Panasonic®

Personal Computer

OPERATING INSTRUCTIONS

CF-01 Series

Contents

Introduction

Thank you for purchasing the Panasonic CF-01 series computer. Please read the Operating Instructions thoroughly for proper operation of your new computer.

After reading through this instruction, keep it in a safe place together with the warranty so that you can refer to it when required.

You may use the software programs installed in this product only on condition that you agree to the terms and conditions governing their use as stated in the LIMITED USE LICENSE AGREEMENT (☞ page 69).

Copyright

Disclaimer

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PS/2™ is a trademark of International Business Machines Corporation.

Panasonic® is a registered trademark of Matsushita Electric Industrial Co., Ltd.

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, it is recommended the provided ferrite cores be mounted onto the interface cables to increase the level of protection from undesirable interference. 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.

Lithium Battery!

This computer contains a lithium battery to enable the date, time, and other data to be stored in it.
Should only be exchanged by service personnel.
Warning! Risk of explosion from incorrect installation or misapplication!

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Read Me First

● Usage

Avoid Extreme Heat and Cold

Do not store or use the computer in locations exposed to heat, direct sunlight, or extreme cold.
Avoid moving the computer between locations with large temperature differences.

      Operation: 5 °C to 35 °C (41 °F to 95 °F)
      Storage: -20 °C to 60 °C (-4 °F to 140 °F)

Avoid Direct Sunlight on the Display

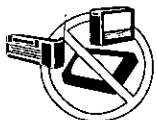The display should not be exposed to direct sunlight or ultraviolet light.

Avoid Humidity Liquids and Dust

Do not store or use the computer in locations exposed to high humidity, liquids (including rain) or dust.

Prevent Shock

Avoid subjecting the computer to severe vibrations or impact. Do not place the computer inside a car trunk.

Avoid Radio Frequency Interference

Do not place the computer near a television or radio receiver.

● Handling

Avoid Magnetic Fields

Keep the computer away from magnets.

Avoid Stacking

Do not place heavy objects on top of the computer.

Keep Small Objects Away

Do not insert paper clips or other small objects into the computer.

4

Do Not Disassemble the Computer

Do not attempt to disassemble your computer.

Avoid Excessive Force to the Display

Do not apply excessive downward force on the display.

Carrying

● It is a good idea to make backup copies on floppy disks and carry them with you. The expansion stand (CF-VEB011) is required to use floppy disks.
● Before carrying the computer, turn off its power (and check that its POWER indicator is off).
● Remove all cables before transporting your computer.
● We recommend preparing a fully charged battery.
When transporting spare batteries inside a package, briefcase, etc., it is recommended that the batteries be stored in a plastic bag.
● Do not carry it by gripping the display. To carry the computer, put your hand underneath the handstrap to prevent it from falling. (☞ page 14)
● Do not drop or hit your computer against solid objects.
● If you have occasion to ship your computer, make absolutely sure that it is packed with adequate protection.

When flying

Always carry your computer with you. Never check it with luggage.

Maintenance

● **Display area**
Allow a piece of gauze or other soft cloth to soak up some isopropyl alcohol or ethyl alcohol, and wipe the area gently. Do not use acetone or other ketones and xylene, toluene or other aromatic solvents.
● **All other areas**
Drip a soft cloth into water or dish washing liquid, wring it out well, and wipe the areas gently. Do not use benzene, paint thinner or other such solvents.

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 down your computer while software applications are running or HDD indicator is on.**
Properly shut Windows* down to avoid problems (tap [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.
The expansion stand (CF-VEB011) is required to use floppy disks.

● **Use the security function for all important data.**
☞ page 44 - Security Setup
* This computer uses Microsoft® Windows® 95 Operating System.

Saving Data on Floppy Disks

The expansion stand (CF-VEB011) is required to use floppy disks.

● **Do not power down your computer or press the floppy disk drive eject button while the FDD indicator 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.

Write-protect Tab
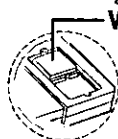
Write Enable   **Write Disable**

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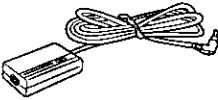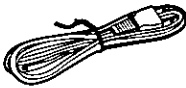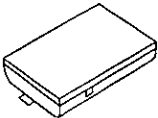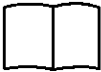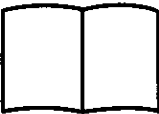• After receiving data.
We recommend that you check data received on floppy disks or from external sources, such as data downloaded from the Internet, e-mail, etc. (For compressed files, please uncompress them before running a check).

First-time Operation

It's now time to get started. 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 them is missing or is not working properly, please consult your nearest Panasonic dealer.

AC Adapter 1	AC Cord 1	Battery Pack 1

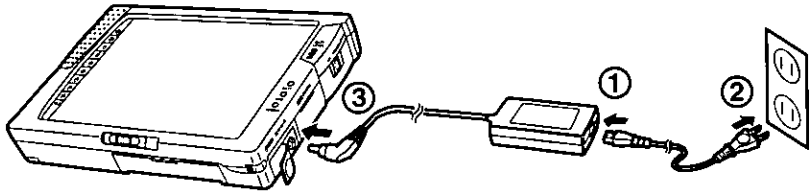| Windows 95 System Pack 1	Operating Instructions 1
(Microsoft Corporation) First-step Guide — Registration Card — Floppy Disk Labels	

NOTE

Make sure the accessory stylus has been stored in the computer. (☞ pages 9,18)

2 Remove the rubber cap over the DC-IN jack.

Rubber Cap

7
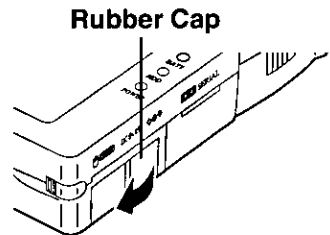
First-time Operation

## *3* Connect your computer to a power outlet.

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 or car adapter 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 as well.

(If the AC adapter and battery pack are connected, the power consumption is approx. 1.2 W when the power is off.)

● Problems such as sudden voltage drops/surges may arise during periods of thunder and lightning. Since this could adversely affect your computer, the uninterruptible power source (UPS) is highly recommended.

4 Turn your computer on.

Move the POWER switch in the direction of the arrow and hold one second until the POWER indicator goes on before releasing it.

POWER Switch

● Do not move the POWER switch repeatedly.
● After you have turned your computer off, you must wait ten seconds before you can turn it back on.

8
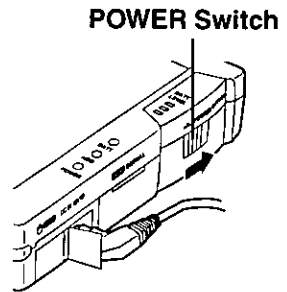
5 Remove the stylus.

① Slide the stylus eject lever provided on the computer's front panel in the direction of the arrow so that the stylus pops out.

② Take hold the stylus and draw it straight out in the direction of the arrow.
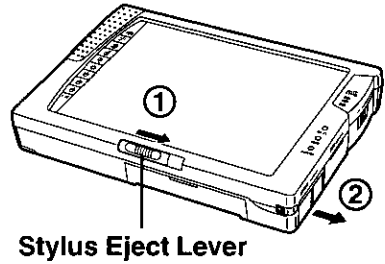
Stylus Eject Lever

To stow the stylus, align the pointing end of the stylus with the groove in the computer, then gently slide it all the way back inside.

Groove

Pointing End
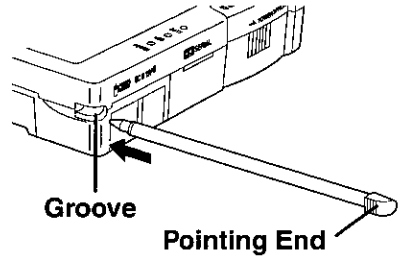
NOTE

Refer to "Using the Stylus" for the basic stylus operations. (☞ page 18).

6 Set Windows up.

The [Windows 95 Setup] will run after the computer is turned on. Simply follow the on-screen instructions.

NOTE

● Please read the supplemental "Windows 95 Setup Procedure" for a more detailed explanation (☞ page 70).

● Moving the cursor ( ) or clicking buttons can be done through the stylus (☞ page 19).

● If the display is dim, you can adjust the brightness or contrast. (☞ page 12).

When all procedure is completed, the Windows screen shown right appears.

9
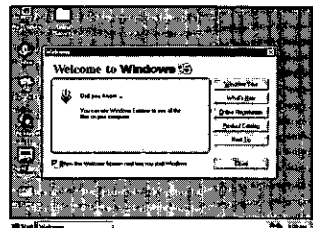
First-time Operation

7 Stylus Calibration

1 Tap [Start]–[Settings]–[Control Panel] in this order to open the [Control Panel].

2 Double-tap [Pen] from the [Control Panel].

3 Tap the [General] tag from the [Pen Properties for Guest], and tap [Align Now].

4 "+" now appears at the top left of the screen: tap its center. Then tap the center of the "+" at the top right, bottom left and bottom right in this order.

5 Tap [OK] to exit.

(NOTE)

These steps can also be followed to correct any shift in the stylus input position.
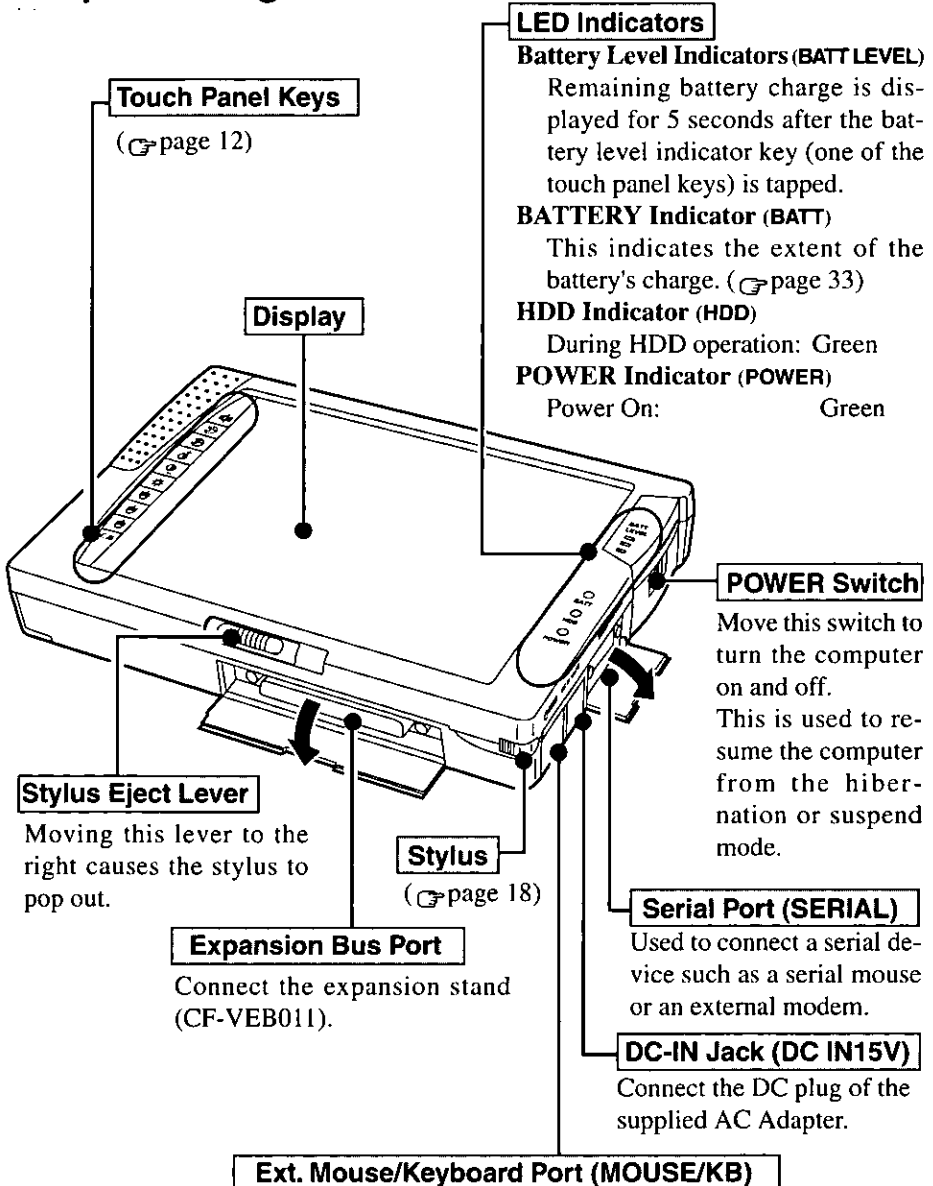
(NOTE)

To create system disks

You must create the system disks so that you will be able to re-install the system in the event that the data has been deleted or destroyed on the hard disk. Please prepare the expansion stand (CF-VEB011) and 31 2HD formatted floppy disks. (Refer to page 71 for the procedure involved.)

Windows 95 Setup disks: 29 disks
Panasonic utilities backup disks: 2 disks

Names of Parts

Top/Front/Right Side

LED Indicators

Battery Level Indicators (BATT LEVEL)
Remaining battery charge is displayed for 5 seconds after the battery level indicator key (one of the touch panel keys) is tapped.

