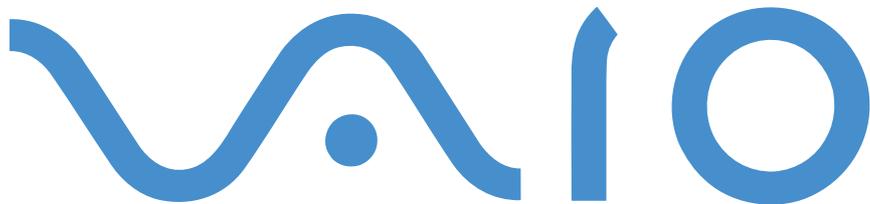


Sony Notebook User Guide

PCG-R600HEK

The WAVIO logo is rendered in a blue, stylized font. The 'W' is formed by a continuous wavy line, the 'A' is a solid circle, the 'I' is a vertical bar with a pointed top, and the 'O' is a solid circle.

Read this first

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Safety information

Owner's record

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

Serial number: _____

Model number:

PCG-6116

Warnings

General

- 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.
- To prevent fire or shock hazard, do not expose your VAIO notebook to rain or moisture.
- Avoid using the modem during a storm.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.

Audio/video

- Audio and picture distortion may occur if this equipment is positioned in close proximity to any equipment emitting electromagnetic radiation.



Connectivity

- ❑ Never install modem or telephone wiring during a storm.
- ❑ Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- ❑ Use caution when installing or modifying telephone lines.
- ❑ 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.
- ❑ Never touch uninsulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.

Optical drive

- ❑ The use of the optical instruments supplied with your notebook will cause eye hazard. As the laser beam used in this product is harmful to eyes, do not attempt any disassembling process. For servicing, refer to qualified personnel only.



Regulatory information

This product conforms to the following European Directives:

73/23/EEC (Low Voltage Directive)

89/336/EEC, 92/31/EEC (EMC Directives)

93/68/EEC (CE Marking Directive)

1999/5/EC (radio equipment and telecommunications terminal equipment Directive)

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

This product has been tested and found compliant with the limits set out in the EMC Directive for using connection cables shorter than 3 metres (9.8 feet).

The optical drive is classified as a CLASS 1 LASER PRODUCT and complies with the Laser Product Safety Standard EN 60825-1. Repair and maintenance only by authorized Sony technicians. Improper repairs and use can create safety hazards.





Disposing of lithium ion batteries

Do not handle damaged or leaking lithium ion batteries. Dispose of promptly and properly at end-of-life.

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 100°C (212°F) or incinerate.

Keep away from children.

Your desktop is equipped with an internal backup memory battery. For changing this battery, please contact VAIO-Link:

<http://www.vaio-link.com>

In some areas the disposal of lithium ion batteries in household or business waste may be prohibited.

Use the public collection system.

Welcome

Congratulations on purchasing a Sony VAIO notebook. 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 VAIO notebook has to offer.

- ❑ **Exceptional performance** - Your PC includes a fast processor and an internal modem.
- ❑ **Portability** - The rechargeable battery pack provides hours of use without AC power.
- ❑ **Sony audio and video quality** - A high-resolution LCD screen enables you to take advantage of today's advanced multimedia applications, games, and entertainment software.
- ❑ **Multimedia features** – Enjoy the speakers to listen to audio and video CDs.
- ❑ **Interconnectivity** – Your computer has Ethernet, Memory Stick™ and i.LINK™ functionalities. Memory Stick is Sony's new universal storage medium. i.LINK is a bidirectional digital interface for exchanging data.
- ❑ **Windows®** - Your system includes the latest operating system from Microsoft.
- ❑ **Communications** - Access popular online services, send and receive e-mails, browse the Internet...
- ❑ **Excellent customer support** - If you are experiencing any problems with your computer, please check the VAIO-Link web site for a possible solution:
<http://www.vaio-link.com>

Before contacting VAIO-Link, you may try to solve the problem by reading the User Guide or the manuals and help files for the peripherals or software.

Documentation pack

Your Documentation Pack contains paper and online user guides on your computer's hard drive.

Printed documentation

- ❑ A **Getting Started** brochure, where you find a brief description of the items in your box and some specifications of your notebook;
- ❑ A **Customer Guide**, where you find all the basic information to start using your notebook;
- ❑ A **Modem Regulations Flyer** applying to the modem;
- ❑ A complete **Regulatory and Safety Information poster**;
- ❑ Your **Sony Guarantee conditions**.

