


Shutting Down (power off your computer)

This procedure is shutting down without using the suspend or hibernation function.

( Reference Manual "Suspend/Hibernation Functions")

1 Display the shut down screen

After saving important data and closing each application, select [Shut Down] from the [Start] menu.

NOTE

From the keyboard,

You may choose to press down on , then select the menu with  or .

2 Confirm shut down

Select [Shut down], then press [Yes].

Your computer will power off automatically.


(In the OFF state, if you are not recharging your battery pack or if the pack is fully charged, your computer consumes approximately 1.5 W.)

● Restarting your computer (without shutting down)



Select [Yes] after selecting [Restart...].

NOTE

To quickly resume computer operation after shutting down,

The suspend or hibernation function is available. ( Reference Manual "Suspend/Hibernation Functions")

Windows NT

For the computer to automatically shut down after [Shut down] is selected, Phoenix APM 2.0 for Windows NT[®] has to be installed. When  and  are displayed on the taskbar, this indicates that the program is installed.

The Reference Manual can be accessed on your computer. When a printer is connected, it is also possible to print. This manual explains functions for you to make greater use of the computer, such as how to add peripheral devices, how the Setup Utility works and other useful information.

CAUTION

Windows NT

When you read the Reference Manual, it is necessary to install the Acrobat Reader.

Run the Reference Manual

1 Turn your computer on

2 Select [Reference Manual] in [Start] - [Programs] - [Panasonic] - [On-Line Manuals]

When launching the Reference Manual for the first time, the License Agreement will be displayed. After reading the agreement, select [Accept] to access the Reference Manual.

NOTE

When launching the Reference Manual for the first time, an error message may appear if the Reference Manual is launched using a method that differs from the above explanation. If an error message appears, press [OK].

Display the page
Go forward or backward a page, or to the beginning or end of a document.

Zoom-in
To move around the current page.

Hand tool
To move around the current page.

Table of Content (Items)
By clicking an item, the corresponding page will be displayed at 100%.

Cancel or correct an operation

Change the display size

Perform a "Find" operation

Exit

Display of the manual

Page Indicator
A desired page can be displayed by inputting the page number after clicking here.

Change the display size
You can choose to magnify/de-magnify the display.

Movable splitter bar
This bar can be dragged, for example, to the right to enlarge the display of the Table of Contents.

CAUTION

- Illustrations may be difficult to view depending on the magnification. If this is the case, we recommend that the display be magnified.
- When the taskbar is hidden at the bottom portion of Acrobat® Reader, set the maximum display window size.
- If a printer is connected, we recommend printing the Reference Manual. The illustrations and display samples may not print with a high quality.

Usage Environment

● Environment

- Place the computer on a flat stable surface.
- In use: Temperature: 5 °C to 35 °C {41 °F to 95 °F}
Humidity: 30 % to 80 % RH (No condensation)
- Not in use: Temperature: -20 °C to 60 °C {-4 °F to 140 °F}
Humidity: 30 % to 90 % RH (No condensation)

● Places not to use your computer

- Such areas may result in damage to the computer.

Areas with electronic equipment

These areas may interfere with your display or cause your computer to produce strange sounds.

Areas with extremely high/low temperatures

- Do not leave things near the computer that are sensitive to heat. During operation, the computer may become warm.