BATTERY Indicator (BATT)
This indicates the extent of the battery's charge. (☞ page 33)

HDD Indicator (HDD)
During HDD operation: Green

POWER Indicator (POWER)
Power On: Green

Touch Panel Keys
(☞ page 12)

Display

POWER Switch
Move this switch to turn the computer on and off.
This is used to resume the computer from the hibernation or suspend mode.

Stylus Eject Lever
Moving this lever to the right causes the stylus to pop out.

Stylus
(☞ page 18)

Expansion Bus Port
Connect the expansion stand (CF-VEB011).

Serial Port (SERIAL)
Used to connect a serial device such as a serial mouse or an external modem.

DC-IN Jack (DC IN15V)
Connect the DC plug of the supplied AC Adapter.

Ext. Mouse/Keyboard Port (MOUSE/KB)
When using an IBM PS/2 type external mouse or keyboard insert the connector into this port.

Names of Parts

● Touch Panel Keys

Speaker On/Off Key

Each time this key is tapped, the internal speaker switches ON or OFF.

Hibernation Key

The computer enters hibernation mode.
To resume, move the POWER switch.

Suspend Key

The computer enters suspend mode.
To resume, move the POWER switch.

LCD Contrast Up Key

Each time this key is tapped, the display contrast is increased.

LCD Contrast Down Key

Each time this key is tapped, the display contrast is reduced.

LCD Backlight High/Low Key

Each time this key is tapped, the display brightness is toggled between bright and dark.

Left Mouse Button Key

Tapping this key once and then tapping items on the screen once is equivalent to clicking the left mouse button once.

Right Mouse Button Key

Tapping this key once and then tapping items on the screen once is equivalent to clicking the right mouse button once.
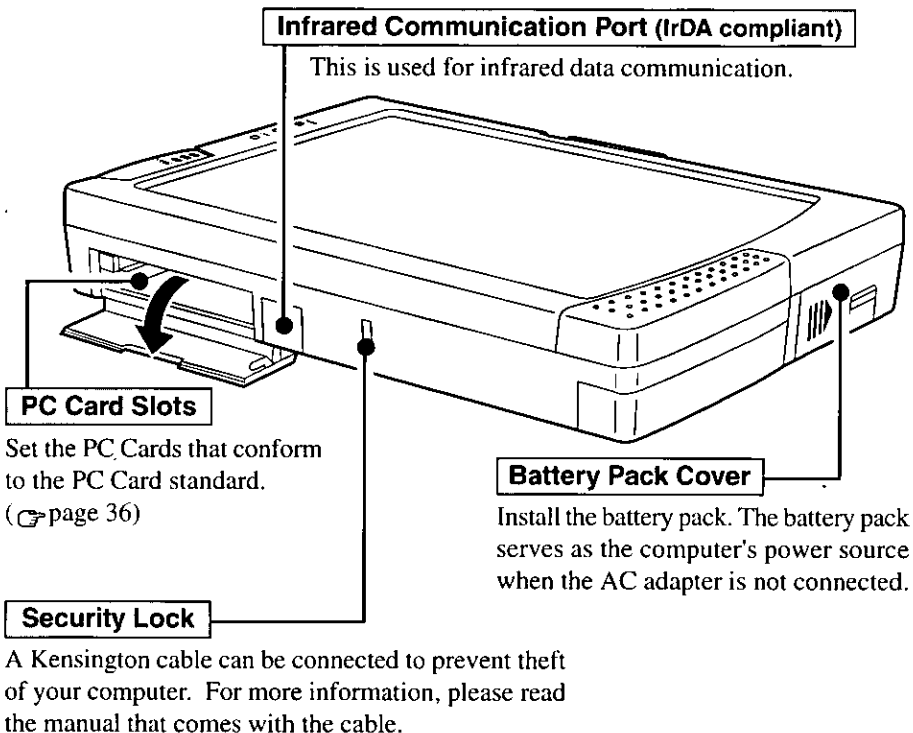
Mouse Button Off Key

Touching the screen with the stylus after this key has been tapped has the same effect as moving the mouse without pushing the mouse button.
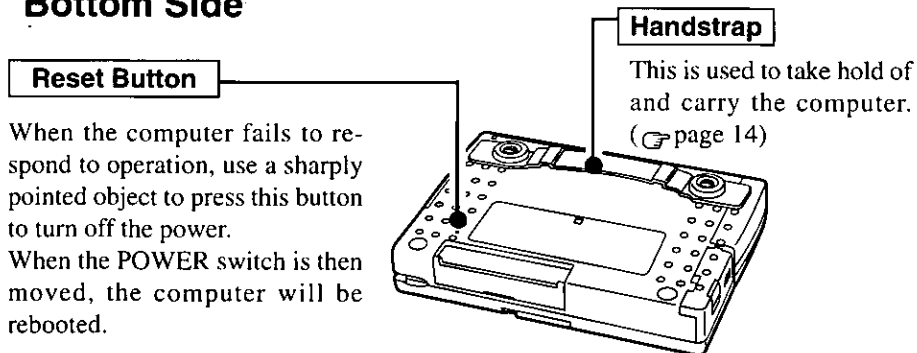
Battery Level Indicator Key

Display the remaining battery charge on the battery level indicators for 5 seconds.

Rear/Left Side

**Infrared Communication Port (IrDA compliant)**

This is used for infrared data communication.

PC Card Slots

Set the PC Cards that conform to the PC Card standard. (☞page 36)

Battery Pack Cover

Install the battery pack. The battery pack serves as the computer's power source when the AC adapter is not connected.

Security Lock

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

Bottom Side

Handstrap

This is used to take hold of and carry the computer. (☞page 14)

Reset Button

When the computer fails to respond to operation, use a sharply pointed object to press this button to turn off the power.
When the POWER switch is then moved, the computer will be rebooted.

CAUTION

Don't place heavy objects on top of the display. The touch panel may no longer function properly.

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Names of Parts

● How to use the handstrap

To carry the computer, put your hand underneath the handstrap to prevent it from falling.
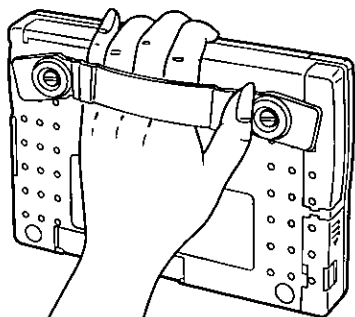
or
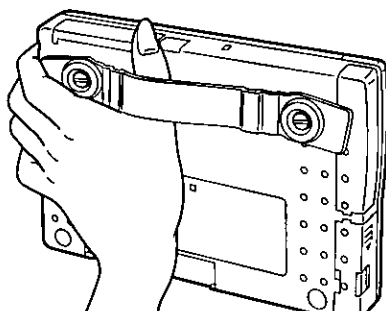
● How to remove the handstrap

When the handstrap is not needed, it can easily be removed using a coin or similar object.

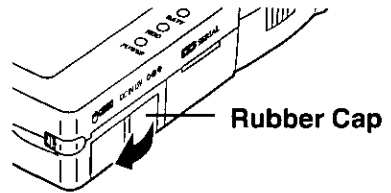Use a coin or similar object to remove the two screws.
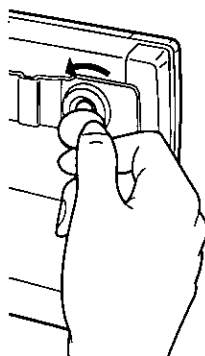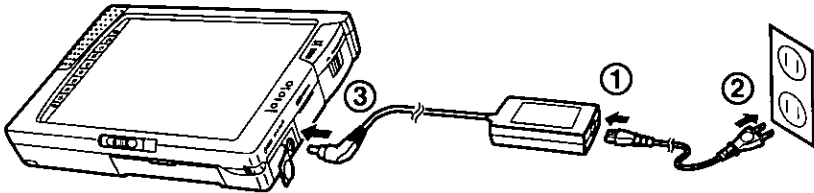
Starting Up/Shutting Down

When turning on the power for the first time after purchasing the computer, refer to "First-time Operation" (☞ page 7).

1 Remove the rubber cap over the DC-IN jack.

Rubber Cap

2 Connect your computer to a power outlet.

Starting Up/Shutting Down

3 Turn your computer on.

Move the POWER switch in the direction of the arrow and hold one second until the POWER indicator goes on before releasing it.

POWER Switch

⚠ CAUTION

- Do not move the POWER switch repeatedly.
- After you have turned your computer off, you must wait ten seconds before you can turn it back on.
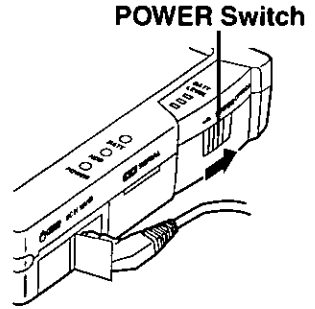
● If the following screen is displayed,

you must first enter your system password (☞page 46).
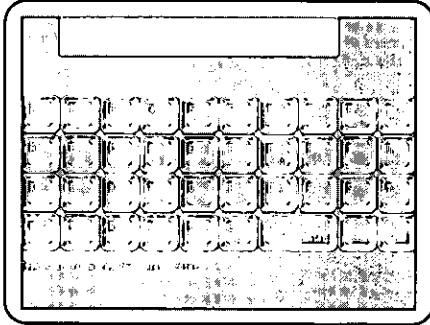
● When an application or file that was previously displayed appears on your screen,

this means the suspend or hibernation function (☞page 49) has been set.

4 Select your application.

You are able to start working on your computer.

Shutting Down (power off your computer)

1 To shut down, save all data and tap [Shut Down] from the [Start] menu.

2 Confirm shutdown.

Tap [Yes] button to confirm shutdown. Your computer will power off automatically.

Shut Down Windows

Are you sure you want to

- Shut down the computer?
- Restart the computer?
- Restart the computer in MS-DOS mode?

[Yes]   [No]   [Help]
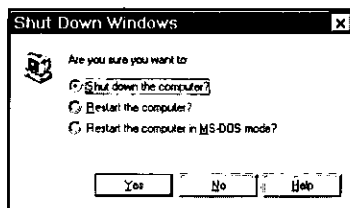
● **Restarting your computer** (without shutting down)

Tap [Yes] button after selecting [Restart the computer?].

NOTE

To quickly resume computer operation after shutting down,
the suspend and hibernation functions are available. (☞page 49)

CAUTION

● After you have turned your computer off, you must wait ten seconds before you can turn it back on.
● Do not power off your computer while HDD indicator is on. It may damage data on the hard disk.
● If the computer will not be used for a long period of time, power off your computer and disconnect the AC adapter from your computer.
   (If the AC adapter and battery pack are connected, the power consumption is approx. 1.2 W when the power is off.)

Starting Up Your Computer Quickly

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

● **Differences between suspend function and hibernation function** (☞page 49)

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

Using the Stylus

Removing the Stylus

1 Slide the stylus eject lever.

Slide the stylus eject lever provided on the
computer's front panel in the direction of the
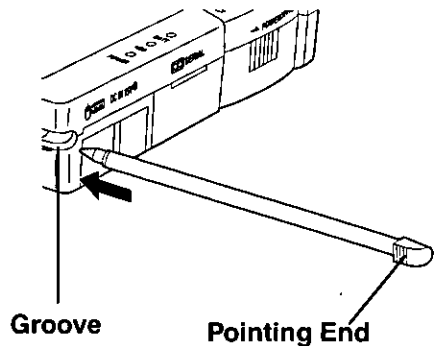arrow so that the stylus pops out.

Stylus Eject Lever
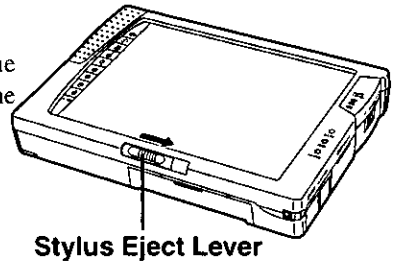
2 Grip the stylus and pull it out.
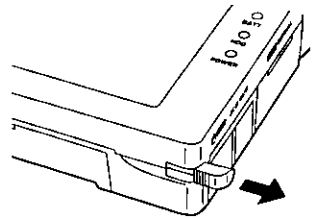
Installing the Stylus

To stow the stylus, align the pointing end of the
stylus with the groove in the computer, then gen-
tly slide it all the way back inside.

Groove **Pointing End**

18

Basic Stylus Operations

The accessory stylus can be used to select the items displayed on the screen or input characters and patterns.

CAUTION

The stylus cannot be used in the following situations.
- When the picture is displayed only on the external display and not on the internal display.
- When the picture is displayed on the internal LCD with a resolution other than 640 X 480.
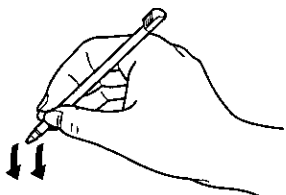
● Tapping
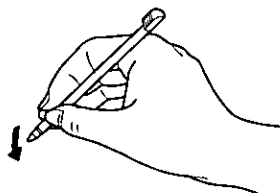
You can select items on the screen by touching them with the stylus. This operation is called a "tap". Tapping the stylus once is equivalent to clicking the mouse button once.

