

SONY

Sony Notebook Computer
User Guide

VAIO

Notice to Users

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Safety Information

Owner's Record

The model number and serial number are located on the bottom of your Sony Notebook Computer. Record the serial number in the space provided here. Refer to the model and serial number when you call VAIO Link.

Model Number: PCG-C1F

Serial Number: _____

WARNING

- Opening the unit, for whatever reason, could lead to damages that are not covered by the guarantee.**
- To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**
- Audio and picture distortion may occur if this equipment is positioned in close proximity to any equipment emitting electromagnetic radiation.
- To prevent fire or shock hazard, do not expose your Sony Notebook Computer to rain or moisture.
- Never install modem or telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations
- Never touch uninsulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using the modem during an electrical storm.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.
- Use your notebook only with the supplied AC adapter. To disconnect your notebook completely from mains voltage, unplug the AC-adapter.
- Please make sure that the socket outlet is easily accessible.

Regulatory Information

This product conforms with the following European Directives:
73/23/EEC (Low Voltage Directive)
89/336/EEC, 92/31/EEC (EMC Directive)
93/68/EEC (CE-Marking Directive)

This product complies with EN 55022 Class B and EN 50082-1 for use in following areas: residential, business and light-industrial.

This product has been tested and found to comply with the limits set out in the EMC Directive for using connection cables shorter than 3 metres (9,8 feet).



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

The International ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and their 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. Energy Star is an U.S. registered mark.

DISPOSAL OF LITHIUM ION BATTERY.

- ! **Do not handle damaged or leaking lithium ion batteries.**
- ! **Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**
- ! **The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 212° (100°C) or incinerate. Dispose of used battery promptly. Keep away from children.**
- ! **Your notebook is equipped with an internal backup memory battery. For changing this battery, please contact VAIO Link.**



In some areas the disposal of lithium ion batteries in household or business trash may be prohibited. Please use the public collection system. Dispose of properly at end-of-life.

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Welcome

Congratulations on your purchase of the Sony VAIO® PCG-C1F Notebook Computer. Sony has combined leading-edge technology in audio, video, computing, and communications to provide you with state-of-the-art personal computing.

Here are just some of the features your Sony Notebook Computer has to offer (read the details in your *About Your Sony Notebook Computer* guide):

- ❑ **Exceptional performance** –Your PC includes a fast Intel® Pentium® processor with MMX™ technology.
- ❑ **Portability** – The rechargeable battery pack provides hours of use without AC power. See “To charge the battery pack” on page 17 for specific information on your model.
- ❑ **Sony audio and video quality** – High-quality MPEG1 video, which supports full-screen display (8.9" Ultra Wide XGA TFT Color) and enables you to take advantage of today’s advanced multimedia applications, games, and entertainment software.
- ❑ **Windows® 98** –Your system includes the latest operating system from Microsoft.
- ❑ **Communications** – Access popular online services, send and receive e-mails, browse the Internet, and use the fax features.
- ❑ **Excellent customer support: VAIO Link** – If you have some problems with your computer, you can contact VAIO Link by telephone, fax or E-mail (see your *Customer Service Guide* for numbers and addresses). Before calling VAIO Link, try to solve the problem by reading your User Guide (troubleshooting chapter) or the manuals and helpfiles of the peripherals or software.

About the User Guides

This User Guide offers a quick introduction and reference to your Sony Notebook computer.

- ❑ **Using Your VAIO Notebook Computer** shows you how to use the standard components of your system.
- ❑ **Connecting Peripheral Devices** explains how you can add functionality by connecting various peripherals.
- ❑ **Getting Help** explains the support options available to you, and offers basic troubleshooting tips.
- ❑ **Notes on Use** provides facts and advice about using your notebook computer.

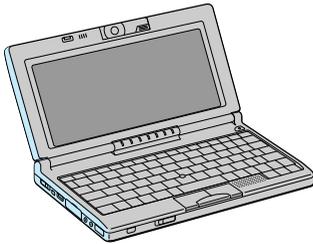
Refer to your **Software Guide** for information about the bundled software and the Sony applications:

- ❑ **About the Software** is a short description of the features of the software pre-installed on your system
- ❑ **Customizing your notebook** explains you how to set your system and power management with Sony Notebook Setup, PPK Setup, PowerPanel, BatteryScope...
Learn how to set your display with NeoMagic and enjoy the Dual Screen Display option.
- ❑ **Using the Digital Media Park** gives you a brief description on the audio and video user-friendly interface of Sony.
- ❑ **Specifications** of your computer, drivers and accessories.

On-line *User Guides* are included with your computer as electronic documents.

Unpacking Your Notebook Computer

Remove the following hardware items from the box:



Main unit

Product recovery
CD-ROM



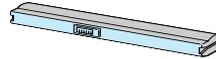
Manuals



Floppy disk drive
and cable



Rechargeable battery pack



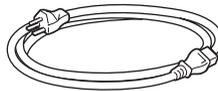
Spare Stick covers



AC adapter



Power cord



VGA adapter



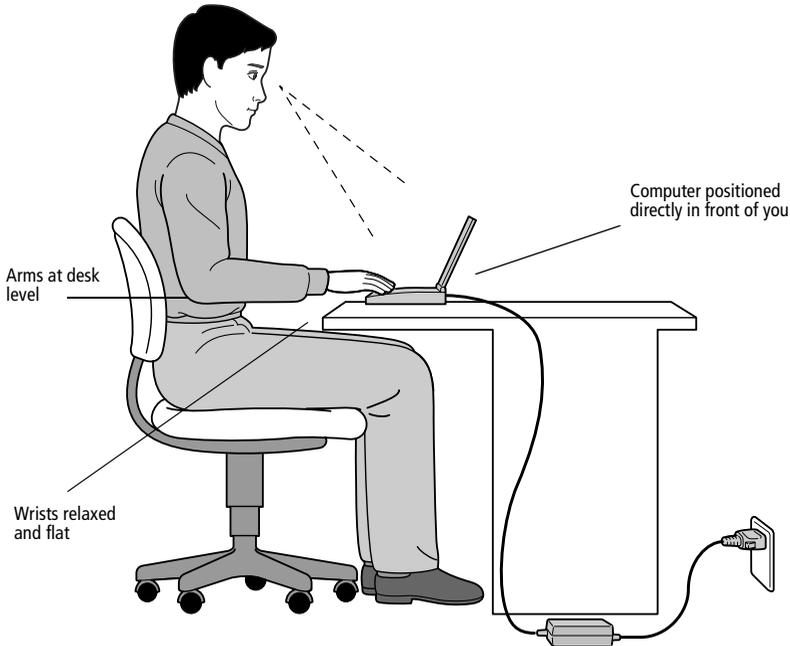
! To use the Product Recovery CD, you need to connect the optional PCGA-CD5 CD-ROM drive.



According to the type of Sony Notebook you purchased, the PCGA-CD5 CD-ROM driver, the COM1 PC card modem (and accessories) are optional. However, you need to have these peripherals to enjoy some of the features described in this manual.

Ergonomic Considerations

You will be using your notebook computer as a portable device in a variety of environments. Whenever possible, you should attempt to apply the following ergonomic considerations to both stationary and portable environments.



- ❑ **Position of your computer** – Place the computer directly in front of you as you work. Keep your forearms horizontal, with your wrists in a neutral, comfortable position while using the keyboard, pointing device, or external mouse. Let your upper arms hang naturally at your sides. Take breaks during sessions with your computer. Excessive use of the computer may strain muscles or tendons.
- ❑ **Furniture and posture** – Sit in a chair with good back support. Adjust the level of the chair so your feet are flat on the floor. A footrest may make you more comfortable. Sit in a relaxed, upright posture and avoid slouching forward or leaning far backward.
- ❑ **Viewing angle of the computer's display** – Use the display's tilting feature to find the best position. You can reduce eye strain and muscle fatigue by adjusting the tilt of the display to the proper position. Adjust the brightness settings of the display also.

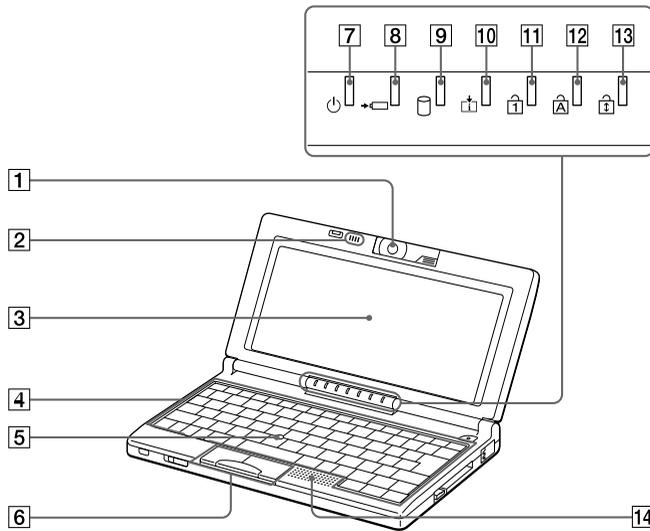
- ❑ **Lighting** – Choose a location where windows and lights do not create glare and reflection on the display. Use indirect lighting to avoid bright spots on the display. You can also purchase accessories for your display that help reduce glare. Proper lighting adds to your comfort and work effectiveness.
- ❑ **Placement of an external display** – When using an external display, set the display at a comfortable viewing distance. Make sure the display screen is at eye level or slightly lower when you are sitting in front of the monitor.

Using Your Notebook Computer

This section describes how to start using your computer and how to use your computer's internal and external devices, such as the pointing device and the floppy disk drive.

