **Remove the Windows 95 USB device drivers**

- 1 In [Start] - [Settings] - [Control Panel] - [Add/Remove Programs] - [Install/Uninstall], select [USB Supplement to OSR2], then press [Add/Remove].
- 2 The display will ask you to restart Windows, then select [Yes].



Infrared Communication Port

Preparations for Infrared Data Communications

- Position your computer so that the port is face-to-face with the port of another computer.
- 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.

Problems with infrared data communications

- An object is located between both ports.
- There are other electronic devices nearby causing interference, such as a television, VCR, wireless headphone, etc.
- Direct sunlight or white glowing light, such as fluorescent lighting; can cause interference with communications between the ports.
- When moving your computer while it is transmitting/receiving data.
- [IrDA Port] is set to [Disable] in the Setup Utility.
Set [IrDA Port] to [Enable] as follows.
 - 1 Turn your computer on.
 - 2 When the message [Press <F2> to enter SETUP] is displayed, press **(F2)** and then run the Setup Utility.
 - 3 Select [Advanced] menu and set [IrDA Port] to [Enable].
Press **(F10)**. At the confirmation message, select [Yes] and press **(Enter)**. The computer will reboot.

Data Communications

NOTE

Before data communications, do the following.

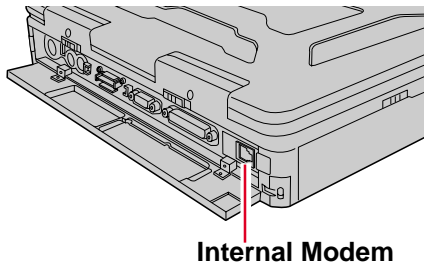
- Add the check mark ✓ for [Dial-Up Networking] in [Communications] with [Windows Setup] in [Control Panel] - [Add/Remove Programs].
- Select [Microsoft] for [Manufacturers:] and [File and printer sharing for Microsoft Networks] for [Network Services:] in [Control Panel] - [Network] - [Add] - [Service].
- Use Windows Explorer to set the folders for sharing on the host side.

- 1 Select [Start] - [Programs] - [Accessories] - [Direct Cable Connection]
- 2 Select [Host] or [Guest], then press [Next]
- 3 Select [Serial cable on COM6], then press [Next]
If [Serial cable on COM6] is not displayed, select [Install New Ports].
- 4 Press [Finish]
Infrared data communications will begin.

NOTE

- To process at a transfer speed of 4 Mbps, separate application software is necessary.
- When you select [Start] - [Settings] - [Control Panel], and then select [Infrared], this will give you the conditions for infrared data communications.
- Do not use suspend and hibernation functions during communications.
- Refer to Windows help on how to use Direct Cable Connection.
- Direct Cable Connection is not installed after reinstalling the computer, so add the check mark ✓ for [Dial-Up Networking] and [Direct Cable Connection] in [Communications] with [Windows Setup] in [Control Panel] - [Add/Remove Programs] and follow the on-screen instructions.

Connecting to a telephone line and settings



1 Connecting a telephone line to the internal modem

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

- Internal home phones
- Intercoms

CAUTION

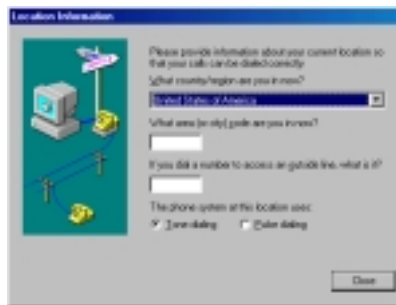
Do not use the PBX internal phone lines installed in company offices. Doing so may lead to a fire or electric shock.

NOTE

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

2 Select [Dialing Properties] in [Start] - [Settings] - [Control Panel] - [Modems]

Input the necessary information (items such as the phone system) and then press [Close].



NOTE

When [Internal Modem] is set to [Disable] in the Setup Utility, the internal modem will not operate. (At the time of purchase, [Internal Modem] is set to [Enable].)

