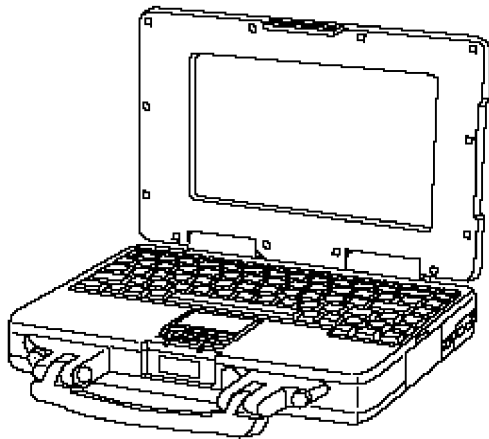


# OPERATING INSTRUCTIONS



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## Introduction





Thank you for purchasing the Panasonic's CF-25 series computer. You will find that this computer offers many convenient functions, and can be connected to a variety of optional peripheral devices. Please read the Operating Instructions thoroughly for smooth operation of your new computer.

### ◆NOTE◆

Also, please see the README file, as it contains important information.

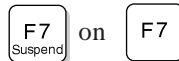
## Checklist

Confirm that the following items are supplied.

- Computer 
- AC adapter and AC Cord (CF-AA1526) 
- Function Seal
- Cap Sheet  (⇒P.6)
- Windows® 95 System Pack
- Operating Instructions 
- TRANXIT REGISTRATION CARD
- TRANXIT ACCESSORY CATALOGUE
- LIMITED WARRANTY (US)
- USER REGISTRATION (US)
- LIMITED WARRANTY (CANADA)
- WARRANTY STATEMENT (CANADA)

### ◆NOTE◆

Please affix the function seal that is supplied on the keyboard.



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## Conventions

### NOTE

**NOTE** provides a useful fact or helpful information.

### CAUTION

**CAUTION** indicates a condition that may result in minor injury or slightly moderate injury.

### WARNING

**WARNING** indicates a hazard that may result in moderate injury or serious injury, even death.

## Lithium Battery

### 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!

### Litium batteri!

Denna dator innehåller ett litium batteri som används för att lagra datum, tid och annan data.

Bör endast bytas av servicepersonal. Explosionsfara vid felaktig hantering.

## For U.S.A.

### Federal Communications Commission Radio Frequency Interference Statement

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

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

### Warning

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

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

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

## For U.K.

### Warning

#### This apparatus must be earthed for your safety.

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.

For your safety, if you have any doubt about the effective earthing of the power point, consult a qualified electrician.

#### FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 3 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

**IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.**

**THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.**

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.


#### Warning: THIS APPLIANCE MUST BE EARTHED.

### Important

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.

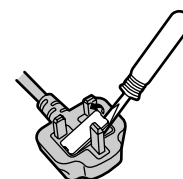
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

The mains plug on this equipment must be used to disconnect the mains power.

Please ensure that a socket outlet is available near the equipment and shall be easily accessible.

### How to replace the fuse

Open the fuse compartment with a screwdriver and replace the fuse.



### Warnings

- This equipment is not designed for connection to an IT power system.

(An IT system is a system having no direct connections between live parts and Earth; the exposed-conductive-parts of the electrical installation are earthed.)

An IT system is not permitted where the computer is directly connected to public supply systems in the U.K.)

- Disconnect the mains plug from the supply socket when the computer is not in use.

This equipment is produced to BS800/1983.

## For German

### Warnung bezüglich der Lithiumbatterie (Sicherungsbatterie)

Lithiumbatterie!

Dieser Computer enthält eine Lithiumbatterie zur Sicherung von Datum und Uhrzeit der eingebauten Uhr sowie anderer Systemdaten im Speicher bei einer Unterbrechung der Hauptstromversorgung. Diese Sicherungsbatterie darf nur von Kundendienstpersonal ausgewechselt werden.

Warnung! Bei falschem Gebrauch besteht Explosionsgefahr! Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

## For France

### Avertissement concernant la pile au lithium (pile de sauvegarde)

Pile au lithium!

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

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

## Precautions

The CF-25 was developed based on thorough research into the real-world portable computing environments. Exhaustive pursuit of usability and reliability under harsh conditions led to innovations such as the magnesium alloy exterior, MCM (multichip module) technology based cool-running Pentium® processor, vibration damped hard disk drive and floppy disk drive, flexible internal connections, sealed LCD and keyboard, dust proof hinges and the revolutionary "Shirato" ruggedized LCD screen mounting system. The CF-25's outstanding engineering has been tested using the stiff MIL-STD- 810E (for vibration and shock) and IP (for dust and water) based procedures.

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

### 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 LCD Panel

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



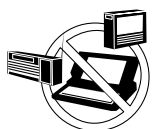
#### Avoid Humidity Liquids and Dust

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.



#### Do Not Disassemble the Computer

Do not attempt to disassemble your computer.

#### Avoid Excessive Force to the LCD Panel

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

#### Carry the Computer Properly

- Do not carry the computer without first turning off the power.
- Do not hold the computer by the LCD panel if the computer is open.
- Do not move the computer while a floppy disk is inserted.

### Maintenance

#### Surface of the LCD Panel

- Soak a piece of gauze or soft cloth sufficiently in isopropyl alcohol only, and wipe the panel gently. Using excessive force may scratch the panel. Avoid wiping with a dry cloth, since this can damage the surface of the polarizing plate. Also, be sure not to use water and perfumes, as these liquids can dissolve the coloration of the polarizing plate.

#### Areas other than the Display

- Gently wipe other areas using a soft cloth pre-soaked in water or a neutral cleaner and wrung out thoroughly. Do not use solvents like benzene and thinner, nor chemical cloths.

#### 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 (Factory Control Number: CF-AA1526) with your computer. Using an AC adapter other than the one supplied might damage the battery and/or the computer.
- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet as well. If the cord is kept connected, a very low level of power equivalent to approximately 1.5 watts will be consumed.
- 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 supply is highly recommended.

#### Against Computer Viruses

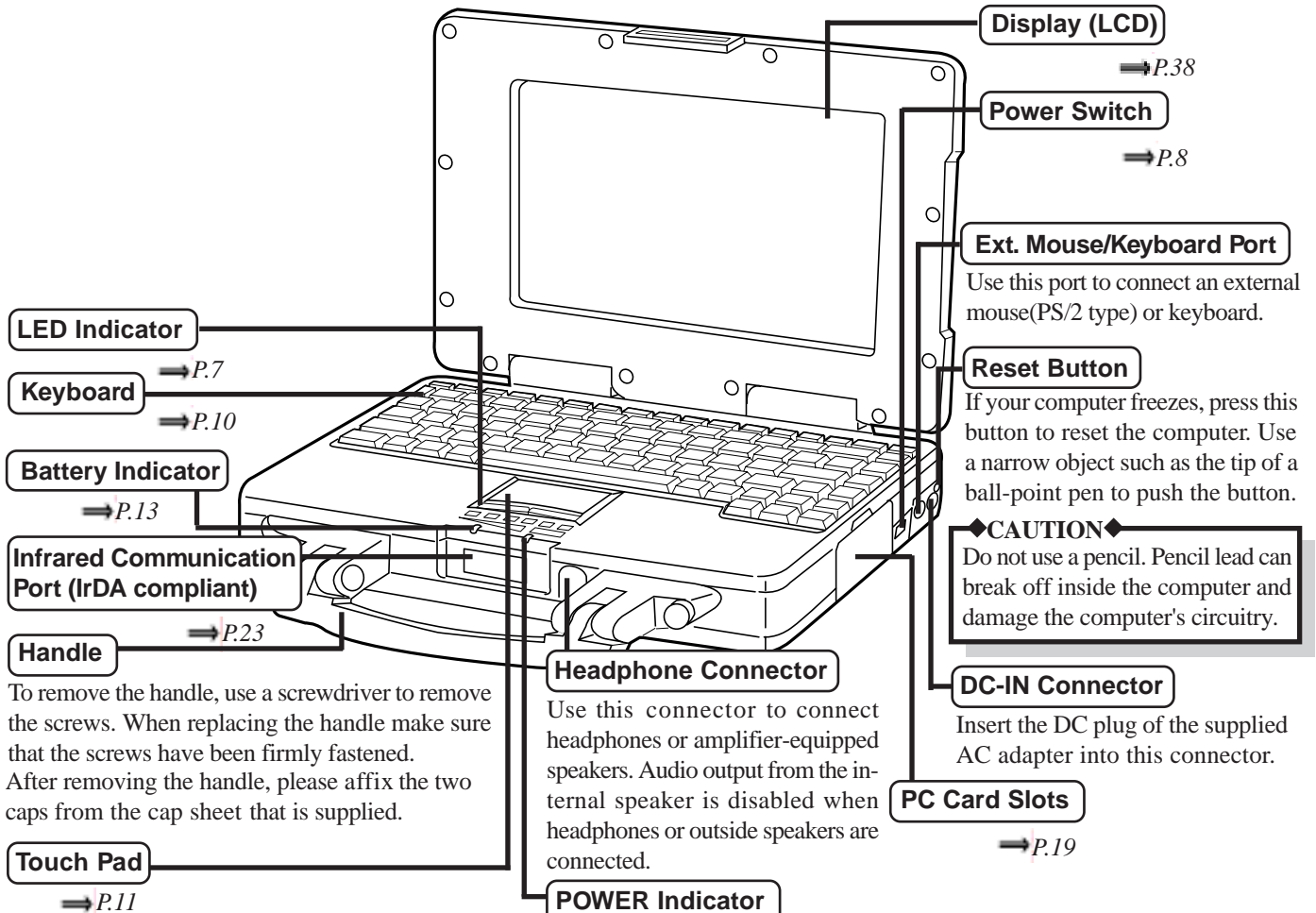
- Anti-virus software is not supplied. However, you should obtain such software if you plan to transfer files actively or to use the Internet.

#### Cables

- Use of an interface cable longer than 3m (118.11 inches) is not recommended.

# Names and Functions of Parts

## Front



**Handle**  
 To remove the handle, use a screwdriver to remove the screws. When replacing the handle make sure that the screws have been firmly fastened. After removing the handle, please affix the two caps from the cap sheet that is supplied.

