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Panasonic®

Personal Computer

OPERATING INSTRUCTIONS

CF-27 Series

TOUGHBOOK

95

[Additional Manual]

Reference Manual

This manual can be accessed on your computer. Please refer to page 19 on how to access the Reference Manual.

Contents

- Key Combinations
- LED Indicators
- Panasonic Hand Writing (Touch Pad)
- Suspend/Hibernation Functions
- Security Measures
- Computing On the Road
- Battery Power
- Using a Multimedia Pocket Device
- Using PC Cards
- Adding Memory
- Port Replicator
- Using a Printer
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Customer's Record

Model No.* _____	Dealer's Name _____
Serial No. _____	_____
or	
Code No. _____	Dealer's Address _____
Date of Purchase _____	_____

*For the Model No., insert the 11 digit number (for example, CF-27EB6GCAM) located on the bottom of the computer.

Introduction

Thank you for purchasing the Panasonic computer. Please read the operating instructions thoroughly for proper operation of your new computer.

Illustrations in this 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.)
Enter:	This illustration means to press the [Enter] key.
Fn + F5:	This illustration means to press and hold the [Fn] key, then press the [F5] key.
☞:	Where to go for referred information.
	☞ Reference Manual : This illustration means to refer to the Reference Manual, which is available on your computer. Please refer to page 19 on how to access this manual.

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For U.S.A.

Federal Communications Commission Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the Panasonic Service Center or an experienced radio/TV technician for help.

Warning

To assure continued compliance, use only shielded interface cables when connecting to a computer or peripheral. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Responsible Party: Matsushita Electric Corporation of America
One Panasonic Way
Secaucus, NJ 07094
Tel No:1-800-LAPTOP-5 (1-800-527-8675)

Lithium Battery

Lithium Battery!

This computer contains a lithium battery to enable the date, time, and other data to be stored.

The battery should only be exchanged by authorized service personnel.

Warning! A risk of explosion from incorrect installation or misapplication can possibly occur.

Avertissement concernant la pile au lithium (pile de sauvegarde)

Pile au lithium!

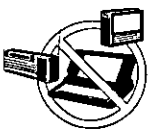
Le micro-ordinateur renferme une pile au lithium qui permet de sauvegarder certaines données comme la date et l'heure notamment. Elle ne devra être remplacée que par un technicien qualifié.

Avertissement! Risque d'explosion en cas de non respect de cette mise en garde!

Precautions

The CF-27 was developed based on thorough research into the real-world portable computing environments. Exhaustive pursuit of usability and reliability under harsh conditions led to innovations such has the magnesium alloy exterior, vibration damped hard disk drive and floppy disk drive, flexible internal connections. The CF-27's outstanding engineering has been tested using the stiff MIL-STD- 810E (for vibration and shock) and IP (for dust and water) based procedures.

As with any portable computer device precautions should be taken to avoid any damage. The following usage and handling procedures are recommended.



Avoid Radio Frequency Interference
Do not place the computer near a television or radio receiver.



Avoid Magnetic Fields
Keep the computer away from magnets.



Keep Small Objects Away
Do not insert paper clips or other small objects into the computer.



Do Not Disassemble the Computer
Do not attempt to disassemble your computer.



Avoid Excessive Force on the Display
Do not apply excessive downward force on the display when it is completely opened, especially when plugs and/or cables are connected to the rear of the computer.

Avoiding low-temperature burns
Avoid more than casual contact with any heat producing area of the notebook computer, power adapter, and any option or accessory you use with it.
Even low heat, if warmer than body temperature, can cause a burn, if the skin is exposed to the heat source for a long enough period of time.

Peripherals

Incorrectly using peripheral devices may lead to a decrease in performance, an increase in temperature and/or damage to your computer. For more information on peripheral devices, please refer to the Reference Manual.

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Precautions (Battery Pack)

- Care should be exercised with regard to the following in order to avoid the possibility of liquid leakage, overheating, or bursting.



Avoid Heat
Do not throw the battery pack into a fire or expose it to excessive heat.



Keep Articles Away
Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.



Do Not Disassemble
Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform, disassemble, or modify it.



Do Not Short
Do not short the positive (+) and negative (-) contacts.



Avoid Extreme Heat, Cold and Direct Sunlight
Do not charge, use or leave the battery pack for extended periods where it will be exposed to direct sunlight, in a hot place (in an automobile on a sunny day, for example), or in a cold place.



Do Not Use With Any Other Computer
The battery pack is rechargeable and was intended for the specified computer or charger. Do not use it with a computer other than the one for which it was designed.



Do Not Put into a Microwave
Do not put the battery pack into a microwave oven or a pressurized chamber.



Discontinue Use
Should the battery emit an abnormal odor, become hot to the touch, become discolored, change shape, or become in any way different from normal, remove it from the computer or charger and discontinue use.

- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery pack to water, or allow it to become wet.
- If the battery pack will not be used for a long period of time (a month or more), charge or discharge (use) the battery pack until the remaining battery level becomes 30% to 50% and store it in a cool, dry place.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity after the battery is fully charged.
- The battery pack 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.
- Should the battery leak and the fluid get into your eyes, do not rub your eyes. Immediately flush your eyes with clear water and see a doctor for medical treatment as soon as possible.

NOTE

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence outside of the allowable temperature range (0 °C to 45 °C {32 °F to 113 °F}). Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions.
- If the temperature is low, the operating time is shortened. Only use the computer within the allowable temperature range.
- Although the battery has remaining capacity, the battery indicator may light up red or emit a beep. This indicates a significant rise in the temperature of the battery pack. This is typically caused by the fact that the battery pack has been delivering a high level of power because the computer has been used with the display at the brightest setting and with the power-saving function off.
  To protect the battery pack from increases in temperature, the brightness of the display automatically decreases, allowing the temperature of the battery to drop. In this condition, if the computer is left as is, it will automatically go off after about three minutes have elapsed. Within that period, therefore, be sure to connect the AC adapter or shut the computer OFF after saving any open data (if necessary).