3 Set the country the modem is to be used in

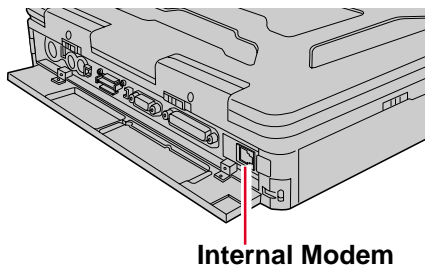
- ① Select [Device Manager] in [Start] - [Settings] - [Control Panel] - [System].
- ② Select [MP3930V-W Modem] in [Modem].
- ③ Set the country in "Select a country" with [Country Select].
- ④ Press [Apply], then press [OK].

CAUTION

There are cases the modem will not work properly when this setting is incorrect.

Be sure to make separate settings to connect to network services like the Internet or to use e-mail.

Connecting to a telephone line and settings



1 Connecting a telephone line to the internal modem

It is not possible to connect the internal 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 Select [Dialing Properties] in [Start] - [Settings] - [Control Panel] - [Modems]

Input the necessary information (items such as the phone system) and then press [Close].



CAUTION

Be sure that the country is properly set in this screen. Unless the country is properly set, Hyperterminal will not work properly when it is run the first time.

NOTE

When [Internal Modem] is set to [Disable] in the Setup Utility, the internal modem will not operate. (At the time of purchase, [Internal Modem] is set to [Enable].)

3 Set the country the modem is to be used in

- ① Select [HCF Modem Country Select] in [Start] - [Settings] - [Control Panel].
- ② Select [MP3930V-W Modem] in [Modem Country Select].
- ③ Set the country in "Select a country".
- ④ Press [OK].

CAUTION

There are cases the modem will not work properly when this setting is incorrect.

Be sure to make separate settings to connect to network services like the Internet or to use e-mail.

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

CAUTION

To customers:

- To change your hard disk, contact Panasonic Technical Support.
- Be sure to back up all important data before the change.

To technicians (at Panasonic Technical Support):

Be careful when replacing the hard disk. The hard disk is extremely sensitive to shock. In addition, static electricity could later affect some internal components.

Installing/Removing the hard disk

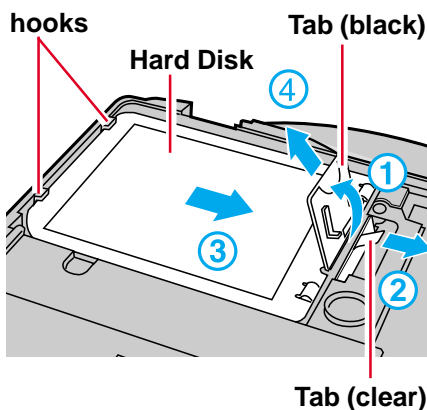
(For technicians at Panasonic Technical Support)

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

- 2 Remove the cover** (👉 page 28)

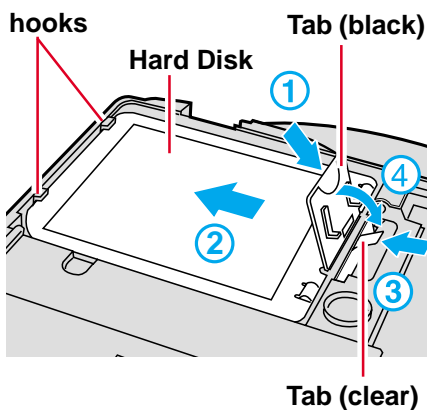
3 ● Removing the hard disk

- ① Turn the tab (black) over.
- ② Pull the tab (clear) to disconnect the HDD connector.
- ③ Slide the hard disk inward to release it from the hooks.
- ④ Pull the tab (black) up and gently lift the hard disk.



● Installing the hard disk

- ① Put a hard disk into the computer.
- ② Slide the hard disk until it snaps into place and is held firmly down by the hooks.
- ③ Connect the HDD connector.
- ④ Turn the tab (black) down and set on the hole.



- 4 Put the cover back into place** (👉 page 29)

Running the Setup Utility

To run the Setup Utility, you need to restart your computer. → Upon seeing this message Press <F2> to enter SETUP → press **F2**

NOTE

- Press **F2** while [Press <F2> to enter SETUP] is displayed.
- The Setup Utility will not run if **F2** is not pressed soon after the computer starts. In this case, you need to restart your computer.
- If [Enter Password] is displayed, enter your password. When entering the User Password, if the [Set User Password], [Set Supervisor Password] and [User Password Protection] have been set, [Advanced] menu will not be displayed on the main screen.