Mouse Operation	Stylus Operation
Left Button	Left mouse button key
Right Button	Right mouse button key

● Double-Tapping

You can select items on the screen by touching them twice quickly with the stylus. This operation is called a "double-tap".
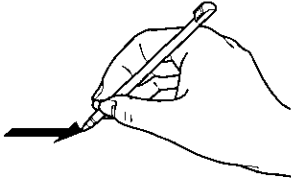
Mouse Operation

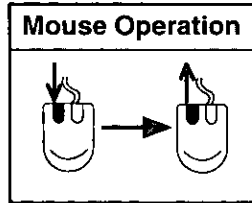---
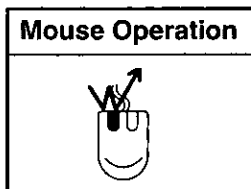
√ : This illustration means to click or tap once.
√ : This illustration means to click or tap twice quickly.

Using the Stylus

● Dragging

Moving the stylus while leaving it down, this operation is called a "drag".

Mouse Operation

NOTE

● Holding the stylus against the screen and moving it while maintaining contact with the screen after the mouse button off key among the touch panel keys has been tapped results in moving the cursor (in other words, the cursor is moved without dragging or clicking the mouse).

● This function is retained until the next time the left mouse button, right mouse button or mouse button off key among the touch panel keys is tapped.
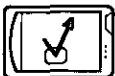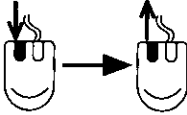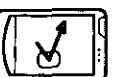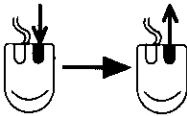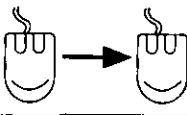
CAUTION

● Remove all dirt on the stylus tip and screen prior to operation. Dirt can scratch the display and impede the operation of the stylus.

● Use the accessory stylus for all the screen and touch panel key operations. Do not use a fingernail, pencil or other sharply pointed or hard object. The screen or keys may be damaged as a result.

● Use the accessory stylus to operate this computer only. Using it for other purpose may damage the stylus and scratch the screen or touch panel keys.

Mouse Operations Using Touch Panel Keys and Stylus

The stylus can be used with the 3 touch panel keys (⊟ , ⊟ , ⊟) to initiate opera-
tions in exactly the same way as the mouse.
The function of one of these 3 keys is maintained until another key is pressed.

Mouse Operation	Touch Panel Keys and Stylus	Targeted Operation
		To select an item, etc.
		To execute an item, etc.
		● To move an item. ● To draw lines with a Paint, etc.
		To display the Windows prop-erties, etc.
		● To produce shortcuts for items in Windows. ● To perform copy opera-tions, etc.
		To move the cursor, etc.

(NOTE)

When Windows is started, the left mouse button key is placed in the tapped status
at all times. Normally, it is used in this status.

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Using the Stylus

Stylus Input Procedure

In this computer, the stylus serves not only as a pointing device which has exactly the same functions as a mouse but it can also input characters and draw pictures.
The procedure for using the stylus to input characters is described here. Follow the steps below to input characters not only in text while running an editor facility but also in the text boxes which appear with Windows.

Move the cursor with the input position _____ Input position

↓

**Select either writing text directly on the window
or using [Insert Text] or [Edit Text] _____ Input method selection**

↓

Input the characters _____ Characters input

↓

**When you select the [Insert Text] or [Edit Text]:
Insert the characters in front of the cursor _____ Characters transfer**

How to Input characters

The Pen Services functions enable characters to be input using only the accessory stylus: the keyboard does not need to be connected.

Text can be input in either of the following two ways.

● Writing text directly on the window.

● Using [Insert Text] or [Edit Text].

● Writing text directly on the window

1 Move the cursor with the input position.

Move the cursor with the position where the characters are to be input in the text of the editor facility or in one of the text boxes with Windows.

2 Input the characters.

Use the stylus to write text directly on the window. The text is inserted in front of the cursor. Write each and every character clearly and legibly.

If you make a mistake, write over the character to correct the mistake.

● Using [Insert Text] or [Edit Text]

1 Move the cursor with the input position.

Move the cursor with the position where the characters are to be input in the text of the editor facility or in one of the text boxes with Windows.

2 Display the [Insert Text] or [Edit Text] screen.

Tap the ⊞ , a̅j̅ , 🖾 or other handle and tap [Insert Text] or [Edit Text] on the menu.

Untitled - Notepad
File Edit Search Help
Pen
Handle

23
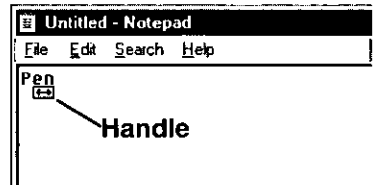
Using the Stylus

3 Select handwriting input or screen keyboard.

When [Insert Text] or [Edit Text] is activated, the mode is handwritten input. In order to input text using the screen keyboard, tap the [Screen Keyboard] button.
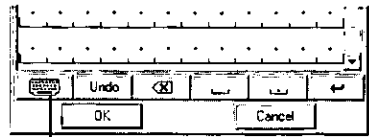
[Screen Keyboard] Button

4 Input the characters.

To use handwritten input, write one character at a time in the areas between the guides. Make sure to write the characters separate from one another and as clearly and legibly as possible.
If you make a mistake, write over the character to correct the mistake.

Guide
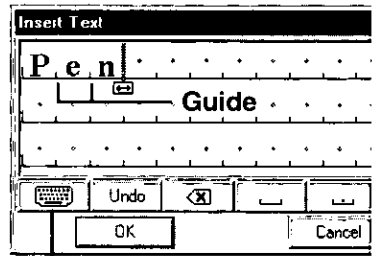
If the screen keyboard has been selected, tap on the appropriate characters on the keyboard that appears on the screen.
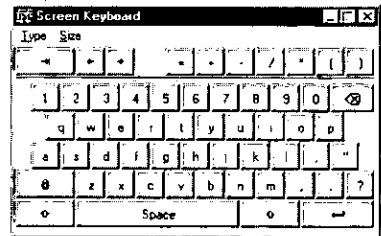
5 Insert the text into an application.

Tap the [OK] button and insert the text input using [Insert Text] or [Edit Text] into an application such as WordPad.
The input character strings are now input at the position of the cursor which was aligned in step 1.
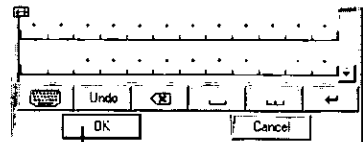
[OK] Button

Editing Simple Character Strings

Character strings can be edited by performing some simple steps.

● Moving the cursor

To move the cursor in the editor, tap on the position to which you want the cursor to move.

● Selecting a character string

Move the cursor to the beginning of the string, and drag the handle as far as the end of the string.

Guide ——
Handle ——
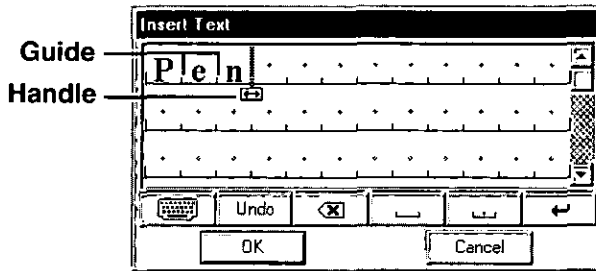
● Editing character strings in the text boxes

To edit a character string in text box, select the character string to be edited, tap the handle, and select the applicable editing command form menu.

┌─(NOTE)

To select a character string, tap the beginning of the string, and drag the handle as far as the end of the string.

Using the Stylus
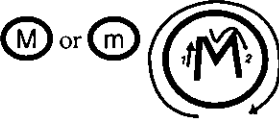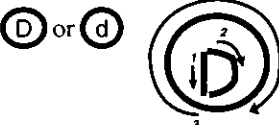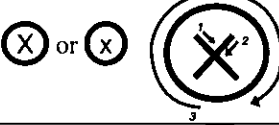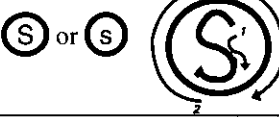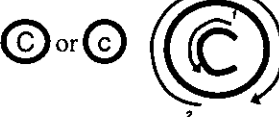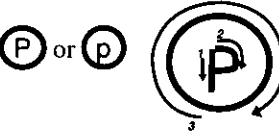
● Simple editing of character strings
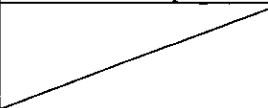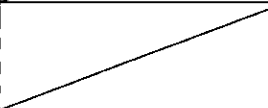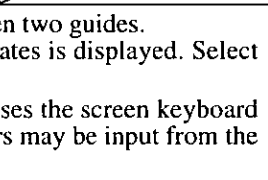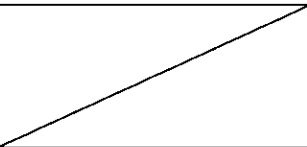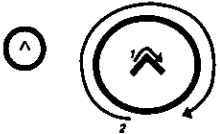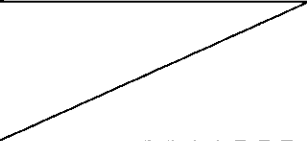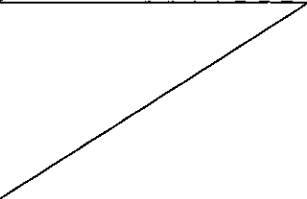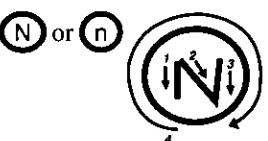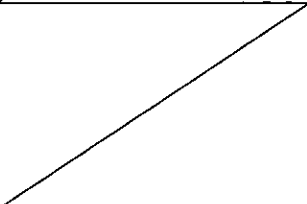
● Using the [Insert Text] or [Edit Text]

The character string editing operations described below can be carried out on the [Insert Text] or [Edit Text].

● Using gestures for accelerated operation

If an application supports stylus input facilities, drawing simple predetermined pictures called gestures inside the window enables commands to be executed and character strings to be inserted.

Operation	Procedure using the [InsertText] or [EditText]	Gestures (Main order of strokes)
[Menu] Displaying the menu	Tap the 🔁, 🔳, 🔲 or other handle.	Ⓜ or ⓜ
[Delete] Deleting the selected characters	Tap the handle, and tap [Delete] from menu.	Ⓓ or ⓓ
[Cut] Cutting the selected character string	Tap the handle, and tap [Cut]. The cut characters are temporarily stored on the clipboard.	Ⓧ or ⓧ
[Space] Inserting a space at the cursor position	Tap 🔲 .	Ⓢ or ⓢ
[Copy] Copying the selected character string	Tap the handle, and tap [Copy]. The copied characters are temporarily stored on the clipboard.	Ⓒ or ⓒ
[Paste] Pasting a character string recorded on the clipboard at the cursor position	Tap the handle, and tap [Paste]. The character string recorded on the clipboard is inserted.	Ⓟ or ⓟ

Operation	Procedure using the [Insert Text] or [Edit Text]	Gestures (Main order of strokes)
[Undo] Undoing the last operation and restoring the previous status	Tap [Undo].	
[Backspace] Deleting the character before	Tap [⊗].	
[Input Period] Inputting a period at the cursor position	Tap [⸱⸱].	
[Choices] Displaying other character candidates	*1* Tap on a character between two guides. *2* A list of character candidates is displayed. Select the desired character. Selecting [Keyboard] causes the screen keyboard to be displayed. Characters may be input from the screen keyboard.	
[Display windows] Displaying the [Insert Text] or [Edit Text]		
[Tab] Inserting a tab at the cursor position		
[New Line] Providing a line feed at the cursor position and inserting characters or characters on a new line		
[Select] Selecting a character string		(Draw a circle around the selected area, and tap the center.)

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Using the Battery Pack

When the AC adapter is not connected, the battery pack serves as the computer's power source. This is convenient for using the computer outdoors or carrying it around.
The battery pack is not inserted when the computer is purchased. Please refer to page 30 for inserting the battery pack.
If the battery pack will not be used for a long period of time, remove the battery pack from the computer.

CAUTION

Bear in mind that data will be lost if both the AC adapter and battery pack are removed while the computer is in the suspend mode.

Hints on How to Use Rechargeable Batteries

● Handling precautions

● Care should be exercised with regard to the following in order to avoid the possibility of liquid leakage, overheating, or bursting.
  • Do not throw the battery pack into a fire or expose it to heating.
  • Do not place the battery pack together with articles such as necklaces or hair-pins when carrying or storing it.
  • Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform it, disassemble it, or modify it.
  • Do not short the positive (+) and negative (-) contacts.
  • The battery pack is a rechargeable battery intended for use with the CF-01 series. Do not use or charge it with a computer other than the one for which it was designed.
  • 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.