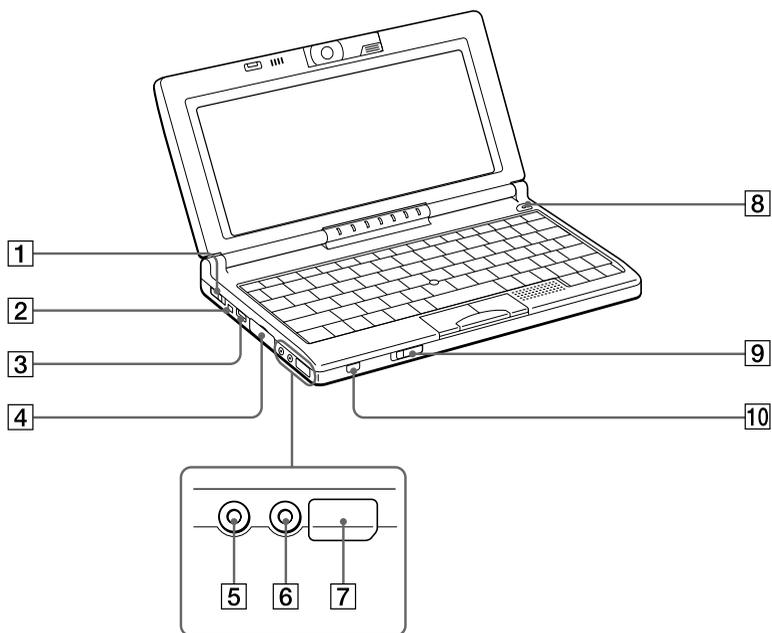
Locating the Controls and Connectors

Front



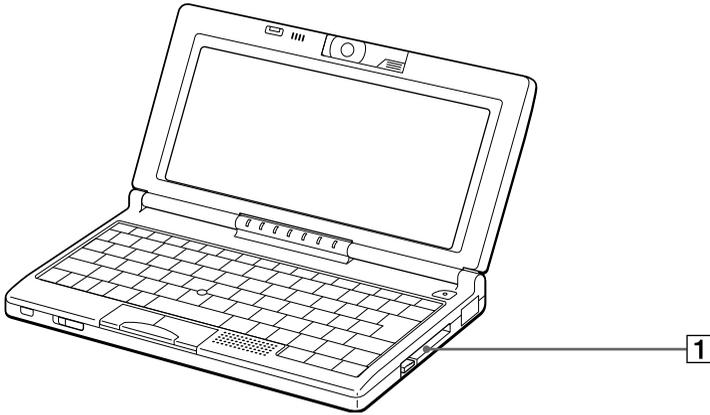
- | | |
|--|--|
| 1 Built-in camera (Motion Eye) | 8  Battery indicator |
| 2 Microphone | 9  Hard Disk Drive indicator |
| 3 LCD screen | 10  Information indicator |
| 4 Keyboard | 11  Num Lock indicator |
| 5 Pointing device | 12  Caps Lock indicator |
| 6 Left/Center/Right button | 13  Scroll Lock indicator |
| 7  Power indicator | 14 Speaker |

Left



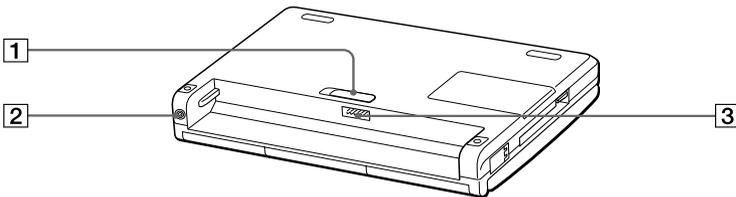
- | | | | |
|----------|---------------------------------|-----------|--------------------------------|
| 1 | ⏻ Power switch | 6 | 🎧 Headphone connector |
| 2 | 200 i.LINK (IEEE1394) (page 48) | 7 | 🔴 Infrared port |
| 3 | 🔌 USB connector (page 47) | 8 | 📷 CAPTURE button |
| 4 | 📺 Monitor connector | 9 | 🔒 LCD lock lever |
| 5 | 🎤 Microphone connector | 10 | ⌨ Programmable Power Key (PPK) |

Right



- 1** PC card slot

Bottom



- 1** Battery release lever

- 3** Battery connector

- 2** DC In connector



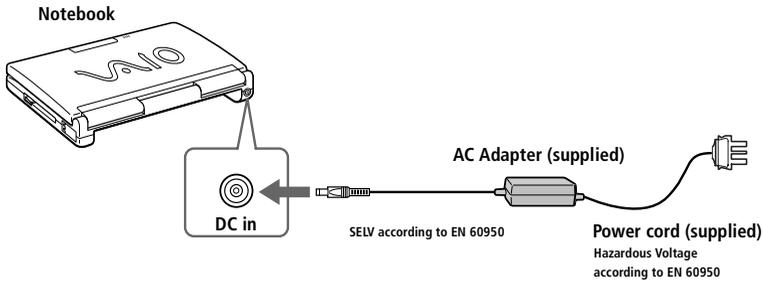
All connectors for this notebook are SELV (Safety Extra Low Voltage), according to EN60950.

Connecting a Power Source

You can use either AC power or a rechargeable battery pack as a power source.

Using the AC Adapter

- 1 Plug the cable attached to the AC adapter into the DC In connector on the computer.
- 2 Plug one end of the power cord into the AC adapter.
- 3 Plug the other end of the power cord into an AC outlet.



 Use your notebook only with the supplied AC adapter. To disconnect your notebook completely from mains voltage, unplug the AC adapter.

Please make sure that the socket outlet is easily accessible.

AC adapter mains connector and power cord: hazardous voltage, according to EN 60950.

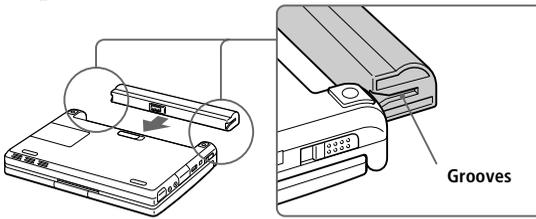
Using Battery Power

You can use a battery pack as a source of power. The PCGA-BP11 battery pack that comes with your computer is not fully charged at the time of purchase. Follow the steps below to insert and charge the battery pack.

 You can also purchase the high-capacity PCGA-BP12 battery pack as a separate option. See “Using Power Saving Modes” on page 38 for power management information.

To insert the battery pack

Align the grooves on the battery with the notches on the back of the computer, and then slide the battery towards the computer until it clicks into place.



To charge the battery pack

- 1 Connect the AC adapter to the computer.
- 2 Insert the battery pack.

The computer automatically charges the battery (the battery indicator light flashes in a double blink pattern as the battery charges). When the battery is 85% full, the battery indicator light turns off. This process takes approximately one to one and half hour. To charge the battery completely, continue charging for an additional hour.

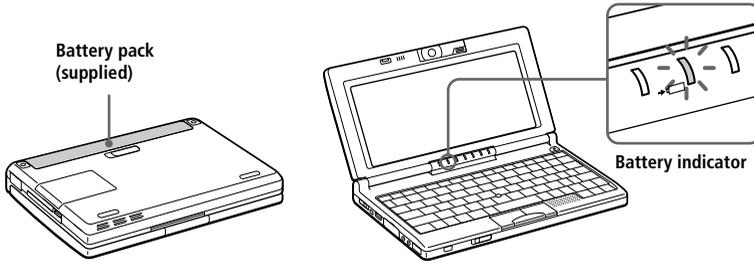
To remove the battery pack

A fully charged battery pack provides power for:

Model	PCGA-BP11	PCGA-BP12
PCG-C1F	Up to 2 hours	Up to 4 hours

The time varies based on your system configuration and the software you use. See your Software guide, in “Displaying Battery Information” on page 39.

The  battery indicator light above the keyboard indicates the status of the battery pack.



Battery Indicator Light Status

Meaning

On	The computer is using battery power.
Single blink	The battery is running out of power.
Double blink	The battery is charging.
Off	The computer is using AC power.

 Both the battery and power indicators blink when the battery is running out of power.

The battery indicator light is on while you use the battery pack as a power source. When battery life is nearly depleted, the battery indicator starts flashing.

Keep the battery pack in the computer while it is directly connected to AC power. The battery pack continues to charge while you are using the computer.

If your battery level falls to less than 10%, you should either attach the AC adapter to recharge the battery or shut down your computer and insert a fully charged battery.

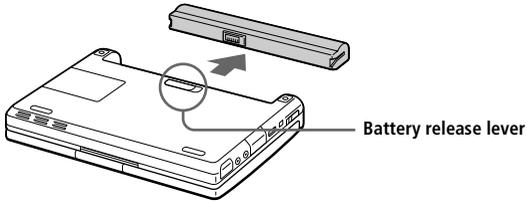
You can extend battery life by changing the power management modes in the PowerPanel utility. See "Using Power Saving Modes" on page 38.

The battery pack supplied with your computer is a lithium ion battery and can be recharged at any time. Charging a partially discharged battery does not affect battery life.

For some software applications and some peripheral devices, your computer may not enter system hibernation mode when the battery life is low. To avoid loss of data when using battery power, you should save your data frequently and manually activate a power management mode, such as system suspend or system hibernation.

To remove the battery pack

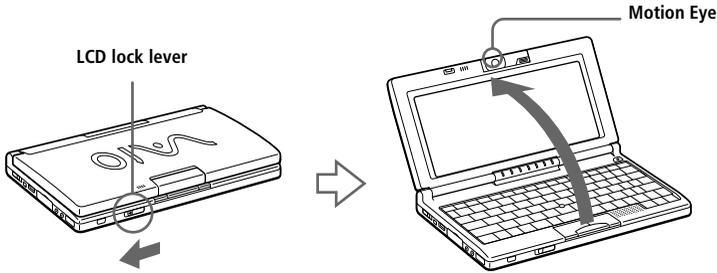
- 1 Turn off the computer.
- 2 Slide the release lever to the **UNLOCK** position and slide the battery away from the computer.



 You may lose data if you remove the battery pack while the computer is on and not connected to the AC adapter or if you remove the battery while the computer is in System Suspend mode.

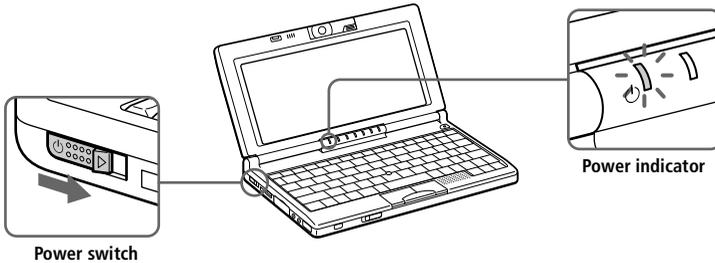
Starting Your Computer

- 1 Slide the LCD lock lever in the direction of the arrow and lift the cover.



 Be careful not to grab the Motion Eye when lifting the cover.

- 2 Slide the power switch on the left side toward the front of the computer until the green power indicator light turns on.



 If you hold the power switch in the on position for more than four seconds, the computer turns off.

- 3 If necessary, adjust the brightness controls for the LCD display. To decrease the brightness, press Fn+F5 and then the down or left arrow key. To increase the brightness, press Fn+F5 and then the up or right arrow key.

Shutting Down Your Computer

! To avoid potential loss of data, follow these steps to shut down your computer.

- 1 Click the Start button on the Windows 98 taskbar.
- 2 Click Shut Down at the bottom of the Start menu to display the Shut Down Windows dialog box.



- 3 Select Shut down.
- 4 Click OK.

 Respond to any prompts warning you to save documents.