To display the [Advanced] menu:

- 1 Restart the computer and press **F2** when [Press <F2> for SETUP] is displayed.
 - 2 When [Enter Password] is displayed, enter the Supervisor Password.
- For more details, on-line help is available; press **F1**.

NOTE

Key Operations

- | | |
|---------------------|----------------------------------------------------------------------------|
| F1 | :To display the “General 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 for the operating system. (The password remains.) |
| F10 | :To save the settings and exit. |

* When starting up the Setup Utility with the User Password, this key is not available.


Closing the Setup Utility  [page 49](#)


Main Menu

BIOS Version:	Vx.xxLxx
System Time:	[xx:xx:xx]
System Date:	[xx/xx/xxxx]
System Memory:	xxxxxKB
Primary Master:	xxxxMB
Secondary Master:	None
NumLock:	[On]
Touch Pad	[Enable]
Touchscreen	[Enable]
Speaker	[Enable]
Internal MIC	[Enable]
Display	[External Monitor]

Parameters (_ : Default)

NumLock	ON OFF
Touch Pad	Disable <u>Enable</u>
Touchscreen	Disable <u>Enable</u>
Speaker	Disable <u>Enable</u>
Internal MIC	Disable <u>Enable</u> *1
Display	<u>External Monitor</u> *2 Internal LCD Simultaneous

*1 Select [Disable] to be able to use the external microphone connected to the port replicator. ( page 35)

*2 The port replicator or the external display port adapter is required to be able to use an external display. ( page 35, page 37)
When no external display is connected, all display information will be shown through the Internal LCD even when [External Monitor] or [Simultaneous] is selected.

Advanced Menu

If starting up the Setup Utility with the User Password, [Advanced] Menu can not be set.

Serial port A:*	[Enable]
Base I/O:	[3F8/IRQ4]
Serial port B:*	[Disable]
IrDA Port:*	[Enable]
Base I/O:	[3E8/IRQ11]
DMA:	[DMA1]
Parallel port:*	[Enable]
Mode:	[Bi-directional]
Base I/O:	[378/IRQ7]
Sound Controller:	[Enable]
CardBus Controller A:	[Enable]
Internal Modem:	[Enable]

* If [Enable] is set, sub items will be displayed.

Parameters (_ : Default)

Serial port A:* ¹	Disable <u>Enable</u>
Base I/O	<u>3F8/IRQ4</u> 2F8/IRQ3
Serial port B:* ¹	<u>Disable</u> Enable
Device	Port Replicator* ² MP (Multimedia Pocket) Device* ³
Base I/O	3F8/IRQ4 <u>2F8/IRQ3</u> 3E8/IRQ11 2E8/IRQ10
IrDA Port* ¹	Disable <u>Enable</u>
Base I/O	2F8/IRQ3 <u>3E8/IRQ11</u>
DMA	DMA0 <u>DMA1</u>
Parallel port:* ¹	Disable <u>Enable</u>
Mode	Uni-directional <u>Bi-directional</u> ECP EPP
Base I/O	<u>378/IRQ7</u> 3BC/IRQ5* ⁴
DMA* ⁵	<u>DMA0</u> DMA1

*¹ If [Enable] is set, sub items will be displayed.

*² If the port replicator is not connected, [MP (Multimedia Pocket) Device] is enabled automatically even when [Port Replicator] is selected.

*³ Select [MP (Multimedia Pocket) Device] when you use an optional communication tool installed in the multimedia pocket.

*⁴ This item will not be displayed when [Mode] is set to [EPP].

*⁵ This item is displayed only when [Mode] is set to [ECP].

Advanced Menu

Parameters (_ : Default)

Sound Controller	Disable <u>Enable</u>
CardBus Controller A	Disable <u>Enable</u>
Internal Modem	Disable <u>Enable</u>

Security Menu

Boot Up Drive:	[A:/C:]
Floppy Operation:	[Enable]
▶Set Supervisor Password:	[Enter]
User Password Protection:	[No Protection]
▶Set User Password:	[Enter]

CAUTION

If starting up the Setup Utility with the User Password;

- The User Password can only be set when the Supervisor Password has been set and [User Password Protection] has been set to [No Protection].