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Read Me First

Saving Data on the Hard Disk

- **Do not expose your computer to shock.**
  Please use care when handling your computer, shock may damage your hard disk or make your software applications and data unusable.
- **Do not power off your computer while software applications are running or HDD indicator (⛁) is on.**
  Properly shut Windows* down to avoid problems ([Start] - [Shut Down]).
- **Save all valuable data to floppy disks.**
  Backing up data to floppy disks will limit damage should trouble occur to your computer or should you inadvertently change or erase data.
- **Use the security function for all important data.** (☞ Reference Manual "Security Measures")

* This computer uses Microsoft® Windows® 95 Operating System.

Saving Data on Floppy Disks

- **Do not power off your computer or press the floppy disk drive eject button while the MP indicator (MP) is on.**
  Doing so may damage the data on the floppy disk and render the disk useless.
- **Use care when handling floppy disks.**
  To protect the data on your floppy disks or to prevent a floppy disk from becoming stuck in your computer, avoid the following:
  • Sliding the shutter on the floppy disk manually.
  • Exposing the disk to a magnetic field.
  • Storing the disk in locations prone to high temperatures, low pitched noise, dampness, or dust.
  • Applying more than one label on the disk.
- **Confirm the contents of a floppy disk before formatting it.**
  Confirm that no important data is on the disk, because all data on the disk will be erased.
- **Use the write-protect tab.**
  This is a must for preserving important data. This prevents your data from being erased or overwritten.



Computer Viruses

- **Users are advised to purchase the latest versions of virus protection software and use them regularly.**

  We recommend you run the software:

  • When booting your computer.
  • After receiving data.
  We recommend that you check data received on floppy disks or from external sources, such as data downloaded from the Internet, e-mail, etc. (For compressed files, please uncompress them before running a check).

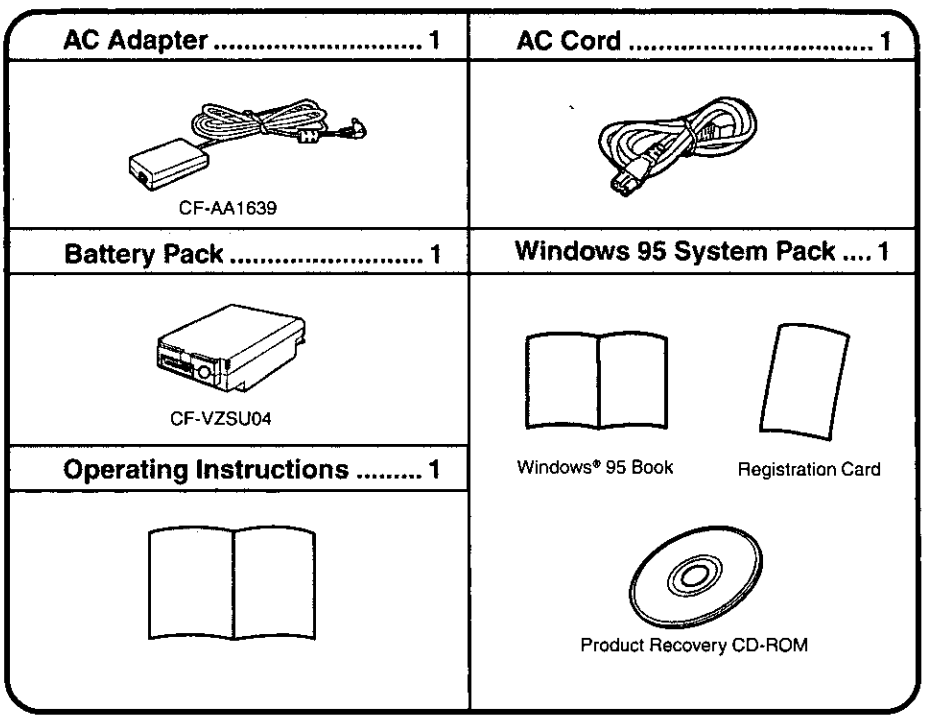
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First-time Operation

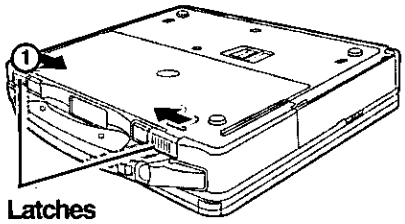
Please read the steps below to help you learn what parts are included, and to gain an understanding of some basic computer-related operations.

1 Confirm the inclusion of all parts

Make sure the parts shown in the figure have been supplied. If any of these items are missing or is not working properly, please contact Panasonic Technical Support.

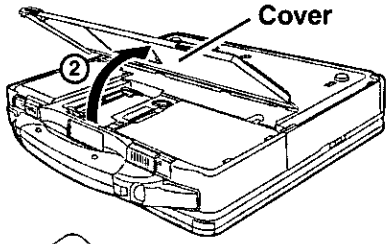


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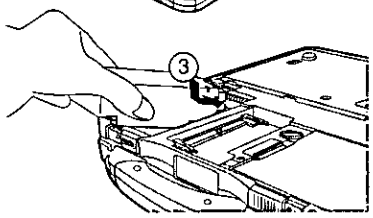


2 Connect the battery pack

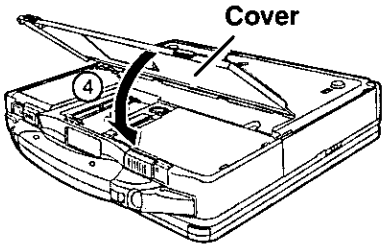
① Turn your computer over and slide the latches inward.