Online documentation

- 1 The Sony Notebook User Guide:
 - ❑ **Using Your Sony Notebook** 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.
 - ❑ **Precautions** provides facts and advice about using your notebook.
 - ❑ **Specifications** provides details on your computer, drivers and accessories.
- 2 Refer to your **Software Guide** for information on 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 how to set your system and power management.
 - ❑ **Using the Product Recovery CD-ROMs** explains how to perform a system and application recovery.

- 3 Consult the **Online Help** files of the software you are using for detailed information on features and troubleshooting.
- 4 Refer to the Microsoft **Quick Start** manual for more information on Windows.

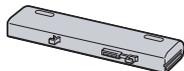
Your notebook and its accessories

Remove the following hardware items from the box:

1



2



3



4



5



6



7



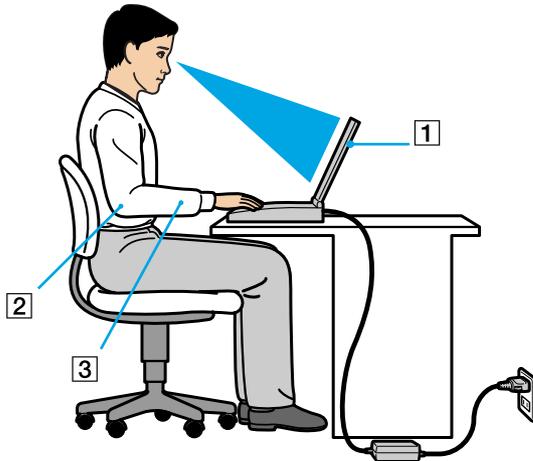
8



1	main unit	5	AC adapter
2	rechargeable battery pack	6	power cord
3	product recovery CD-ROMs	7	phone plug (country specific)
4	documentation pack	8	phone cable

Ergonomic considerations

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



- ❑ **Position of your computer** – Place the computer directly in front of you (1). Keep your forearms horizontal (2), with your wrists in a neutral, comfortable position (3) while using the keyboard, touchpad, or external mouse. Let your upper arms hang naturally at your sides. Have 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 backwards.

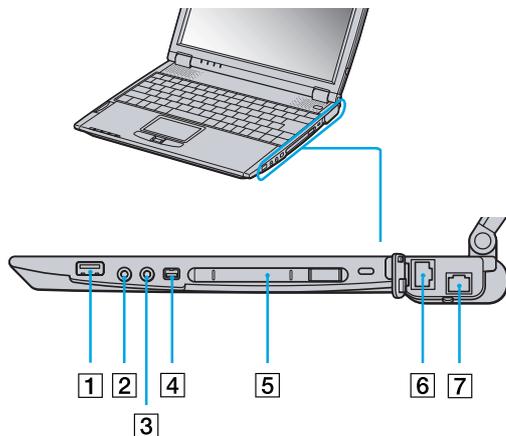
- ❑ **Viewing angle of the computer's display** – Use the display's tilting feature to find the best position. You can reduce eye strain and muscle fatigue by adjusting the tilt of the display to the proper position. Adjust the brightness setting of the display as well.
- ❑ **Lighting** – Choose a location 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

This section describes how to start using your computer and how to use your computer's internal and external devices.

Locating controls and connectors

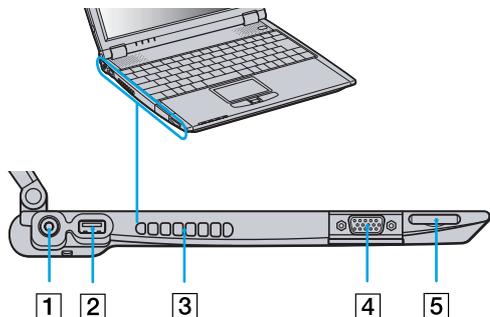
Right



1	USB connector	(page 61)	5	PC Card slot	(page 33)
2	headphone connector	(page 60)	6	Ethernet network connector	(page 69)
3	microphone connector	(page 60)	7	phone line jack	(page 41)
4	S400 i.LINK connector	(page 64)			

 Phone cable and connectors are TNV (Telecommunications Network Voltage), according to EN60950.