Parameters (: Default)

Boot Up Drive	<u>A:/C:</u> *1 C: CDD,DVD/A:/C:*1
Floppy Operation	<u>Enable</u> Disable
Set Supervisor Password	To the sub-menu
User Password Protection	<u>No Protection</u> Protected
Set User Password*2	To the sub-menu

*1 The superdisk drive pack is included in [A:].

*2 This item can not be set when the Supervisor Password is not set.

Power Menu

Power Management Mode :	[Enable (Always)]
HDD motor timeout:	1 min
ECO mode timeout:	2 min
Power Switch:	[Hibernation]
Hibernation Timeout: *	[Never]
Fn+F7/Fn+F10 key	[Enable]
CD-ROM/DVD-ROM Drive Speed :	[High]

* The [Suspend Timeout] item will be displayed when [Power Switch] is set to [Suspend]. Both [Hibernation Timeout] and [Suspend Timeout] may not be displayed when [Power Switch] is set to [Off].

Parameters (_ : Default)

Power Management Mode	Disable Enable (Battery) <u>Enable (Always)</u>
HDD motor timeout	Automatically set through setting of Power Management Mode (<u>1 min</u> / Never)
ECO mode timeout	Automatically set through setting of Power Management Mode (<u>2 min</u> / Never)
Power Switch	Off Suspend <u>Hibernation</u>
Hibernation Timeout Suspend Timeout	<u>Never</u> * 4 min 16 min
Fn+F7/Fn+F10 key	Disable <u>Enable</u>
CD-ROM/DVD-ROM Drive Speed	<u>High</u> Low

● Power Management Modes

Power Management Functions automatically set	Enable (Battery)	Enable (Always) (Setting at the time of purchase)	Disable
HDD motor timeout	1 min	1 min	Never
ECO mode timeout	2 min	2 min	Never
Power Conservation (AC Adapter Connected)	Disable	Enable	Disable

* Set automatically when [Power Switch] is set to [Off].

Exit Menu

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

NOTE

If the Supervisor Password or User Password has been set, the password must be entered before the computer can start.

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 for operating system. The password remains.
Load Previous Values	Load previous values from CMOS for all Setup items.
Save Current Values	Save your changes to CMOS.

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

Network / Communication Software

- The network connection may be severed when entering the ECO mode and suspend (hibernation) mode. Be sure to disable the [Suspend/Hibernation Timeout] settings with the Setup Utility if you require a network environment.
- When the power saving function is running, communications software may malfunction. For example, communications may be halted if the suspend (hibernation) mode is activated. The computer must be restarted if one of these modes is entered during data communications.
Be sure that the computer enters the ECO mode or suspend (hibernation) mode after the communications software is closed.

Internet Explorer Windows 95

Internet Explorer 4.01 places a tremendous load on the system in order to execute the wide variety of functions that it provides. As a result, some unexpected faults may occur. If any of these faults occurs, try using the software with some Internet Explorer 4.01 functions turned off. (See Internet Explorer Help for more details.)

- **It takes a long time to reboot or the computer locks up.**
Delete the check mark for [Internet Explorer Channel Bar] in [Control Panel] - [Display] - [Web], then press [OK].
- **A system module error occurs.**
Set (None) for [Wallpaper] in [Control Panel] - [Display] - [Background].
- **Performing the above steps does not solve the problem.**
Uninstall Internet Explorer 4.0 with the following step.
After Internet Explorer is uninstalled, reinstallation is necessary to use Internet Explorer again. (👉 📖 "Reinstalling Software")
Select [Microsoft Internet Explorer 4.01] in [Start] - [Settings] - [Control Panel] - [Add/Remove Programs] - [Install/Uninstall] and press [Add/Remove]. Follow the on-screen instructions.
- **If a window with the message [Version Conflict] appears during the installation process (network card and application installation), select [Yes].**
Proper operation may not be possible if [NO] is selected.

Power Saving Function in the Sound Chip Windows 95

The sound chip has its own power saving function. You can enable this function in the [DS-XG Power] tab (select [Start] - [Settings] - [Control Panel] - [Power] - [DS-XG Power]). In [Full power level], the power saving function is disabled.
(When a ZV card is used, set [Full power level] to enable sound to be normally produced.)
In [Minimum level of power save], the power saving function is enabled. You may encounter problems, such as no sound from music CDs.
Do not select [Intermediate level of power save] or [Maximum level of power save] because noise is likely.