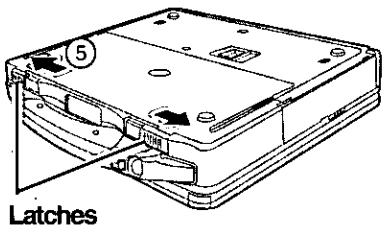
② Lift open the cover holding both sides and remove it.



③ Put a battery pack into the computer and slide the battery pack inward until it is firmly in place.



④ Attach the cover holding both sides.

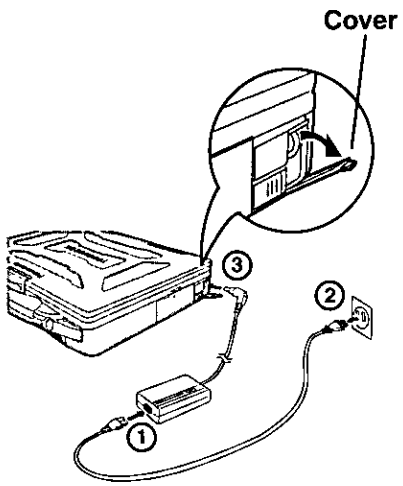


⑤ Slide the latches inward.

CAUTION

- Be sure the battery pack is properly connected to the connector.
- Do not touch the battery connector on the computer. The computer may not operate properly.

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



3 Connect your computer to a power outlet

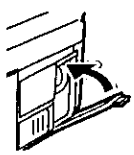
CAUTION

Be sure the AC adapter is connected until completing Step *8* on page 9.

Handling the AC adapter

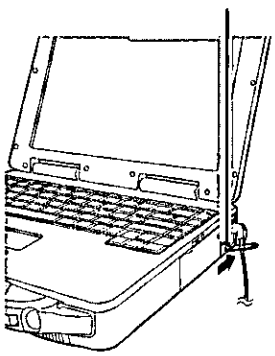
- Do not twist or pull the AC power cord forcefully. Doing so may damage the connections.
- Use only the specified AC adapter with your computer. Using an AC adapter other than the one supplied might damage the battery and/or the computer.
- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet.
- Problems such as sudden voltage drops may arise during periods of thunder and lightning. Since this could adversely affect your computer, an uninterruptible power source (UPS) is highly recommended unless the battery pack is installed.

When closing the cover
First insert the top of the cover, then close the cover.



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Power Switch



4 Read the LIMITED USE LICENSE AGREEMENT (☞page 27)

Before removing the seal covering the power switch, please read the LIMITED USE LICENSE AGREEMENT. Removal of this seal indicates agreement to the terms specified. After you have agreed to the terms, you may turn your computer on.

5 Turn your computer on

Slide the power switch toward the rear of the computer and hold it for approximately one second until the power indicator (⏻) turns on before releasing it.

CAUTION

- After confirming that the power indicator has turned on, do not touch the power switch until Windows setup has started.
- Once the computer is powered off, you must wait at least ten seconds before powering it on again.

NOTE

The power saving function is factory set, so if there is no input from a key, the touch pad, or the external mouse for two minutes, the LCD is powered off (ECO mode ☞ Reference Manual "Computing on the Road")*.
In the ECO mode the LCD will resume operation when the touch pad is used, or when a key or the touchscreen is pressed.
The computer may enter the ECO mode while Windows is setting up or even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, for resuming from the ECO mode, do not press Enter which may trigger a selection, instead, press a key unrelated to the direct triggering of a selection, like Ctrl key.

* Except the devices connected to the USB port such as a USB mouse.

6 Setup Windows 95

① Select settings for your region, then press [Next].

NOTE

Moving the cursor (↖) or clicking buttons can be performed with the touch pad, a key or the touchscreen. (☞page 12, 16)

② Select your keyboard layout, then press [Next].
(for U.S.A.: United States 101)

③ Enter your name and your company's name, then press [Next].
(It is possible to omit the company name item.)
The License Agreement will be displayed.

④ After reading the agreement, select [I accept the agreement] or [I don't accept the agreement], then press [Next].

NOTE

If [I accept the agreement] is selected, the [Certificate of Authenticity] will appear. If [I don't accept the agreement] is selected, the Windows setup will be aborted.

⑤ Input the Product Number written on the "Certificate of Authenticity" located in the Windows® 95 book that provided with this computer, then press [Next].

⑥ Press [Finish].

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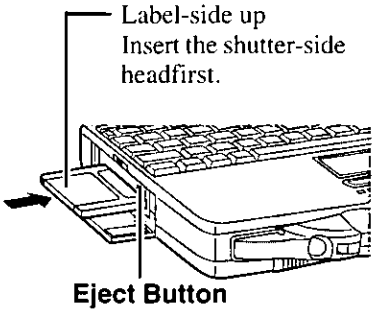
⑦ Input the correct date, time and time zone and press [Close].
You can also complete these settings at a later time.

⑧ Press [Next] to complete the printer setup or [Cancel] to skip.

NOTE

Simply follow the on-screen instructions. You can complete these settings at a later time.

Then, when the alignment of the touchscreen is needed, perform [Calibrate] in [Touchscreen Control]. (☞page 17)



7 Create backup disks

Prepare 2HD floppy disks and make sure they are not in the write-protected state, then select [Start] - [Programs] - [Panasonic] - [Create BACKUP DISK] and follow the on-screen instructions. Place a label identifying the contents on each disk.

- **Name of created backup disk**
  FIRSTAID FD

(When the display for creating the UPDATE DISK is shown, create the disk by following the on-screen instructions.)