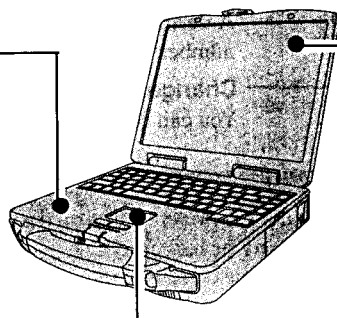
Handling

- This computer has been designed so as to minimize shock to the LCD and hard disk drive, the leakage of liquid (e.g., water) from the keyboard, etc., but no warranty is provided against such trouble. Therefore, as a precision instrument, please be extremely careful in the handling.
- Do not drop or hit your computer against solid objects.
Do not stand the computer on its side or allow it to tip over. When the computer receives extremely strong shock after falling, the hard disk or floppy disk drive, etc., may become inoperable.
- It is a good idea to make backup copies on floppy disks and carry them with you.
- Do not leave a floppy disk in the drive while transporting your computer.
- Do not carry your computer when it is ON.
- Remove all cables before transporting your computer. Having the optional port replicator is very convenient.
- We recommend preparing a fully charged battery (and optional charger, if possible).
When transporting spare batteries inside a package, briefcase, etc., it is recommended that the batteries be stored in a plastic bag.
- Do not place the computer upright. When the computer receives extremely strong shock after falling, the hard disk or floppy disk drive, etc., may become inoperable.
- Do not carry the computer while the display is open, or carry it by gripping the display.
- Do not put anything (e.g., a piece of paper) between the display and keyboard.
- Always carry your computer with you. Never check it in with luggage. For use of the computer inside an aircraft, we recommend asking the airlines regarding their policy on this issue.

Maintenance

Areas excluding the display

Firmly squeeze a soft wet cloth containing water or detergent (for kitchen use) diluted with water and gently wipe the computer. If a detergent other than a detergent for kitchen use is used (e.g., low-alkaline detergent), it may adversely affect the surface (e.g., discoloration).



Touch Pad

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Display

Use a soft dry cloth like gauze to lightly wipe the display.

CAUTION

- Do not use benzene or thinner, or rubbing alcohol. Doing so may be adversely affect the surface, e.g., discoloration. In addition, do not use commercially-available cleaners and cosmetics, as they may contain components harmful to the surface.
- Do not directly add or spray water or detergent. If liquid enters the computer, this may cause the computer to work improperly or be damaged.

List of Error Codes

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 in 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.

List of Error Codes

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.

Dealing With Problems

When a problem occurs, refer to this page. The Reference Manual also contains detailed information. If you still cannot troubleshoot the problem, contact Panasonic Technical Support.

● Starting Up

The power indicator or battery indicator is not lit	<ul style="list-style-type: none"> ● Check the cable connection for the AC 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.
 is displayed	Please input your password. If you have forgotten it, contact Panasonic Technical Support.
POST Startup Error(s) is displayed	☞ page 21
Windows startup, or an operation is extremely slow	Press (F9) in the Setup Utility (☞ <small>Reference Manual</small> "Setup Utility"). 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.)
An operation is slow	<For CF-27FCCKFAM model only> 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".
The date and time are incorrect	<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. Please 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®. You can set the date and time through [Date/Time] in [Start] - [Settings] - [Control Panel].
Others	<ul style="list-style-type: none"> ● Press (F9) in the Setup Utility (☞ <small>Reference Manual</small> "Setup Utility"). 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 (F8) to operate the computer in the Safe mode.

● Shutting down **Windows 95**

Unable to shut down Windows 95	<ul style="list-style-type: none"> ● If a USB device is connected, try removing it. ● Do not shut down Windows 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. (☞ page 6)

Dealing With Problems

● Display

Unable to connect an external display	The optional port replicator or the external display port adapter is required for use with an external display. (☞ <small>Reference Manual</small> "Port Replicator", "Using an External Display")
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 cut, 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. (☞ <small>Reference Manual</small> "Computing On The Road")
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. (☞ <small>Reference Manual</small> "Touch Pad (Advanced)")
The cursor cannot be controlled	Restart the computer by using the keyboard (e.g., (Fn) + (F3)).
During simultaneous display, the screen of the external display becomes disordered	Try changing the display by pressing (Fn) + (F3) .
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.