Enabling Power Conservation Windows NT

Confirm that Phoenix APM 2.0 for Windows NT® is installed. (If [APM 2.0 for NT] is displayed in [Control Panel], this means that the program is installed.) If the program is not installed, be sure to install it.

When Adding New Software or Hardware Components Windows NT

- Some of the contents of Service Pack 6A (installed at the time of purchase) may be overwritten. Therefore, after adding a new software or hardware component, be sure to install Service Pack 6A. (See the [Readme.htm] file (c:\sp6).)

<Only if necessary>

In addition, if you install Service Pack 6A, some files of Phoenix APM 2.0 for Windows NT® and Phoenix Card Executive 2.0 for Windows NT® may be overwritten. Therefore, after installing Service Pack 6A, also re-install Phoenix APM 2.0 for Windows NT® and Phoenix Card Executive 2.0 for Windows NT®.

<Installing Service Pack 6A>

In [Start]-[Run], input [c:\sp6\sp6i386.exe], then press [OK]. Follow the on-screen instructions.

Port Replicator Windows NT

- Hot Docking and Hot Undocking are not possible with the port replicator.
- The reinstallation steps in the Operating Instructions of the port replicator are not needed.

Audio Device Windows NT

Disabling Audio Device

- 1 In [Start] - [Setting] - [Control Panel] - [Multimedia] - [Devices], select [Audio for YAMAHA DS-XG Audio Driver] in [Audio Devices].
- 2 Press [Remove], then press [Yes].
- 3 Press [Restart Now].

Reinstalling Audio Device

- 1 In [Start] - [Run], input [c:\util\drivers\sound\setup.exe], then press [OK].
- 2 Press [Next] at the display for the [Welcome].
- 3 Press [OK] at the [YAMAHA DS-XG Audio Driver].
- 4 Press [Finish] at the [Setup Complete].

Windows NT® Security Function Windows NT

Windows NT® has a security function that differs from the security function of the Setup Utility. For detailed information, please refer to the Windows NT® book in the Windows NT® System Pack.

NOTE

- Set the password for secrecy and protection.
- Only an account for the Administrator is created the first time the computer is started. Please create accounts for person who are actually going to use a computer.
- We recommend using an NTFS file system in order to use the Windows NT® security function.

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 Shadow RAM Failed at offset : *nnnn*

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

0231 System RAM Failed at offset : *nnnn*

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

0232 Extended RAM Failed at offset : *nnnn*

Extended memory not working or not configured properly at offset *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 CMOS

Memory size found by POST differed from 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*.

CD ROM Drive

CD ROM Drive identified.

Entering SETUP ...

Starting Setup Utility.

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.

Fixed Disk n

Fixed disk *n* (0-3) identified.

Invalid System Configuration Data

Problem with NVRAM (CMOS) data.

I/O device IRQ conflict

I/O device IRQ conflict error.

PS/2 Mouse Boot Summary Screen:

PS/2 Mouse installed.

nnnn kB Extended RAM Passed

Where *nnnn* is the amount of RAM in kilobytes successfully tested.

nnnn Cache SRAM Passed

Where *nnnn* is the amount of system cache in kilobytes successfully tested.

nnnn kB Shadow RAM Passed

Where *nnnn* is the amount of shadow RAM in kilobytes successfully tested.

nnnn kB System RAM Passed

Where *nnnn* is the amount of system RAM in kilobytes successfully tested.

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, <F3> for previous

Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter a Setup and change the settings. Press <F3> to display the previous screen (usually an initialization error of an **Option ROM**, i.e., an add-on card). Write down and follow the information shown on the screen.

Press <F2> to enter Setup

Optional message displayed during POST. Can be turned off in Setup.

PS/2 Mouse:

PS/2 mouse identified.

System BIOS shadowed

System BIOS copied to shadow RAM.

UMB upper limit segment address : nnnn

Displays the address *nnnn* of the upper limit of **Upper Memory Blocks**, indicating released segments of the BIOS which can be reclaimed by a virtual memory manager.

Video BIOS shadowed

Video BIOS successfully copied to shadow RAM.

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.