Left

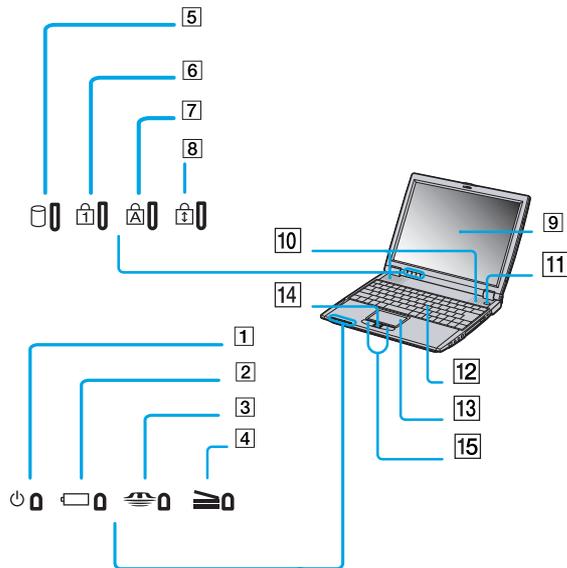


1	DC In	(page 17)	4	monitor connector	(page 55)
2	USB connector	(page 61)	5	MagicGate™ Memory Stick slot	(page 36)
3	ventilation slot				

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

All other connectors for this notebook are SELV (Safety Extra Low Voltage), according to EN 60950.

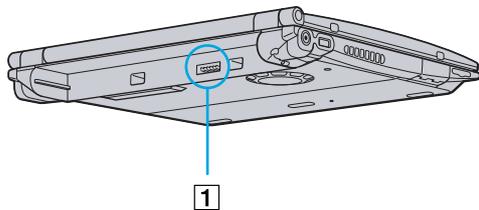
Front



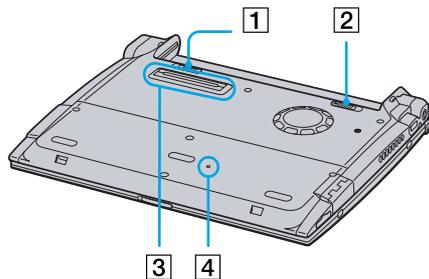
1	power indicator	(page 27)	6	Num Lock indicator	(page 27)	11	power switch	(page 21)
2	battery indicator	(page 27)	7	Caps Lock indicator	(page 27)	12	keyboard	(page 24)
3	Memory Stick™ indicator	(page 27)	8	Scroll Lock indicator	(page 27)	13	touchpad	(page 29)
4	docking station indicator	(page 27)	9	LCD screen	(page 28)	14	Center Jog Control	(page 30)
5	hard disk drive indicator	(page 27)	10	speakers	(page 60)	15	left/right buttons	(page 29)



There is a ventilation slot located near the power switch. Do not cover the ventilation slot when your computer is on.

Back

1	battery connector	(page 18)
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Bottom

1	battery lock lever	(page 18)
2	battery release lever	(page 18)
3	docking connector	
4	reset switch	

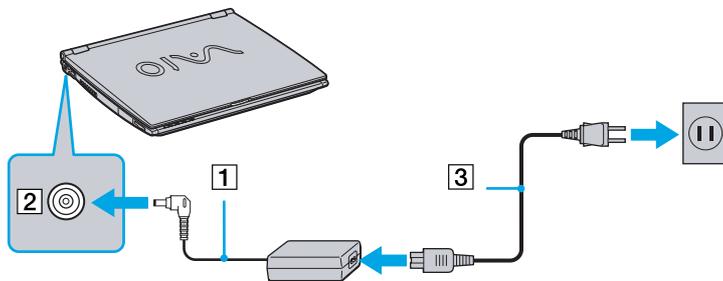
Connecting a power source

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

Using the AC adapter

To use the AC adapter, proceed as follows:

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

If the main unit is connected to an optional docking station, you can only use the DC In connector on the docking station.

To disconnect your notebook completely from mains voltage, unplug the AC adapter.

Make sure that the socket outlet is easily accessible.

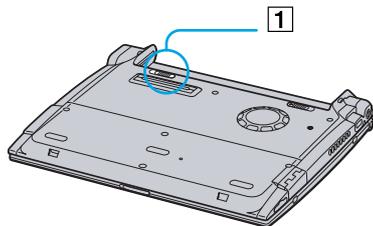
Using the battery pack

You can use a battery pack as a source of power.
The battery pack supplied with your computer is not fully charged at the time of purchase.