● Application Software

<p>Computer hangs</p>	<ul style="list-style-type: none"> ● Press Ctrl + Alt + Del to reboot the computer. ● After powering down by pressing the power switch for more than four seconds, slide the power switch to power on and open the application again. <p>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> <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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● Disk Operations

<p>Cannot read/write to a floppy disk</p>	<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]? (☞ <small>Reference Manual</small> "Setup Utility") ● Your floppy disk content may be corrupted.
<p>Unable to write to a floppy disk</p>	<p>Is the floppy disk write-protected?</p>
<p>How to format a floppy disk is unclear</p>	<p>Select [Format] in [My Computer] - [3 1/2 Floppy (A:)] - [File]. After confirming the disk volume and format type, start formatting.</p>
<p>Unable to read/write to the hard disk</p>	<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.
<p>Others</p>	<p>Try testing another drive or media.</p>

● Character Input

<p>Unable to input anything but numerals</p>	<p>If NumLk and Key Pad are on, the Numeric Key Pad is ON. To switch it OFF, press Fn + Key Pad.</p>
<p>Only capital letters are being input</p>	<p>If CapsLock is on, the Caps Lock function is ON. To switch it OFF, press Caps Lock.</p>
<p>How to input European characters (ß, ð, ç), symbols or Euro Currency Symbol is unclear</p>	<p>Select [Start] - [Programs] - [Accessories] - [Character Map]. The Character Map will be displayed. Point to the desired font name and select it.</p>

● Setup Utility

<p>[Enter Password] is displayed</p>	<p>Enter the User Password or Supervisor Password. If you have forgotten it, contact Panasonic Technical Support.</p>
<p>[Advanced] menu can not be registered</p>	<p>Restart the Setup Utility with the Supervisor Password.</p>
<p>All or some items in [Security] menu can not be registered</p>	<p>Restart the Setup Utility with the Supervisor Password.</p>
<p>The timeout functions do not work Windows 95</p>	<p>If the Panasonic Battery Monitor is being displayed, close it.</p>

Reinstalling Software

Before Reinstallation

● Preparing

- You will need the Product Recovery CD-ROM and the BACKUP DISK (e.g., FIRTAID FD) you made earlier. (Refer to the Step 9 on page 13 for details.)

NOTE

If you have not created the BACKUP DISK, you can create by selecting [Create BACKUP DISK] in [Start] - [Programs] - [Panasonic]. If you can not create this disk, contact Panasonic Technical Support.

- The CD-ROM pack (CF-VCD271) * is required for the following reinstallation procedure. Mount the CD-ROM pack in the multimedia pocket. (Refer to the operating instructions of the CD-ROM pack for details.)

*DVD-ROM drive pack (CF-VDD272) may be used.

● Important

- Save all important data. If reinstallation is carried out, all data existing prior to the installation will be lost. The reinstallation will return the computer to close to the conditions at time of purchase.
- Before the reinstallation procedure, remove all peripherals (except for the CD-ROM drive and FD drive).
- Be sure the AC adapter is connected until the reinstallation procedure is completed.

Reinstalling

CAUTION

If data on your hard disk is compressed, the data should be uncompressed.

- 1 Set the CD-ROM pack in the multimedia pocket, and turn the computer on.
- 2 When the message [Press <F2> to enter SETUP] is displayed, press **(F2)** and then run the Setup Utility. If the password has been set, enter the supervisor password.
- 3 Press **(F9)**.
At the confirmation message, select [Yes] and press **(Enter)**.
- 4 Select [Security] menu and set [Boot Up Drive] to [CDD,DVD/A:/C:].
- 5 Set the Product Recovery CD-ROM in the CD-ROM drive.
- 6 Press **(F10)**.
At the confirmation message, select [Yes] and press **(Enter)**. The computer will reboot, and this screen should appear.

Windows 95

Select the number

1. Restore the whole HDD to factory default
2. Restore the drive C to factory default
3. End

Windows NT

Select the number

1. Restore the whole HDD to factory default
2. End

- 7 Make a selection from the menu.


To restore all contents of the hard disk to factory default, including the partition setting(s):
Select [1. Restore the whole HDD to factory default].

Windows 95

To restore the hard disk (C drive) to factory default, excluding the partition setting(s):
Select [2. Restore the drive C to factory default].

- 8 At the confirmation message, press **(Y)**.
The operations of "format" and "restore" for the hard disk start automatically. (The operations take about one hour.)
- 9 After the "restore" procedure completes, remove the Product Recovery CD-ROM, then close the tray.
- 10 Turn the computer off and remove the CD-ROM pack.
- 11 Set the floppy disk drive in the multimedia pocket, set the FIRTAID FD and turn the computer on.
Follow the on-screen instructions.
- 12 After the reinstallation procedure completes, the following message will appear on the display.