CAUTION

- Please store the floppy disks in a safe place. They will enable you to return your computer to close to the condition at the time of purchase should any problems occur.
  When creating floppy disks, do not run any other application program.
- When creating floppy disks and the message [Insufficient files to copy] is displayed, click [OK] and then contact Panasonic Technical Support.
- While the MP indicator (MP) is on, do not remove the floppy disk, power down your computer or use the suspend or hibernation function (☞ Reference Manual "Suspend/Hibernation Functions").

8 Install the Acrobat® Reader 3.01

NOTE

Acrobat® Reader is necessary to view the Reference Manual, which explains detailed operational procedures concerning your computer.

① In [Start] - [Run], input [c:\util\reader\ar32e301.exe], then press [OK].

② When the message [Do you wish to continue?] is displayed, press [Yes].

③ Press [Next] and set up the Acrobat® Reader 3.01.

④ After reading the "Software License Agreement", select [Yes] if you agree to the terms.

⑤ Press [Next].

⑥ Press [Finish].
Read the [Readme] file as necessary. To close the file, click ☒ in the top right corner of the window.

⑦ Press [OK].

This concludes the first-time use operation guidelines.

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NOTE

When using the files in the following folders available on the retail version of the Windows 95 CD-ROM, it is necessary to run a separate file decompression program.

\admin
\datalink
\drivers
\help
\other

To uncompress the file, it is necessary to have about 75MB of free disk space available on the hard disk.

To be able to use the CD-ROM drive, or DVD-ROM drive in the MS-DOS mode, perform the operation below after modifying config.sys and autoexec.bat (☞ Reference Manual "Using a Multimedia Pocket Device").

File decompression method:

① Turn your computer on.
② When [Starting Windows 95] is displayed, press F8.
③ Select [Command prompt only].
④ Insert the Product Recovery CD-ROM.
⑤ At the prompt, input the following:

L:\en\addfile Enter

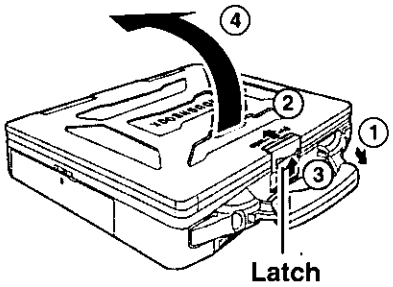
Follow the message on the screen.

After this program is executed, the contents of the above folders will be decompressed to the c:\util\win95add folder.

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Starting Up/Shutting Down

Starting Up



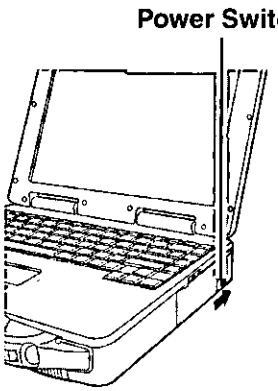
1 Open the display

① Pull the carrying handle forward.

② Slide the latch toward the rear of the computer and hold it with one finger.

③ Lift up the latch with another finger.

④ Lift open the display.



2 Turn your computer on

Slide the power switch toward the rear of the computer and hold it for approximately one second until the power indicator turns on before releasing it.

CAUTION

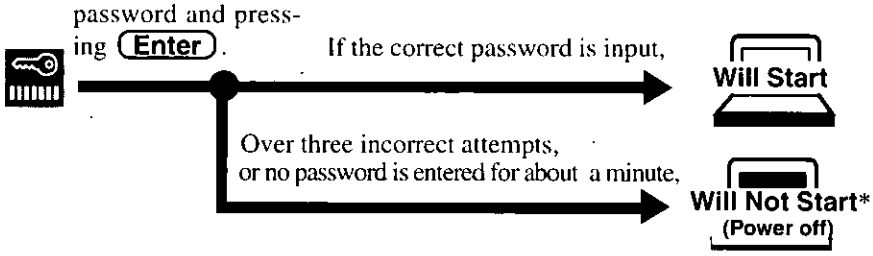
- The computer will not power on when the display is closed (except when connecting an external display).
- After confirming that the power indicator has turned on, avoid the following until Windows has completed loading.
  - Touching the power switch.
  - Performing any keyboard, touch pad, touchscreen (or external mouse) operations.
  - Closing the display.

  If the display is closed while Windows is starting up, it is possible that color, etc., will not be displayed properly. Run the [MS-DOS Prompt] ([Start] - [Programs] - [MS-DOS Prompt]), and use full screen display mode by pressing Alt + Enter.

  After returning from the full screen mode Alt + Enter again, the display will be shown correctly.
- Once the computer is powered off, you must wait at least ten seconds before powering it on again.
- When the CPU temperature rises, the computer may not power on to prevent the CPU from overheating. Should this happen, allow the computer to cool down then switch the power on again.
  If the computer still does not power on, please contact Panasonic Technical Support.

● If security indicator (🔑) is displayed,

you must first enter your password. (☞ Reference Manual "Security Measures")



* If you are starting from the suspend or hibernation mode (☞ Reference Manual "Suspend/Hibernation Functions"). 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.

● When an application or file that was previously displayed appears on your screen,

the suspend or hibernation function has been set. (☞ Reference Manual "Suspend/Hibernation Functions")

Operation

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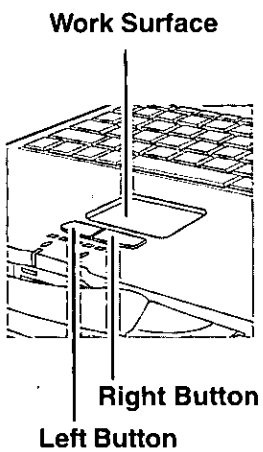
3 Select your application

You are able to start working on your computer.