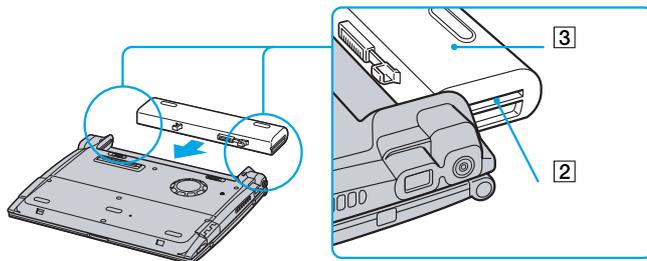
Inserting the battery pack

To insert the battery, proceed as follows:

- 1 Move the lock lever (1) on the bottom of the computer to the **Unlock** position.



- 2 Align the grooves (2) and tabs on the battery (3) with the tabs and notches on the back of the computer, and then slide the battery towards the computer until it clicks into place.



- 3 Slide the lock lever into the **Lock** position to secure the battery on the computer.

 When the computer is directly connected to AC power and has a battery pack inserted in the battery bay, it uses power from the AC outlet.

 Make sure the cover is closed before inserting the battery pack.

Charging the battery pack

To charge the battery pack, proceed as follows:

- 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 two and a half hours if the notebook is on. To charge the battery completely, continue charging for an additional hour.

<i>battery indicator light status</i>	<i>meaning</i>
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.



When the battery is running out of power, both the battery and power indicators blink.

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 the battery level falls to below 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.

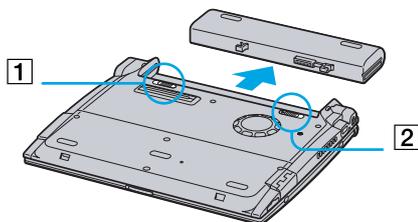
The battery pack supplied with your computer is a lithium ion battery and can be recharged any time. Charging a partially discharged battery does not affect battery life.

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

Removing the battery pack

To remove the battery pack, proceed as follows:

- 1 Turn off the computer and close the cover.
- 2 Slide the lock lever (1) to the **Unlock** position.
- 3 Slide the release lever (2) to the **Unlock** position and slide the battery away from the computer.



You can remove the battery pack without turning off the computer when it is connected to the mains voltage (AC adapter).

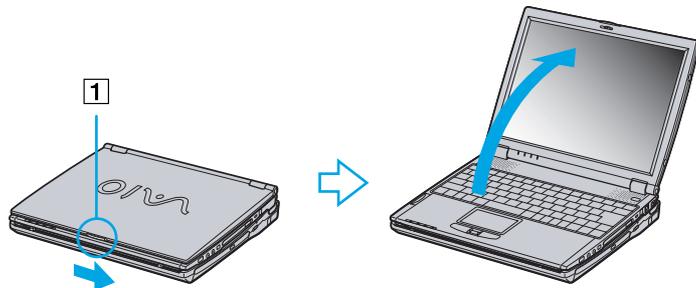
Close the cover before you remove the battery pack.

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 standby mode.

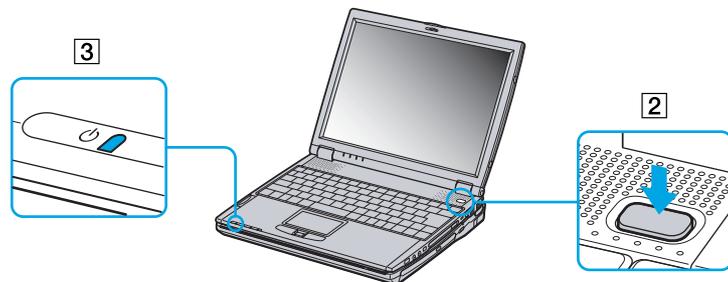
Starting your notebook

To start your computer, proceed as follows:

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



- 2 Press the power switch (2) of the computer until the green power indicator (3) light turns on.



- 3 If necessary, press **<Fn>+<F5>** to adjust the brightness controls for the LCD display. To increase the brightness, use the up or right arrow keys. To decrease, use the down or left arrow keys.

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

Shutting down your notebook

It is important that you shut down your computer properly in order not to lose unsaved data.