- 5 Wait for your computer to turn off automatically: the green indicator light turns off.
- 6 Turn off any peripherals connected to your computer.

 If you are unable to shut down your computer using the steps described above, press the Ctrl+Alt+Delete keys at the same time and select Shut Down in the Task manager window to restart the computer. If you are unable to restart the computer in this way, you can slide the power switch forward and hold for four seconds. This operation may result in data loss.

During a period of inactivity, you can conserve battery life by using System Suspend mode. See your Software guide, in "Controlling Power Management" on page 36.

Be sure to turn the Motion Eye inwards when closing the cover.

Registering Windows® 98

The first time you turn on your computer, you need to complete a few steps to register and configure the Windows 98 software that is already installed on your computer.



You must register Windows 98 before you can use the computer.

The on-screen instructions guide you through the registration and configuration process. The following is an overview of the process.

- 1 Gathering information:
 - Enter your name.
 - Read and accept the License Agreement.
 - Enter your Certificate of Authenticity number located on the cover of the Microsoft Windows 98 *Getting Started* manual.
- 2 Windows 98 setup:
 - Click the Finish button on the Windows 98 Setup Wizard screen.
- 3 Selecting your computer settings:
 - If necessary, change the Time Zone, Date and Time on the Date/Time Properties screen.
- 4 Learning about Windows 98:
 - If you want, take the tour of Windows 98.

Registering Your Computer

You can take advantage of Sony's commitment to quality customer support and receive the following benefits by registering your computer with Sony:

- ❑ **VAIO Link** – You can contact VAIO Link by telephone, fax or E-mail (see your *Customer Service Guide* and *VAIO Space* for phone numbers).
- ❑ **Guarantee** – Protect your investment. See the Guarantee Card for details. See your *Customer Service Guide* for guarantee conditions.

Follow these steps to use the Sony Notebook Computer's online registration service.

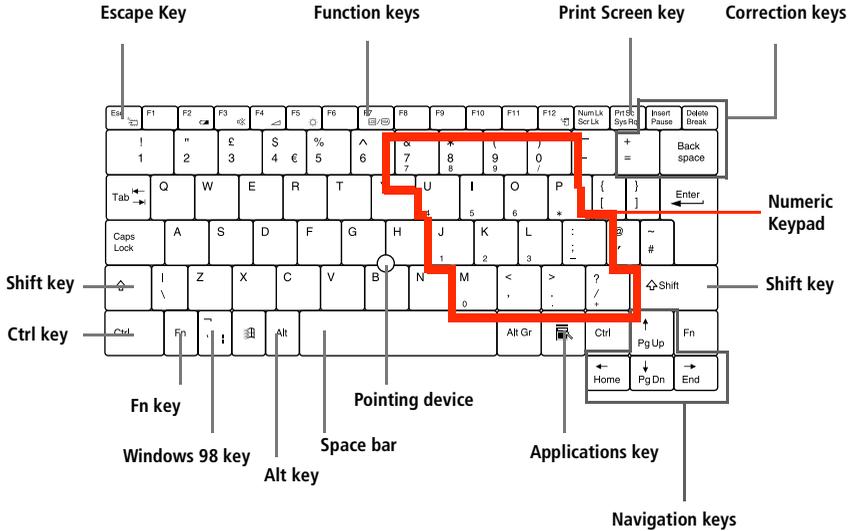


You must connect your phone line before using any online services, including the online registration service.

- 1 Enter the information requested on the first online registration form. Press the Tab key to move from box to box.
- 2 Click the Register now button and complete the form.
- 3 Click the Send Directly Button to register your computer, via modem to modem connection. Your computer automatically transfers your registration information, using your PC Card modem and a preset phone number.
Click Send via Internet if you chose to send your information via the WWW.

Using the Keyboard

Your keyboard is very similar to a desktop computer's, the keyboard has additional keys that perform specific computer-related tasks.



Keys

Descriptions

Numeric keypad area

Contains the keys found on a typical calculator. Use the numeric keypad area to type numbers or to perform mathematical calculations such as addition and subtraction. Note that you must press the Num Lock key to activate the numeric keypad. (When you do so, the Num Lock light will be on.)

Navigation keys

Several keys are devoted to moving the cursor on the screen (the four arrow keys which also function as the Home, End, Page Up, and Page Down keys).

Correction keys

The Insert, Back Space, and Delete keys enable you to make corrections in your documents.

Function keys

The twelve function keys along the top of the keyboard are used to perform designated tasks. For example, in many applications, F1 is the Help key. The task associated with each function key may vary from one application to the next.

<i>Keys</i>	<i>Descriptions</i>
Escape key	The Esc (Escape) key is used to cancel commands
Print Screen key	The Print Screen key takes an electronic snapshot of the screen and places it in the Windows Clipboard. You can then paste the screen shot into a document and print it.
Operator keys	Several keys are always used with at least one other key: Ctrl, Alt, and Shift. When held down with another key, the Ctrl (Control) and Alt (Alternate) keys offer another way to give commands. For example, in many applications, instead of choosing the Save command from a menu, you can hold down Ctrl and press S (referred to as Ctrl+S). The Shift key is used to produce capital letters or special symbols such as @ and \$.
Windows 98 key 	The key with the Windows logo displays the Windows 98 Start menu; it's the equivalent of clicking the Start button on the task bar. See "Combinations and Functions with the Windows 98 Key" on page 26.
Fn key	The Fn key is used in combination with other keys to issue commands. The Fn keys at the left and right sides both work the same. See "Combinations and Functions with the Fn Key" on page 28.
Applications key 	The Applications key displays a shortcut menu of context-sensitive choices; pressing this key is the equivalent of clicking the right mouse button.

Combinations and Functions with the Windows 98 Key

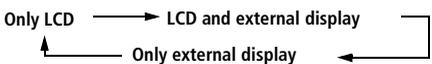
<i>Combinations</i>	<i>Functions</i>
 + F1	Displays Windows Help.
 + Tab	Switches the selected button on the taskbar.
 + E	Displays Windows Explorer.
 + F	Displays the Windows Find: All Files window to find a file or folder. This is the equivalent of selecting Find and then Files or Folders from the Start menu.
 + Ctrl + F	Displays the Windows Find: Computer window where you can locate other computers. This is the equivalent of selecting Find and then Computer from the Start menu.
 + M	Minimizes all displayed windows.
Shift +  + M	Returns all minimized windows to their previous size.
 + R	Displays the Run window. This is the equivalent of selecting Run from the Start menu.
 + Fn+ Pause	Displays the System Properties window. This is the equivalent of double-clicking the System icon in the Control Panel.

Indicators

<i>Indicators</i>	<i>Functions</i>
Information 	Turns on when the PPK Timer is set. Turns off when the timer is not set or the PPK Timer setting is inactive (such as when the computer's power is off or in System Hibernation Mode).
Battery 	Indicates the status of the battery attached at the rear of the computer.
Power 	Lights when the power to the computer is turned on. Flashes in System Suspend mode. Turns off when the computer is in System Hibernation mode or powered off.

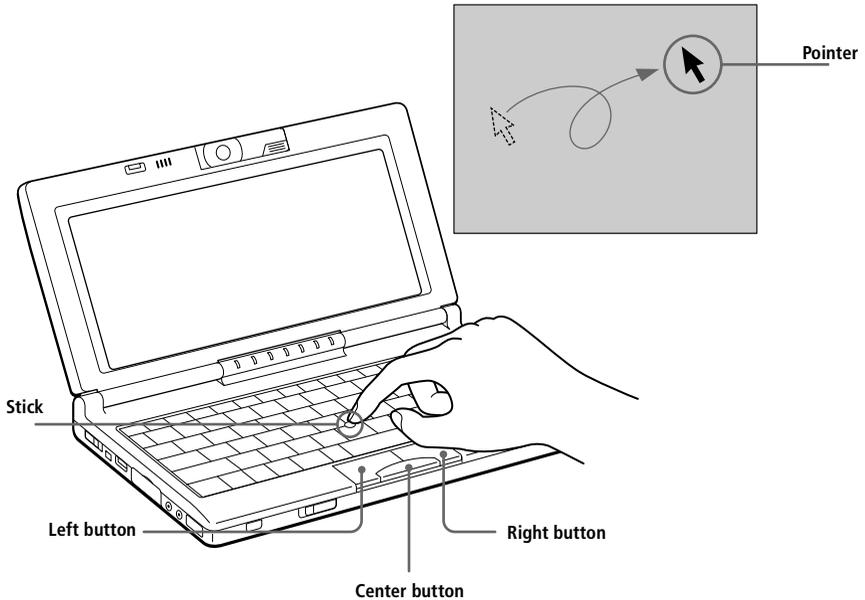
<i>Light</i>	<i>On</i>	<i>Off</i>
Hard disk 	Lights when data is being read from or written to the hard drive. Do not enter System Suspend mode or turn off the computer when this indicator light is on.	Turns off when the hard drive is not being accessed.
Num Lock 	Turns on when the number keys area in the numeric keypad are active.	Turns off when the alphanumeric character keys in the keypad area are active.
Caps Lock 	Turns on when the letters appear in uppercase as you type. The Shift key lowers the case of typed letters when Caps Lock is on.	Turns off when letters appear in lower case as you type (unless you hold down the Shift key).
Scroll Lock 	Turns on when the screen scrolls differently. (Exactly how it scrolls depends on the specific application. It has no effect in many applications.)	Turns off when information moves across the display normally.

Combinations and Functions with the Fn Key

Combinations/ Feature	Functions
Fn+  (ESC) System Suspend	Puts the system into System Suspend mode, a power management state. To return the system to the active state, press any key or press the power switch on your computer.
Fn+  (F2) Display power status	Displays the power status, as in the example below: 
Fn+  (F3) Speaker switch	Toggles the built-in speaker off and on.
Fn+  (F4) Speaker volume	Adjusts the built-in speaker volume. To increase volume, press Fn+F4, then  or  . To decrease volume, press Fn+F4, then  or  .
Fn+  (F5) Brightness control	Adjusts the brightness of the LCD. To increase light intensity, press Fn+F5 and then  or  . To decrease light intensity, press Fn+F5 and then  or  .
Fn+  (F7) Switch to the external display	Toggles through the LCD, external display (connected to the ) and both LCD and external display. 
Fn+  (F12) System Hibernation	Provides for the lowest level of power consumption. When you execute this command, the state of the system and state of the peripheral devices are written to the hard disk and the system power is turned off. To return the system to the original state, use the power switch to turn on power.
Fn+D Video standby	Turns off the LCD in order to save power.

Using the Pointing Device

The stick on the keyboard is a cursor-pointing device. You can point to, select, drag, and scroll objects on the screen using the stick.