All data on the whole HDD has been restored to the factory default. After removing floppy disk, restart the computer and set up Windows again.

Remove the floppy disk and restart the computer by pressing **(Ctrl) + (Alt) + (Del)**, and perform the setup procedure for Windows by following the instructions on the screen.  page 11, 12

NOTE

During the reinstallation procedure, the following Setup Utility entries are changed:

When necessary, change these settings accordingly.

Power Menu	Power Management Mode	:Disable
	Power Switch	:Off

When necessary, set [Boot Up Drive] to [A:/C:] in the Setup Utility.

● Port Replicator (Option)

After reinstalling the software on the hard disk, the reinstallation procedure in the operating instructions that accompany the port replicator is not required.

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Names and Functions of Parts

Internal Microphone

The internal microphone can not be used when an external microphone is connected. (☞ page 30)

Touch Pad

(☞ page 17)

LED Indicators

(☞ Reference Manual "LED Indicators")

Carrying Handle

For enhanced portability and in-the-field efficiency.


Battery Indicator

(☞ Reference Manual "Battery Indicator")

POWER Indicator

(☞ Reference Manual "LED Indicator")

Speaker

- To adjust the volume*, select  on the taskbar, then [Volume Control].

* You may also use the function keys to adjust the volume: **Fn** + **F5** / **F6**

- Speaker on/off: **Fn** + **F4**

<For models including a hand strap only>

Ring for Hand Strap

Expansion Bus Connector

(☞ Reference Manual "Port Replicator")

Serial Port

Use this port to a serial mouse or serial communications device.

Parallel Port

(☞ Reference Manual "Using a Printer")

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

(☞ Reference Manual "Using a Multimedia Pocket Device")

Function Keys

(☞ Reference Manual "Key Combinations")

LCD

(☞ Reference Manual "Touchscreen")

Infrared Communication Port

(☞ Reference Manual "Infrared Data Communications")

DC-IN Jack

Power Switch

POWER ►
Before using the computer for the first time, carefully read the [LIMITED USE LICENSE AGREEMENT]. If you agree to the conditions, remove the seal.

PC Card Slots

(☞ Reference Manual "Using PC Cards")

Reset Button

When resetting your computer, use a dull pointed object. Do not use a pencil. Pencil lead can break off inside and damage the computer.

External Keyboard/Mouse Port

USB Port

(☞ Reference Manual "Using USB Devices")

Headphone Jack

Use this jack to connect headphones or amplifier-equipped speakers. Audio output from the internal speaker is disabled when headphones or external speakers are connected.

Microphone Jack

Use only a monaural condenser microphone (miniature jack). Using an input source other than a monaural condenser microphone may not allow audio to be input or may damage the equipment.

<For models including a hand strap only>

Ring for Hand Strap

Internal Modem

Internal Modem

(☞ Reference Manual "Modem")