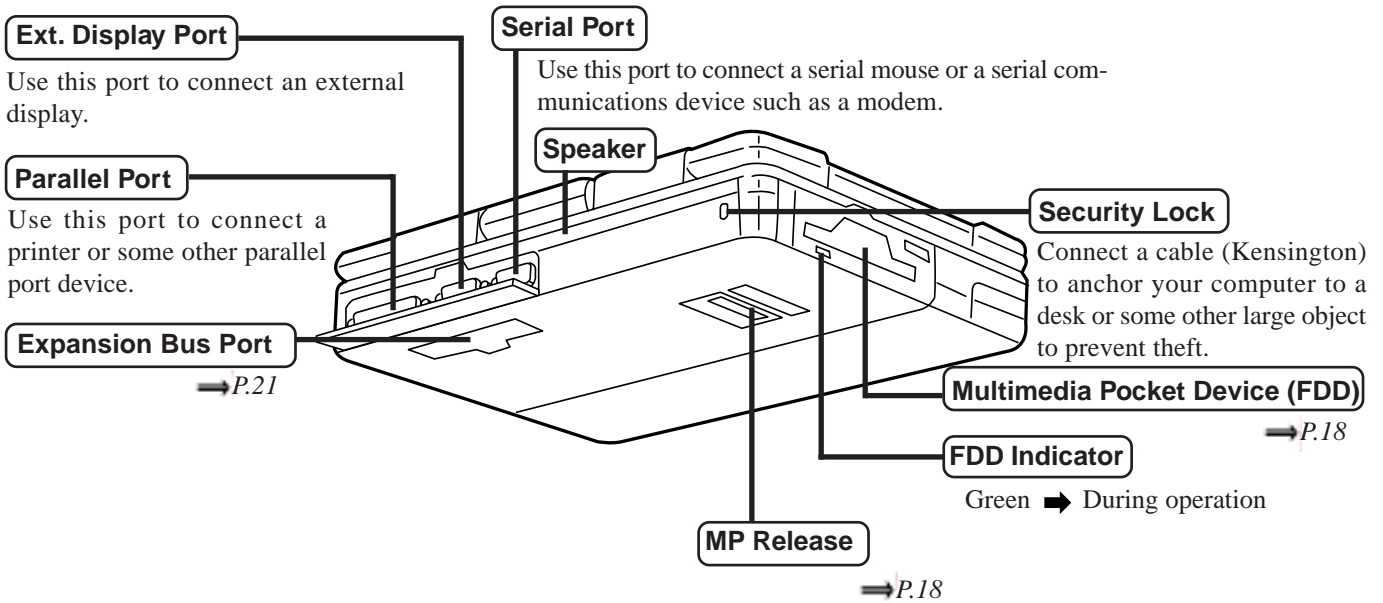
**CAUTION**  
 Do not use a pencil. Pencil lead can break off inside the computer and damage the computer's circuitry.

**POWER Indicator**  
 Green → Power on / CPU normal speed mode  
 Orange → Power on / CPU slow speed mode  
 (The CPU cools down)

**NOTE**  
 When the temperature of the CPU rises, the processing speed is automatically reduced to protect the CPU from overheating. When the temperature of the CPU drops, the normal processing speed is automatically restored.

**NOTE**  
 The characteristics of the anti-reflection coating on the LCD may cause fingerprints and smudges to appear more visible when compared to standard LCD panels. If necessary, these can be easily removed by following the LCD panel cleaning instructions found on page 5.

**Back and Bottom**



◆MEMO◆

● Volume adjustment



Increase volume.

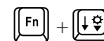


Decrease volume.

● Display brightness adjustment

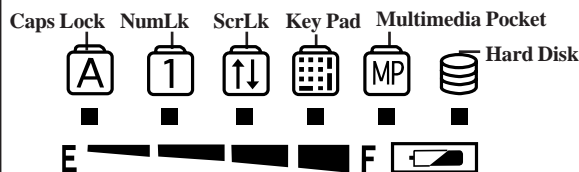


Increase brightness.  
(Low → Middle → High)



Decrease brightness.  
(High → Middle → Low)

● LED Indicator



When the LED indicator goes on, do not turn the computer off. Do not remove/insert a floppy disk.

When the LED indicator goes on, do not turn the computer off.

◆CAUTION◆

Do not allow the ports/connectors to get wet. Always make sure they are covered. If they do happen to get wet, wipe them using a soft cloth immediately.

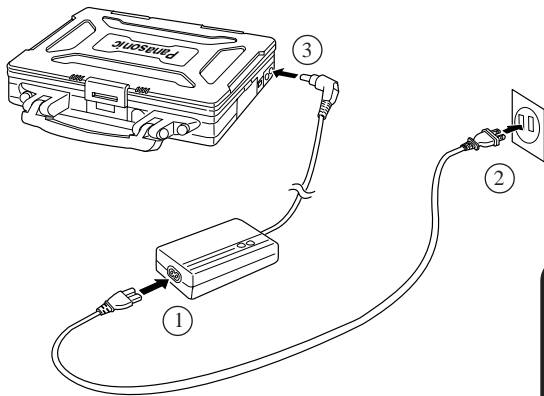


# Startup and Shutdown

## Inserting the Battery pack ▶

Insert the provided battery pack (→P.15).

## Connecting the AC Adapter ▶



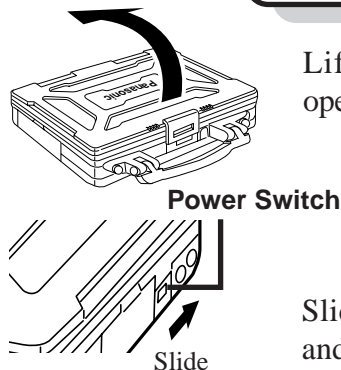
◆NOTE◆  
Use only the specified AC adapter (CF-AA1526).

- ① Connect the AC cord to the AC adapter.
- ② Plug the AC cord into an AC outlet.
- ③ Plug the AC adapter into the computer.

### ◆MEMO◆

The supplied battery is not charged. When using the computer for the first time, be sure to charge the battery pack before using the computer. Connecting the AC adapter automatically starts the charging process. Check the battery indicator to confirm the current charging status.

## Power On ▶



Lift the latch and open up the display.

### ◆CAUTION◆

Do not turn the computer off immediately after turning it on. Also, allow at least 10 seconds to elapse after you have switched off the power and want to turn the computer back on again.

### Power Switch

Slide the power switch toward the rear of the computer and hold it there for about one second.

### ◆CAUTION◆


When the power is turned on at the first time, before you use software programs furnished with this product, please read through "LIMITED USE LICENSE AGREEMENT" (→P.33). Then remove the seal.

## First time computer is started only ▶

### Windows 95 Setup

- ① Select settings for your region, then click [Next].
- ② Select your Keyboard Layout, then click [Next].  
( for U.S.A. : "United States 101", for U.K. : "British" )
- ③ Type your name and the name of your company, then click [Next].
- ④ The License Agreement should be displayed. Read the Agreement, check "I accept the agreement", and click [Next].
- ⑤ Type in the product number printed on the Certificate of Authenticity; the Certificate is attached to the "Introducing Microsoft Windows 95 book" included in the "Windows 95 system pack". Click [Next].
- ⑥ Click [Finish] to start Wizard.
- ⑦ If the instruction to restart appears, click [OK].
- ⑧ Set the correct Date & Time and Time Zone, then click [Close]. (Note: These settings can be changed later.)
- ⑨ If you want to install your printer driver(s), click [Next]. Follow the prompts on the screen to specify the printer(s). Otherwise, click [Cancel]. (Note: Printer drivers can be added later.)



- ⑩ Close the "Welcome to Windows 95" screen.
- ⑪ You can now use Windows 95, but in order to set the Panasonic original environment and create back-up disks, select  (Panasonic Setup icon). Windows restarts. If Windows does not restart, press the RE-SET button.

**Firstaid FD etc. creation**

Create back-up disks of the software preinstalled in your computer. Be sure to have 6 2HD-type floppy disks on hand. Please backup your disks in the following order:

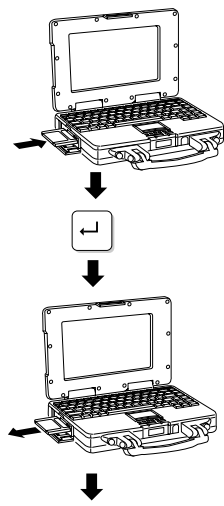
- Firstaid FD**
- Panasonic Tools Disk**
- CardWorks™ INSTALLATION Disk**
- TranXit Disk (2)**
- DRIVERS DISK**

```

* Firstaid FD          1
* Panasonic Tools Disk 1
* CardWorks™ Installation Disk 1
* TranXit Disk 1,2    2
* Drivers Disk        1
*
* If you have the floppy disks in hand, press any key and advance to
* the next step. Any data on these disks will, however, be destroyed.
* If the floppy disks are not currently available, turn off the power
* until they are.
*
*.....
Press any key to continue...
    
```

Ready to create Firstaid FD.  
Insert a floppy disk in drive A and press any key.

Please remove the diskette and write protect it.  
Press any key to continue...



**NOTE**

- Make sure to create "Firstaid FD" etc. that will allow you to reinstall the operating system if necessary.
- Do not switch the power off or put the computer into the suspend or hibernation mode while the "Firstaid FD" etc. is being created.

**Startup screen**



Beginning with the next time you turn on the computer, this screen will be displayed as soon as power is switched on.

To set the user password, start the Setup utility. (⇒P.24)

**Shutdown ▶**



You can turn your computer off by selecting "Shut Down..." from the "Start" menu.

**MEMO**

You can also restart your computer in the MS-DOS mode by selecting "Restart the computer in the MS-DOS mode?"

# Keyboard and Touch Pad

The system is equipped with a keyboard and touch pad for input to the computer.

## Key combinations for accessing special functions ▶

[Fn] + [Power Switch] ➔

Powers off the computer and nullifies the hibernation function. Use this combination only after saving all open files, closing all open applications, and exiting Windows.