● When transporting spare batteries inside a package, briefcase, etc., it is recommended that the batteries be stored in a plastic bag.
● Do not expose the battery to water or allow it to become wet. The terminals may corrode.
● Dirt on the terminals may impair contact and/or make it impossible for the battery to be charged adequately. Wipe off the dirt using a dry cloth, cotton swabs, etc.
● If, due to damage, battery electrolyte comes in contact with skin or clothing, wash it off quickly and thoroughly with water. Consult your physician if you feel something is wrong with you physically.
● Keep batteries out of the reach of children.

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● Notice concerning operating temperature

- It is recommended to operate the computer at an operating temperature between 5°C and 35°C (41°F and 95°F). The battery's operating time will decrease if the operating temperature is low.
- An unusually high or low operating temperature during charging will reduce the battery's storage capacity.
- The battery pack will become somewhat warm during normal use. This is not a malfunction.
- In order to maintain the performance of the batteries, charging will not commence when the temperature of the battery is outside the 5°C to 45°C (41°F to 113°F) range. If an attempt is made to start charging under these circumstances, the BATTERY indicator will blink in red to indicate that the temperature is outside the given range. At times like these, allow the temperature to rise or fall to a value within the range, and then try charging again.

● Charging precautions

- Since the battery pack is not charged when the computer is purchased, be absolutely sure to charge the battery before using the computer.
  Charging commences automatically when the battery pack is inserted into the computer and the AC adapter is connected.
- If the BATTERY indicator flashes red when charging is commenced or when it is underway, it may mean that the internal protection circuit has been activated and charging has been suspended. In a case like this, disconnect the AC adapter and battery pack from the computer, then re-install them. If the same trouble recurs: consult your nearest Panasonic dealer.

Battery Types

- **Battery pack**
  This is a rechargeable battery pack which is installed inside the computer.
  When the AC adapter is not used, power is supplied from this battery pack.
- **Clock battery**
  This battery is housed inside the computer is for operating the clock and retaining the settings.

Using the Battery Pack

Inserting/Removing the Battery Pack

Do not attempt to insert the battery pack with the computer standing.

1 Open the battery pack cover.

① Slide the battery pack cover lock in the direction of the arrow to release the cover lock.

② Slide the battery pack cover a short distance in the direction of the arrow.

③ Open the cover downward.

Lock
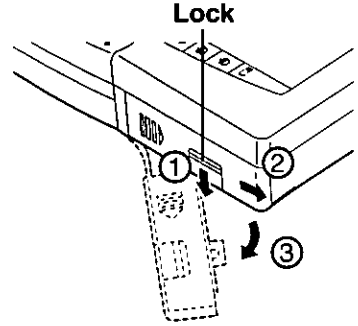
2 ● Inserting the battery pack

CAUTION

Do not use unnecessary force to push the pack inside.
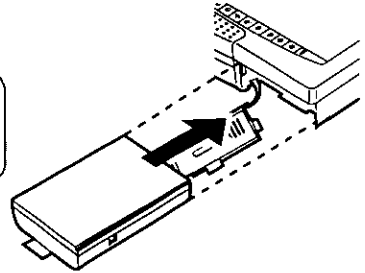
● Removing the battery pack

Pull the tape on the battery pack and remove it from the computer.
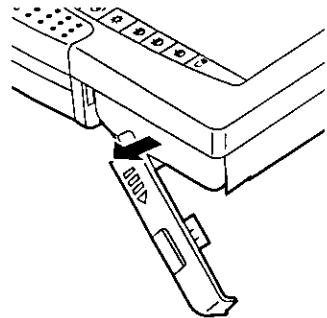
3 Close the battery pack cover.

① Return the cover to the position in the figure.
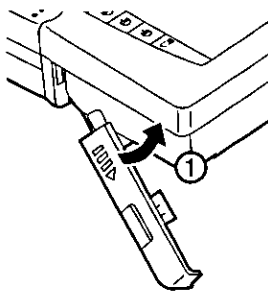
② Slide the battery pack cover in the direction of the arrow.
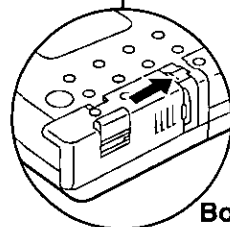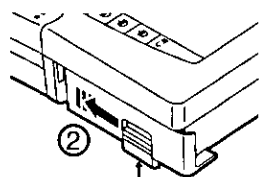
Bottom Side

4 Slide the battery pack cover lock upward to lock the cover.
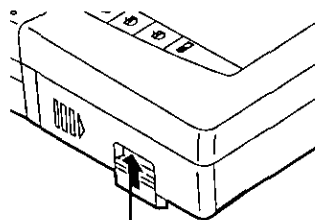
Lock

Using the Battery Pack

Charging

Since the battery pack is not charged when the computer is purchased, be absolutely sure to charge the battery before using the computer.

Proceed with the charging while the battery pack is installed in the computer.

1 Connect the AC adapter.

Charging commences automatically.

While the battery pack is being charged, the BATTERY indicator will light orange.
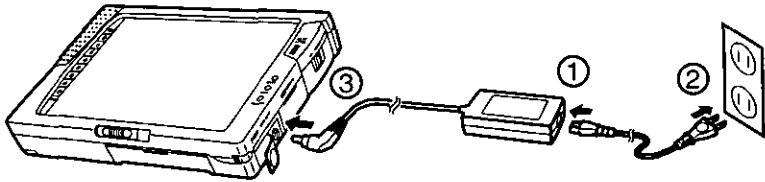
2 Check the charging status.

When the battery pack has finished charging, the BATTERY indicator will change to green. (☞ page 33)

Charging Time

Power On: Approx. 8 hours

Power Off: Approx. 2.5 hours

(Varies depending on the usage conditions)

BATTERY Indicator (BATT)
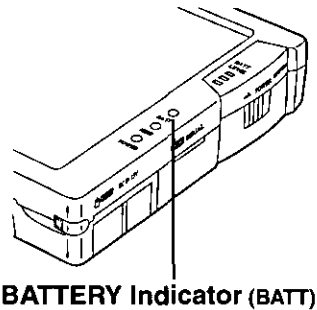
(NOTE)

Approximately 130 mW of power are consumed even when the computer's power is off. This means that after a full charge the battery pack will discharge in about 4 days. Recharge it prior to use.

Checking the Remaining Charge of the Battery

There are two ways to check how much charge remains in the battery.
● Use the BATTERY indicator (BATT) to check.
● Use the 3 battery level indicators (BATT LEVEL) to check.

Using the BATTERY Indicator (BATT)

BATTERY Indicator (BATT)
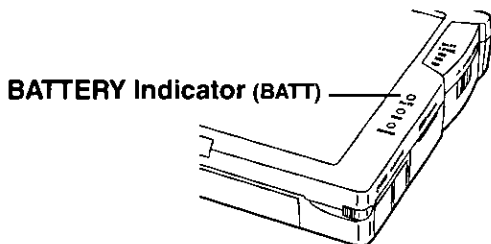
BATTERY Indicator (BATT)	Battery Status
Orange	Charging
Green	Fully-charged
Red	**No charge left in the battery** The battery must be charged. After the indicator has lighted up red, a beeping sound will be heard. Connect the AC adapter immediately. If the AC adapter is not available, quit the program being run and turn off the power.
Blinking red	**The battery cannot be charged.** The battery pack cannot be charged since its temperature is outside the 5°C to 45°C (41° to 113°F) range or the charging conditions have not been satisfied due to deterioration of the battery or some other factor. Return the battery pack to a temperature at which it can be charged or replace with a new pack, and try charging again. The battery or AC adapter may not have been connected properly. Make the proper connections. If the trouble persists, consult your nearest Panasonic dealer.

Using the Battery Pack

Using the 3 Battery Level Indicators (BATT LEVEL)

When the battery level indicator key among the touch panel keys is tapped while the computer is on, the 3 battery level indicators will light and display the battery's remaining charge for about 5 seconds.
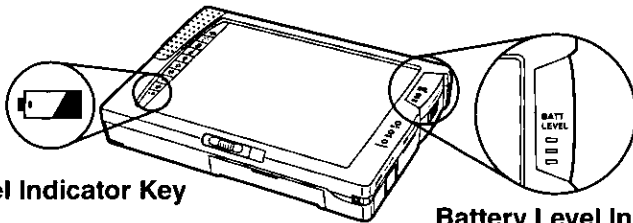
Battery Level Indicator Key

Battery Level Indicators
(BATT LEVEL)

3 Battery Level Indicators (BATT LEVEL)	⊟	⊟	⊟	≡
Remaining Charge Level	0 - 19%	20 - 39%	40 - 69%	70 - 100%

• ▬▬ represents a green lighted indicator.

• The level given above as the battery's remaining charge is a general guideline only.

NOTE

● Since the remaining charge cannot be identified while the AC adapter is used, all 3 indicators flash 3 times.
To check the remaining charge in a case like this, after the battery has been charged until the battery indicator lights up green, allow the battery to discharge to the point where the indicator lights up red and a beeping sound is heard. The remaining charge will be indicated at this point.

● When the battery pack has been changed or it has been left inside the computer unused for a long period of time or immediately after the computer has been booted (until Windows starts), it may not be possible to identify the battery's remaining charge or display it accurately. In a case like this, the remaining charge will be displayed properly when the battery is recharged to the point where the battery indicator lights up green.

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Battery Discharge

When the battery charge is consumed, the BATTERY indicator lights up red, and this is followed by a continuous beeping sound. In a situation like this, connect the AC adapter immediately.

If the AC adapter cannot be connected immediately, exit the program(s) now operating, and turn off the power. Then connect the AC adapter and charge the battery pack prior to use.

When the battery charge is further consumed, the BATTERY indicator goes off, and the power is turned off. It is possible to set auto suspend or auto hibernation so that the computer will automatically enter the suspend or hibernation mode before the power is turned off. For details, refer to "Setting the Operating Environment" (☞ page 49).

● **When the user continues to use a battery with a low remaining charge**

● If the enable setting for the hibernation function was selected by the System Setup program, the computer will enter the hibernation mode automatically when the battery's remaining charge falls to a low level. In this mode, connect the AC adapter and resume operation.

● If the disabled setting for the hibernation function was selected by the System Setup program, the computer will enter the suspend mode automatically when the battery's remaining charge falls to a low level. In this status, connect the AC adapter and resume operation.

Add-ons/Peripherals

Using PC Cards

Your computer has two PC Card slots.

A PC card is a card which complies with the PC Card standard. Modem cards, memory cards, LAN cards, sound cards and 1.8-inch HDDs are all PC cards.

PC Card Slots

● Type I or II

15mm
15mm
Two cards can be used simultaneously.

● Type III

15mm
15mm
One card can be used only in the bottom slot.

Bottom Slot

CAUTION

● Always confirm the power consumption of PC Cards before use. Care should be taken as using PC Cards whose power consumption exceeds the allowable power requirements of the PC Card slots may cause malfunctions.
Allowable Current (total for two slots) : 5 V: 600 mA, 12 V: 100 mA

● There are times when both a Type I card and a Type II card will not work at the same time.

Installing/Removing the PC Card

CAUTION

Before removing a PC Card, go to [Socket Status] (in [Start] - [Settings] - [Control Panel] - [PC Card (PCMCIA)]), select the PC Card slot and tap [Stop].

1 Open the PC Card slot cover.

PC Card Slot Cover
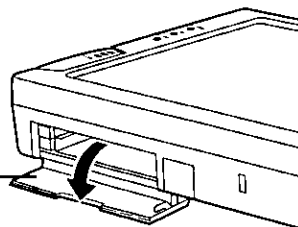
2 ● Installing the PC Card

Simply slide the PC Card in until it snaps
into place.
Please refer to the manual for each card on
how to install the card (insertion is typically
label-side up).
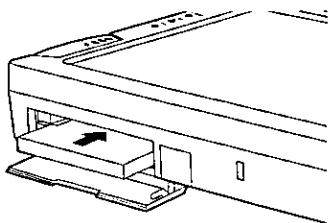
● Removing the PC Card

Use the end (and not the tip) of the acces-
sory stylus to press the eject button.
The card now pops out, enabling it to be
removed.
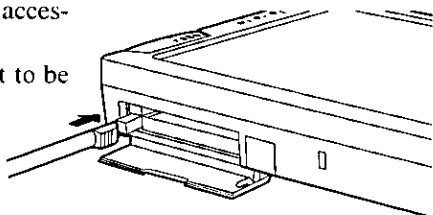
> **NOTE**
>
> To remove the top card: **Eject Button 1**
> To remove the bottom card: **Eject Button 2**
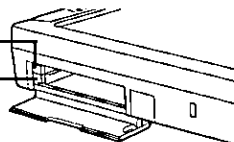
3 Close the PC Card slot cover.

> **CAUTION**
>
> Closing the PC Card slot cover is highly recommended when the PC Card is
> not installed.

Add-ons/Peripherals

Connecting Peripheral Devices

Be absolutely sure to switch off the power to the computer and peripheral devices before connecting or disconnecting the peripheral devices. Failure to do so may cause damage to the system. After devices have been connected, check that the connections are secure.