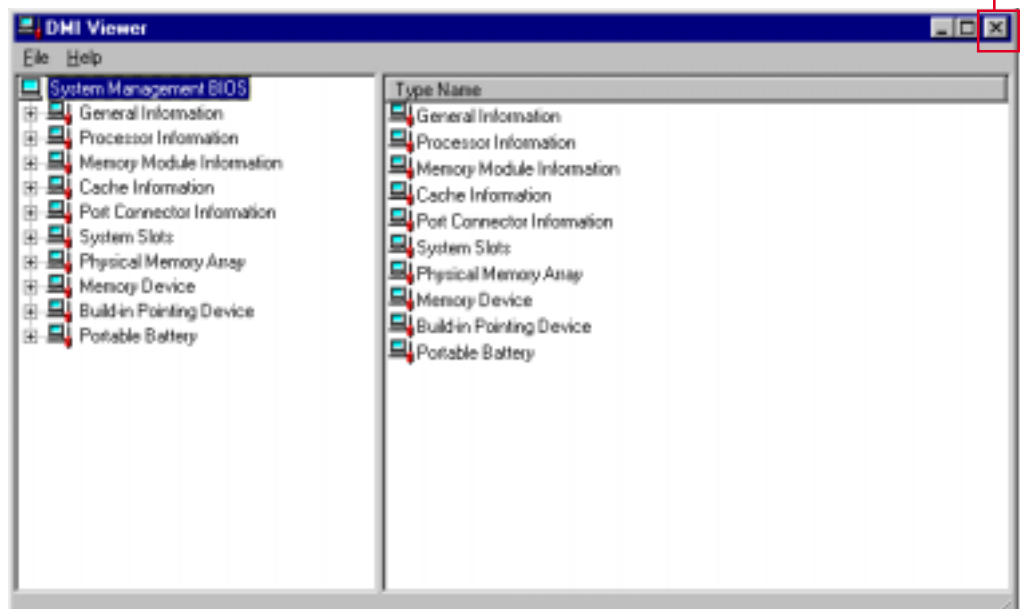
Running DMI Viewer

Select **[DMI Viewer]** from **[Start] - [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), then press [Save]

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

● Starting Up

<p>The power indicator or battery indicator is not lit</p>	<ul style="list-style-type: none"> ● Check the cable connection for the AC adapter. ● Check to see if a fully charged battery is properly installed. ● Remove the battery pack and disconnect the AC adapter, then connect them again.
<p> is displayed</p>	<p>Input your password. If you have forgotten it, contact Panasonic Technical Support.</p>
<p>[POST Startup Error(s)] is displayed</p>	<p> page 53</p>
<p>Windows startup, or an operation is extremely slow</p>	<p>Press (F9) in the Setup Utility ( page 44). 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.)</p>
<p>An operation is slow Windows 95</p>	<p><For models equipped with a 13.3" (XGA) LCD> Have you deleted the check mark for "Allow Windows to manage power use on this computer" in [Start] - [Settings] - [Control Panel] - [Power] ? If it is unmarked, the computer may automatically enter a power saving mode to prevent the temperature from rising above allowable levels, depending on usage condition. Add the check mark to "Allow Windows to manage power use on this computer".</p>
<p>The date and time are incorrect</p>	<ul style="list-style-type: none"> ● You can set the date and time through [Date/Time] in [Start] - [Settings] - [Control Panel]. If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact Panasonic Technical Support. <p>Windows NT</p> <ul style="list-style-type: none"> ● When [APM 2.0 for NT] is not displayed in [Control Panel], this indicates that Phoenix APM 2.0 for Windows NT® is not installed. When the suspend or hibernation function is used under this condition, the date and time may be incorrectly displayed. Correct the date and time, and then install Phoenix APM 2.0 for Windows NT®. When the suspend or hibernation function is used frequently, discrepancies may occur in the display of the date and time even if APM 2.0 for Windows NT is installed. You can set the date and time through [Date/Time] in [Start] - [Settings] - [Control Panel].
<p>Others</p>	<ul style="list-style-type: none"> ● Press (F9) in the Setup Utility ( page 44). This will restore the Setup Utility's settings to their default values (except the password settings). ● Try removing all peripheral devices. <p>Windows 95</p> <ul style="list-style-type: none"> ● In the MS-DOS mode, run SCANDISK to check the hard disk. ● At start-up, press and hold (F8) to operate the computer in the Safe mode.