[Fn] + [F5] ➔

Toggles the speaker on and off.

[Fn] + [F7] ➔

Enters the suspend mode immediately. The display resumes when the power switch is pressed. Please affix the function seal that is supplied. (➔P.2)

[Fn] + [F9] ➔

Gives the current battery power status.

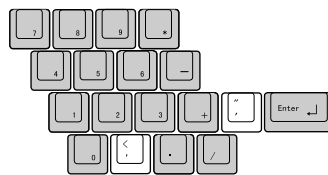
[Fn] + [F10] ➔

Powers off the hard disk drive motor and backlight of the display to conserve power. The backlight goes on again when any key is pressed. Power to the hard disk drive resumes when the hard disk is accessed.

[Fn] + [KeyPad] ➔

- Toggles the numeric key pad on and off. When the key pad is on, the corresponding LED indicator lights and numerical values can be input.
- Pressing the Fn key when the key pad is on turns it off, and vice versa. When NumLk is activated in conjunction with the key pad, the shaded keys operate as shown.

### NumLk on & KeyPad on



### NumLk off & KeyPad on



[Fn] + 



Increase volume.

[Fn] + 



Decrease volume.

[Fn] + 



Increase brightness. (Low ➔ Middle ➔ High)

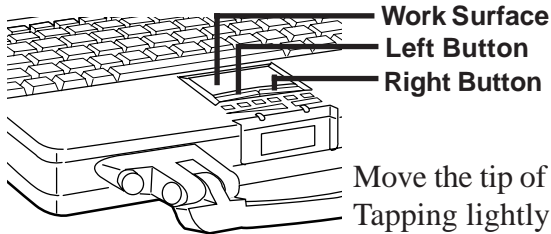
[Fn] + 



Decrease brightness. (High ➔ Middle ➔ Low)

**Touch Pad ▶**

The touch pad is used to move the cursor in the same way as a mouse would.

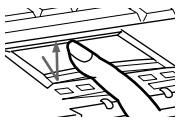


Move the tip of your finger lightly over the surface to move the cursor. Tapping lightly on the surface has the same effect as clicking the left mouse button.

◆NOTE◆

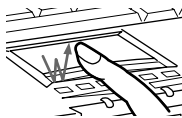
If "Left-handed" is selected in the mouse settings, tapping the touch pad will have the same effect as clicking the left button of the touch pad.

**Click**



Click the left button once or tap the surface once lightly.

**Double click**



Click the left button twice in rapid succession or tap the surface twice lightly in rapid succession.

**Drag**



Move the cursor to the object you want to drag. Hold down the left button with one finger while moving another finger over the surface or double-tap the pad without releasing your finger and drag the object. Releasing the left button or lifting your finger from the pad, respectively, will "drop" the object.

◆CAUTION◆

- Be sure never to press the POWER switch while the suspend or hibernation process is being carried out. Also, do not input from the keyboard or the touch pad or move the mouse. The processing may not be executed correctly.
- Movement of the cursor may be affected if oil, etc., gets on the touch pad. Be sure that the touch pad is clean at all times. Use a clean cloth with some water and a little detergent or media head cleaner to gently wipe the touch pad.

# Battery Power

This computer contains the following two types of batteries.

**Main Battery:** (Ni-MH rechargeable battery pack)  
Removable battery that runs the computer without the AC adapter.

**Clock Battery:** Battery that is housed inside the computer and maintains the clock and settings.

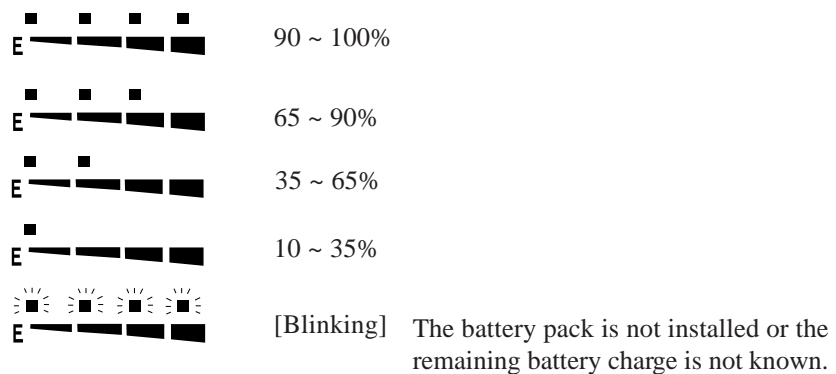
## ◆NOTE◆

- The battery pack will become somewhat warm during normal use. This is not a malfunction.
- The operating time may differ from the display depending on the charging and discharging temperatures and battery wear.

## ◆CAUTION◆

- When transporting spare batteries inside a package, briefcase, etc., it is recommended that the batteries be stored in a plastic bag.
- Exposure to strong shock (such as being dropped on the floor) can cause the battery pack to malfunction.
- Do not touch the terminals on the battery pack. Damaged terminals may cause system performance failure.
- Do not expose the battery pack to open flame.
- Do not throw the battery pack into a fire or water.
- Use the battery pack only with the computer for which it was designed.
- Do not directly connect the negative and positive terminal on the battery pack.
- If, due to damage, battery electrolyte comes in contact with skin or clothing, wash it off quickly and thoroughly with water. Consult with your physician if you feel something is wrong with you physically.

When  +  are pressed, the remaining battery charge is shown by the four indicators.



## ◆NOTE◆



When the RESET button is pressed or when a battery pack has been replaced, the remaining battery charge will not be recognized. The four LED indicators will blink to show this. If the battery pack is charged fully or discharged until the red indicator lights, the remaining battery charge becomes to be shown.

## Battery Indicator ▶

Battery Indicator	Battery Status	Action
Orange	Charging	Please continue normal use.
Green	Fully charged	Please continue normal use.
Red	<p><b>Power low</b></p> <p>■ <b>Hibernation function is enabled:</b></p> <ul style="list-style-type: none"> <li>- The beeper sounds at the same time.</li> <li>- The computer automatically enters the hibernation mode a few minutes after the beeper sounds.</li> </ul> <p>■ <b>Hibernation function is disabled:</b></p> <ul style="list-style-type: none"> <li>- The beeper sounds several minutes later.</li> <li>- The computer automatically turns off a few minutes after the beeper sounds.</li> </ul>	<p>Connect the AC adapter to the computer. Replace the main battery with a fully charged one.</p> <p>If recharging is not possible at this time, immediately save any open files on your disk and turn off the power.</p> <p>When the indicator remains red for a long time, proceed with refreshing unless there has been a sudden change in temperature.</p>
Blinking red	The battery or AC adapter may not have been connected properly.	<p>Make the proper connections. (→P.8,15)</p> <p>If the problem persists, contact the Panasonic Service Center. (Trouble may have occurred in the battery, charging controller, etc.)</p>
Blinking orange	Refreshing	Please wait until refreshing finishes. Press ESC if you wish to abort.
Blinking green	Refreshing required	Refresh the battery pack. (→P.17)
Blinking orange for 5 seconds after the AC adapter is connected.	The temperature is outside the range of approximately 5°C to 35°C (41°F to 95°F).	Please wait until the temperature falls within the allowable range.

## Conserving Battery Power ▶

"Power management" conserves battery power and enables the computer to be operated to the maximum extent possible.

The computer enters the standby mode immediately after  +  are pressed. In this mode, the HDD motor and display is turned off.

In order to achieve maximum battery power, in the setup utility, set "Power Saving" in "Power Management" to "Advanced".

### ◆NOTE◆

- Certain applications may not run when "Power Saving" is set to "Advanced" or "Standard". If this is the case, set "Power Saving" to "OFF".
- When Windows is activated, select [Start]-[Settings]-[Control Panel]-[Power], and confirm that the "Allow Windows to manage power use on this computer." check box has been checked at "Power". The default setting is "checked".

## A Shorter Than Expected Battery Drive Time ►

Your computer may experience a shallow charge-discharge cycle characterized by computer operation for a short period of time followed by battery charging. Repetition of such cycles will decrease your battery's operating time temporarily. The above should be kept in mind if you decide to run the computer off the battery after it has been running off the AC adapter for an extended period of time.

The computer automatically determines the need for battery refreshing. In such cases, the screen will display a message reminding you to refresh the battery, after the computer has been started up. In this case, the battery indicator blinks in green to indicate the need for battery refreshing. Refreshing is commenced after any key is pressed. Also, if you leave a fully charged battery for 2 to 4 weeks in temperatures above 35°C (95°F), the battery's operating time may decrease temporarily.

These conditions are not due to a fault in the battery. Normal performance can generally be restored by fully charging and then discharging the battery two or three times in succession. In order to fully discharge the battery in a short period of time, a battery refresh tool (BATTREF.COM) is provided (⇒P.17). Please note that the battery operating time may vary drastically depending on the types of installed options.

### ◆NOTE◆

Replace the battery pack if the amount of time the computer can be operated on a full charge drops to approximately one half of the normal duration.

## Hints on How to Use Battery Pack ►

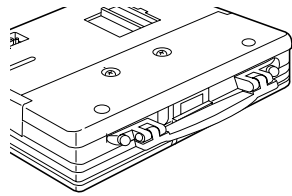
If you plan to leave the computer idle for an extended period of time (approximately two months or more), first discharge the battery using the "refresh" method, next, charge the battery pack until the charge level reaches 50%, then remove it from the computer and store it in a cool, dry place. (Refer to the Operating Instructions for information on removing the battery.)


Excessive discharging of the battery can occur if it is left in the computer for extended periods of disuse, possibly shortening its service life or causing damage to the computer. (Note that the battery will not discharge if the AC adapter is left connected, so it does not have to be taken out in such cases.)

## Replacing

The battery pack is an item that at some point will require a replacement. If the usage time of a battery pack becomes noticeably short, and repeated recharging does not restore its performance, the battery pack should be replaced with a new one [part number: CF-VZS250A(Ni-MH) or CF-VZS251(Li-Ion)].

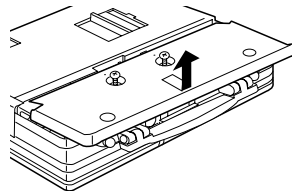
### Removal ▶



Turn the computer off by pressing  and holding the power switch in the ON position simultaneously.