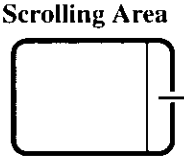
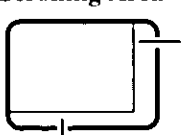
NOTE

- The power saving function is factory set, so if there is no input from a key, the touch pad, or the touchscreen for two minutes, The LCD is powered off (ECO mode).
  The LCD will resume operation when the touch pad or the touchscreen is used or a key is pressed.
- [System Devices] in [Start] - [Settings] - [Control Panel] - [System] - [Device Manager] may contain a device or devices bearing an exclamation mark or question mark. This does not indicate a malfunction. Such a mark (exclamation or question mark) will not be displayed if the operating environment of the device showing the mark is corrected, by for instance installing the driver of the device.

Using the Touch Pad



Use the touch pad to move the cursor on the display and perform normal computer operations. For instructions on how to handle the touch pad, refer to page 15.
The touch pad has the following two modes of operation.

Microsoft® IntelliMouse™ Wheel Mode (Setting at the time of purchase)	Original Mode
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. Microsoft® IntelliMouse™ is a mouse-type device that, in addition to the two conventional buttons, incorporates a wheel able to rotate forwards/backwards.	Only scroll operation is possible for applications not compatible with the Microsoft® wheel function. 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.
Scrolling Area  Scrolling up/down For the Pan and Auto Scroll functions, the entire work surface of the touch pad can be used for scrolling.	Scrolling Area  Scrolling up/down Possible when a check mark ✓ is added for [Vertical]. Scrolling side-to-side Possible when a check mark ✓ is added for [Horizontal].

: 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 [Motion] or select [Motion] 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] .

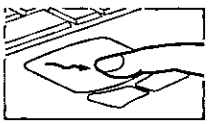
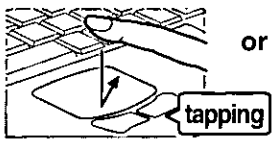
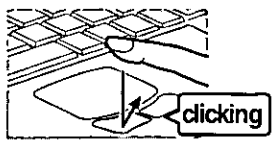
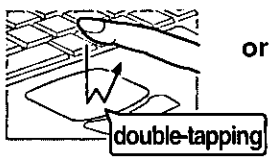
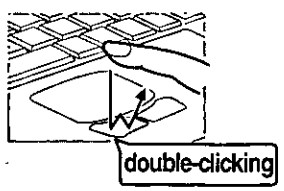
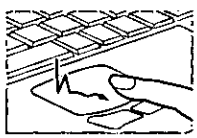
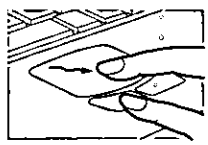
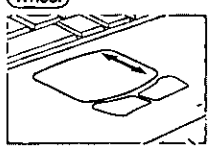
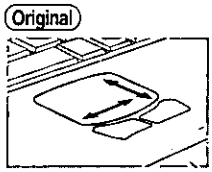
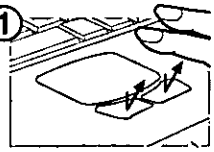
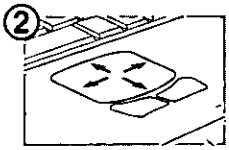
3 Press [OK].

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Basic Operation

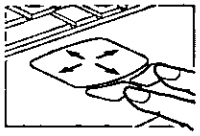
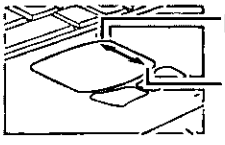
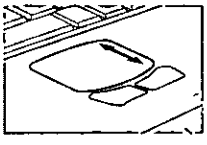
(Wheel) Indicates an operation applicable to the Microsoft® IntelliMouse™ Wheel mode.

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

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

Operation

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Function	Touch Pad Operation
Pan* (Wheel) Scroll in various directions of a document (move the mouse slightly while holding down the wheel)	 Operate while holding down the two buttons.
Zoom* (Wheel) Magnify/reduce the display of a document. (rotate the wheel while holding down (Ctrl))	(Ctrl) +  Magnify Reduce
Data Zoom* (Wheel) Display or hide a document, or perform operations to return to or proceed with Internet Explorer. (rotate the wheel while holding down (Shift))	(Shift) + 

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

* 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 foil 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) may not operate even if the touch pad is enabled (see the procedure for "When you want to re-enable the touch pad.").
  1. In [Control Panel] - [System] - [Device Manager], select [touch pad] in [Mouse], press [Remove] to delete it, then press [OK] to confirm the deletion.
  2. Power off your computer (☞ page 18) and connect the external mouse or trackball device to the computer.
  3. Turn the power on and run the Setup Utility (☞ Reference Manual "Setup Utility"). In [Main] menu, set [Touch Pad] to [Disable] and close the Setup Utility.
  4. Following the operating instructions for the connected external mouse, install the necessary driver.

  After the installation, set [Touch Pad] to [Disable] in the Setup Utility.
  Do not enter the suspend or hibernation mode when an external mouse is connected to the serial port.

  When you want to re-enable the touch pad;
  1. 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 (☞ page 18) and remove the external mouse or trackball device.
  3. Turn the power on and run the Setup Utility (☞ Reference Manual "Setup Utility"). In [Main] menu, set [Touch Pad] to [Enable] and close the Setup Utility.
  4. Confirm whether [touch pad] exists in [Mouse] (in [Control Panel] - [System] -[Device Manager]).

(To next page)

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CAUTION

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].

NOTE

The double-tapping speed of the touch pad cannot be changed.

Handling the Touch Pad

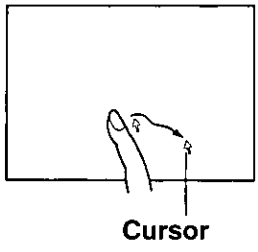
- When using a key combination such as Fn + F5, do not touch the touch pad. If a key combination is used while the pad is being touched, the function of the key combination will not work. In addition, it is possible that control of the cursor will be lost and the cursor will not show proper movements. 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.