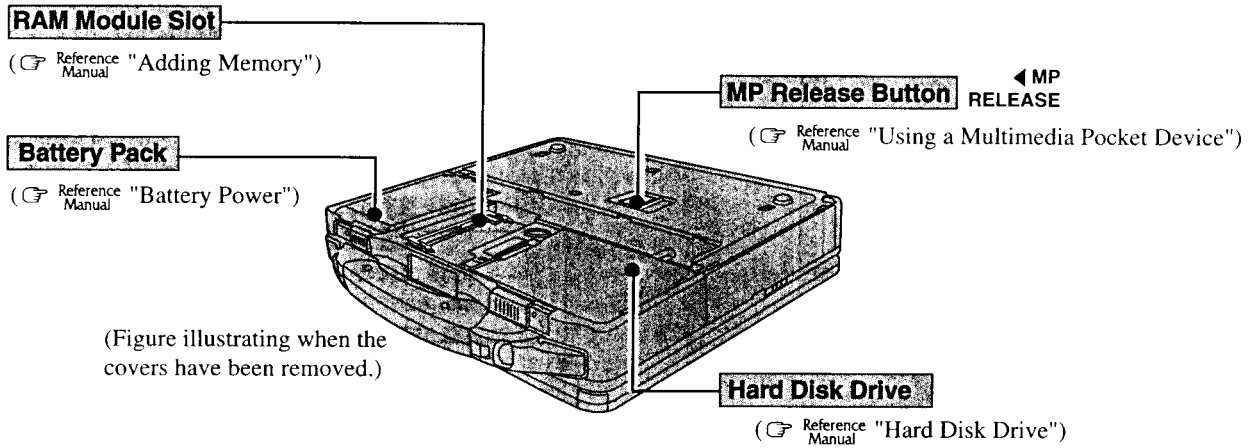
Security Lock

LOCK
A cable can be connected to prevent theft of your computer. For more information, please read the manual provided with the cable.

Floppy Disk Drive (Multimedia Pocket)

(☞ Reference Manual "Using a Multimedia Pocket Device")

Names and Functions of Parts



NOTE

About the Problem of "Howling";

The problem of "howling" sometimes occurs when a hand approaches the microphone. In such cases, do the following.

- 1 In the volume control display, select [Option] - [Properties].
- 2 Select [Playback] in "Adjust volume for", and select [Microphone] in "Show the following volume controls" (or confirm that a check mark has been added for "Microphone"), then press [OK].
- 3 Add a check mark for "Mute".

Or, to prevent this problem, adjust the microphone volume and speaker volume to moderate levels.

Specifications

● Main Specifications

Model No.	CF-27FCCKFAM/FCCKFCM	CF-27EB6GDAM/EB6GDCM
CPU (Intel® Mobile Pentium®II Processor)	333 MHz	300PE MHz
	L1 Cache Memory: 32 KB L2 (Second) Cache Memory: 256 KB	
Memory (Expandable to)	128 MB (256 MB Max.)	64 MB (192 MB Max.)
Video Memory	2.5 MB	
LCD	Type	13.3 Type(TFT) (XGA)
	Displayed Colors*1	12.1 Type (TFT) (SVGA)
	256/65536/262144 colors (640 x 480 dots/800 x 600 dots/1024 x 768 dots)	
Hard Disk Drive (including about 200 MB used specifically by the system)	12 GB*2	6.4 GB*2

*1 A 16M color display on the LCD is achieved by using the dithering function.

*2 1GB = 10⁹ bytes

● Other Specifications

Model No.	CF-27FCCKFAM/FCCKFCM	CF-27EB6GDAM/EB6GDCM
Keyboard	Keyboard (87 keys)	
Pointing Device	Touch Pad Touchscreen (Anti-Reflection, Finger touch capable)	
Floppy Disk Drive	720 KB/1.44 MB (two-mode)	
Slots	PC Card Slots	Two Type I or Type II, or one Type III Allowable current (total for two slots) 3.3 V: 400 mA, 5 V: 400 mA
	RAM Module Slot	144-pin, SO-DIMM, 3.3 V, SDRAM
Interface	Parallel Port	Dsub 25-pin female
	Serial Port	Dsub 9-pin male
	Microphone Jack*1	Miniature jack, 3.5 DIA Input impedance 600 Ω, Input voltage range 0.01 V[p-p]
	Headphone Jack	Miniature jack, 3.5 DIA Impedance 32 Ω, Output Power 4 mW (Impedance 32 Ω) x 2
	Infrared Communication Port	IrDA 1.1 compliant, 4 Mbps data transmission speed*2
	External Keyboard/Mouse Port	Mini DIN 6-pin female
	Expansion Bus Connector	Dedicated 80-pin female
	USB Port*3	4-pin
Internal Modem	Data:56 kbps (V.90 & K56flex) FAX:14.4 kbps	
Internal Microphone	Monaural Microphone (built in)	
Speaker	Monaural Speaker (built in)	
Sound	16 bits, 44.1 kHz PCM/FM sound (Sound Blaster PRO Compatible)	
Battery	Battery Pack	Lithium ion 10.8 V, 3.75 Ah
	Operating Time	Approx. 3.0 - 5.0 hours*4
	Charging Time	Power On: Approx. 5.5 hours*4 Power Off: Approx. 2.5 hours*4
	Clock Battery	Coin type lithium battery 3.0 V Operating Time: Approx. 7 years
AC Adapter*5	Input: 100 V - 240 V AC, 50 Hz / 60 Hz Output: 15.6 V DC, 3.85 A	
Power Consumption (maximum when recharging in the ON state)	Approx. 43 W*6	Approx. 42 W*6
Physical Dimensions(w x h x d) (Not including the carrying handle)	303 mm X 65 mm X 247 mm {11.9 " X 2.6 " X 9.7 "}	301 mm X 58 mm X 241 mm {11.8 " X 2.3 " X 9.5 "}
Weight	Approx. 3.9 kg {Approx. 8.6 lb.} + the carrying handle 0.2 kg {0.4 lb.}	Approx. 3.7 kg {Approx. 8.1 lb.} + the carrying handle 0.2 kg {0.4 lb.}