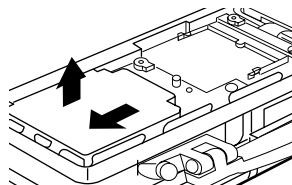
Turn the computer over.



Use a screwdriver to loosen the two screws located toward the front of the computer.



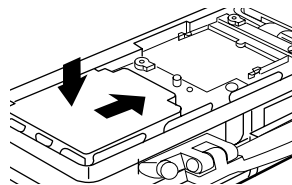
Remove the cover.



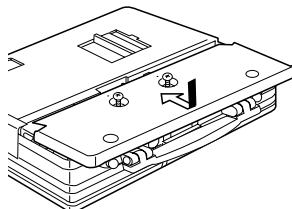
Slide the battery pack toward the outside edge to remove it.

### Mounting ▶

Drop a new battery pack into the pocket.



Slide the battery pack inward until it is firmly in place.



Replace the cover and tighten the two screws.

#### ◆NOTE◆

- Always switch the computer off and disconnect the AC adapter before replacing a battery pack.
- The battery pack may malfunction if it is exposed to strong shocks. Caution should be exercised.



## Recharging

The battery is automatically charged when the AC adapter is plugged into a socket. Rapid charging commences when the POWER switch is turned off. Normal charging takes place when the POWER switch is turned on.

Charging will terminate (Battery indicator changes from orange to green) automatically when the battery is fully charged. In this state, it will remain fully charged as long as the AC adapter is connected.

The AC adapter will become warm during charging or while in use; this is normal.

### ◆NOTE◆

If the battery pack is subjected to temperatures outside of the specified 5°C to 35°C (41°F to 95°F) range, charging will not commence. Under this circumstance, the battery indicator will blink for 5 seconds. Charging will commence automatically once the temperature falls within the allowable range. The battery temperature may rise as high as 60°C (140°F) during charging.

### ◆CAUTION◆

- Always allow the battery to become completely discharged (low battery alarm sounds) before recharging .
- Since the battery is not pre-charged, be absolutely sure to charge these batteries before using the computer for the first time. Charging commences automatically after the AC adapter is connected.
- A new battery or a battery that has not been used for a prolonged period of time will not be fully charged after it has been charged/recharged only once.
- It is recommended not to charge a battery that has not been completely discharged first (low battery alarm sounds).
- Do not charge a battery in any other computer or by using a recharger other than the one specified.
- When the duration of a battery's operation has fallen by half or so, repeat the battery refresh operation two or three times. If nothing happens even after this, the battery has reached the end of its life span and should be replaced with a new one.
- Installing and attempting to charge a battery pack that is already fully charged, or installing and removing a battery pack several times in quick succession, can result in overcharging and cause the battery to heat up. Such treatment can damage the battery pack.

## Refreshing

Battery refreshing involves power discharging and recharging (the latter only if the AC adapter is connected.) Follow the instructions below to execute the battery refresh tool after the battery becomes fully charged. The battery refreshing time ranges between three and five hours, depending on the state of the battery.

Battery refresh is available only for Ni-MH battery (CF-VZS250A or CF-VZS252).

### ◆NOTE◆

Do not execute "BATTREF" at the "MS-DOS" prompt in Windows. Execute this program after restarting the computer in the MS-DOS mode.

- ① Exit any application programs that may be running, click "Start" and then click "Shut Down". Select "Restart the computer in MS-DOS mode?" and click "Yes".
- ② After making sure that the display panel is open and the LCD is 'ON', type the following at the MS-DOS prompt.

```
battref .
```

- ③ A verification message will appear. Press .
- ④ The computer is automatically rebooted, and the screen shown below appears.

```
Press any key to refresh battery, or ESC to boot.
```

### ◆NOTE◆

If the LCD panel is closed when using the external display, the messages "Please Open LCD panel." will appear. Follow the instructions on the screen.

- ⑤ Press any key to start discharging of the battery. The screen shown below appears during the battery refreshing.  
Leave the computer on until the POWER indicator goes off, even if the screen goes off.

```
Refresh battery.
```

```
Don't touch unit until all LEDs have turned off. LCD will go off prior to this.
```

```
Refresh can take up to 5 hrs. Press ESC to cancel and boot.
```

When the POWER indicator goes off, battery charging commences automatically. If the AC adapter is not connected, connect it to charge the battery fully.

### ◆NOTE◆

When charging a completely discharged battery, ensure the proper refresh effect by leaving the AC adapter plugged in until the battery indicator changes to green (which indicates a complete recharge).

The battery indicator becomes orange (charging mode) quite quickly, but charging is not performed for the first one hour in order to increase the charging efficiency.

# Hardware Expansion

## Multimedia Pocket (MP)

The multimedia pocket houses the floppy disk drive (FDD) that comes with this computer. The FDD can be replaced with an optional unit.

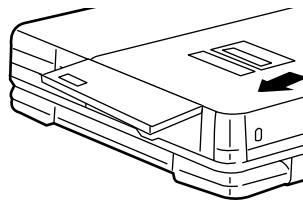
Optional units : CD-ROM Pack (CF-VCD252)

Second Battery Pack (CF-VZS252)

### ◆NOTE◆

Do not replace a unit in the multimedia pocket with another when the computer is in the suspend or hibernation mode. Doing so could damage the unit or prevent the new unit from being recognized properly.

### Removal ▶



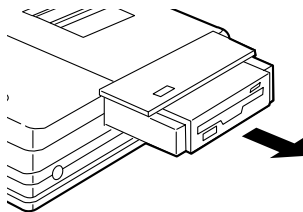
Turn the computer off by pressing **Fn** and holding the computer switch in the ON position simultaneously.

Turn the unit over.

Open the cover.

Slide the MP release toward the MP device.  
The MP device should slide out.

Pull out the device.

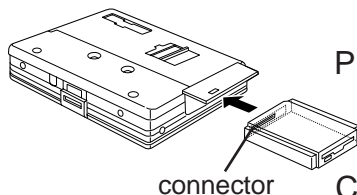


### Mounting ▶

### ◆CAUTION◆

- Make sure that the position of the peripheral connector is located as shown in the illustration below.
- Gently install / remove any multimedia pocket device. Do not use excessive force when installing.

Insert an MP unit into the slot.



Push the unit in until it snaps into place.

Confirm that the MP release has returned to its original position.

### ◆CAUTION◆

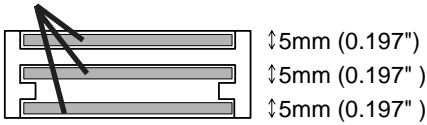
You may use the floppy disk drive as an external unit that is connected through the parallel port, by using an optional FDD cable (CF-VCF351). Some precautions are necessary, as described below, since problems may arise.

- Do not move the drive while accessing data on the floppy.
- Firmly hold both sides of the drive when removing a disk. If pressure is applied from the top, excessive force should be avoided.
- When you need to format 2HD type floppy disk at the MS-DOS prompt, please type the command as noted below. Without this option, the disk will not be formatted correctly.

FORMAT    A:   /F:1.44

## PC Cards

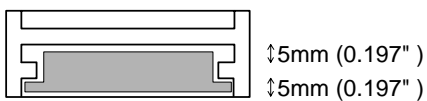
Type I or II



The PCMCIA card slots accept PC cards that conform to the PC card standard.

Up to three Type I/II (thickness: 5 mm (0.197 inch) or less) cards can be inserted.

Type III

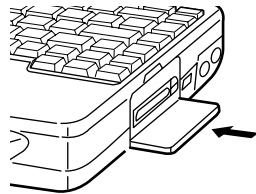


Or, one Type I/II and one Type III card (1.8-inch hard disk drive, etc.) can be inserted; the Type III card can only be inserted into the bottom slot.

◆NOTE◆

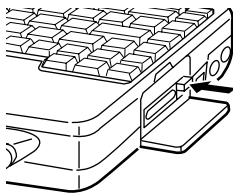
- In order to use PC cards, the appropriate PC card device drivers must be installed.
- Make sure that the combined operating current of your PC cards does not exceed the maximum allowable current of the card slots. If the output current limit (3.3V, 400mA; 5V, 400mA; 12V, 120mA) is exceeded, malfunction may result.
- Only the bottom slot can support a Zoomed Video (ZV) card.

### Mounting ▶

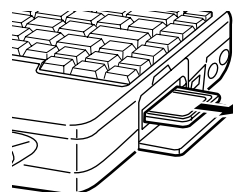


Insert your PC card and slide it in until it is firmly in place. As you slide the card in, a button will pop out that enables you to remove the card. (NOTE: The PC card should have an arrow indicating how it is to be inserted.)

### Removal ▶



Press the button to displace the card.



Remove the card by pulling it out.

◆NOTE◆

If you use CardWorks software, please refer to its on-line Quick Reference Guide. (Click [Start]-[Programs]-[Panasonic]-[CardWorks Quick Reference Guide].)

## Memory Expansion

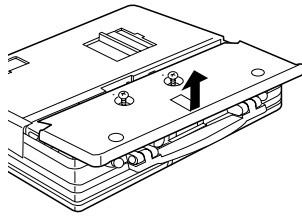
A RAM module may be installed in the computer to increase the computer's memory.

RAM module specifications
144 pins, 60/70 ns, 3.3 V, SO-DIMM, EDO

◆NOTE◆

Do not add or remove additional memory while the computer is in the suspend or hibernation mode. Doing so could damage the unit or prevent the module from being properly recognized.

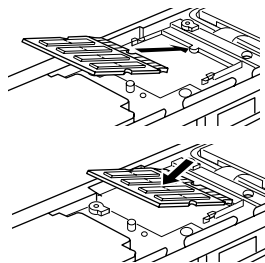
### Mounting ▶



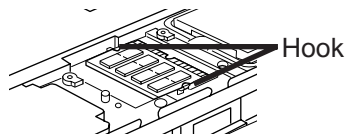
Turn the computer off by pressing **Fn** and holding the power switch in the ON position simultaneously.

↓  
Use a screwdriver to loosen the two screws located toward the front of the computer.