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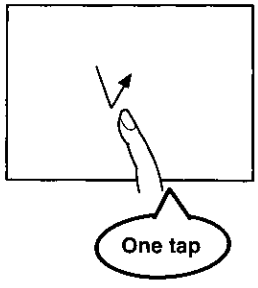
Using the Touchscreen

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 in [Start] - [Programs] - [Touchscreen] - [Touchscreen Control].)

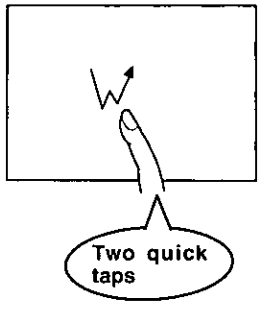
● Moving the cursor



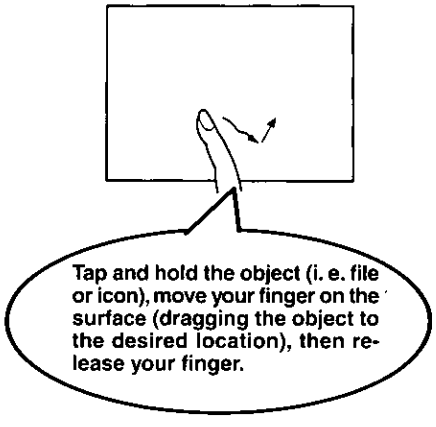
● Clicking



● Double-clicking



● Dragging



CAUTION

- Infrared is disabled when using the default settings. To be able to use Infrared, the setup of the device is needed. ☞ Reference Manual "Infrared Data Communication"
  The touchscreen function and Infrared can not be used simultaneously.
- The touchscreen function can not be used in the MS-DOS mode and when using the fullscreen in [MS-DOSprompt].
- When the operation of panning (only LCD) is performed while the screen resolution is set to [1024 x 768 dots] or [1280 x 1024 dots], the touchscreen function will not work properly.
- If a change is made to the screen resolution, or the cursor can not be pointed correctly with your finger, be sure to perform [Calibrate]. ☞ page 17

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 allow things 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 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.

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Configuring the touchscreen

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

1 Select [Start] - [Programs] - [Touchscreen] - [Touchscreen Control].

The following screen will appear.

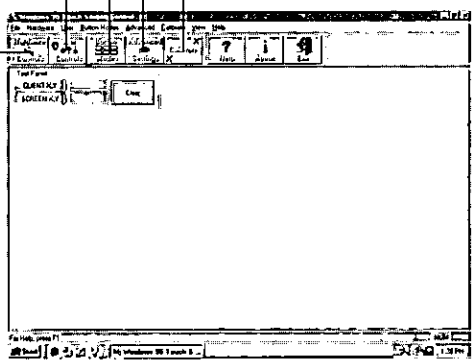
Hardware Controls
Set the hardware resources.
Match this setting with the setting for [Base I/O] in the Setup Utility.

User Controls
Set the operating modes or parameters.

Button Modes
Set the button modes.

Advanced settings
Set the advanced settings.

Calibrate
Use when the cursor can not be pointed correctly with your finger. (Needed if the alignment of the touchscreen with the visual image change or adjust the display resolution).



NOTE

- The touchscreen function can not be used in [Touchscreen Control].
- For more information, refer to [Help].

2 Set to your needs.

Click [Exit].

CAUTION

The Panasonic Hand Writing can not be used on the touchscreen.

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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 [OK].

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 [OK] after selecting [Restart].

NOTE

To quickly resume computer operation after shutting down,
The suspend or hibernation function is available. (☞ Reference Manual "Suspend/Hibernation Functions")

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About the Reference Manual

The Reference Manual can be accessed on your computer. When a printer is connected, the Reference Manual can also be printed.
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.

NOTE

To read the Reference Manual, it is necessary to install the Acrobat® Reader 3.01. (☞ page 9)

Run the Reference Manual

1 Turn your computer on

2 Select [Reference Manual] in [Start] - [Programs] - [Panasonic]

Zoom-in

Hand tool
To move around the current page.

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

Cancel or correct an operation

Change the display size

Perform a "Find" operation

Exit

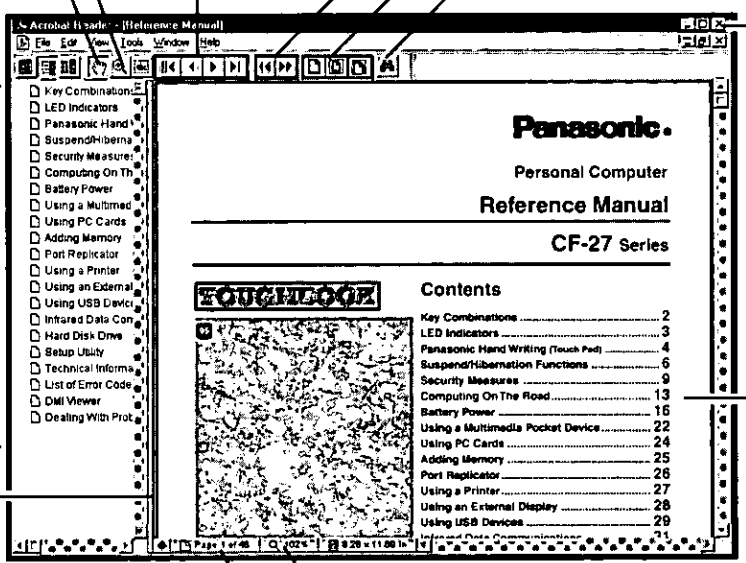


Table of Content (Items)
By clicking an item, the corresponding page will be displayed at 100%.