*1 Use only a monaural condenser microphone (miniature jack).

*2 A communications software is necessary. With Windows NT, 4 Mbps transmission speed is not supported.

*3 With Windows NT, USB port is not supported.

*4 Varies depending on the usage conditions.

*5 The AC adapter is compatible with power sources up to 240 V AC.

This computer is supplied with a 125 V AC compatible AC cord.

*6 Approx. 1.5 W when the battery pack is fully charged (or not being charged) and the computer is OFF.

Specifications

● Operating System

Model No.	CF-27FCCKFAM CF-27EB6GDAM	CF-27FCCKFCM CF-27EB6GDCM
Operating System	Microsoft® Windows® 95 (FAT32 File System)	Microsoft® Windows NT® Workstation Ver.4.0 (NTFS File System)

LIMITED WARRANTY

For U.S.A.

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This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This Limited Warranty will be governed by the laws the State of New York, without regard to its conflict-of-laws rules.

* * *

To obtain service or technical assistance within the continental U.S.A. and Alaska.

DIAL TOLL FREE: 1-800-LAPTOP5

Correspondence requesting product information should be sent to: Panasonic Computer Solution Company, 50 Meadowlands Parkway, Panazip 2F-5, Secaucus, NJ 07094

For Canada

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Scope of Coverage	Period of Coverage	Type of Failure Coverage
Whole Product (except Batteries), AC Adapter and CD-ROM (if factory installed)	Three (3) Years from Date of Original End User Customer Purchase	Defective Materials or Workmanship
Batteries, CD-ROM (unless factory installed), Port Replicator, Extra Memory Modules and all other Peripherals, Options and Accessories	One (1) Year from Date of Original End User Customer Purchase	Defective Materials or Workmanship

Remedy – In the event of a warranty claim, contact PCI's representatives within the applicable warranty period, identifying the nature of the defect claimed, at 1-800-668-8386 between 9:00 A.M. and 5:00 P.M., Eastern Time Zone, Mon. – Fri. (excluding holidays) for instructions on how to obtain service. A purchase receipt or other proof of date of original purchase is required before warranty service is performed. Defective parts covered by this Limited Warranty will be repaired or replaced with new or comparable rebuilt parts on an exchange basis. Warranty replacement or repair is subject to the terms of this Limited Warranty for the balance of the original period of warranty coverage.

No Coverage – This Limited Warranty does not cover products purchased outside Canada. Neither does it cover damage to, failure of, or defects in a product or accessory through mishandling, improper installation, abnormal use, misuse, neglect, accident, introduction of liquid or other foreign matter into the product, alteration or servicing by anyone not authorized by PCI, or act of God.

IF YOU SHIP THE PRODUCT FOR WARRANTY SERVICE

Carefully pack the product, preferably in the original carton. Include details of defect claimed and proof of date of original purchase. No liability is assumed for loss or damage to the product while in transit, if you chose your own transportation carrier.

SOFTWARE MEDIA LIMITED WARRANTY

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