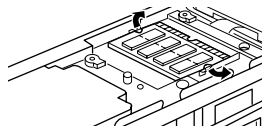
↓  
Remove the cover.



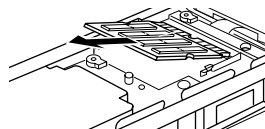
↓  
Put the RAM module into the slot diagonally; the side with the metal connectors goes into the slot. Then, press down on the module until it snaps into place and is held firmly down by the hooks.



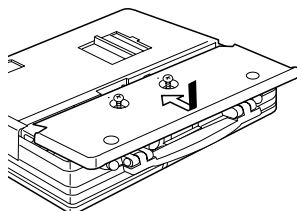
### Removal ▶



Pull the hooks on both sides outwards.



↓  
Gently remove the RAM module from the slot.



↓  
Replace the cover and tighten the two screws.



## Hard Disk Drive (For technicians at your nearest Panasonic Dealer)

◆CAUTION◆

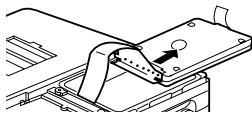
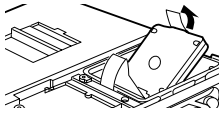
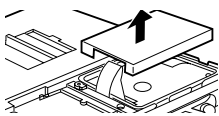
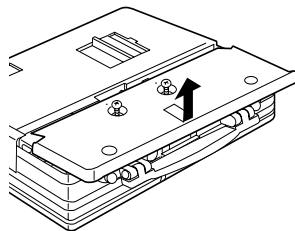
If your hard disk needs to be replaced, be sure to have it replaced at a Panasonic Service Center. If you replace the hard disk yourself and later encounter problems, Panasonic will not bear any responsibility.

The hard disk drive is extremely sensitive to shock; dropping it (not the computer) from a height of about 3 cm (1 inch) onto a hard surface can permanently damage it. Also, the internal electronic circuitry can be easily damaged by exposure to static electricity.

◆NOTE◆

Do not remove the hard disk while the computer is in the suspend or hibernation mode. In this case, data may be lost when the hard disk is removed.

### Removal ▶



Turn the computer off by pressing **Fn** and holding the power switch in the ON position simultaneously.



Turn the computer over.



Use a screwdriver to loosen the two screws located toward the front of the computer.



Remove the outer cover.



Remove the dampers protective cover.

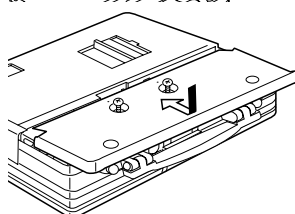
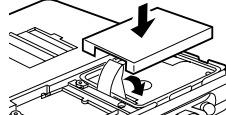
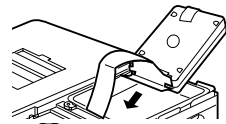
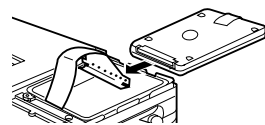


Lift out the hard disk.



Detach the cable connected to the hard disk.

### Mounting ▶



Attach a new hard disk.



Return the hard disk into the computer. Be sure that the damper does not get entangled at the bottom of the hard disk.



Place the damper protective cover back onto the computer.

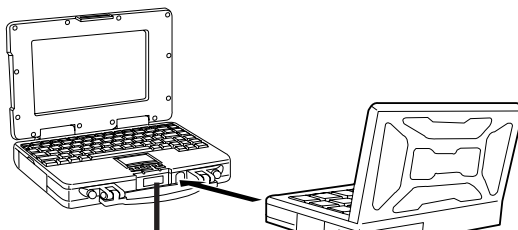


Replace the cover and tighten the two screws.



# Infrared Data Transfer

Using the computer's built-in infrared communication port (IrDA compliant), you can transfer data to and from other computers with an infrared port.

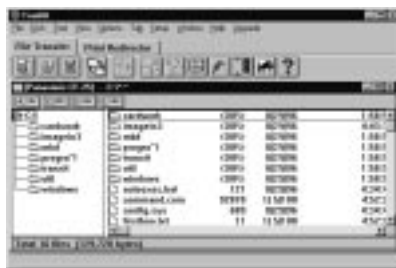


**Infrared Communication Port**

**◆NOTE◆**  
Infrared data transfer requires that the handle not be blocking the channel of communications.

**◆NOTE◆**  
Assuming two computers, it is necessary to make the appropriate settings on both computers so that the addresses of the infrared communication ports can be used. It is recommended that the distance between the two infrared communication ports is between 20 cm (0.65 feet) and 50 cm (1.64 feet).  
Data transfer may be affected if there is a TV, VCR, wireless headphone set, incandescent bulb, or stove nearby, or if the computers are in direct sunlight.

Click [Start]-[Programs]-[TranXit]-[TranXit].



TranXit can be used to perform data synchronization (updating the file and data information on both computers to the latest version) and to transfer files between two computers.

**◆NOTE◆**

- TranXit must be installed on both computers for data transfer. Also, it is necessary to assign a different "Computer Name" to each computer; use [Setup]-[Computer Name] to change the name.
- If you use TranXit software, please refer to its on-line Quick Reference Guide. (Click [Start]-[Programs]-[Panasonic]-[TranXit Quick Reference Guide].)
- Exit TranXit software before entering the suspend or hibernation mode. Start TranXit again after the computer resumes.

# Setup Utility

Follow the procedure below to specify operating environment settings (device port addresses and IRQs, passwords security, drive protection and reduced power consumption) for the computer.

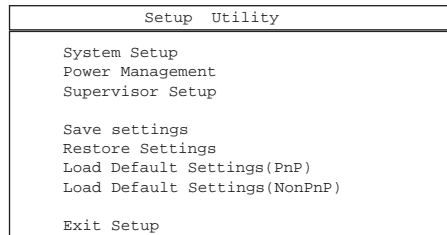
## Startup ▶

Power on.



Press [F1] when the messages "Press F1 for Setup" appear.

(These messages appear only for a few seconds. Setup utility does not run if you delay pressing [F1].)



Refer to the On-line Help.  
( Please press [F1].)

Specify your operating environment settings (device port addresses and IRQs, password security, drive protection and power consumption) and select [Save Settings].



Select [Exit Setup].

### MEMO

**Suspend Function :** When [Fn] +[F7] is pressed, this function maintains the state of the computer ( i.e., data remains on memory ) until the power is turned back on. It enables you to resume an unfinished operation immediately. The function works only when the battery pack is kept in the computer or the AC adapter is connected.

**Hibernation Function :** When the power is turned off in this mode, the data in memory is saved onto the hard disk, and when the power is turned back on, the computer is restored to the state it was in before the power was turned off. When this function is enabled, all data is saved even when no power is being supplied to the computer. When the computer is turned on, its previous state(i.e., when the power was last turned off) is displayed.

You can set the 3-type passwords in order to prevent unwanted access to your computer. (When the computer is waiting for inputting the password, the four battery indicators blink. )

**User Password :** The password when the computer starts up.

**Coffee break Password :** The password when you leave your desk for a short period. After [Alt] + [Ctrl] + [F9], [F10] , [F11] or [F12] (set by "Key Combination") are pressed, only by inputting the coffee break password can the computer resume operation. The coffee break password also serves as the user password. Therefore, set the user password first to enable the coffee break password.

**Supervisor Password :** The password to protect what has been registered for "Supervisor Setup".

### NOTE

- Before attempting to remove or install a RAM module, multimedia pocket or port replicator etc. disable the hibernation function.
- The system may not recognize a mouse, modem, PC card, IrDA or other serial devices when its power is turned back on, after the system had been in the suspend or hibernation mode. In this case, re-initialize the device or computer.
- When using the touch pad or external mouse (serial or PS/2 type), do not enter the suspend or hibernation mode. The next time the computer resumes, it may not be possible to use these devices.
- Do not press the power switch or enter the suspend or hibernation mode while the hard disk or MP indicator is on since the computer is still accessing the drive.
- The suspend and hibernation functions cannot be used under an operating system other than Windows 95 or when diagnostics program (DIAG25) or Setup utility has been started.
- Do not use the suspend or hibernation function when an application program which uses the CD has been started. Instability in operation may result.
- If the system enters the suspend or hibernation mode upon pressing [Shift], the state of the keyboard remains with pressing [Shift] when the system resumes. In this case, press [Shift] again and release it.

# Diagnostics Program (DIAG25)

Follow the procedure below to check whether each part of your computer is operating properly.

Set "Power Saving" to "OFF" in the Setup utility.



Insert the "Firstaid FD" into the floppy disk drive and restart the computer.



Type the following:

DIAG25 

```
1 Boot
2 Restore HDD to factory default(Beginners)
3 Restore HDD to factory default(Advanced)
```

```
A:\WINDOWS\COMMAND>
```

## Error Codes

If a problem occurs with your hardware, a POST Start up Error(s) is displayed along with an error code(s), follow the on-screen instructions.

**Setup:** Setup utility (→P.24) is started. Run [Load Default Settings (PnP)].

The Setup Utility must be run again to input the appropriate operating environment settings.

**Exit:** Ignore the error message(s), and restart the computer.

Code	Description	Description
062	Boot failure--default configuration used	Default configuration in use
101	System Board Failure	Interrupt controller failure
102	System Board Failure	Timer 2 test failure
106	System Board Failure	Diskette controller failure
114	Adapter ROM Error	Adapter ROM checksum error
151	System Board Failure	Real-time clock failure
161	Bad CMOS Battery	Dead battery
162	Configuration Change Has Occurred	Configuration error
162	Configuration Error	CMOS checksum error
163	Date and Time Incorrect	Real-time clock is not updating
173	Configuration Change Has Occurred	ROM configuration has changed
177	The security passwords have been corrupted	Password is corrupted (CMOS RAM is broken)
201	Memory Size Error	Memory size/data error
301	Keyboard Error	Keyboard failure
303	Keyboard Error	Keyboard controller failure
604	Diskette Drive Error	Diskette drive 0 failure
605	Diskette Drive Error	Diskette unlocked problem
1780	Hard Disk Error	Fixed disk 0 failure
1800	PCI Error	No more IRQs available
1801	PCI Error	No more room for optional ROM
1802	PCI Error	No more I/O space available
1803	PCI Error	No more memory (above 1 MB) available
1804	PCI Error	No more memory (below 1 MB) available
1805	PCI Error	Checksum error or 0 size optional ROM
8601	Pointing Device Error	Pointing device failure
I9990301		Hard disk failure
I9990305		An operating system could not be found

# Dealing with Problems

Read this section if your computer is not operating properly. Note that some problems may be caused by the software in your system. If you are ultimately unable to correct a problem, consult your nearest Panasonic dealer.