Display of the manual

(The display may be changed without notification.)

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

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

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

NOTE

- 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 pages. The illustrations and display samples may not print with a high quality.

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Handling and Maintenance

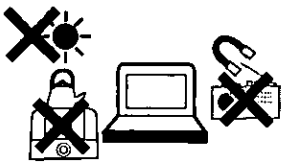
Usage Environment

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

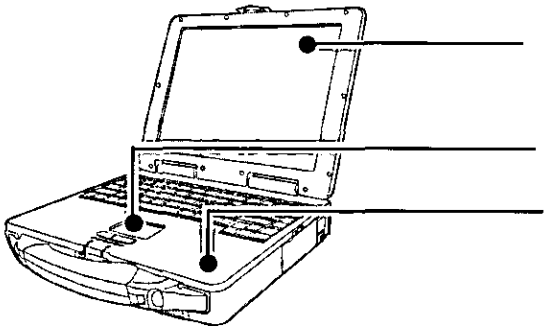


- Do not leave things near the computer that are sensitive to heat. During operation, the computer may become warm.

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



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

Touch Pad
☞ page 15

Areas excluding the display
Wipe these areas with a soft cloth, after applying water or detergent diluted with water to the soft cloth and firmly wringing it.

CAUTION

- Do not use benzene or thinner, or disinfectant-type alcohol.
- Do not directly use water, liquid detergents or spray-type cleaners. If liquid enters the computer, this may cause the computer to malfunction or become defective.

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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.

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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.

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Dealing With Problems

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

● Starting Up

The power indicator or battery indicator is not lit	● 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 (☞ Reference Manual "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.)
The date and time are incorrect	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.
Others	● Press F9 in the Setup Utility (☞ Reference Manual "Setup Utility"). This will restore the Setup Utility's settings to their default values (except the password settings). ● Try removing all peripheral devices. ● 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

Unable to shut down Windows 95	If a USB device is connected, try removing it.

● 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	● 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 4)

● 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) or 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.

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Dealing With Problems

● Display

No display after powering on	● 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, • 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	● 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. (☞ Reference Manual "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	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 are functioning properly), no defect is considered to exist.
The motion of the mouse cursor is not smooth	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	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. (☞ page 12)
The cursor cannot be controlled	Restart the computer by using the keyboard (e.g., ⊞).
During simultaneous display, the2 screen of the external display becomes disordered	Try changing the display by pressing Fn + F3.

● Touchscreen

Unable to input by touching the display	● Has the Setup Utility been used to set [Serial Port B] to [Touchscreen]? (☞ Reference Manual "Setup Utility") ● Confirm that the setting for resource in [Start] - [Programs] - [Touchscreen] - [Touchscreen Control] - [Hardware Control] and the setting for [Base I/O] in [Serial Port B:] of the Setup Utility are appropriate. ● When mouse drivers are installed (i.e. Intellimouse), the touchscreen may at times be unable to be used. In such cases, reinstall the touchscreen driver.(☞ Reference Manual "Note" of "Port Replicator")

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● Disk Operations

Cannot read/write to a floppy disk	● 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]? (☞ Reference Manual "Setup Utility") ● 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	● 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.
Others	Try testing another drive or media.

● Unusual Sound

The computer produces a strange sound	● 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.

● Timeout Function

The timeout functions do not work	If the Panasonic Battery Monitor is being displayed, please close it.

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Reinstalling Software

Before Reinstallation

Preparing

- You will need the Product Recovery CD-ROM and the BACKUP DISK(e.g., FIRSTAID FD) you made earlier. (Refer to the Step *7* on page 9 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, please 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-VDD271) can be also 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

Windows 95

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.

```
Select the number
----------------------------------------------------
  1. Restore the whole HDD to factory default
  2. Restore the drive C to factory default
  3. 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].

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 FIRSTAID FD and turn the computer on.
Simply 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 95
again.
```

Restart the computer by pressing Ctrl + Alt + Del , and perform the setup procedure for Windows 95 by following the instructions on the screen.
☞ page 8

NOTE

During the reinstallation procedure, the settings of the Setup Utility are changed as follows.
When necessary, please change these settings again.

Power Menu	Power Management Mode	:Disable
	Power Switch	:Off

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

Installing Acrobat® Reader 3.01

☞ page 9, Step *8*

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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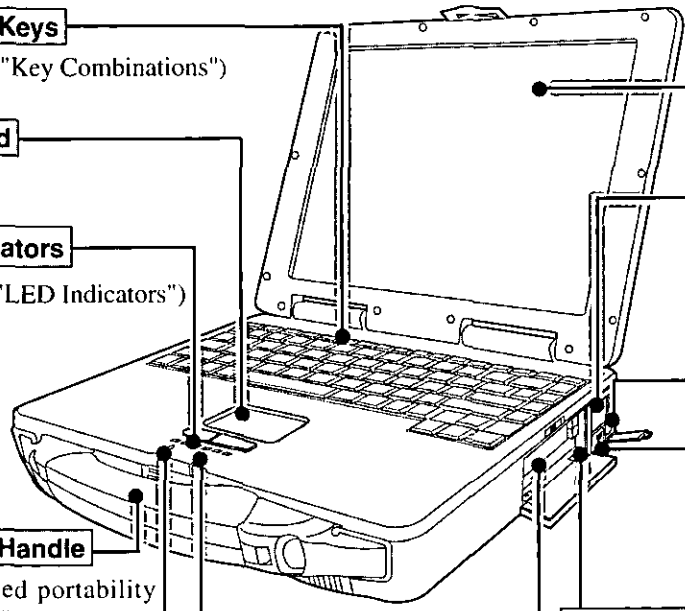
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Names and Functions of Parts



Function Keys
(☞ Reference Manual "Key Combinations")

Touch Pad
☞ page 12

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")

LCD (Touchscreen ☞page 16)

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.