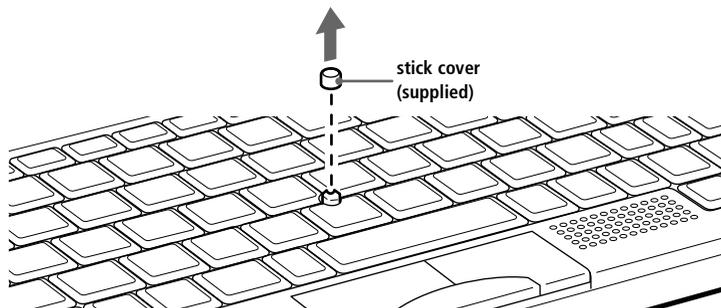
<i>Actions</i>	<i>Descriptions</i>
Point	Press the stick in the appropriate direction to position the pointer on the desired item or object.
Single-click	Press the left button once.
Double-click	Press the left button twice.
Right-click	Press the right button once. In many applications, this action displays a shortcut menu containing context-sensitive choices.
Drag	Press the stick in the appropriate direction to position the pointer on the desired item or object. While holding the left button, press the stick, then let it go at the desired point.
Scroll	Press the stick while pressing the center button.



The scroll function is available only with applications that support a scroll-pointing feature.

Replacing the stick cover

You can take off the stick cover and replace it with the additional stick cover supplied with your computer.

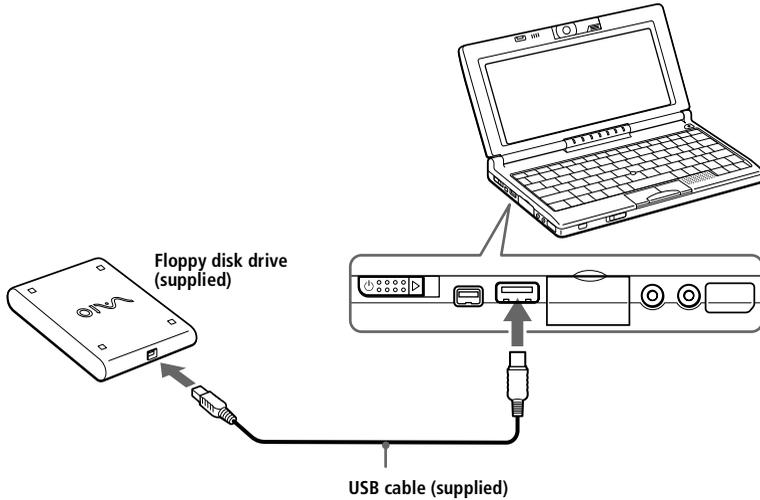


Using the Floppy Disk Drive

You can connect the floppy disk drive to the USB connector on your computer:

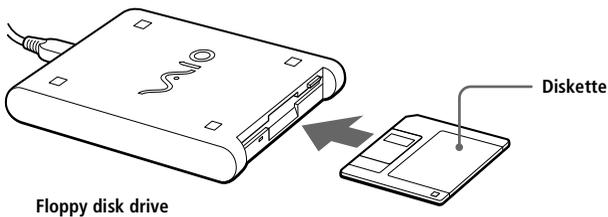
To connect the floppy disk drive

Plug the USB cable into the USB connector. The VAIO logo on the disk drive should be facing up.



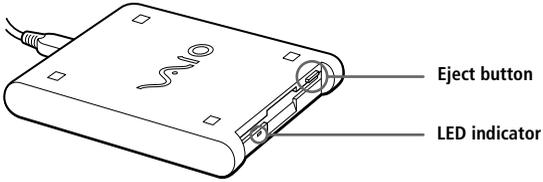
To insert a diskette

- 1 Hold the diskette with the label side facing up.
- 2 Gently push the diskette into the drive until it clicks into place.



To remove a diskette

- When you finish using the diskette, wait until the LED indicator turns off and then press the Eject button to remove the diskette.



Using PC Cards

Your computer includes a PC card slot. PC cards allow you to connect portable external devices, such as a CD-ROM drive, additional memory, or to connect to a network.

 The PC card slot can accommodate one Type II PC card. This slot is compatible with Card Bus and ZV (Zoomed Video) port.

Some PC cards may require that you disable idle devices when using the PC card. You can use Sony Notebook Setup to disable devices. See your Software guide, in "Displaying the Sony Notebook Setup Screen" on page 34.

Be sure to use the most recent software driver provided by the PC card manufacturer.

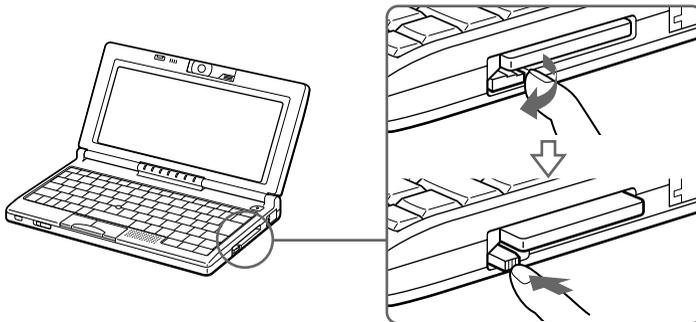
If an "!" mark appears on the Device Manager tab in the System Properties dialog, remove the software driver and then reinstall it.

You may not be able to use some PC cards or some functions within the PC card with this computer.

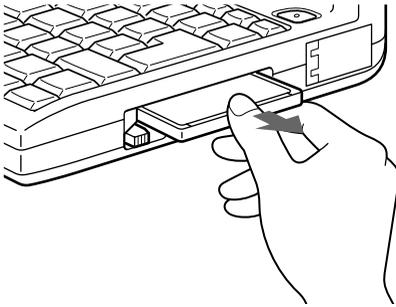
To insert a PC card

 You do not need to shut down the computer before inserting or removing a PC card.

- 1 Pull the PC card release button up away from the computer and push it in towards the computer.

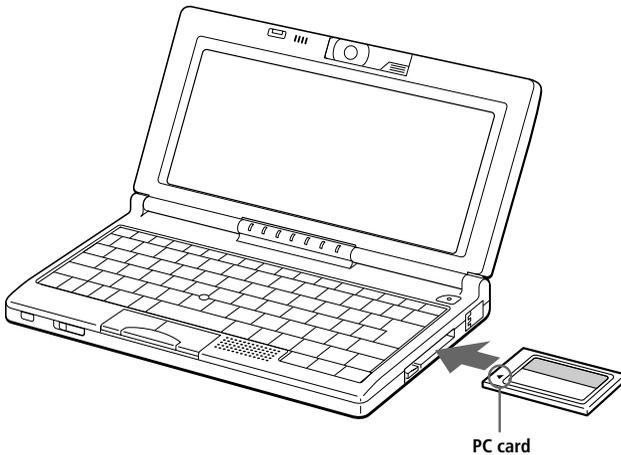


2 Remove the PC card slot protector.



3 Insert the PC card into the PC card slot, front label facing up. Gently push the card into the slot until the card is fixed into the connector.

The release button comes out.



Do not force a card into the slot. It may damage the connector pins.

If you have difficulty inserting a card, check that you are inserting the card with the correct orientation (see PC card label)

Some PC cards may require you to disable unused devices using Sony Notebook Setup. See your Software guide, in "Sony Notebook Setup" on page 13.

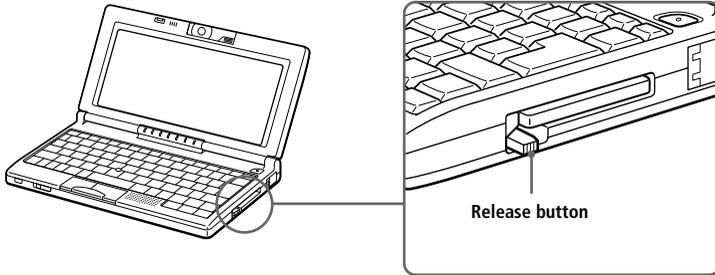
Use the latest driver software provided by the PC card's manufacturer.

If you see the "!" mark on the PC card in "Device Manager" tab of "System Properties", remove the driver software and reinstall it.

See the manual that came with your PC card for more information on its use.

To remove a PC card

- 1 Pull the PC card release button up and press it in towards the computer.



- 2 Gently grasp the card and pull it out.
- 3 Insert the PC card slot protector into the empty slot. Lock the release button.



Before you remove the PC card, click the PC card icon in the taskbar and close the card.

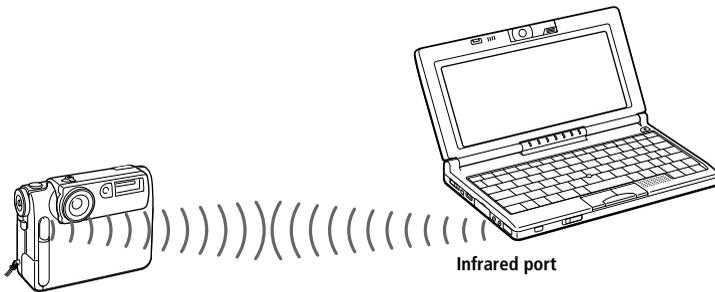
Close any applications that use the PC card before removing the card. Otherwise data may be lost.

Using Infrared Communication Devices

Your computer includes an infrared port, located on the left side of the computer. You can use this port to communicate with other infrared-equipped devices with compatible protocols, such as a digital still camera or other computers.

To use infrared communication with a digital still camera

Align the infrared ports on the computer and the digital camera so that they are in a direct line..

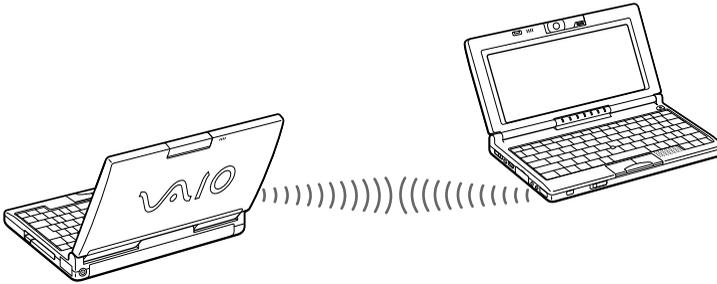


When performing a data transfer with any software using infrared, enable the IrDA in the Control panel of Windows, as follows (Do not use the icon in the taskbar):

1. In the Control panel, choose Infrared, then Options;
2. Check Enable infrared communication, then click OK.
3. As soon as your transfer is finished, disable Infrared, in the Control panel, to reduce the power consumption.

To use infrared communication with another computer

Align the infrared ports on the two computers so that they are in a direct line.