Hot Docking and Warm Docking

● Hot docking

This facility refers to connecting the expansion stand to or disconnecting it from the computer while the computer's power is on and the computer is operating. After the expansion stand has been connected, the devices connected to the stand can be used without having to reboot the computer.

There is no need to reboot the computer after the stand has been disconnected.

● Warm docking

This facility refers to connecting the expansion stand to and disconnecting it from the computer while the computer is in the suspend or hibernation mode.

If the computer operation is resumed after the expansion stand has been connected or disconnected, then, as with hot docking, there is no need to reboot the computer.

● To initiate hot docking or warm docking

● **Windows 95 must be running.**

These facilities cannot be used with MS-DOS or Windows 3.1.

Even when Windows 95 is running, neither hot docking nor warm docking can be used if a device operated by MS-DOS, Windows 3.1 or other driver has been connected to the expansion stand. In a case like this, turn off the computer's power, perform the connection or disconnection, and then reboot the computer.

● **The battery with an adequate remaining charge must be installed in the computer.**

The AC adapter must be disconnected from the computer when the expansion stand is to be connected to or disconnected from the computer. Since hot docking involves connecting or disconnecting the stand while the computer is operating, take care that the battery does not run down completely.

With warm docking, the battery can be used even if its remaining charge is low provided that the computer is in the hibernation mode.

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NOTE

- Some PC cards cannot be used with hot docking or warm docking.
- Using the expansion stand
  - When the expansion stand is connected to the computer
    If a device is capable of being recognized by Windows 95 after being connected to the expansion stand, it can be used immediately.
    If, under the System Setup program, the [Display] is set to [External Monitor] and the external display has been connected, the screen display is switched to the external display.
  - When the expansion stand is disconnected from the computer
    None of the devices installed in the expansion stand can be used.
    Tap the [Eject PC] from the [Start] menu, and wait for the [Dock Change] message to clear before removing a device.
    When the computer is to be disconnected from the expansion stand if the [Display] is set to the [External Monitor], the screen display is switched to the LCD.

CAUTION

[Settings] at the [Display Properties] can be set whether the expansion stand is connected to or disconnected from the computer.
If the setting of [Color palette] differs between these two statuses, Windows will not run properly when the screen is switched at the time of hot docking. The same settings must be used whether the stand is connected or disconnected.

Setting the Operating Environment

The computer comes with the utility program System Setup, which is used to set the operating environment of the computer.

● System Setup

These settings include the current time and date, parallel port address, data transfer direction, serial port address and IrDA (infrared communications) port address.

● Video Setup

These settings include the screen display changeover setting between the external display and the LCD when an external display is connected, and the screen size setting.

● Security Setup

This makes it possible to set whether a system password for protecting the data, etc. is to be used, and set the boot up drive for booting the computer, etc.

● Power Management

This controls the computer in such a way that no power is wasted.

● Default

Sets all items to the standard settings.

● Save & Reboot

Saves the contents set with System Setup and reboots the computer.

Running the System Setup Program

1 Tap [Start], then point to [Programs]-[Utility].

2 Tap [System Setup].

The System Setup window is displayed.
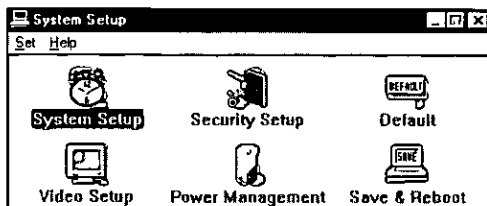
System Setup

When [System Setup] is doubled-tapped, the screen shown below appears.
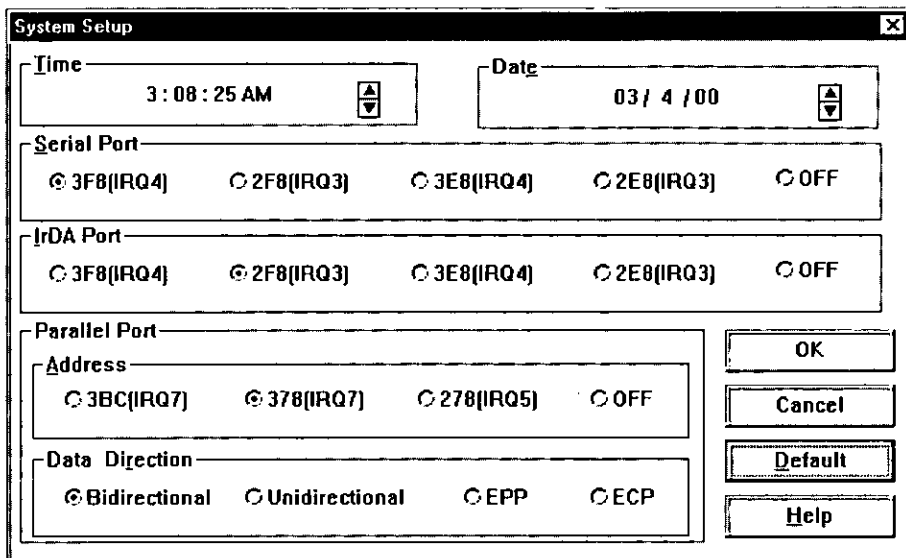
When one of the items is tapped, the tapped item is selected, marked and enabled, or the cursor is displayed.

How to set each of the items is described below.

1. Time   This is displayed in the hours:minutes:seconds format. When an item to be changed is double-tapped, the position of that item is highlighted. The figures can be changed by tapping [▲] (up)/ [▼] (down).

2. Date   This is displayed in the year/month/day format. As with the time, the figures can be changed by double-tapping an item and tapping [▲] (up)/ [▼] (down).

3. Serial Port   Assign the serial port address. Select from the following optional settings [3F8(IRQ4)], [2F8(IRQ3)], [3E8(IRQ4)], [2E8(IRQ3)], and [OFF].
The default setting is [3F8(IRQ4)].

Setting the Operating Environment

4. IrDA Port Assign the infrared communication port address. Select from the following optional settings [3F8(IRQ4)], [2F8(IRQ3), [3E8(IRQ4)], [2E8(IRQ3)], and [OFF].
The default setting is [2F8(IRQ3)].

5. Parallel Port Address

Assign the parallel port address. Select from the following optional settings [3BC(IRQ7)], [378(IRQ7)], [278(IRQ5)], and [OFF].
The default setting is [378(IRQ7)].

6. Parallel Port Data Direction

Assigns the parallel port data transfer direction. Select from the following optional settings [Bidirectional], [Unidirectional], [EPP], and [ECP].
The default setting is [Bidirectional].
Note that [ECP] and [EPP] can be selected only when the parallel port address setting is [378(IRQ7)] or [278(IRQ5)].
Data Direction setting can not be selected when the [Parallel Port Address] setting is [OFF].

Video Setup

When [Video Setup] is doubled-tapped, the screen shown below appears.
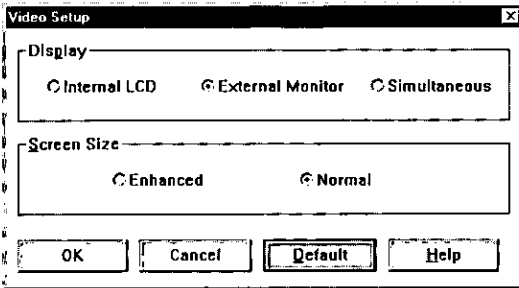
```
┌─────────────────────────────────────────┐
│ Video Setup                          ⊠  │
│ ┌─Display───────────────────────────────┐│
│ │  ○ Internal LCD  ⊙ External Monitor  ○ Simultaneous ││
│ └───────────────────────────────────────┘│
│ ┌─Screen Size───────────────────────────┐│
│ │    ○ Enhanced          ⊙ Normal       ││
│ └───────────────────────────────────────┘│
│  ┌─────┐ ┌────────┐ ┌────────┐ ┌──────┐ │
│  │ OK  │ │ Cancel │ │ Default│ │ Help │ │
│  └─────┘ └────────┘ └────────┘ └──────┘ │
└─────────────────────────────────────────┘
```

(NOTE)

The stylus operations are the same as for [System Setup].

How to set each of the items is described below.

1. Display   Specify the output display upon startup. Select from the following optional settings [Internal LCD], [External Monitor], and [Simultaneous]. When using the built-in LCD, specify [Internal LCD]. When using an external display, specify [External Monitor]. When using both the built-in LCD and an external display simultaneously, specify [Simultaneous]. The default setting is [External Monitor].

(NOTE)

If no external display is connected when the system is started up, the display is output on the built-in LCD, even if [External Monitor] is specified for [Display].

2. Screen Size Specify the screen size for LCD English text mode. Set either [Enhanced] (19 dots/character) or [Normal] (16 dots/character).
Setting for The default setting is [Normal].
LCD English
text mode

Setting the Operating Environment

Security Setup

When [Security Setup] is doubled-tapped, the screen shown below appears.

Security Setup	
┌System Password─┐	┌Boot Up Drive─┐
│ Set... │	⦿ Floppy Disk Drive
	⦿ Hard Disk Drive
OK	Default
Cancel	Help
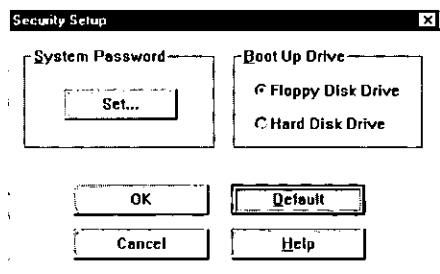
NOTE
- The stylus operations are the same as for [System Setup].
- The system password setting is not changed even when [Default] is selected.

How to set each of the items is described below.

1. System Password

Set the password for starting up the computer. Set the system password function as either [Enabled], [Change] or [Disabled]. When you purchased the computer, [Disabled] is set. If no system password has been registered, the [Change] is not displayed.

2. Boot Up Drive

This selects the drive which contains the system to be used for startup.
Either [Floppy Disk Drive] or [Hard Disk Drive] is selected.
The default setting is [Floppy Disk Drive].

● Procedure for registering or changing the system password

The System Password menu appears when [Set] is selected at [Security Setup] window. Select [Enable] or [Change] and register the password with following steps.

1 When [Change] has been selected, tap the frame in which the current system password is to be input, display the cursor, and input the currently registered password using ⓜ gesture. (☞ Step *3* to *5*)

2 Tap the frame in which the new system password is to be input and display the cursor.

System Password	
┌System Password─┐	OK
⦿ Enable ⦿ Change ⦿ Disable	Cancel
┌Type System Password─┐	
Current System Password	[ ]
New System Password	[ ]
Retype System Password	[ ]
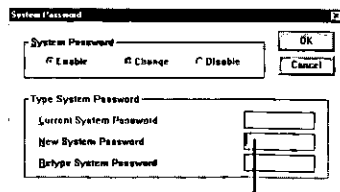
Tap here.

3 Draw Ⓜ gesture on the frame inside the System Password window to display the menu.
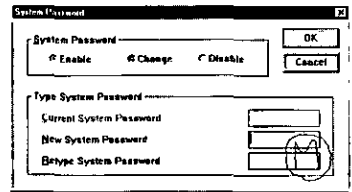
4 Select [Edit Text] from menu. The [Enter Text] window is displayed.
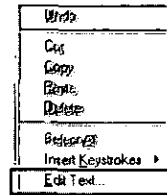
5 Input the new password (Max. 7 characters) and tap [OK] button.
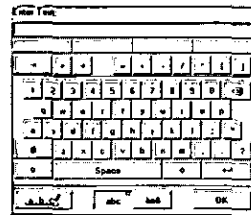
⚠️ **CAUTION**

Only alphanumeric keys (lower-case letters a through z, upper-case letters A through Z, number 0 to 9) may be used to input the password.

6 Tap the frame in which the password is to be retyped, again to display the cursor, input the system password again using Ⓜ gesture.

Tap here.

45
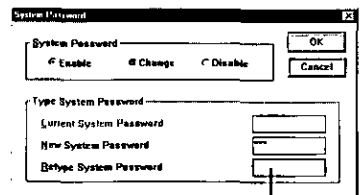
Setting the Operating Environment

7 Tap the [OK] button.

If you type the correct password, operation returns to the [Security Setup].
If you mistype the password at step **6**, the following message will appear.
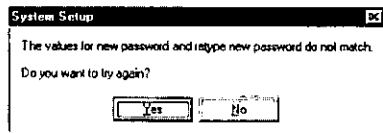
If [Yes] is tapped, the screen on which the system password is set appears.
Repeat the operation.
If [No] is tapped, the [Security Setup] window is returned.

> **CAUTION**
>
> If you forget your system password, you cannot boot the computer. Be absolutely sure to make a note of the password.

● Inputting the System Password

When the password is set, the screen shown right appears when the computer is turned on.
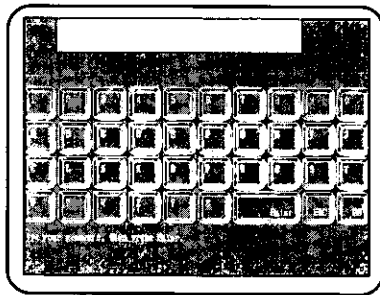
The password can be inputted by using the stylus or the keyboard.