## Startup ▶

Power does not come on.



- Is the AC adapter plugged into the power supply connector of the computer and an AC outlet?
- Is the battery pack sufficiently charged and mounted correctly?
- Does the computer operate normally after it has been restarted by pressing the reset button?

Nothing appears on the display screen.



- If the low power consumption function has caused the display to dim, pressing the space bar will restore it.
- Have you selected an external display using the Setup utility?
- Adjust screen brightness. (⇒P.7)

Can't remember password.



Consult your nearest Panasonic dealer.

"Post Start Up Error(s)" is displayed.



Refer to "Error Codes" (⇒P.25).

Memory counting speed is very slow.  
Windows start up and processing speed is very slow.



Run "Load Default Settings (PnP)" in the Setup utility. This will restore the Setup utility's settings to their default values (except the password settings), then the Setup utility must be run once again for you to input the appropriate operating environment settings. (The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.)

## During operation ▶

Date or time display is incorrect.



- Use [Control Panel] in Windows 95 or the DATE and TIME commands in the MS-DOS mode to set the date/time to their proper values. If problems persist, consult your nearest Panasonic dealer.
- The clock battery (lithium battery) may be running low on power. Consult your nearest Panasonic dealer.

Computer stops working.



If you are running the computer off the battery pack, the battery may be out of power. Connect the AC adapter.

Red battery indicator lights.  
Repeated beeps sound while the computer is in use.



The battery power is low. Save your data and turn off the computer, and then replace or recharge the battery pack.

Red battery indicator lights and a beep sounds.



The battery temperature has risen due to the electrical discharge caused by a large load. Connect the AC adapter, set the power-saving function, and turn down the brightness of the display.

Red battery indicator flashes on and off.



Are the AC adapter and battery pack both correctly connected? If the red indicator flashes even after reconnecting them, consult your nearest Panasonic dealer.

The battery indicator remains red for a long time.



Fully charge the battery pack, switch on the computer, disconnect the AC adapter, and allow the battery pack to discharge completely.

The POWER indicator becomes orange and the CPU processing speed drops.



The CPU processing speed will slow automatically to protect the CPU from overheating. The CPU will return to its normal processing speed once it has cooled.

**Display ▶****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.

**The motion of a mouse cursor is not smooth.**

Click [Start]-[Settings]-[Control Panel]-[Mouse]-[Motion] and check [Show pointer trails].

**Drives ▶****Cannot access floppy disk drive.**

- Is the floppy disk drive properly installed?
- Has the floppy disk been inserted correctly?
- Has the floppy disk been correctly initialized?
- Has the Setup utility been used to disable the floppy disk drive?

**Cannot write to floppy disk.  
Cannot format floppy disk.**

- Is the floppy disk write-protected?
- Did you enter the correct command and parameters?

**Cannot access hard disk drive.**

Consult your nearest Panasonic dealer.

**Peripheral equipment ▶****Printer does not work.**

- Is the cable connected properly?
- Is the printer powered on?
- Is the printer on-line?
- Has the Setup utility been used to set "Parallel Port (Address)" to "Automatic (PnP)", "378" or "3BC"?

**External mouse or trackball connected to the serial port does not work.**

- Is the cable connected properly?
- Is the mouse's device driver running? Refer to the manual accompanying your mouse.
- Is the mouse connected to both the serial port and the ext. mouse/keyboard port?
- Has the Setup utility been used to set "Internal Pointing Device" to "Disable"?

**External mouse or trackball connected to the PS/2 port does not work.**

In some circumstances, if a PS/2 external mouse with a serial interface conversion function is connected to the port, it may not operate normally. Connect it to the serial port.

**PC cards cannot be used.**

- Check the orientation of the card, and make sure it is firmly in place.
- Use only specified cards.
- It is necessary to update drivers to Windows 95. Contact the card manufacturer.
- Be sure to reboot the computer after installing a PC card driver or other device drivers.
- Check the I/O port used by the PC card.
- When the PC card cannot be used after the computer resumes from the suspend or hibernation function, remove the PC card, then install it again.

**The RAM module cannot be used.**

Check the orientation of the card, and make sure it is firmly in place.

# Reinstalling Windows

If the situation calls for a reinstallation of Windows, please follow the instructions below. The CD-ROM pack (CF-VCD252) and the FDD cable(CF-VCF351) are needed for the following reinstallation procedure.

## ◆CAUTION◆

- Prepare the 6 floppy disks [Firstaid FD (1), Panasonic Tools Disk (1), CardWorks Installation Disk (1), TranXit Disk (2), Drivers Disk (1)] that you saved as backup.
- Please be aware of the following:
  - All data in your computer will be lost. Be sure to back up all files before proceeding.
  - Remove all external devices: the ports/connectors must be free. Also remove all PC cards from their slots.

- ① With the power off, insert the "FirstaidFD" into the drive. Then, turn the power on.
- ② The following screen will appear:
  1. Boot
  2. Restore HDD to factory default(Beginners)
  3. Restore HDD to factory default(Advanced)

Select option 1.

- ③ Type the following:  
A:\up\windows\command\Setup25 /F

- ④ The following screen will appear:
  1. Boot
  2. Restore HDD to factory default(Beginners)
  3. Restore HDD to factory default(Advanced)

**<For Beginners (Returning to near-factory default settings)>**

Select option 2.

From this point on, follow the instructions on the display.

The computer will be restarted several times during the reinstallation process. When an indication appears on the screen after a restart, select option 2.

**<For Advanced Users (Returning drive C to its default condition)>**

## ◆CAUTION◆

This is possible when the hard disk is partitioned. If the hard disk is compressed, please uncompress it.

Select option 3.

- ⑤ When your computer asks you to insert the "Panasonic Tools FD", Please do so. (It will then ask you to reinsert the "Firstaid FD"; simply follow the instructions).
- ⑥ Insert the Windows95 CD-ROM when instructed. Follow the instructions on the display. (Note: This step takes approximately one hour.)

## ◆NOTE◆

- For each selection, choose the default setting.
- Be sure to select "Sound, MIDI or Video Capture Card" from the "Analyzing Your Computer" screen during the installation.
- Have a blank floppy disk ready and use it to create a Startup Disk. After creating the Startup Disk, remove it from the drive. And then, insert the "Firstaid FD" and click [OK].

- ⑦ Click [Finish] when the Windows 95 Setup has finished.
- ⑧ Click [Close] on the Time Zone Screen.
- ⑨ Select [Cancel] on the printer setup screen.
- ⑩ Click [OK] to restart the computer. The system reboots automatically.
- ⑪ Click [Close] on the Welcome screen.
- ⑫ After reinstallation, click [Control Panel]-[Power]-[Disk Drives]. Clear both [When powered by AC power:] and [When powered by batteries:] check boxes. Click [OK].
- ⑬ Click [Control Panel]-[System]-[Device Manager]. Remove all items from "Ports (COM&LPT)" and "Sound, video and game controller". If the message to restart Windows while deleting them, click [No]. Then insert the "DRIVERS DISK" into the drive.







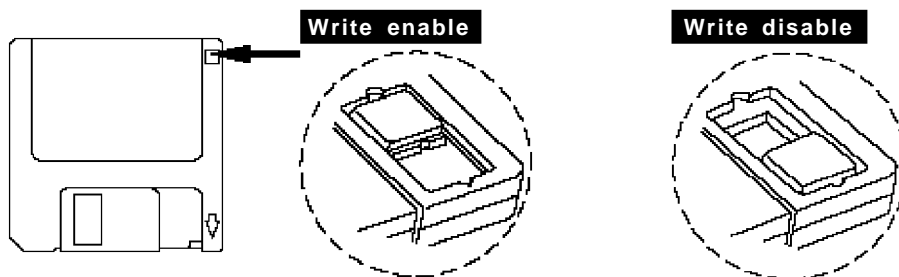
# Floppy Disk Drive

## Compatible floppy disks ▶

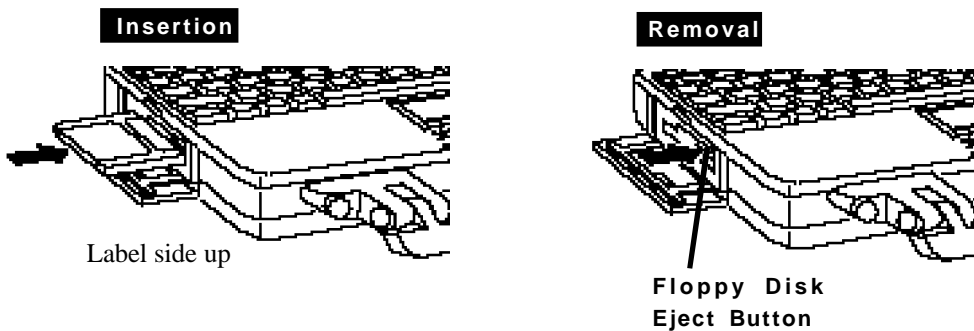
Type	Data recording density	Data recording capacity
2HD (Double sided, High density, Double track)	High	1.44 MB
2DD (Double sided, Double density, Double track)	Low	720 KB

## Preventing accidental erasure of data ▶

Set the tab to write protect to prevent your data from being erased or overwritten accidentally.



## Inserting and removing floppy disks ▶



### ◆NOTE◆

Handling a disk in the following ways can cause data to become corrupted or can result in the disk becoming stuck in the drive.

- Sliding the shutter on the 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.

# Hardware Technical Data

To install expansion cards in the computer, follow the procedure below to obtain an address map. The, select values for the interrupt level (IRQ), I/O port address and memory range and DMA channel that are not being used.