When you transfer files directly from devices other than the internal hard disk drive, such as a CD-ROM drive or hard disk drive on a network, set the System Suspend and System Hibernation timers to off.

Check the Status tag of the Infrared Monitor in the Windows Control Panel to determine if the infrared device is detected.

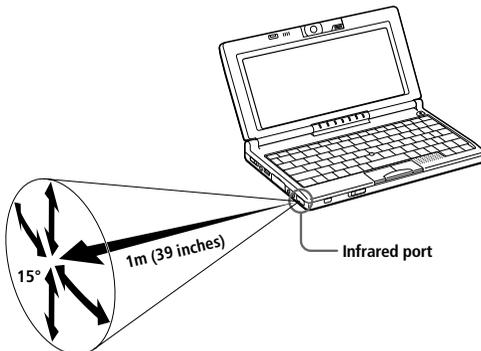
If the two devices are too far apart or too close together, data transfer may be interrupted or there may be noise in the transmission.

Do not cover the infrared ports with your hand or any other objects.

Avoid direct sunlight, fluorescent light, or flashing incandescent light near the infrared ports.

See the manual that came with your infrared communication device for more information on installation and use.

The active area of infrared transmission extends about 1m (39 inches) with a radius of 15 degrees.



Using Power Saving Modes

When you use a battery as the source of power for your computer, you can take advantage of power management settings to conserve battery life.

In addition to the normal operating mode, which allows you to turn off specific devices, your computer has two distinct power saving modes: System Suspend and System Hibernation. When using battery power, you should be aware that the computer automatically enters System Hibernation mode when the remaining battery charge drops below 5% as a factory default setting.



Your notebook features an efficient power management application called PowerPanel (See your Software guide, in "Controlling Power Management" on page 36.)

If your battery level falls to less than 10%, you should either attach the AC adapter to recharge the battery or shut down your computer and insert a fully charged battery.

Normal Mode

This is the normal state of your computer when it is in use. The green power indicator light is on in this mode. To save power, you can turn off a specific device such as the LCD or the hard disk.



See "Using Power Saving Modes" on page 38 for details.

System Suspend Mode

The computer saves the current state of the system in RAM and switches off power to the CPU. The amber power indicator light flashes in this mode.

To activate System Suspend Mode

Press Fn+Esc, or slide the power switch forward quickly. You can also use the PowerPanel utility to enter system suspend mode.



If you slide the power switch forward and hold for more than four seconds, the computer switches off automatically.

To return to normal mode

Press any key.

System Hibernation Mode

The state of the system is saved on the hard drive and power is turned off. The power indicator light is off in this mode.

To activate System Hibernation mode

Press Fn+F12. You can also use the PowerPanel utility to enter System Hibernation mode.

To return to normal mode

Turn on the computer by sliding the power switch forward. The computer returns to its previous state.



When returning from System Hibernation mode, the system status stored on the hard disk is erased and the computer starts normally if you slide the power switch forward and hold for more than four seconds.

- ❑ Steps to reduce Power consumption:
Normal mode → System suspend → System hibernation
System Suspend uses more power than System Hibernation
- ❑ Time to return to normal mode:
System hibernation → System suspend → Normal mode
System Suspend requires less time than System Hibernation

Connecting Peripheral Devices

You can add functionality to your computer by connecting any of these peripherals:

- ❑ CD-ROM drive (page 42)
- ❑ Printer (page 44)
- ❑ External display (page 45)
- ❑ External mouse (page 47)
- ❑ Digital video camera recorder (page 48)



Before you connect peripherals, turn off the computer and all peripherals.

Connect the AC adapter only after connecting all cables.

Turn on the computer only after turning on all peripherals.

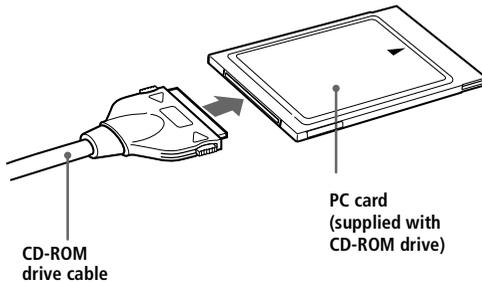
CD-ROM Drive

You can use the PCGA-CD5 CD-ROM drive with your notebook computer to read CD-ROMs, Audio CDs, CD Extras and Video CDs.

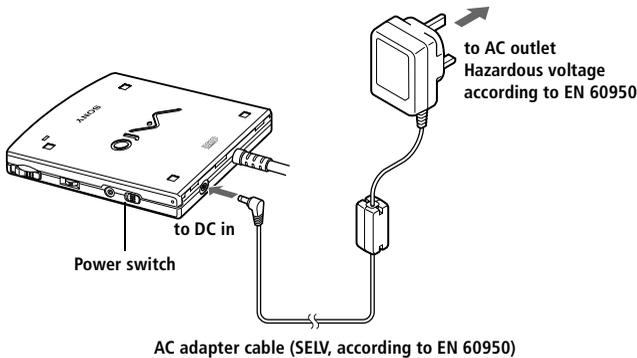
 The PCGA-CD5 is not supplied with this model. For further information, please contact your retailer.

To connect the CD-ROM drive

- 1 Remove the PC card slot protector from the PC card slot. See “Using PC Cards” on page 33 for details.
- 2 Connect the CD-ROM drive cable to the PC card supplied with the CD-ROM drive.



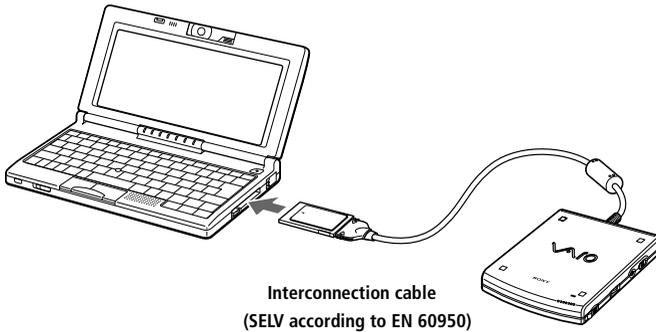
- 3 Connect the CD-ROM drive AC power adapter to the CD-ROM drive and plug the AC adapter into an AC outlet. Then, slide the POWER switch to the "I" position to turn on the drive.



 Use your CD-ROM drive only with the supplied AC adapter. To disconnect your notebook completely from mains voltage, unplug the AC adapter.

Please make sure that the socket outlet is easily accessible.

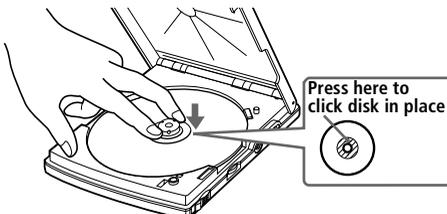
- 4 Insert the PC card into the PC card slot with the label side facing up. See “Using PC Cards” on page 33 for details.



- 5 Turn on the computer.

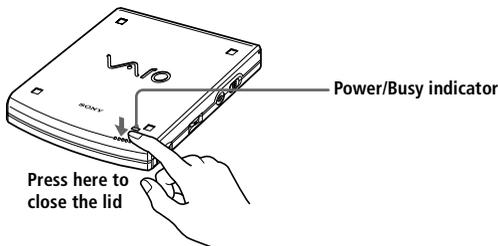
To insert a CD-ROM

- 1 Place the CD-ROM disc in the tray with the label side facing up. Push the disc onto the hub until the disc clicks into place.



 Be sure to seat the CD-ROM disc firmly over the CD-ROM drive hub fingers. If you do not seat the disc firmly, you could damage your CD-ROM drive.

- 2 Gently press on the CD-ROM drive lid until it clicks shut.

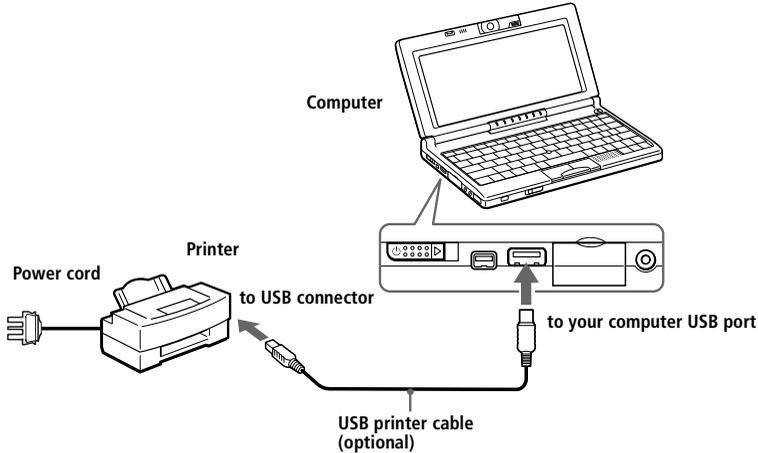


Printer

You can connect a Windows 98-compatible USB printer to your computer.

To connect a USB printer

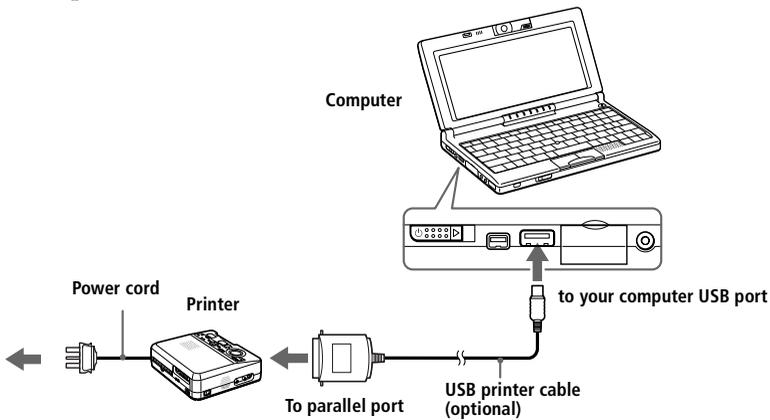
- ❑ Plug an optional USB printer cable into the USB connector.



 See the manual that came with your printer for more information on installation and use.

To connect the parallel port of a printer

Use an USB cable to connect the computer's USB port to the printer's parallel port.