● Input is completed by pressing the ⟦Enter⟧ key.

● Press the ⟦BS⟧ to clear the last character keyed in.

● Press the ⟦ESC⟧ to clear all the characters keyed in so far.

> **NOTE**
>
> ● If the wrong password is input three times, the power is automatically turned off.
> ● The password does not have to be inputted when operation is resumed from the suspend status.

Power Management

Described below are procedures to set the power-saving function for using the battery pack for a prolonged period of time, and the suspend and hibernation functions which conveniently suspend the computer's operation.

When [Power Management] is doubled-tapped, the screen shown below appears.
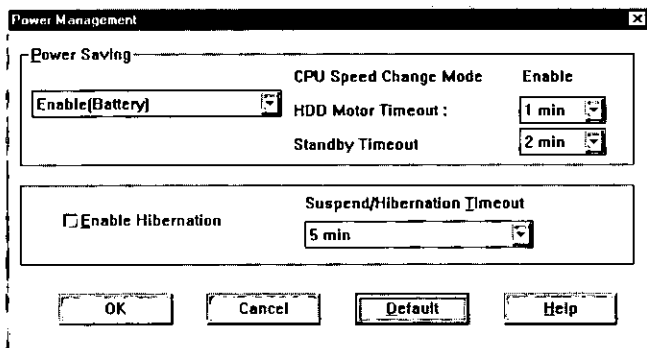
Power Management		
Power Saving		
	CPU Speed Change Mode	Enable
Enable(Battery)	HDD Motor Timeout :	1 min
	Standby Timeout	2 min
	Suspend/Hibernation Timeout	
☐ Enable Hibernation	5 min	
OK	Cancel	Default	Help

NOTE

The stylus operations are the same as for [System Setup].

How to set each of the items is described below.

1. Power Saving

Set the power-saving function is to [Enable (Battery)], [Enable (Battery/AC adaptor)] or [Disable].
The default setting is [Enable (Battery)].

● **CPU Speed Change Mode**

This function lowers the CPU speed in order to conserve power in situations such as when the system is waiting for key, stylus, or mouse input. If [Power Saving] is enabled, [CPU Speed Change Mode] is automatically enabled.

● **HDD Motor Timeout**

This function automatically stops the hard disk drive motor if the hard disk drive is not accessed for a certain period of time. If [Power Saving] is enabled, select from the following optional settings [Disable], [1 min], [3 min], and [10 min].
The default setting is [1 min].

Setting the Operating Environment

● **Standby Timeout**

The system automatically enters the standby state if there has been no key, stylus, or mouse input and no accesses to the HDD, FDD, and parallel port for a certain period of time. If [Power Saving] is enabled, select from the following optional settings [Disable], [2 min], [5 min], and [15 min].
The default setting is [2 min].

2. Enable Hibernation

Specify whether the hibernation function is enabled or disabled. The standard setting is disabled (i.e., the checkbox is not checked).
If the checkbox is checked ([Enable] setting):

• The hibernation key among the touch panel keys works.
• The hibernation mode is established when the time set for the suspend/hibernation timeout has elapsed.
• The hibernation mode is automatically established when the battery's remaining power drops to a low level. (Auto hibernation)

If the checkbox is not checked ([Disable] setting):

• The hibernation key among the touch panel keys does not work even when it is tapped.
• The suspend mode is established when the time set for the suspend/hibernation timeout has elapsed.
• The suspend mode is automatically established when the battery's remaining power drops to a low level. (Auto suspend)

3. Suspend/Hibernation Timeout

The computer automatically enters the suspend or hibernation mode if there has been no key, stylus, or mouse input and no accesses to the parallel port, HDD, or FDD for a certain period of time.
When the POWER switch is moved again, operation resumes from the state that the system was in before the computer shut itself off. Select from the following optional settings [Disable], [5 min], and [20 min].
The default setting is [5 min].

NOTE

● If [Enable (Battery)] or [Disable] has been set for the [Power Saving], the suspend/hibernation timeout does not work when the AC adapter is connected.
● The HDD motor timeout, standby timeout and suspend/hibernation timeout can be set separately.

● What is the Suspend Function?

The suspend function allows you to switch the power off during the operation of a program, and then switch power on and return without rebooting to the same condition as before power was switched off.

● What is the Hibernation Function?

This function stores on the hard disk the computer's status applying before the power is turned off, and immediately restores it when the power is next switched back on.

It differs from the suspend function in that the data in the memory is stored on the hard disk. Since data can be stored even when no power is supplied, the previous status can be restored when the power is next turned on even if both the battery pack and AC adapter have been disconnected once the hibernation function is enabled and the POWER switch has been set to the OFF position.

● The following things can be done using the suspend or hibernation function.

● When operating an application program, the program can be interrupted and restarted by simply turning the POWER switch off and on, without any needs to exit from the application program.

● When the System Setup program is run and the Suspend/Hibernation Timeout interval time is set the power will go off automatically if the computer is not operated for a certain period, thus preventing unnecessary waste of power. The computer will of course be restored to its initial state when the POWER switch is turned on again.

● Limitations Concerning the Use of the Suspend Function or Hibernation Function

● A mouse, modem, or other serial device may not be recognized by the system after the system has resumed operation. If this occurs, re-initialize the device.

● When peripheral units (or PC Cards) are connected to the computer, the suspend or hibernation function will not work with these peripheral units.

● The suspend function or hibernation function may sometimes fail to work with the following application programs:
- An operating system other than Windows 95
- The diagnostic program
- System Setup program

● While communications software is running, do not move the POWER switch and enter the suspend mode or hibernation mode. A communications error may occur.

● Do not move the POWER switch while the floppy disk drive or hard disk drive is operating. Also, do not operate the hibernation or suspend key among the touch panel keys.

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Setting the Operating Environment

● Notes on the Use of the Suspend Function

- By pressing the reset button, the data held by the suspend function will be erased.
- When the suspend operation is performed with only the battery pack installed, the status applying before the power is turned off may not be restored when the power is turned on depending on the remaining battery charge. Either connect the AC adapter or recharge the battery pack adequately and then turn on the power.

● Note on the Use of the Hibernation Function

- In order to use the hibernation function a certain amount of free space (approx. 26 MB) is needed on the internal hard disk in order to write the data from the computer's memory. When the hibernation function is set by the System Setup program, the area is automatically secured in accordance with the size of the memory installed.
- When the amount of memory is increased or the hard disk has been formatted, the System Setup program must be started, and [Enable Hibernation] must be enabled in [Power Management].

CAUTION

After you have turned your computer off using the suspend or hibernation function, you wait ten seconds before you can turn it back on.

NOTE

The status applying when the power is turned off is known as the "suspend mode" when the suspend function has been set to "enable" or "hibernation mode" when the hibernation function has been to "enable", and the act of returning to the previous status when the power is turned back on is called "resume".

● What is Auto Suspend/Hibernation function?

If a keyboard, stylus, mouse or parallel entry is not input, and HDD or FDD is not accessed within a preset time period, the computer will turn itself off.

To set the Auto Suspend/Hibernation function, start up the System Setup program, and set the [Suspend/Hibernation Timeout] time to either [5 min] or [20 min].

> **(NOTE)**
>
> When operation is interrupted by the [Auto Suspend/Hibernation] function, the original screen is restored by turning the POWER switch on again.

● What is standby function?

If there has been no key, stylus, or mouse input and no accesses to the HDD, FDD, or parallel port for a certain period of time, the power is cut off for the hard disk drive motor, the display, and the backlight. If both standby timeout and suspend/hibernation timeout are set, the system first enters the standby mode and then enters the suspend mode or the hibernation mode.

To set the standby function, start up the System Setup program, set the [Enable] for the [Power Saving], and set the [Standby Timeout] time to [2 min], [5 min], or [20 min]..

Example: Standby Timeout: about 2 min.
          Suspend/Hibernation Timeout: about 5 min.

Computer operating

No key, stylus, or mouse input and no accesses to the HDD or parallel port

No key, stylus, or mouse input and no accesses to the HDD or parallel port

<Suspend/Hibernation Mode>

about 2 min.

Standby Mode

Standby Timeout

about 5 min.

Suspend/Hibernation Timeout
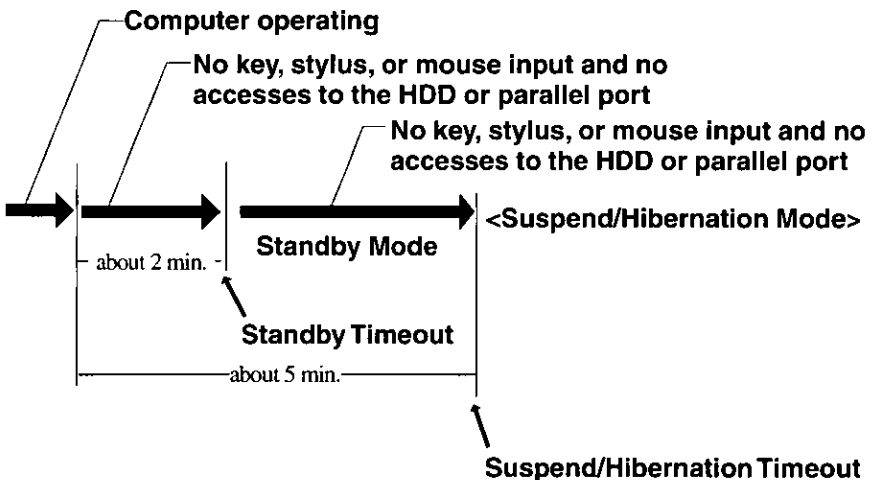
In the standby mode, the display and backlight is turned on when the stylus, keyboard or mouse has been used for input or when the POWER switch has been moved.

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Setting the Operating Environment

Setting the Screen Resolution and Number of Colors

1 Tap [Start], then point to [Settings].

2 Tap [Control Panel].

[Control Panel] opens.

3 Double-tap [Display].

The [Display Properties] is displayed.

4 Tap [Settings].

The screen for setting the desktop area size, number of colors, etc. now opens.
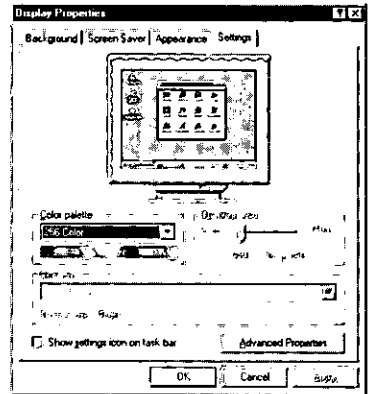
CAUTION

When the [Advanced Properties] in [Settings] is pressed, the adapter and display type can be changed.

● When the expansion stand is not connected, [Standard VGA 640 x 480] must be selected for the monitor model.

● When the expansion stand is connected, [Chips And Technologies, Accelerator (new)] is set for the adapter model as the standard setting, and any setting may be selected for the display model.

● When the picture is displayed on the external display with a resolution other than 640 x 480, the monitor model setting must be changed.

  1 Select [Advanced Properties] - [Monitor] - [Changed].

  2 Select [Show all devices] on the [Select Device].

  3 Set the [Manufacturers] and [Models] for the display model.

The "◯" symbol in the table below indicates that the screen resolutions or numbers of colors are supported.
The expansion stand is required to connect an external display.

	External Display	Internal LCD	Simultaneous
640 x 480 16 Color	◯	◯	◯
640 x 480 256 Color	◯	◯	◯
640 x 480 High Color	◯	◯	◯
800 x 600 16 Color	◯	◯*	◯*
800 x 600 256 Color	◯	◯*	◯*
1024 x 768 16 Color	◯	◯*	◯*
1024 x 768 256 Color	◯	◯*	◯*

    *   Part (640 x 480) of the entire picture is displayed with a 1024 x 768 or 800 x 600 display.

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Handling the Memory

Kinds of Memory

This computer's memory is configured as shown below.

Memory Map

Conventional Memory	00000H
	A0000H
Video RAM	C0000H
Video BIOS	CBFFFH
	F0000H
Main BIOS	100000H
Extended Memory	

● **Conventional Memory**

The first 640 KB RAM is called conventional memory. When MS-DOS is used, application programs normally run in conventional memory.

● **Extended Memory**

The memory area above 1 MB is called extended memory. This memory area is used to execute OS and application programs that can only run with a 80286 or subsequent CPU. The main programs that run in this area are OS/2 and MS-Windows 3.x.

Usable Memory Capacity

The usable memory size is as shown below

Model No.	Mounted on board	RAM Module Slot	Extended Memory
CF-01	8MB	16MB	23552 KB

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Computer Diagnosis

List of Error Codes

If a BIOS error occurs, an error code such as one of those listed below will appear when the system is started.

Pressing [F1] key will cause the startup process to continue. After running the System Setup program to check the system settings, restart the system.

Explanations of the meanings of the different error codes are provided below.