## Displaying an address map ►

- ① Select [Start]-[Settings]-[Control Panel]-[System].
- ② Select [Device Manager].
- ③ Click [Properties].

## Printing an address map ►

- ① Select [Start]-[Settings]-[Control Panel]-[System].
- ② Select [Device Manager].
- ③ Click [Print].
- ④ Click the [System Summary] box and then click [OK].

The standard I/O addresses are listed below.

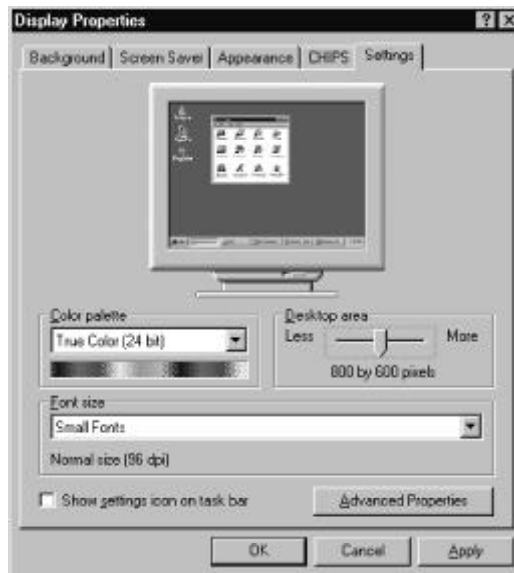
0000H	-	00FFH (System Board)
x1F0H	-	x1F7H (Hard disk drive)
x220H	-	x22FH (Sound controller)
x2F8H	-	x2FFH (Infrared communication port)
x378H	-	x37FH (Parallel port)
x388H	-	x38BH (FM synthesizer)
x3B0H	-	x3BBH (Display controller)
x3C0H	-	x3DFH (Display controller)
x3E0H	-	x3E3H (PC card controller)
x3F0H	-	x3F7H (Floppy disk drive)
x3F8H	-	x3FFH (COM port)

An "X" at the beginning of an address indicates that the address cannot be used, regardless of its value.

# Display Properties

The display resolution, number of colors, etc. can be set as followings.

- ① Select [Start]-[Settings]-[Control Panel].
- ② Select [Display].
- ③ Select [Settings].



- ④ Set [Color palette], [Desktop area] and [Font size], and click [OK].

◆NOTE◆

The monitor setting can be changed by selecting [Advanced Properties].

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# Specifications

Model No.	CF-25FJF4DAM
CPU	Pentium® Processor (150 MHz, 2.9 V)
Cache Memory	Internal Cache : 16 KB External Cache : 256 KB
LCD	12.1" Non Glare Active Matrix (TFT) 800 X 600
VRAM	2 MB
Memory	16 MB (Expandable to 48 MB)
Floppy Disk Drive	1.44 MB (Double-sided, High-density, Double track) 720 KB (Double-sided, Double-density, Double track)
Hard Disk Drive* <sup>1</sup>	2 GB* <sup>2</sup> (16 msec / Enhanced IDE)
Sound	16 bits 44.1 kHz
Speaker	Mono Speaker (built in)
Keyboard	Windows 95 Keyboard (87keys)
Pointing Device	Touch Pad
Indicator	LED X 8 (Battery, Power, CapsLock, NumLk, ScrLk, Key Pad, MP, HD)
Slots	PC (PCMCIA) Card Slots: 3 Slots for Type I or II / 1 Slot for Type III (supports ZV Port (bottom slot)), Output current limit: 3.3 V: 400 mA, 5 V: 400 mA, 12 V: 120 mA Expansion RAM Slot, Multimedia Pocket Slot
Ports	Parallel Port: Dsub 25-pin female Serial Port: Dsub 9-pin male Ext. Display Port: Mini Dsub 15-pin female Ext. Mouse / Keyboard Port: Mini DIN 6-pin female Expansion Bus Port: Dedicated 80-pin female Headphone Connector: Stereo output (Miniature jack, 3.5 DIA) Impedance 32 Ω Output power 4 mW (impedance 32 Ω) X 2 DC-IN Connector: Mini jack Infrared Communication Port: IrDA compliant (Speed: 115,200 bit/sec)
Battery	Battery Pack: Ni-MH (Nickel Metal Hydride) rechargeable battery pack, 9.6 V, 3600 mAh Operating Time : 2.0-3.2 hours (Depending on the conditions) Charging Time : Power on : approx. 4.5 hours* <sup>3</sup> Power off : approx. 2.2 hours* <sup>3</sup> Clock Battery: Coin type lithium battery, 3.0 V Operating Time: approx. 10 years
Power Saving	Suspend function, Hibernation function, Standby function
Software	Operating Environment: Microsoft® Windows® 95 (pre-installed) Utility Programs: Setup, Diagnostics, CardWorks™, TranXit™
AC Adapter	100 - 240 V AC 50 / 60 Hz Auto Sensing / Switching 15 V DC, 2.6 A
Security	Password function (Supervisor Password, User Password, Coffee break Password)
Physical Dimensions (Width X Height X Depth)	299 mm (11.8") X 59 mm (2.3") X 237 mm (9.3") (Not including protrusions)
Weight	3.5 kg (7.7 lbs) + handle 0.2 kg (0.4 lbs)
Environment (Temperature/ Humidity range)	Operating: 5 °C to 35 °C (41 °F to 95 °F) / 30 % to 80 % RH (no condensation) Storage: -20 °C to 60 °C (-4 °F to 140 °F) / 30 % to 90 % RH (no condensation)

\*<sup>1</sup> The hard disk drive contains a partition (approx. 90 MB) for system use.

\*<sup>2</sup> 1 GB = 10<sup>9</sup> bytes

\*<sup>3</sup> These values serve only as guidelines.

Model No.	CF-25EGC4DAM
CPU	Pentium® Processor (133 MHz, 2.9 V)
Cache Memory	Internal Cache : 16 KB External Cache : 256 KB
LCD	10.4" Non Glare Active Matrix (TFT) 800 X 600
VRAM	2 MB
Memory	16 MB (Expandable to 48 MB)
Floppy Disk Drive	1.44 MB (Double-sided, High-density, Double track) 720 KB (Double-sided, Double-density, Double track)
Hard Disk Drive* <sup>1</sup>	1.44 GB* <sup>2</sup> (16 msec / Enhanced IDE)
Sound	16 bits 44.1 kHz
Speaker	Mono Speaker (built in)
Keyboard	Windows 95 Keyboard (87keys)
Pointing Device	Touch Pad
Indicator	LED X 8 (Battery, Power, CapsLock, NumLk, ScrLk, Key Pad, MP, HD)
Slots	PC (PCMCIA) Card Slots: 3 Slots for Type I or II / 1 Slot for Type III (supports ZV Port (bottom slot)), Output current limit: 3.3 V: 400 mA, 5 V: 400 mA, 12 V: 120 mA Expansion RAM Slot, Multimedia Pocket Slot
Ports	Parallel Port: Dsub 25-pin female Serial Port: Dsub 9-pin male Ext. Display Port: Mini Dsub 15-pin female Ext. Mouse / Keyboard Port: Mini DIN 6-pin female Expansion Bus Port: Dedicated 80-pin female Headphone Connector: Stereo output (Miniature jack, 3.5 DIA) Impedance 32 Ω Output power 4 mW (impedance 32 Ω) X 2 DC-IN Connector: Mini jack Infrared Communication Port: IrDA compliant (Speed: 115,200 bit/sec)
Battery	Battery Pack: Ni-MH (Nickel Metal Hydride) rechargeable battery pack, 9.6 V, 3600 mAh Operating Time: 2.0-3.2 hours (Depending on the conditions) Charging Time : Power on : approx. 4.5 hours* <sup>3</sup> Power off : approx. 2.2 hours* <sup>3</sup> Clock Battery: Coin type lithium battery, 3.0 V Operating Time: approx. 10 years
Power Saving	Suspend function, Hibernation function, Standby function
Software	Operating Environment: Microsoft® Windows® 95 (pre-installed) Utility Programs: Setup, Diagnostics, CardWorks™, TranXit™
AC Adapter	100 - 240 V AC 50 / 60 Hz Auto Sensing / Switching 15 V DC, 2.6 A
Security	Password function (Supervisor Password, User Password, Coffee break Password)
Physical Dimensions (Width X Height X Depth)	299 mm (11.8") X 59 mm (2.3") X 237 mm (9.3") (Not including protrusions)
Weight	3.3 kg (7.3 lbs) + handle 0.2 kg (0.4 lbs)
Environment (Temperature/ Humidity range)	Operating: 5 °C to 35 °C (41 °F to 95 °F) / 30 % to 80 % RH (no condensation) Storage: -20 °C to 60 °C (-4 °F to 140 °F) / 30 % to 90 % RH (no condensation)

\*<sup>1</sup> The hard disk drive contains a partition (approx. 90 MB) for system use.

\*<sup>2</sup> 1 GB = 10<sup>9</sup> bytes

\*<sup>3</sup> These values serve only as guidelines.



For LCD

Resolution (Pixels)	Color	LCD	Refresh Rate (Hz)	
			CRT (Max.)	LCD/SIM
640 x 480	256 High Color (16 bits) True Color (24 bits)	The screen is displayed in the center of LCD.	85	CRT is also displayed as the same size as LCD.
800 x 600	256 High Color (16 bits) True Color (24 bits)	Full screen		
1024 x 768	256 High Color (16 bits)	Part of the display may exceed the boundaries. (The screen can be scrolled by moving the cursor to the edges of the display.)		

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### Customer's Record

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



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

**Outline of the International ENERGY STAR Office Equipment Program**

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.

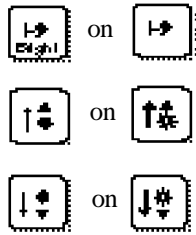
# Supplementary Instructions

This manual contains supplementary instructions regarding the use of the computer. It explains the cases where the operation of the computer differs from that in the Operating Instructions.

## Check List ( "Operating Instructions" P.2)

For CF-25FVF4DAM model only ▶

Please affix the function seal that is supplied on the keyboard.