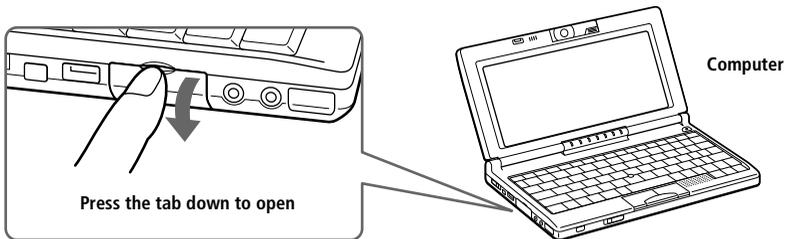
External Display

You can connect an external display to your notebook computer. For example, you can use the computer with any of the following:

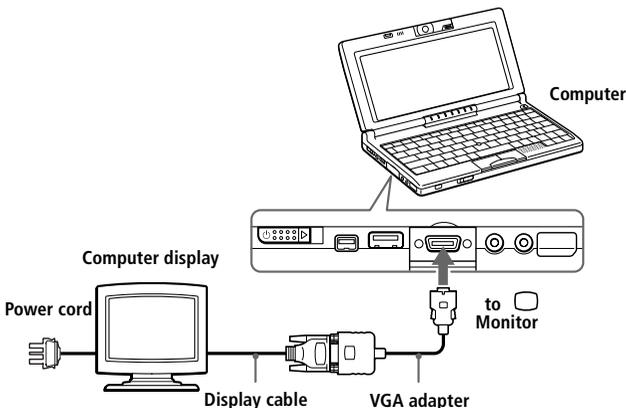
- ❑ Computer display (monitor) (page 45)
- ❑ Multimedia computer display (page 46)
- ❑ Projector (page 46)

To connect a computer display

- ❑ Before connecting an external display, open the external display connector cover on the left side.



- ❑ Use the  symbol to locate the Monitor connector. Plug the display cable to the supplied VGA adapter and into this connector.
- ❑ If necessary, plug one end of the display power cord into the display, and the other end into an AC outlet.



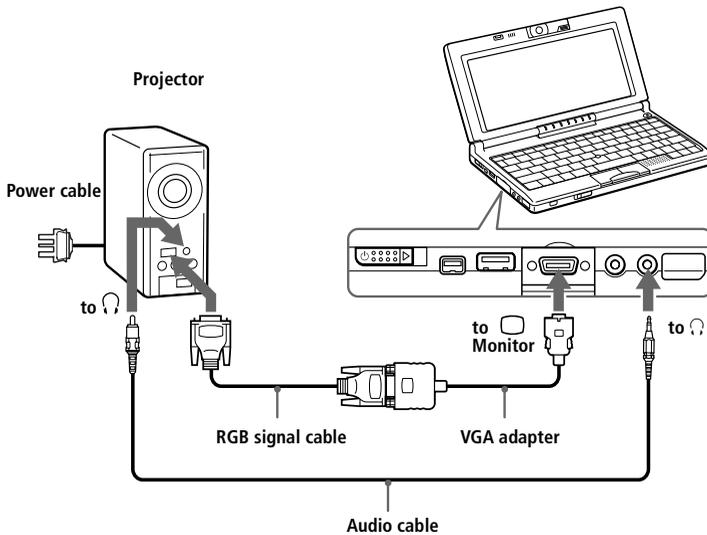
See the manual that came with your computer display for more information on installation and use.

To connect a multi media display or a projector

You can connect the notebook computer to a multimedia computer display that includes built-in speakers and a microphone.

You can use a projector as an external display, such as the Sony LCD Projector.

- 1 Use the  symbol to locate the Monitor connector. Plug the display RGB signal cable to the VGA adapter and into this connector.
- 2 Use the  symbol to locate the Earphone connector. Plug the speaker audio cable into this connector.

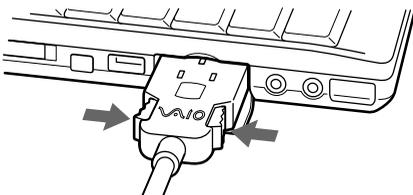


- 3 Use the  symbol to locate the Microphone connector. Plug the microphone cable into this connector.

 See the manual that came with your displays for more information on installation and use.

To remove the VGA adapter

Turn off your computer, then press the both sides of the connector of the VGA adapter.

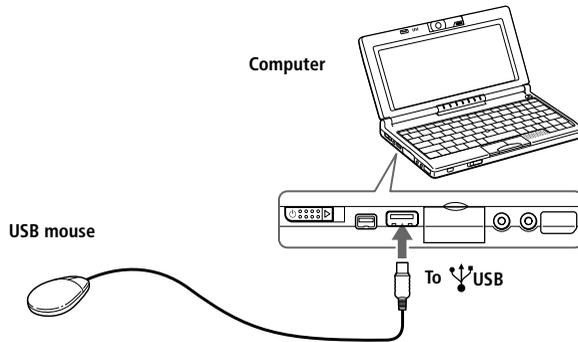


External Mouse

You can connect an external USB mouse to your computer.

To connect an external mouse

Plug the mouse cable into the USB connector



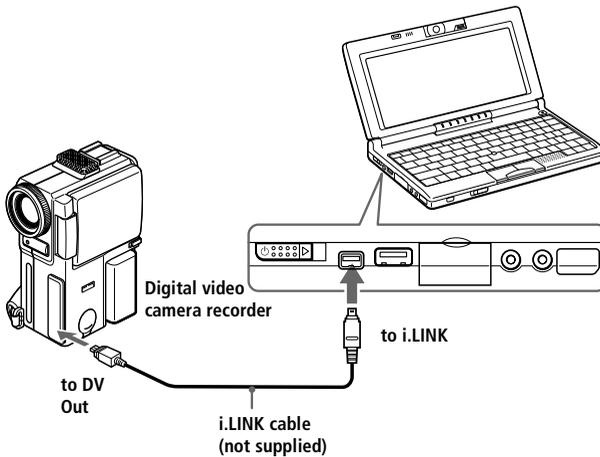
USB ports are included to provide state-of-the-art technology. You may need to install software (device drivers) supplied with your USB device before using the USB device. See the manual that came with your mouse for more information on installation and use.

Connecting a Digital Video Camera Recorder

You can connect a digital video camera recorder to the 200  i.LINK™ (IEEE1394) connector on your computer.

To connect a digital video camera recorder

Plug one end of an i.LINK cable into the 200  i.LINK connector on the left side of the computer and the other end into the DV-Out connector on the digital video camera recorder.



 The Sony digital video camera recorder (DCR-PC1) is pictured; your digital video camera recorder may need to be connected differently.

On Sony digital video cameras, connectors labeled "DV-Out" or "i.LINK" are i.LINK-compatible.

See the manual that came with your digital video camera recorder for more information on installation and use.

The VAIO Notebook Computer supports transfer rates up to 200 Mbps; however, the actual transfer rate is the lowest transfer rate of the external device.

The i.LINK features available may vary depending on the software applications you use. See the documentation that came with your software for more information.

Getting Help

This section describes how to get help and support from Sony, as well as troubleshooting tips for your computer.

About Sony's Support Options

Sony provides several support options for your computer. When you have questions about your computer and the pre-installed software, check these places for answers:

- ❑ **This guide** explains how to use your computer, connect peripheral devices, use the utility programs, and perform basic computer tasks.
- ❑ **The online help files** that accompany your pre-installed software contain instructions on using the software.
- ❑ **The *About the Software*** guide lists the pre-installed software titles. This guide also includes a packing list and technical specifications for your notebook computer. It is included with your computer as an electronic document.
- ❑ **The *Customer Service Guide*** gives you complete information on communicating with VAIO Link Response Centre.
- ❑ **The *VAIO Link***: If you have some problems with your computer, you can contact VAIO Link by telephone, fax or e-mail (see your *Customer Service Guide* for addresses and phone numbers). Before calling VAIO Link, try to solve the problem by reading your User Guide (troubleshooting chapter) or the manuals and helpfiles of the peripherals or software.
- ❑ **The Sony e-mail support service** answers your questions by electronic mail. Just send your question in an e-mail message, and a Customer Service Analyst will send you a reply with the answer. To send a question to Sony e-mail support, please refer to the instructions in your *Customer Service Guide*.



You need to plug a PC Card Modem and the phone line to use the communication features described in this manual.

Troubleshooting

This section describes how to solve common problems you may encounter when using your computer. Many problems have simple solutions, so try these suggestions before you call VAIO Link.

Troubleshooting table

- About the computer and software, see page 51
- About the display, see page 53
- About the “Motion Eye” Camera, see page 54
- About CD-ROMs and diskettes, see page 55
- About sound, see page 56
- About modem, see page 57
- About peripherals, see page 58
- Using the Product Recovery CD-ROM, see page 59



When you reconnect devices, be sure to turn off the computer as described in “Shutting Down Your Computer” on page 21. Turning off the computer in any other way could result in data being lost.

About the computer and software

My computer does not start

- ❑ Check that the computer is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the computer indicates that the power is on.
- ❑ Check that the battery pack is inserted properly and it is charged.
- ❑ Make sure there is no diskette in the floppy disk drive.
- ❑ Confirm that the power cord and all cables are connected firmly, as described in “Connecting Peripheral Devices” on page 41.
- ❑ If you plugged the computer into a UPS, make sure the UPS is turned on and working.
- ❑ If you are using an external display, check that it is plugged into a power source and turned on. Check that the brightness and contrast controls are adjusted correctly. See the manual that came with your display for details.
- ❑ Moisture condensation may have occurred. Do not use the computer for at least one hour and then turn on the computer.
- ❑ The internal backup battery of your computer is low on power. To change the backup battery located on the bottom please contact VAIO Link.

When I turn on my computer, the message “Operating system not found” appears and Windows does not start

- ❑ Check the floppy disk drive to see if a non-bootable diskette is in the drive.
- ❑ If a non-bootable diskette is in the drive, eject it and press any key on your keyboard. Windows then start normally.
If Windows still does not start, follow the procedure below to initialize the BIOS.
- ❑ If the floppy disk drive is empty, follow the steps below to initialize the BIOS:
 - 1 Remove any peripheral devices connected to the computer.
 - 2 Turn the computer off and then turn it on again.
 - 3 Turn on the computer and press the F2 key when the Sony logo appears. The BIOS setup menu screen appears.
 - 4 Press the arrow keys to select the Exit menu.
 - 5 Press the arrow keys to select Get Default Values and then press the Enter key. The message “Load default configuration now?” appears.

- 6 Check that [Yes] is selected, then press the Enter key.
- 7 Press the arrow keys to select Exit (Save Changes) and then press the Enter

My computer does not shut down

It is best to shut down your computer using the Shut Down command on the Windows 98 Start menu. Using other methods, including those listed here, may result in loss of unsaved data. If the Shut Down command does not work properly, follow these steps:

- ❑ Restart the computer by pressing Ctrl + Alt + Delete twice.
- ❑ If this does not work, slide the power switch forward and hold it for at least four seconds, this turns off the power.
- ❑ Unplug the computer from the AC adapter and remove the battery pack from your computer.