● Shutting Down **Windows 95**

<p>Unable to shut down Windows 95</p>	<ul style="list-style-type: none"> ● If a USB device is connected, try removing it. ● Do not shut down Windows 95 during music playback.
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● Battery Indicator

The red indicator lights. Repeated beeping sound while the computer is in use.	The battery level is low. Save your data and power off your computer. After connecting the AC adapter 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 adapter, then connect them again. ● If the problem persists, contact Panasonic Technical Support.
After the AC adapter is connected, the orange indicator blinks five times	Unable to charge because of an improper temperature range. (👉 📖 "Precautions")

● Display

Unable to connect an external display	The optional port replicator or the external display port adapter is required. (👉 page 35, 👉 page 37)
No display after powering on	<ul style="list-style-type: none"> ● At the time of purchase, the display setting is preset for an external display. If you connect an external display, the screen is displayed on the external display. ● 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). ● When displaying only through an external display, if the computer is shut down by using the suspend or hibernation function, there will be no display on the LCD unless the external display is connected when operations are resumed. In this case, connect the external display.
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 ECO mode, press any key. ● To save power, your computer may have automatically entered the suspend or hibernation mode. (👉 page 22)
The resolution of the display cannot be changed	Set [None] for [Wallpaper] in [Start] - [Settings] - [Control Panel] - [Display] - [Background], and then press [OK]. Then, once again try changing the resolution. After the change, be sure to restart the computer.
An afterimage appears (i.e., 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 motion of the mouse cursor is not smooth Windows 95	Select [Start] - [Settings] - [Control Panel] - [Mouse] - [Motion] and add the check mark ✓ for [Show trails].
The cursor does not move in scrolling area of the touch pad Windows 95	When the Microsoft® IntelliMouse™ wheel mode or the original mode is set for the touch pad, only scroll operations are possible for the right part or bottom part of the touch pad. In this case, cursor operations are possible by using the work surface excluding the right part or bottom part. When no mode is set, the entire surface of the touch pad can be used for cursor operations.
The cursor cannot be controlled	Restart the computer by using the keyboard (e.g., ).
During simultaneous display, the screen of the external display becomes disordered	Try changing the display by pressing (Fn) + (F3) .

● Display

When the screensaver is set, an error will occur during a resume operation.	When the computer automatically enters the suspend mode while the screensaver is running, an error may occur during a resume operation. In such cases, turn off the screensaver or try changing the pattern of the screensaver.
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● 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 45) ● When mouse drivers are installed (i.e. 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 your finger.
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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 45) ● When mouse drivers are installed(i.e. Intellimouse), the touch pad is unable to be used. Windows 95 ● Has the touchscreen driver been properly installed?
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● 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 47) ● Your floppy disk content may be corrupted.
Unable to write to a floppy disk	Is the floppy disk write-protected?
How to format a floppy disk is unclear	Select [Format] in [My Computer] - [3 1/2 Floppy (A:)] - [File]. After confirming the disk volume and format type, start formatting.
Unable to read/write to the hard disk	<ul style="list-style-type: none"> ● Your drive or file may not have been properly set. ● Check to see if the hard disk is full. If it is full, delete unnecessary files. ● Your hard disk content may be corrupted. Contact Panasonic Technical Support.
When the previous item is not the cause	Try testing another drive or media.

● Character Input

Unable to input anything but numerals	If NumLk and Key Pad are on, the Numeric Key Pad is ON. To switch it OFF, press (Fn) + (Key Pad) .
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	Select [Start] - [Programs] - [Accessories] - [Character Map]. The Character Map will be displayed. Point to the desired font name and select it.

● Setup Utility

[Enter Password] is displayed	Enter the User Password or Supervisor Password. If you have forgotten it, contact Panasonic Technical Support.
[Advanced] 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.
The timeout functions do not work Windows 95	If the Panasonic Battery Monitor is being displayed, close it.

● Application Software

Computer hangs	<ul style="list-style-type: none"> ● Press Ctrl + Alt + Del to reboot the computer. ● After cutting the power by pressing 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, go to [Start] - [Settings] - [Control Panel] - [Add/Remove Programs] to delete the program. Then try installing the program once again. <p>Windows NT</p> <ul style="list-style-type: none"> ● WindowsNT may not shut down if an attempt is made to restart the computer after the installation of an application. In such cases, press Ctrl + Alt + Del, and then select [Shut Down] in the "WindowsNT Security" screen.
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● Network

Unable to connect to a network	<ul style="list-style-type: none"> ● When using the computer as a network computer, additional settings may need to be set depending on the usage conditions. Ask your system administrator or the person in charge of the network. ● The computer must be restarted if suspend or hibernation mode is entered.
Windows NT The line connection can not be cut	If the Dialup dialog box is closed while a dialup connection is active, the line connection may remain intact. In such cases, it is possible to cut the line connection by restarting the computer.