Code	Description
062	The POST was interrupted three or more times in a row, and the system board has reverted to its default settings.
101	Interrupt controller failure
102	Timer 2 test failure
106	Diskette controller failure
151	Real-time clock failure
162	CMOS checksum error
163	Real-time clock is not updating
164	Incorrect CMOS memory size
201	Memory size/data error
301	Keyboard failure
303	Keyboard controller failure
1780	Fixed disk 0 failure
2400	System board video error
8601	Mouse interface error
8603	Mouse or system board error
I9990301	Hard disk failure
I9990305	An operating system could not be found.
Other error code	Error generated by the self-diagnostic program

Computer Diagnosis

Using the Self-diagnosis Program

The keyboard must be connected when the Self-diagnosis program is to be used. Using this program, the operations in various parts of the computer can be tested. The items to be tested are selected from the diagnostic menu (☞ page 57).

(NOTE)

To run the self-diagnosis program, connect the keyboard to the ext. mouse/keyboard port.

1 Exit all the programs now running, turn off the power and then turn it back on again to boot the system.

2 A beep sounds first, and then the menu shown below appears when the [F8] key is pressed while the [Starting Windows 95...] message is displayed.

```
Microsoft Windows 95 Startup Menu

1. Normal
2. Logged (\BOOTLOG.TXT)
3. Safe mode
4. Step-by-step confirmation
5. Command prompt only
6. Safe mode command prompt only

Enter a choice : 4
```

3 Select menu item 4, press the [Enter] key, and complete the confirmation at the eight selection items by pressing the [N] key.
The DOS prompt (C:\>) now appears.

4 Input the following after the DOS prompt (C:\>) to start DIAGH0.

cd\windows\localapp   [Enter]
diagh0   [Enter]

5 A screen prompting the user to confirm whether the results are to be printed out now appears. Press the [Y] key to print out or press the [N] key to cancel.

```
DIAGNOSTIC MENU  ( V*.* L** )

     1.  TEST ALL DEVICES (■ DEVICES)
     2.  TEST AUTOMATICALLY (■ DEVICES)
     3.  CHANGE MENU
     4.  EXIT
  ■  5.  MAIN BOARD
  ■  6.  ***KB RANDOM ACCESS MEMORY
  ■  7.  KEYBOARD
     8.  MOUSE
  ■  9.  VIDEO
  ■  10. 1 HARD DISK DRIVE (S)
  ■  11. 1 FLOPPY DISK DRIVE (S)*¹
     12. 1 PARALLEL PORT (S)*²
  ■  13. 2 SERIAL PORT (S)*²
     14. PEN

  SELECT MENU : 1
```
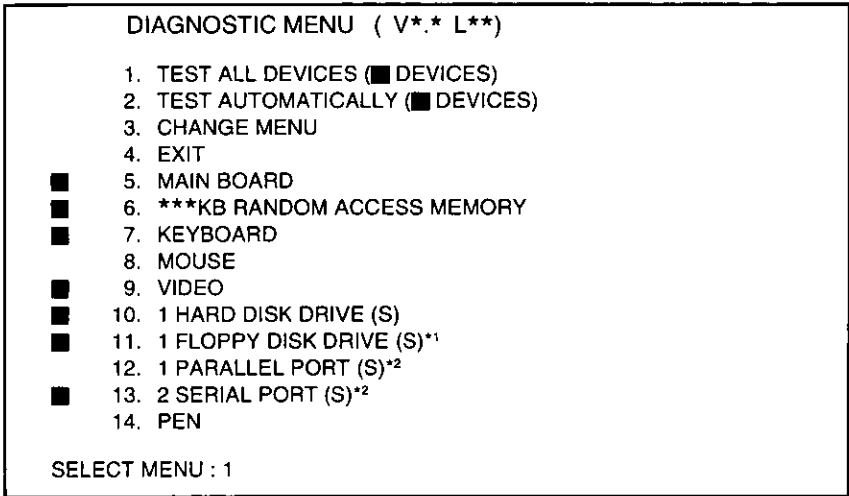
*¹ Item 11 is not displayed if the expansion stand is not connected.
*² Depending on the System Setup settings, items 12 and 13 are not displayed.

6 Use the cursor keys ([↓] or [↑]) to align the cursor with the item to be tested, and press the [Enter] key. Alternatively, input the number of the item to be tested and press the [Enter] key.

┌─**NOTE**───┐
│   │
│ To abort the self-diagnosis test (for parts other than the keyboard), press [Ctrl] │
│ + [Pause].   │
│   │
└──┘

Computer Diagnosis

● Key operations

Key	Result
(Esc)	Returns to the previous display.
(↑) (↓)	Changes the selection item. You can select the item by typing the number beside the item.
(Enter)	Performs tests.
(Ctrl) + (P)	Selects whether the data is to be output to the printer.
(Ctrl) + (Pause Break)	Cancels the self-diagnosis program (except for KEYBOARD TEST).

● Main test

Details of the DIAGH0 main tests and checkpoints are outlined below.
(A description of the items is omitted.)

Main Test	Checkpoints
TEST ALL DEVICES	Selects the items marked with a square (■) from all the items, and tests them.
TEST AUTOMATICALLY	Consecutively, tests all devices marked with a square (■).
CHANGE MENU	The items (■) to be tested by "TEST ALL DEVICES" and "TEST AUTOMATICALLY" can be changed. When the cursor is moved to an item and [Enter] key is pressed, (■) can be added or removed.
EXIT	Exits the program and reboots.
MAIN BOARD	Tests the IC circuits. Don't perform keyboard input.
***KB RANDOM ACCESS MEMORY	Tests base memory and extended memory.
1 HARD DISK DRIVE (S) 1 FLOPPY DISK DRIVE (S)	Writes the data onto the disk and reads the data from the disk. Either back up all important data on the hard disk for safety reasons or use a floppy disk with data which can be erased.
1 PARALLEL PORT (S) 2 SERIAL PORT (S)	In the [EXTERNAL LOOPBACK TEST], this tests the responses with the circuits connected to the external connectors. Proceed with the Dsub-25 male loopback connector connected to the parallel port and the Dsub-9 female loopback connector to the serial port.
PEN	Tests the operation of the stylus.

Dealing with Problems

The computer may sometimes not function as you expect it to. If you believe that trouble has occurred, read this page. Also, the software program may be to blame and so you should consult the manuals accompanying Windows, the applications and other programs. If the cause of the trouble is not remedied by taking the action suggested below, consult your nearest Panasonic dealer.

● Starting Up

The computer doesn't operate.	● Check that connections are secure between the computer and the AC adapter, and between the AC power cord and AC wall outlet. ● Confirm that a fully charged battery pack is installed properly. ● Press the reset button on the computer's bottom side to reboot the computer. Is operation now OK? ● Has [Boot Up Drive] been set to [Hard Disk Drive] in the System Setup program? In this case, the system cannot be started up from the floppy disk drive (FDD). It is also possible that data on the HDD has been destroyed. Connect the expansion stand and keyboard, insert the system disk into the expansion stand, and turn the power back on to reboot the computer. If the memory count appears on the screen, press the [F5] key to start the system from the floppy disk drive, and check the contents of the hard disk drive.
Information on the display screen isn't visible.	● Adjust the contrast or brightness. The contrast and brightness can be adjusted with touch panel keys. ● The display may have automatically turned off due to the power-saving function. Move the POWER switch to restore the screen. ● Has an [External Monitor] been selected by the System Setup program and connected the external monitor? ● If your computer is connected to an external display and the internal LCD has been set to "off", and the computer is placed in the hibernation or suspend mode, the internal LCD will remain in the "off" mode if the external display is not connected when the computer is restarted. In this case, re-connect the external display and reboot the computer.
You have forgotten the system password.	Consult your nearest Panasonic dealer.

Dealing with Problems

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 consult your nearest Panasonic dealer.

● During Operation

The computer suddenly stops operating.	• When operating the computer with a battery pack, the power may become depleted. You must connect the AC adapter. • The system may have hung up due to a problem in the application software you are using. Stop using the application software and reboot the computer by pressing the reset button.
The BATTERY indicator is red.	Battery is low. Connect the AC adapter to charge the battery.
The BATTERY indicator blinks red.	• The battery or AC adapter may not have been connected properly. Make the proper connections. • The battery pack temperature may be outside the 5°C to 45°C (41°F to 113°F) range. Return the battery pack to a temperature at which it can be charged. • If the problem persists, consult your nearest Panasonic dealer.
The beeper sounded.	• The battery has begun to run out. Connect the AC adapter to charge or install a fully charged battery pack.

● Display

The display screen is cleared.	The standby or suspend/hibernation mode may have been established by the power-saving function. When the POWER switch is moved in either of these statuses, the display screen returns.
An afterimage appears.	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.
Green, red or blue dots remain on the display.	As a characteristic of color display's, these dots are known to appear, but it does not indicate any malfunction.

● Disk Operations

The computer won't access the hard disk drive.	● If the cause is unknown, consult your nearest Panasonic dealer.
The computer won't access the floppy disk drive.	● Ensure that you have connected the expansion stand securely. ● Ensure that you have inserted the floppy disk securely into the drive. ● Did you attempt to write to or read from a non-formatted disk? Floppy disks must be formatted before they can be used. ● Ensure that the write-protect tab is in the write-enable position.
The computer won't format the floppy disk.	● Ensure that the write-protect tab is in the write-enable position. ● Ensure that you didn't mistype the command. Also check for mistakes in the command parameters.

● Connecting Peripherals

The mouse doesn't work.	● Ensure that the mouse cable is connected securely to the computer. ● Has the mouse's device driver program been loaded and is it operating? For details, refer to the manual accompanying the application being used or the mouse's program manual.

Dealing with Problems

The PC Card cannot be used.	● Check the orientation of the card, and install it in the correct slot. ● Are you using a card other than those specified? ● Has the proper driver program been installed? ● Check the I/O port address, IRQ number and channel used by the PC Card and set again. **\<I/O Address\>** 　Set addresses other than those listed below. 　I/O:　0000H-00FFH (system board reserved) 　　　　x1F0H-x1F7H (HDD) 　　　　x278H-x27FH (Parallel port)*² 　　　　x2F8H-x2FFH (Infrared communication port)*¹ 　　　　x378H-x37FH (Parallel port)*² 　　　　x3B0H-x3BBH (VGA) 　　　　x3BCH-x3BFH (Parallel port)*² 　　　　x3C0H-x3DFH (VGA) 　　　　x3E0H-x3E1H (PC Card controller) 　　　　x3F0H-x3F7H (FDC) 　　　　x3F8H-x3FFH (Serial port)*³ 　An "x" in front of an address denoted that the address cannot be used regardless of the values of the address line (A15-A10). 　*¹ The infrared communication (IrDA) port address can be selected 3F8, 2F8, 3E8, 2E8 or OFF using the System Setup program. 　*² The parallel port address can be selected 3BC, 378, 278 or OFF using the System Setup program. 　*³ The serial port address can be selected 3F8, 2F8, 3E8, 2E8 or OFF using the System Setup program. **\<IRQ Number\>** 　Use one of the following settings. 　　IRQ:　3*¹, 4*², 5*³, 7*³, 9, 15 　*¹ IRQ3 is normally used for the COM2 (Infrared communication port). 　*² IRQ4 is normally used for the COM1 (serial port). 　*³ IRQ5 and IRQ7 is normally used for the printer. 　When IRQ3 or IRQ4 is used by the PC Card, set the serial port or infrared communication (IrDA) port to [OFF] in the System Setup program.

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Reinstalling Software

This computer comes with Windows and other software programs already installed. When the hard disk contents have been lost or deleted, the hard disk can be restored to the state in which the computer was purchased by following the procedure outlined below.

Since floppy disks are used for re-installation, have the expansion stand, keyboard and mouse attached before proceeding.

Have at hand the system disks (31 disks) created when the system was started for the first time.

CAUTION

Do not enter the power off, or suspend mode while re-installation is still in progress.

NOTE

Not all the contents of the hard disk will be restored to their original status by re-installation. Some programs will not be re-installed.

1 Installing Windows 95

Insert the Windows 95 Setup Disk you previously created in the floppy disk drive, and reboot the computer.

The [Microsoft Windows 95 Setup] screen appears. Follow the on-screen instructions, and install the system while removing one disk and replacing it with the next. To restore the settings which applied at the time of purchase, set the settings as follows.

Screen	Setting
Choose Directory	C:\WINDOWS
Setup Options	Typical

Reinstalling Software

2 Installing Pen Service

1 Start up Windows.

2 Select [Control Panel] in [Start] - [Settings].

3 Select [Add/Remove Programs].

4 Select [Windows Setup], then press [Have Disk].

5 Insert the Pen Services disk you previously created in the floppy disk drive, then press [OK].

6 After checking in the Pen Services checkbox displayed in the [Have Disk] dialog, press [Install] to start installation.
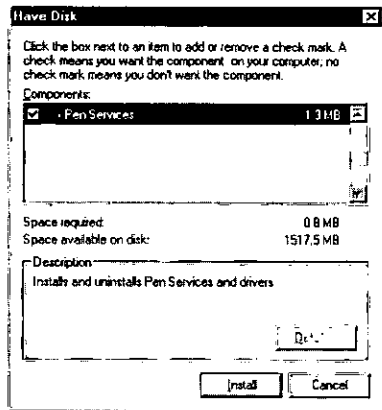
7 At the [Add/Remove Programs Properties], press [OK].