My computer "locks up"

- ❑ Try restarting the computer. On the Windows taskbar, click the Start button, click Shut Down, and then click Restart.
- ❑ If you cannot restart as described in the preceding step, you can restart the computer by pressing Ctrl+Alt+Delete twice (or by pressing Ctrl+Alt+Delete once, then clicking Shut Down in the Task manager of Windows).
- ❑ If the previous step does not work, slide the power switch toward the front and hold it for at least four seconds. This turns off the power.



Pressing Ctrl+Alt+Delete or turning off the computer with the power switch may result in data loss in files that are currently open.

My software program "locks up" or crashes

Contact the software publisher or designated provider for technical support. See the *About the Software* guide for a list of references.

The pointer in the display moves on its own

A "drift" has occurred. However, this is not a malfunction. The pointer will stabilize if you do not touch the stick for a few seconds.

When I press the stick without pressing the left button, it clicks

Check that the press-select function has not been chosen. See your Software guide, in "Changing the Pointing device settings" on page 25 for details.

My mouse doesn't work

- ❑ If you are using an external mouse, check that the mouse is plugged into the mouse connector. See "External Mouse" on page 47 for details.

My computer abruptly enters power saving mode

Use the PowerPanel utility to disable the power saving mode. See the PowerPanel help for more information.

About the display

Movements of the displayed images are awkward (not smooth).

- ❑ Use the PowerPanel to select Change CPU Speed. Remove the check from Auto and set Speed Controller to 100%.

The game images or video images are not clear

Right-click the application bar of the PowerPanel software, choose "CPU speed settings", and take the check off the box "Auto." Then set the speed control to 100%. See the on-line help of the PowerPanel software for details.

I cannot use DV devices. The message "DV equipment seems to be disconnected or turned off" appears.

- ❑ Check that the DV device is turned on and that the cables are properly connected.
- ❑ If you are using multiple i.LINK devices, the combination of the connected devices may cause unstable operation. In this case, turn off the power to all connected devices and disconnect unused devices. Check the connection, then turn on the power again.

My LCD does not display anything

- ❑ Check that the computer is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the computer is on.
- ❑ Check that the battery pack is inserted properly and that it is charged.
- ❑ The computer may be in LCD (video) standby mode. Press any key to activate the display.

The screen image on my external display is not centered or sized properly

Use the controls on your external display to adjust the image. See the manual supplied with your display for more information.

The video image on my screen is too dark

If an external display is connected to the Monitor connector, disconnect the display.

About the "Motion Eye" Camera

There is a vertical line when shooting a bright subject with a dark background using "Motion Eye"

This is a phenomenon called "smear." This is not a malfunction.

The image in the view finder of "Smart Capture" is rough

- ❑ If you are shooting an image of minimum size, such as 40 x 30, the image may appear rough.
- ❑ If you are shooting a subject in rapid movement, there may be a gap. However, this is not a malfunction.

The images imported with "Motion Eye" are not clear

- ❑ Shooting under fluorescent light may result in reflections.
- ❑ Red or green noises may occur if the imported images include dark parts.
- ❑ If you import a still image of size 640 x 480, the image may appear rough.
- ❑ The shot image and the imported image may differ when you import a still image of size 640 x 480.
- ❑ Check that the lens of the "Motion Eye" is clean.
- ❑ Use the focus ring for focus adjustment.

There are picture gaps and sound gaps when importing video images

- ❑ If you are shooting using a battery pack, use the AC profile or the Camera profile in the PowerPanel software. See the on-line help of the PowerPanel software for details.
- ❑ Gaps may occur based on the effect settings in the Smart Capture software. See the on-line help of the Smart Capture software for details.

The "Motion Eye" does not show any images

Check that you are not using any other application software such as Smart Capture which uses the "Motion Eye". If the "Motion Eye" still does not show any images, restart your computer.

I cannot record using Smart Capture, Smart Write, or Smart Label

- 1 Double-click  in the task tray.
- 2 Select Properties from the Option menu.
- 3 Uncheck “Mute” (Fn + F3) if it is checked.

Smart Write and Smart Label do not start

Reinstall the software from the Product Recovery CD-ROM, and execute the following: G:VAIO/Sony Shared Library/setup.exe

About CD-ROMs and diskettes

All the advice mentioned in this chapter is valid for the PCGA-CD5 CD-ROM drive. For other models, refer to your CD-ROM drive manual.

I cannot play a CD-ROM disc

- Make sure that the switch of the CD-ROM drive is turned on and that the AC adapter is connected securely.
- The AC adapter’s protection mechanism may be activated. Unplug the AC adapter from the wall outlet and reconnect it after 2 or 3 minutes.
- Make sure the label of the CD-ROM is facing up.
- If the CD-ROM disc requires software, make sure the software is installed according to the program’s instructions.
- Moisture condensation may have occurred. Disconnect the CD-ROM drive and disconnect the power to the drive for at least one hour.
- Make sure the CD-ROM drive is properly connected. See “CD-ROM Drive” on page 42.
- Make sure the computer is turned on.

The CD-ROM drive is not detected by the computer or does not run normally.

- Check that the PC card you connect is the one supplied for using with your CD-ROM drive.
- Make sure the interface cable is connected to the PC card properly.
- Make sure the PC card is seated securely in the PC card slot in the computer.
- Check the PC card slot for bent or broken pins.
- The power of the CD-ROM drive is OFF.
- A pickup cover is installed in your drive. Remove the pickup cover before inserting a disc.

Sound jumps or data cannot be read.

- ❑ Insert the disc with the label side facing up.
- ❑ Do not insert a disc that the CD-ROM drive cannot play.
- ❑ Clean the disc and the lens of the drive with a dry, soft cloth.
- ❑ The disc may have scratches. Replace with another disc and leave the drive powered on for about 30 minutes.
- ❑ Clean the turntable with a soft dry cloth.
- ❑ The drive or the disc may be subject to condensation. Allow the drive or the disc to stand for approximately one hour.

No sound from the CD-ROM or audio CD.

- ❑ Make sure the headphone cable is connected to the Ω connector of the drive properly.
- ❑ Make sure the VOLUME control is set to a position greater than 0.
- ❑ The “Volume Control” setting in Windows 98 may be too low or an invalid selection is specified in the “Selecting” or “Mute” option.
- ❑ Make sure the Ω connector is not connected to the audio input jack on the computer.

The data transfer rate is too low.

- ❑ Make sure the power management feature of the computer is not enabled. Check the CPU speed setting (See your Software guide, in “Power Management Commands” on page 37).

When I double-click an application icon a message appears, such as “You must insert the application CD into your CD-ROM drive”, and the software does not start

- ❑ Some titles require specific files that are located on the application’s CD-ROM disc. Insert the disc and try starting the program again.
- ❑ Make sure you place the disc in the tray with the label side facing up.

My floppy disk drive cannot write to a diskette

- ❑ The diskette is write-protected. Disable the write-protect feature or use a diskette that is not write-protected.
- ❑ Check that the diskette is properly inserted into the floppy disk drive.

About sound

My speaker has no sound

- ❑ The built-in speaker is turned off. Press Fn+F3 to turn on the speaker.

- ❑ The speaker volume is turned to the minimum. Press Fn+F4, and then press **↑** or **→** to increase the volume.
- ❑ If your computer is powered by the battery, check that the battery is connected properly and that it is charged.
- ❑ If you are using an application that has its own volume control, check that the volume is turned up.
- ❑ Check the volume controls in Windows 98.
- ❑ If you connect external speakers, check that the speakers are properly connected and the volume is turned up. If the speakers have a mute button, make sure it is off. If the speakers are powered by batteries, check that the batteries are inserted properly and that they are charged.
- ❑ If you have connected a headphone or an audio cable to the Headphone connector, disconnect the cable.

When I press Fn+F3, I see the message "Mute"

Click the Volume icon in the Windows 98 taskbar. When the Volume cursor appears, disable "Mute" by clicking this option. You can also disable "Muting" by pressing Fn+F3 again.

About modem

My modem (PC card) doesn't work

- ❑ Check that your PC card is properly inserted in your computer (label side facing up).
- ❑ Check your PC card modem has been detected by the system.
- ❑ Check that the phone line is plugged into your PC card.
- ❑ Check that the phone line is working. You can check the line by plugging in an ordinary phone and listening for a dial tone.
- ❑ Check that the phone number the program is dialing is correct.
- ❑ If you connect a GSM phone, make sure that the programming of the PC card is compatible with it: use the supplied card loader to re-program it (refer to your card's user manual).
- ❑ Check that the software you are using is compatible with the PC card (refer to your software user manual).
- ❑ Make sure that the driver selected in your communication software is matching the programming of your PC card (refer to your communication software user manual).

My modem connection is slow

Many factors influence modem connection speed, including telephone line noise or compatibility with telephone equipment (such as fax machines or other modems). If you think your modem is not connecting properly to other PC-based modems, fax machines, or your Internet Service Provider, check the following:

- ❑ Have your phone company check that your phone line is free from any line noise.
- ❑ If your problem is fax-related, check that there are no problems with the fax machine you are calling and that it is compatible with fax modems.
- ❑ If you are having a problem connecting with your Internet Service Provider, check that the ISP is not experiencing technical problems.
- ❑ If you have a second phone line available, try connecting the modem to that line.

About peripherals

My PC card is not working

- ❑ Make sure the PC card is compatible with Windows 98
- ❑ Use the Sony Notebook Setup utility to disable devices you are not currently using.

I cannot use DV devices. The message "DV equipment seems to be disconnected or turned off" appears.

- ❑ Check that the DV device is turned on and that the cables are properly connected.
- ❑ If you are using multiple i.LINK devices, the combination of the connected devices may cause unstable operation. In this case, turn off the power to all connected devices and disconnect unused devices. Check the connection, then turn on the power again.

Using the Product Recovery CD-ROM

! The PCGA-CD5 CD-ROM drive must be connected to the computer to use the System Recovery CD. If you purchased another model, please refer to your retailer for more detailed information.

You can only use this Recovery CD-ROM on the Sony notebook you purchased and not on any other Sony PC or other manufacturer's PC!

The following sections describe how to use the Recovery CD-ROM.

The Product Recovery CD-ROM allows you to perform:

- A full system recovery
- An application recovery
- A manual reinstallation of device drivers

You may need to recover the entire contents of your hard drive, in case of a serious system crash. In this instance, perform a system recovery.

If you encounter a problem with your computer, probably caused by a badly configured system, reinstalling an individual device driver may solve the problem.

Another problem could be that a pre-installed application doesn't work properly anymore. Reinstalling the appropriate application should fix the problem. Consequently, you should perform an application recovery.

Performing a System Recovery.