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

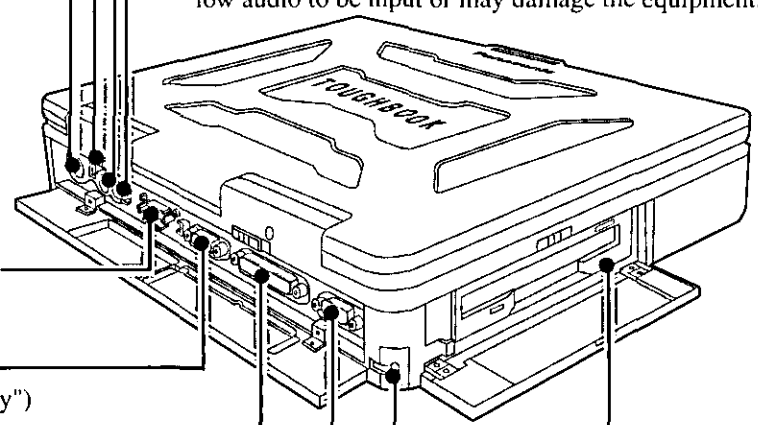
PC Card Slots
(☞ Reference Manual "Using PC Cards")

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.



Expansion Bus Connector
(☞ Reference Manual "Port Replicator")

External Display Port
(☞ Reference Manual "Using an External Display")

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")

Serial Port
Use this port to a serial mouse or serial communications device such as a modem.

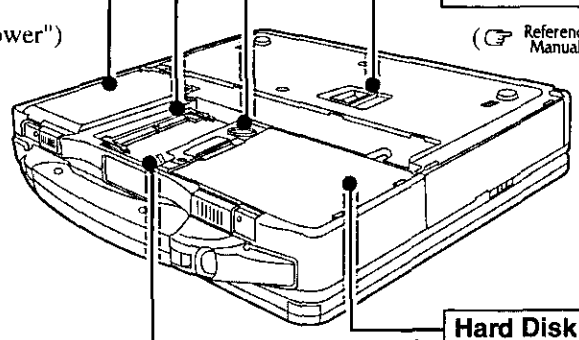
Floppy Disk Drive (Multimedia Pocket)
(☞ Reference Manual "Using a Multimedia Pocket Device")

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

Appendix

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Names and Functions of Parts



Ram Module Slot

(☞ Reference Manual "Adding Memory")

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 or F6

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

Battery Pack

(☞ Reference Manual "Battery Power")

MP Release Button ◀MP RELEASE

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

Hard Disk Drive

(☞ Reference Manual "Hard Disk Drive")

Switch for Optional device

This switch is reserved.

Appendix

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Specifications

● Main Specifications

Model No.		CF-27EB6GCAM	CF-27EA6GCAM
CPU		Intel® Mobile Pentium® II Processor 300PE MHz L1 Cache Memory: 32 KB L2 (Second) Cache Memory: 256 KB	
Memory (Expandable to)		64 MB (192 MB Max.)	
Video Memory		2.5 MB	
LCD	**Type**	12.1 Type(TFT)	10.4 Type (TFT)
	Displayed Colors*1	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)		6.4 GB*2	

*1 800 x 600 16-color resolution is not supported. If this resolution is selected, the message "There is an error in the display settings" will appear when you reboot. Start up again, selecting 256 Color, High Color (16 bit), or True Color (24 bit), following the on-screen instructions. Besides this phenomenon, you might encounter some unexpected behavior. Do not select 16 color mode in any resolution. A 16M color display on the LCD is achieved by using the dithering function.

*2 1GB = 10^9 bytes

● Other Specifications

Keyboard	Windows 95 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, 12 V: 120 mA		
	RAM Module Slot	144-pin, SO-DIMM, 3.3 V, SDRAM			
Interface	Parallel Port	Dsub 25-pin female			
	External Display Port	Mini Dsub 15-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	4-pin			
Speaker	Monaural Speaker (built in)				
Sound	16 bits, 44.1 kHz PCM/FM sound (Sound Blaster PRO Compatible)				
Software	Operating System	Microsoft® Windows® 95 (FAT32 File System)			
	Utility Programs	Setup Utility, DMI Viewer, Panasonic Hand Writing, Panasonic Battery Monitor			
Battery	Battery Pack	Lithium Ion 10.8 V, 3.75 Ah			
	Operating Time	Approx. 3.0 - 5.0 hours*3			
	Charging Time	Power On	Approx. 5.5 hours*3		
		Power Off	Approx. 2.5 hours*3		
	Clock Battery	Coin type lithium battery 3.0 V			
		Operating Time	Approx. 7 years		
AC Adapter*4	Input	100 - 240 V AC, 50 / 60 Hz	Output	15.6 V DC, 3.85 A	
Power Consumption	Approx. 42 W*5 (maximum when recharging in the ON state)				
Physical Dimensions (W x H x D)	301 mm X 58 mm X 241 mm {11.8 " X2.3 " X 9.5 "} (Not including the carrying handle)				
Weight	Approx. 3.6 kg {Approx. 7.9 lb.} + the carrying handle 0.2 kg {0.4 lb.}				

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

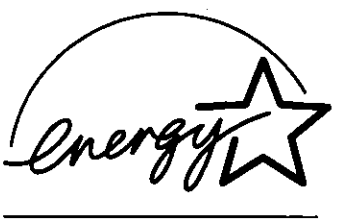
*2 A communications software is necessary.

*3 Varies depending on the usage conditions.

*4 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.

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

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