8 The display will ask you to restart Windows, remove the floppy disk and press [Yes].

3 Installing the video drivers

1 Insert the Utility disk you previously created in the floppy disk drive.

2 Select [Control Panel] in [Start] - [Settings].

3 Select [Display].

4 At [Display Properties], select [Settings] and press [Advanced Properties].

5 Select [Adapter], then press [Change].

6 At [Select Device], press [Have Disk].

7 At the [Install From Disk], type [A:\VIDEO] then press [OK].

8 Confirm that the [Chips And Technologies, Accelerator (new)] is displayed and press [OK]. (Driver files copied automatically.)
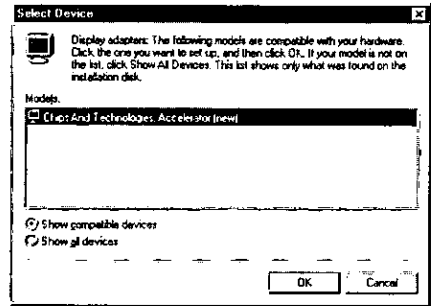
9 Press [Close] twice.

10 The display will ask you to restart Windows, remove the floppy disk and press [Yes].

4 Setting the screen size and resolution

1 Select [Control Panel] in [Start] - [Settings].

2 Select [Display].

3 At [Display Properties], select [Settings] and press [Advanced Properties].

4 Select [Monitor], then press [Change].

5 At [Select Device], then select [Super VGA 1024 x 768].
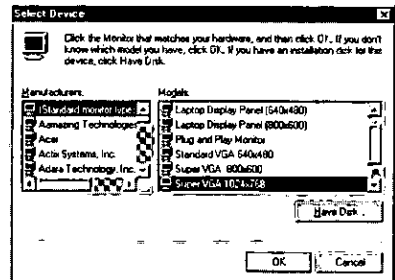
6 Press [OK].

7 Press [Close].

8 Select [High Color (16 bit)] for [Color palette], then press [OK].

9 At [Compatibility Warning], press [OK].

Reinstalling Software

5 Installing the utility programs

Follow the steps below to install the System Setup program, supplementary instructions and other utility files.

1 Insert the Utility disk you previously created in the floppy disk drive.

2 Select [Control Panel] in [Start] - [Settings].

3 Select [Add/Remove Programs].

4 At [Add/Remove Programs Properties], select [Windows Setup].

5 Select [Have Disk], then type [A:\]. Next, press [OK].

6 After checking in the CF-01 Utility Program checkbox displayed in the [Have Disk] dialog, press [Install] to start installation.
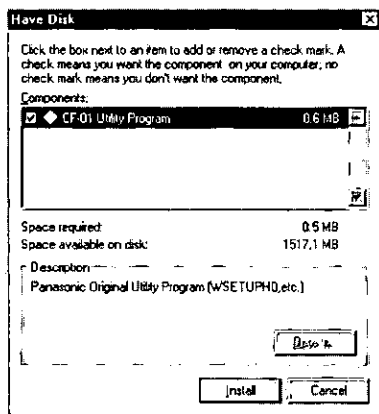
7 At [Add/Remove Programs Properties], press [OK].

6 Show [Suspend] command on the [Start] menu.

1 Select [Control Panel] in [Start] - [Settings].
2 Select [Power].
3 At [Power Properties], press [Advanced].
4 Add the check mark for [Show suspend command on Start menu] and press [OK].

5 Press [OK].

66
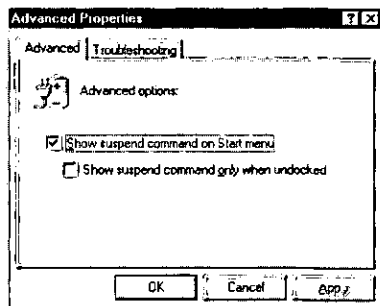
7 Setting the infrared communication port

1 Select [Control Panel] in [Start] - [Settings].

2 Select [Add New Hardware].

3 At [Add New Hardware Wizard], press [Next].

4 Select [No], then press [Next].

5 Select [Infrared] for [Hardware types], then press [Next].

6 At the [Add Infrared Device Wizard], press [Next].

7 Select [(Standard infrared devices)], press [Next].

8 Select [Generic Ir Serial Port (COM2)], press [Next].

9 Select [Use default ports], press [Next].

The infrared data communication driver's setup is completed. If the computer asks you to insert the Windows 95 Setup Disk, please set the specified disk and follow the on-screen instructions.

10 Tap [Finish].

Reinstalling Software

8 Choosing the settings which enable the PC Cards to be used.

1 Select [Control Panel] in [Start] - [Settings].

2 Select [PC Card (PCMCIA)].

3 At the [Welcome to the PC Card (PCMCIA) Wizard], follow the on-screen instructions.
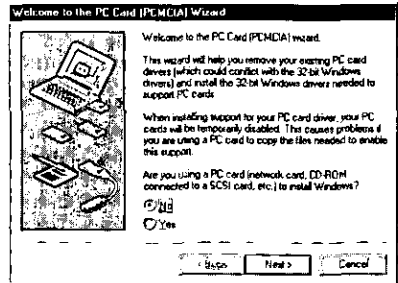
9 Upon completion of steps 1 through 8, disconnect the expansion stand.

1 Select [Shut Down] from the [Start], then press [Yes].

2 Disconnect the computer from the expansion stand.

3 Connect the AC adapter to the computer, then turn your computer on. Follow the on-screen instructions.

The display will ask you to restart Windows, press [Yes].

CAUTION

The same [Color palette] setting must be set whether or not the expansion stand is connected.

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Windows 95 Setup Procedure

This procedure explains step 6 on page 9 in more detail.

1 Enter your name and your company's name, then press [Next].

When the keyboard is not connected, write the names by using the stylus.
To write the names with the stylus, tap the ⊞ and tap [Edit Text] on the menu.
Insert the name and tap [OK].
The License Agreement will be displayed.

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

If the former is selected, the [Certificate of Authenticity] will appear. If the latter is selected, the Windows setup will be aborted.

3 Input the Product Number written on the "Certificate of Authenticity" located in the "Introducing Microsoft Windows 95 book" that comes with this computer. After doing so, press [Next].

4 Press [Finish].

5 If the instruction to restart appears, press [OK].

6 Insert the correct time, date and time zone and click [Close].

You can also complete these settings at a later time.

7 If you want to complete the printer settings, press [Next].

Simply follow the on-screen instructions.

If not, press [Cancel].

You can also complete these settings at a later time.

8 At the [Welcome to Windows], you may decide to read the introduction to Windows or to press [Close].

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How to Create the System Disks

If you have not created system disks, follow the procedure outlined below. Please prepare 31 2HD formatted floppy disks to create system disks.

1 Connect the expansion stand.

2 Turn your computer on.

The Windows screen is displayed.

3 [Create System Disks] screen is displayed.

If Windows is started when no system disks have been created, the [Create System Disks] screen appears once every starts. (standard setting: once every 5 starts)
If the [Create System Disks] screen have not displayed, you can create system disks by going to [Create System Disks] in [Start] - [Program] - [Accessories] - [System Tools]. If [Create System Disks] does not exist, you have already created the disk set.
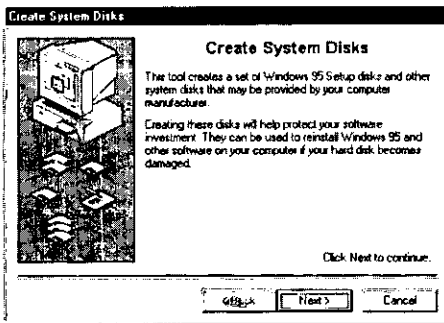
> **NOTE**
>
> The system disks can be created once only.

4 Create system disks of Windows 95

1 Tap [Next].

2 Select [Microsoft Windows 95 Setup Disk Set] and follow the on-screen instructions.

Please prepare 29 2HD formatted floppy disks to create system disks.

> **CAUTION**
>
> Before proceeding, stick the accessory Windows 95 labels onto the floppy disks.

How to Create the System Disks

5 Create backup disks of utilities.

Select [Backup for Utility Program] on the [Select Disk Set To Create] screen, and make back-ups of the utility programs by following the on-screen instructions. (Provide 2 disks for this.)

CAUTION

Write each floppy disk name indicated on the screen onto a label and then stick the label on the floppy disk.
- Utility Disk
- Pen Services Disk

Adjusting the Touch Panel

If some or all of the data stored in the system unit, such as the initial environment settings, becomes corrupted, it will be necessary to readjust the touch panel. Should this occur, the screen shown below is displayed.

TOUCH PANEL CALIBRATION

Please tap on the center of the crosshairs,

Press Esc to cancel calibration
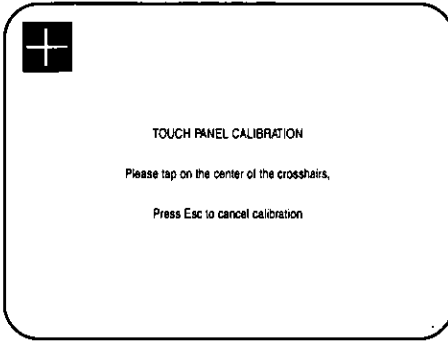
● Inputting correction data

"+" is displayed in the upper left, upper right, lower left, and lower right portions of the screen, in that order. Each time the "+" is displayed, tap on the center of "+" with the stylus. The data is stored immediately before the stylus is lifted from the touch panel.

(NOTE)

The touch panel is correctly adjusted when it is shipped from the factory. Adjusting the touch panel corrects for positioning inaccuracies that could occur when using the stylus and touch panel to input data to the computer.

(CAUTION)

Make sure to use the accessory stylus to perform input if the adjustment screen is displayed. The adjustment procedure can be canceled by pressing the [Esc] key on the keyboard. However, if the adjustment procedure is canceled, accurate stylus input will not be possible. The reason for the cancel function is to prevent situations in which the system will not start at all because the touch panel is not working due to a malfunction in the system unit.

Specifications

Model No.			CF-01XSDAPM
CPU			Am5x86 133 MHz
Memory			24 MB
Video Memory			1 MB
Display	Type		7.8" (DSTN)
	Displayed Colors	640 X 480 dots	65536 colors
Hard Disk Drive			1.6 GB[*1]
Input device	Stylus input		Resistive film type of touch panel
Interface	Serial Port		Dsub 9 pin male
	Infrared Communication Port		IrDA compliant, 115.2 kbps data transmission speed
	Ext. Mouse/Keyboard Port		Mini DIN 6-pin female
	Expansion Bus Port		Dedicated 160-pin female
Card Slot	PC Cards only		Two Type I or Type II, or one Type III
	Allowable current (total for two slots)		5 V: 600 mA / 12 V: 100 mA
Software	Operating System		Microsoft® Windows® 95
	Utility Programs		Pen Services for Windows 95 Version 2.0 Diagnostics program System Setup program
Battery	Battery Pack		Lithium Ion 10.8 V, 1.2 Ah
	Operating Time		Approx. 1.7 - 3.4 hours[*2]
	Charging Time	Power On	Approx. 8 hours[*2]
		Power Off	Approx. 2.5 hours[*2]
	Clock Battery		Coin type lithium battery 3.0 V Operating Time: Approx. 7 years
AC Adapter	Input		AC 100 -240 V, 50 / 60 Hz
	Output		DC 15.1 V, 2.6 A
Power Consumption[*3]			Approx. 23 W (Approx. 5W[*4] in standby mode)
Physical Dimensions (W X H X D)			210 mm X 34 mm X 148 mm (8.3" X 1.3" X 5.8")
Weight (With the battery pack installed)			Approx. 1.0 kg (Approx. 2.2 lbs)

[*1] 1GB = 10^9 bytes
[*2] Varies depending on the usage conditions
[*3] Maximum power consumption during operation
[*4] Energy consumption efficiency required by the Energy Saving Law
The AC adapter consumes approx. 1.2 W of power even when it is not connected to the computer.
The battery power consumption is approx. 130 mW when the power is off.

Index

Index

Gestures Reference Card

Refer to "Simple editing of character strings" for details. (☞page 26)

[Menu]	
[Delete]	
[Cut]	
[Space]	
[Copy]	

[Paste]	
[Undo]	
[Display windows]	
[Tab]	
[New Line]	
[Select]	

Touch Panel Keys Reference Card

Refer to "Simple editing of character strings" for details. (☞page 12)

🔊	Speaker On/Off Key
	Hibernation Key
	Suspend Key
◑⁺	LCD Contrast Up Key

◐₋	LCD Contrast Down Key
☼	LCD Backlight High/Low Key
	Left Mouse Button Key
	Right Mouse Button Key
	Mouse Button Off Key
🔋	Battery Level Indicator Key

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As an ENERGY STAR Partner, Panasonic has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

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The international ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles, and copiers. Their standards and logos are uniform among participating nations.