## Names and Functions of Parts

( "Operating Instructions" P.6,7)

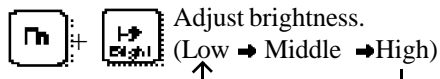
For CF-25FVF4DAM model only ▶

The following functions are added.

- Display contrast adjustment



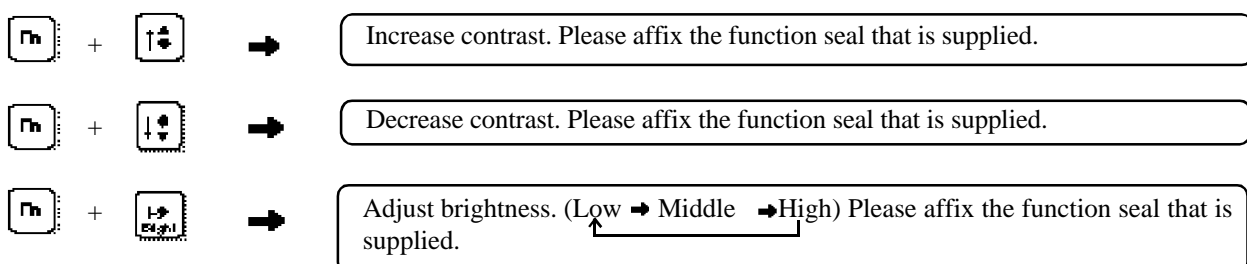
- Display brightness adjustment



## Keyboard and Touch Pad ( "Operating Instructions" P.10)

For CF-25FVF4DAM model only ▶

The following key combinations for accessing special functions are added.



# Battery Power

(☞ "Operating Instructions" P.12~17)

The battery has been changed. Please refer to the following about the battery.

## Battery Status

Use the Battery Indicator to Check on the Battery Status (☞ P.3)

Battery Indicator	Battery Status
Orange*	Charging
Green*	Fully-charged
Red	Battery charge is low (the charge is less than approx. 9% capacity)
Blinking red*	Battery pack or charger may not be working properly. Check your connections. If the problem persists, consult your nearest Panasonic dealer.
Blinking orange for 5 seconds after the AC adapter is connected*	Unable to recharge due to violation of temperature limits (☞ P.3)
Blinking orange**	Refreshing
Blinking green**	Refreshing required

\* When the AC adapter is connected, you must wait a few seconds before the LED indicator turns on.

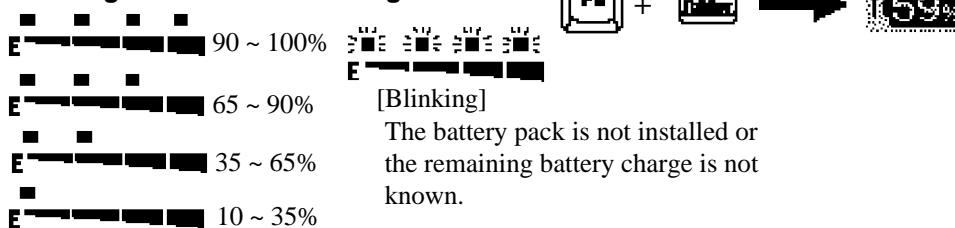
\*\* Only using the Ni-MH battery pack (CF-VZS250A or CF-VZS252).

### NOTE

#### When using the optional CD-ROM pack:

Recharging is temporarily stopped when the drive is being accessed. In the case, the battery indicator goes off temporarily. In addition, recharging is temporarily discontinued when the CD-ROM autoplay function is enabled. For more information, please read the operating instructions that is supplied with the CD-ROM pack.

#### ● Getting a detailed reading



### NOTE

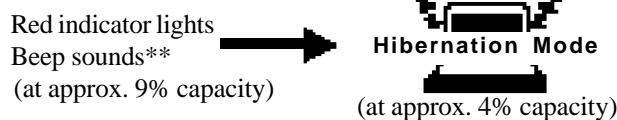
- When the battery indicator remains red (or a 99% reading is displayed) for an extended period of time, the actual remaining battery level and the displayed level may differ. Should this occur, charge the battery until the indicator is green, then completely discharge the battery.
- When the battery pack is not in the computer, is displayed.

## When the Remaining Battery Charge Becomes Low

### Perform the following:

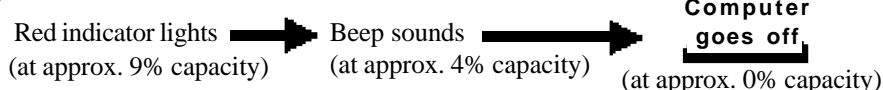
- Plug in the AC adapter, and fully charge your battery.
- Use a spare battery if you have one.
- If you have neither the AC adapter nor an extra battery, power the computer off or do not power on.

#### ● If the hibernation function is set



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

#### ● If the hibernation function is not set



## 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 heat.
  - Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.
  - Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform, disassemble, or modify it.
  - Do not short the positive (+) and negative (-) contacts.
  - The battery pack is a rechargeable battery intended for use with the CF-25 series or the specified charger (CF-VCB251A). Do not use 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.
- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery to water, or allow it to become wet.
- Do not put the battery into a microwave oven or a pressurized chamber.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity.
- Should the battery leak and some of the fluid gets into your eyes, do not rub your eyes. Immediately flush your eyes with clear water and see a doctor for medical treatment as soon as possible.
- Should the battery emit an abnormal odor, become hot to the touch, become discolored, change shape, or become in any way different from normal, remove it from the unit or charger and discontinue use.
- If the battery pack will not be used for a long period of time (a month or more), charge the battery pack until the remaining battery level becomes 30% to 50% and store it in a cool, dry place.

### NOTE

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence outside of the allowable temperature range (0 °C to 35 °C (32°F to 95 °F)). To allow the battery to charge, adjustments have to be made to the temperature. Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions. (Recharging takes longer than usual when the temperature is 10 °C (48 °F) or less.)
- If the temperature is low, the operating time is shortened. Therefore, please use the computer within the allowable temperature range.
- Although the battery has not begun to run down, the battery indicator may light up red or emit a beep. This indicates a significant rise in the temperature of the battery pack. This is typically caused by the fact that the battery pack has been delivering a high level of power because the computer has been used with the display at the brightest setting and with the power-saving function off. In order to protect the battery pack from temperature rises, connect the AC adapter, set the power-saving function, and turn down the brightness of the display. If power discharge continues for 5 minutes or more while the battery pack's temperature remains high, the computer automatically turns itself off.
- When disabling the speaker using [System Setup] in the Setup Utility, the battery low warning beep is also disabled.

## Replacing the Battery Pack

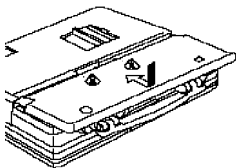
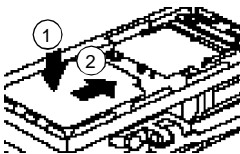
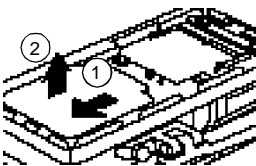
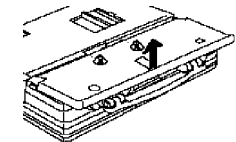
When the charge provided by your battery pack is supplied for only a short period of time, even after fully charging according to the instructions, it may be time to replace your battery pack. The battery pack is a consumable item and therefore will require replacement [Ni-MH (CF-VZS250A) or Li-Ion (CF-VZS251)].

- 1 Power off your computer** (☞ p.9)  
Do not shut down using the suspend mode.

### CAUTION

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

- 2 Loosen the screw, and then take off the cover**  
Turn your computer over. Then, loosen the screw with a screwdriver and remove the cover.



- 3 Taking out the battery pack**

- Slide the battery pack toward the outside edge.
- Lift the battery pack.

### Inserting a battery pack

- Drop a new battery pack into the computer.
- Slide the battery pack inward until it is firmly in place.

- 4 Put the cover back into place and then fasten the screw**

### NOTE


- Besides the AC adapter (CF-AA1526) an optional battery charger (CF-VCB251A) is available. This device is convenient in that it allows you to charge another battery pack while you are using the computer.



- Using the Ni-MH battery pack (CF-VZS250A or CF-VZS252)\***

**Battery refreshing** involves power discharging and recharging (the latter only if the AC adapter is connected.) Follow the instructions below to execute the battery refresh tool after the battery becomes fully charged. The battery refreshing time ranges between three and twelve hours, depending on the state of the battery.

- Restart the computer in the MS-DOS mode.
- Type the following at the MS-DOS prompt.

```
battref 
```


- A verification message will appear. Press **Y**. The computer is automatically rebooted.
- Press any key to start discharging the battery. Leave the computer on until the power indicator goes off, even if the screen goes off.
- When the power indicator goes off, battery charging commences automatically. If the AC adapter is not connected, connect it to charge the battery fully.

When charging a completely discharged battery, ensure the proper refresh effect by leaving the AC adapter plugged in until the battery indicator changes to green (which indicates a complete recharge). The battery indicator becomes orange (charging mode) quite quickly, but charging is not performed for the first one hour in order to increase the charging efficiency.

\* Battery refreshing is not needed when using the Li-Ion battery pack.





**For LCD** (  "Operating Instructions" P.38)

**For CF-25FXF4DAM model only** ▶

Resolution (Pixels)	LCD	SIM	CRT [Refresh Rate (Hz)]
640 x 480			16 (60/75/85) 256 (60/75/85) High Color (60/75/85) True Color (60/75/85)
800 x 600			16 (56/60/75/85) 256 (56/60/75/85) High Color (56/60/75/85) True Color (56/60)
1024 x 768			16 (60/75/85) 256 (60/75/85) High Color (60)

**For CF-25FVF4DAM model only** ▶

Resolution (Pixels)	LCD	SIM	CRT [Refresh Rate (Hz)]
640 x 480			16 (60/75/85) 256 (60/75/85) High Color (60/75/85) True Color (60/75/85)
800 x 600			16 (56/60/75/85) 256 (56/60/75/85) High Color (56/60/75/85) True Color (56/60)
1024 x 768			16 256 High Color Part of the display may exceed the boundaries. (The screen can be scrolled by moving the cursor to the edges of the display.)