To shut down your computer, proceed as follows:

- 1 Click the **Start** button on the Windows® taskbar.
- 2 Click **Shut Down**.
The **Shut Down** dialog box appears.
- 3 Select **Shut down**.
- 4 Click **OK**.
- 5 Wait for your computer to turn off automatically.
The power indicator turns off.
- 6 Turn off any peripheral connected to your computer.

 Respond to any prompts warning you to save documents.

If you are unable to shut down your computer:

close all software in use,

remove the PC Cards if inserted,

disconnect any USB devices,

Then press the <Ctrl>+<Alt>+<Delete> keys at the same time; the Task Manager appears, allowing you to close open applications and to shut down the computer. If this does not work, you can press the power switch and hold for four seconds. This will shut down the computer. This operation may result in data loss.

During a period of inactivity, you can conserve battery life by using **Standby** mode.

Registering your notebook

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

- ❑ **VAIO-Link** – If you are experiencing any problems with your computer, you can check the VAIO-Link web site for a possible solution:
<http://www.vaio-link.com>
- ❑ **Guarantee** – Protect your investment. See the Guarantee sheet for the terms and conditions and refer to your Customer Service Guide for more information.

To register your Sony notebook, proceed as follows:

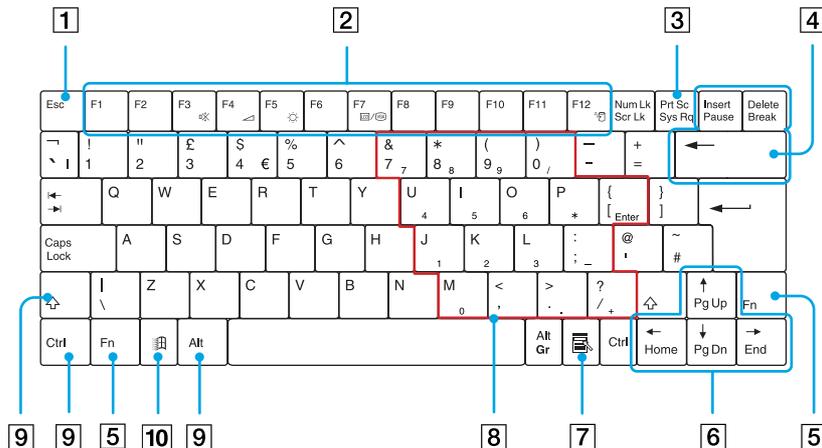
- 1 Click the **Registration** icon on your desktop,
- 2 Click **Next**,
- 3 Click **Internet**,
- 4 Fill in your Registration card fields,
- 5 Scroll down to the bottom of the form and click **Send**,
- 6 Click **OK**.

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

To access the online Registration web page, you must have a connection to the Internet.

Using the keyboard

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



Keys

Descriptions

Escape key (1)	The <Esc> (Escape) key is used to cancel commands.
Function keys (2)	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.
Print Screen key (3)	The <Print Screen> key takes an electronic snapshot of the screen and moves it to the Windows Clipboard. You can then paste the screenshot into a document and print it.
Correction keys (4)	The <Insert> , Back Space and <Delete> keys enable you to make corrections.
Fn key (5)	The <Fn> key is used in combination with other keys to execute commands.
Navigation keys (6)	These keys enable you to move the cursor on the screen.

<i>Keys</i>	<i>Descriptions</i>
Application key (7) 	The Application key displays a shortcut menu; pressing this key is equivalent to clicking the right mouse button.
Numeric keypad area (8)	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> indicator illuminates.
Operator keys (9)	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 execute 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 [®] key (10) 	The key with the Windows[®] logo displays the Windows [®] Start menu; it is equivalent to clicking the Start button on the taskbar.

Combinations and functions with the Windows key

Combinations

Functions

⊞ + F1	Displays Windows Help .
⊞ + Tab	Switches the selected button on the taskbar.
⊞ + E	Displays Windows Explorer .
⊞ + F	Displays the Search Results window to find a file or folder. This is equivalent to selecting Search and then For files or Folders from the Start menu.
⊞ + Ctrl + F	Displays the Search Results - Computer window where you can locate other computers.
⊞ + M	Minimizes all displayed windows.
Shift + ⊞ + M	Returns all minimized windows to their previous size.
⊞ + R	Displays the Run window. This is equivalent to selecting Run from the Start menu.
⊞ + Insert	Displays the System Properties window. This is equivalent to double-clicking the System icon in the Control Panel .