● Sound

The sound is not heard	<ul style="list-style-type: none"> ● Try changing the mute by pressing Fn + F4. ● Has the Setup Utility been used to set [Speaker] to [Disable]? (☞ page 45)
The volume can not be changed by pressing Fn + F5 or Fn + F6	Has the Setup Utility been used to set [Sound Controller] to [Disable]? (☞ page 47)

● Unusual Sound

The computer produces a strange sound	<ul style="list-style-type: none"> ● If the computer enters the ECO 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. ● If the computer has not been used for a long period of time, it may produce an unusual sound at start up. The sound may continue for a short period of time, but if the computer starts up in a normal manner, then the problem is not serious. If, however, the computer fails to start up, contact Panasonic Technical Support.
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● Connecting Peripherals

<p>Your peripheral does not work (An error occurs while installing the driver)</p>	<p>Windows 95 You need to use drivers conforming to Windows 95 Version 4.00.950B (OSR-2.1). Some earlier drivers will no longer work. For more information, please ask the manufacturer of the driver in question.</p> <p>Windows NT ● You need to use drivers compatible with the operating system. Some earlier drivers will no longer work. For more information, ask the manufacturer of the driver in question. ● Press (F9) in the Setup Utility.</p>
<p>Unable to print</p>	<ul style="list-style-type: none"> ● Check the computer-printer connection. ● Make sure the printer is on. ● Make sure the printer is in the online state. ● Make sure paper is in the printer tray and there is no paper jam. ● Has the Setup Utility been used to set [Parallel Port] to [Enable]?
<p>The cursor does not move from mouse operations</p>	<p>Check your mouse connection, then reboot the computer from the keyboard. From the keyboard, you may choose to press down on  , then select [Shut Down].</p>
<p>The device connected to the serial port does not work</p> <p>Windows 95</p>	<ul style="list-style-type: none"> ● Check the connection. ● Confirm that the device driver for the serial port works. Refer to the reference manual 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. ● Confirm that [Device] is set to [Port Replicator] in the Setup Utility. ● Try setting [Touch Pad] / [Touchscreen] to disable in the Setup Utility. ● Has the Setup Utility been used to set [Serial Port] to [Enable]?
<p>External mouse or trackball connected to the external keyboard/mouse port does not work</p>	<ul style="list-style-type: none"> ● Try setting [Touch Pad] / [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.
<p>A PC Card does not work</p>	<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 PC Card's manual. Or, you may need to call the manufacturer of the PC Card. ● Try removing/reinserting the PC Card by following the proper procedure.  page 32 ● In the Setup Utility, confirm that the resources necessary for the PC Card to operate are not being used. <p>Windows NT</p> <ul style="list-style-type: none"> ● When [Card Executive 2.0 for NT] is not displayed in [Control Panel], install Phoenix Card Executive™ 2.0 for Windows NT®. ● Confirm that a PC Card compatible with Windows NT® is being used.
<p>You do not know the available RAM module</p>	<p> page 34</p>
<p>The RAM module has not been recognized</p>	<ul style="list-style-type: none"> ● Make sure the RAM module has been properly inserted. ● Use the RAM module that support the recommended specifications.

● Connecting Peripherals

The address map for IRQ, I/O port address, etc. is unclear	<p>Windows 95</p> <ul style="list-style-type: none">● Check the address map by going to [View Resources] in [Start] - [Settings] - [Control Panel] - [System] - [Device Manager] - [Computer] - [Properties]. <p>Windows NT</p> <ul style="list-style-type: none">● Select [Start] - [Programs] - [Administrative Tools] - [Windows NT Diagnostics] to see the present conditions.
A USB device does not work	<ul style="list-style-type: none">● Make sure a driver is installed.● Contact the manufacturer of the product. <p>Windows NT</p> <ul style="list-style-type: none">● USB devices are not supported.
IrDA does not work	<p>Windows NT</p> <p>Separate communications software is necessary.</p>

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