Use this option only when your system is seriously damaged. For example: Windows 98 does not work anymore, or your PC behaves abnormally... The system recovery will completely reinstall the originally configured system on your PC.

! Applying a system recovery means that you will lose all your data stored on the hard drive. Therefore, before applying a system recovery, save your data stored on the hard disk to an external disk. If this is not possible under Windows 98, try to save your data from the DOS-prompt to a floppy.

! CAUTION: ensure that your computer is connected to AC (not the batteries) before you attempt a System Recovery.

! CAUTION: when the recovery is performed, you must remove the recovery CD-ROM from the drive before restarting the computer. If the CD-ROM is still in the drive, you will restart a recovery process.

Procedure for a System Recovery

 You need to complete the Windows® 98 registration process when you use the Product Recovery CD-ROM. Make sure you have the Certificate of Authenticity number located on the cover of your Microsoft Windows 98 "Getting Started" manual. You will need this number to complete the recovery process..

- 1 Connect your CD-ROM drive to the notebook, insert the Sony Product Recovery CD-ROM and turn on your computer (using AC power only).
- 2 The system recovery screen appears next. If you're really sure that you do not mind losing all your data, choose 'Yes'.
- 3 You will get a final warning. If you choose 'Go', all data will be removed permanently and the recovery process will start.

 The recovery process takes between 10 to 20 minutes to complete.

- 4 When the Windows Setup Wizard appears, confirm that you have read and accepted the Microsoft End-User License Agreement, enter the Product ID mentioned on your Certificate of Authenticity for Windows. Then, follow the on-screen instructions to complete the recovery process.

 If your computer does not start the Windows Setup, refer to your Customer Service Guide to call VAIO-Link by phone or by fax.

Performing an Application Recovery (via the Install Manager).

The Install Manager allows you to reinstall individual applications. Reinstallation of a program can fix the problems encountered in a program that does not run correctly anymore.

 You must run the Recovery CD from Windows 98. The application will not run from DOS.

Procedure for an application recovery

- 1 Turn on your computer (using AC power only) and wait until Windows 98 is booted up.
- 2 Insert the Recovery CD. The Application Recovery utility now loads automatically.
- 3 When the Application Recovery menu appears, follow the on-screen instructions to choose the application you want to recover.



When performing an application recovery, you do not lose data.

Reinstalling a device driver

First check whether the driver you plan to reinstall is on the Product Recovery CD-ROM. Only device drivers that are not delivered with Windows 98 can be found in the directory drivers (in G:\Drivers). Check all underlying sub-directories for the appropriate driver. Next, launch the 'Add New Hardware' wizard (in the Windows start menu, select settings, then control panel) to install the appropriate device.

Notes on Use

This section describes safety guidelines and precautions to help protect your computer from potential damage.

On Handling the LCD Screen

- ❑ Do not leave the LCD facing the sun as it can damage the LCD. Be careful when using the computer near a window.
- ❑ Do not scratch the LCD or exert pressure on it. This could cause a malfunction.
- ❑ Using the computer in low temperature conditions may produce a residual image on the screen. This is not a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- ❑ A residual image may appear on the screen if the same image is displayed for a lengthy period of time. The residual image disappears in a while. You can use a screen saver to prevent residual images.
- ❑ The screen becomes warm during operation. This is normal and does not indicate a malfunction.
- ❑ The LCD is manufactured using high-precision technology. You may, however, see tiny black points and/or bright points (red, blue, or green) that continuously appear on the LCD. This is a normal result of the manufacturing process and does not indicate a malfunction.

On the Power Source

- ❑ Your computer operates on 100V-240V AC 50/60 Hz.
- ❑ Do not share the AC outlet with other power-consuming equipment, such as a copying machine or shredder.
- ❑ You can purchase a power strip with a surge protector. This device prevents damage to your computer caused by sudden power surges such as those that may occur during an electrical storm.
- ❑ Do not place heavy objects on the AC adapter or its cord.
- ❑ To disconnect the cord, pull it out by the plug. Never pull the cord itself.

- ❑ Unplug your computer from the wall outlet if you will not be using the computer for a long time.
- ❑ When the AC adapter is not used, unplug it from the AC outlet, to save energy.
- ❑ Use only the AC adapter supplied. Do not use any other AC adapter.

On Handling

- ❑ Clean the cabinet with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your computer.
- ❑ Should any solid object or liquid fall into the computer, shut down your computer and then unplug it. You may want to have the computer checked by qualified personnel before operating it any further.
- ❑ Do not drop the computer or place heavy objects on top of the computer.

On Installation

- ❑ Do not place your computer in a location subject to:
 - ❑ Heat sources, such as radiators or air ducts
 - ❑ Direct sunlight
 - ❑ Excessive dust
 - ❑ Moisture or rain
 - ❑ Mechanical vibration or shock
 - ❑ Strong magnets or speakers that are not magnetically shielded
 - ❑ Ambient temperature of more than 35° C or less than 10° C
 - ❑ High humidity
- ❑ Do not place electronic equipment near your computer. The computer's electromagnetic field may cause a malfunction.
- ❑ Provide adequate air circulation to prevent internal heat build-up. Do not place your computer on porous surfaces such as rugs or blankets, or near materials such as curtains or draperies that may block its ventilation slots.
- ❑ The computer uses high-frequency radio signals and may cause interference to radio or TV reception. Should this occur, relocate the computer a suitable distance away from the set.

-
- ❑ Use only specified peripheral equipment and interface cables; otherwise, problems may result.
 - ❑ Do not use cut or damaged connection cables.

On cleaning the camera lens

- ❑ Avoid touching the lens with your fingers.
- ❑ Avoid rubbing the lens as this can damage the screen. Use a soft, dry cloth to wipe the LCD screen.
- ❑ Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzine.

On Moisture Condensation

If the computer is brought directly from a cold location to a warm one, moisture may condense inside your computer. In this case, allow at least an hour before turning on your computer. If any problems occur, unplug your computer and contact VAIO Link.

On Handling Diskettes

- ❑ Do not open the shutter manually and touch the surface of the diskette.
- ❑ Keep diskettes away from magnets.
- ❑ Keep diskettes away from direct sunlight and other heat sources.

On Handling CD-ROM Discs

- ❑ Do not touch the surface of the disc.
- ❑ Do not drop or bend the disc.

On Cleaning CD-ROM Discs

- ❑ Fingerprints and dust on the surface of a disc may cause read errors. Proper care of the disc is essential to maintain its reliability. Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray, as they may cause damage to the disc.
- ❑ For normal cleaning, hold the disc by its edge and use a soft cloth to wipe the surface from the center out.
- ❑ If the disc is badly soiled, moisten a soft cloth with water, wring it out well, and use it to wipe the surface of the disc from the center out. Wipe off any remaining moisture with a dry soft cloth.

On Using Batteries

- ❑ Never leave the battery pack in temperatures above 60° C, such as in a car parked in the sun or under direct sunlight.
- ❑ Battery life is shorter in a cold environment. This is due to decreased battery efficiency at low temperatures.
- ❑ Charge the batteries at temperatures between 10° C to 30° C. Lower temperatures require a longer charging time.
- ❑ While the battery is in use or being discharged, the battery pack heats up. This is normal and is not a cause for concern.
- ❑ Keep the battery pack away from all sources of heat.
- ❑ Keep the battery pack dry.
- ❑ Do not open or try to disassemble the battery pack.
- ❑ Do not expose the battery pack to any mechanical shock.
- ❑ If you are not using the computer for an extended period of time, remove the battery pack from the computer to prevent damage to the battery.
- ❑ If, after fully charging the battery pack, the battery power is still low, the battery pack may be reaching the end of its life and should be replaced.
- ❑ You do not need to discharge the battery before recharging.
- ❑ If you have not used the battery pack for a considerable amount of time, recharge the battery.

On Maintenance

- ❑ Make sure to disconnect the AC adapter before cleaning the computer.
- ❑ Avoid rubbing the LCD screen as this can damage the screen. Use a soft, dry cloth to wipe the LCD screen.
- ❑ Clean the computer with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzine.

Specifications

<i>Model Number</i>	<i>PCG-C1F</i>
<i>Processor</i>	266 MHz Pentium® with MMX
<i>Hard Disk Drive</i>	4.3 GB
<i>Standard RAM</i>	64 MB SDRAM expandable to 128 MB
<i>LCD Screen</i>	8.9" Ultra Wide XGA TFT (1024 x 480)
<i>L2 Cache Memory</i>	256 KB
<i>MPEG</i>	MPEG 1 DigitalVideo
<i>Graphics</i>	256-bit accelerator with 2.5 MB Video RAM
<i>Sound Capabilities</i>	16-bit CD-quality sound (SoundBlaster Pro compatible)
<i>Diskette Drive</i>	3.5" 1.44 MB USB
<i>Infrared</i>	Supports 4 Mbps, 1.1 Mbps, and 115 kbps IrDA Standard
<i>Expansion Capabilities</i>	One PCMCIA type II Card and Card Bus ZV support
<i>Built-In Capabilities</i>	Mono microphone, Motion Eye Camera, Pointing device and PPK.
<i>Connection Capabilities on Notebook</i>	VGA Monitor, Microphone, Stereo Headphone, USB, Type II PC Cards, Infrared, S200 i.LINK™ (IEEE 1394)
<i>Supplied Accessories</i>	USB Floppy disk drive with cable, rechargeable battery AC adapter and cable, VGA adapter, spare caps.
<i>Special Buttons</i>	PPK (programmable key), Capture Button
<i>Service</i>	1 year free VAIO Link Service‡
<i>Guarantee</i>	1 year guarantee (parts and labour)‡
<i>Power Requirements</i>	34 watts maximum (16 V DC/AC100-240V)
<i>Power Management</i>	Energy Star compliant APM
<i>Battery</i>	Lithium ion
<i>Dimensions</i>	140 mm(w) x 37 mm(h) x 240 mm (d)
<i>Weight</i>	1.1 kg (with battery)
<i>Operating Temperature</i>	+5° C to 35° C
<i>Image device</i>	1/6" 270,000 pixels CCD

<i>Model Number</i>	<i>PCG-C1F</i>
<i>Lens</i>	2 elements in 2 groups f = 2.8 mm, F = 2.8 (f= 39 mm when converted into 35 mm still camera)
<i>Exposure control</i>	Automatic control
<i>White balance</i>	Automatic
<i>Number of colors</i>	24 bit RGB
<i>Image size</i>	80 x 60, 100 x 120, 320 x 240, 640 x 480
<i>Number of displayed frames</i>	30 frame/s. (max., overlay) Video for Windows Ver. 1.1 or later

‡ See your registration card for conditions.

Specifications are subject to change without notice.

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