Indicators

Indicator	Functions
power 	Power on: lights green. Standby mode: flashes amber. Hibernate mode: turns off.
battery 	Indicates the status of the battery inserted in the computer.
Memory Stick™ 	Turns on when the Memory Stick™ is in use. Turns off when the Memory Stick™ is no longer in use.
docking station 	Turns on when the docking station is in use. Turns off when the docking station is no longer in use.

Light	On	Off
 hard disk	Data is read from or written to the hard drive. Do not enter Standby mode or turn off the computer when this indicator light is on.	The hard drive is not being accessed.
 Num Lock	Turns on when the number keys 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 the letters appear in lowercase as you type (unless you hold down the <Shift> key).
 Scroll Lock	Turns on when the screen scrolls differently (depends on the application, no effect in many applications.)	Turns off when the information moves across the display normally.

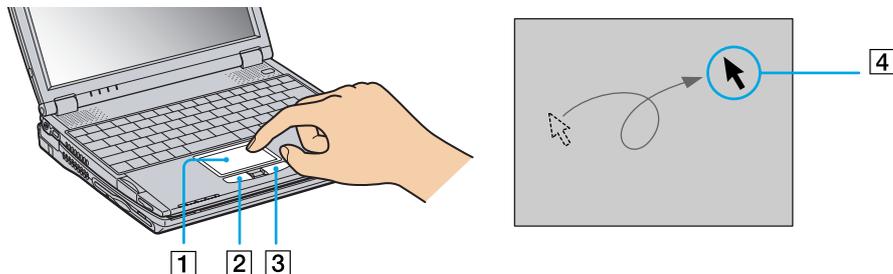
Combinations and functions with the Fn key

Combinations/ Feature	Functions
Fn+  (F3): speaker switch	Toggles the built-in speaker on and off.
Fn +  (F4): speaker volume	Adjusts the built-in speaker volume. To increase volume, press <Fn>+<F4> and then  or  To decrease volume, press <Fn>+<F4> and 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 between the LCD, external display (connected to the monitor connector) and both LCD and external display.
Fn+F : change the display size	Zooms the display size in or out when the display is set to less than maximum resolution.
Fn+  (F12): Hibernate	Provides for the lowest level of power consumption. When you execute this command, the states of the system and of the peripheral devices are written to the hard disk and the system power is turned off. To return the system to its original state, use the power switch to turn on the power.

 Some functions are not available until Windows is launched.

Using the touchpad

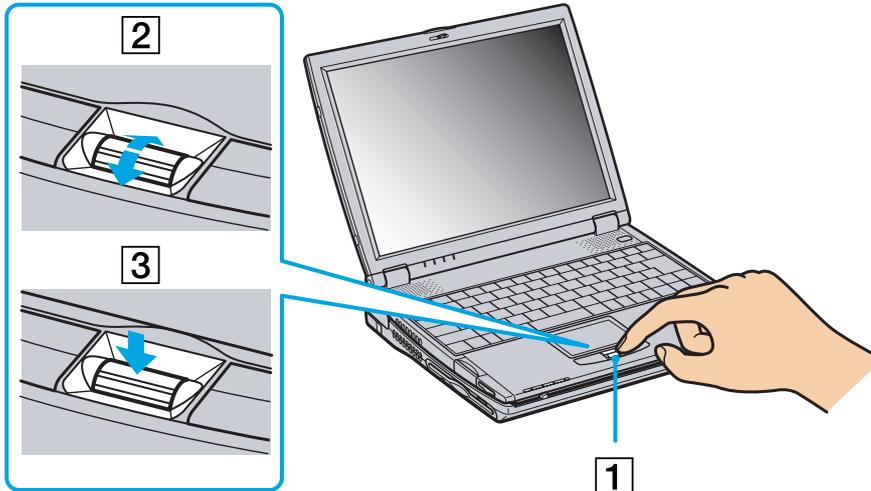
The keyboard contains a cursor-pointing device, your touchpad (1). You can point to, select, drag, and scroll objects on the screen using the built-in touchpad.



<i>Action</i>	<i>Description</i>
point	Slide one finger on the touchpad (1) to place the pointer (4) on an item or object.
click	Press the left button (2) once.
double-click	Press the left button twice.
right-click	Press the right button (3) once. In many applications, this action displays a shortcut menu.
drag	Slide one finger while pressing the left button.
scroll	Move your finger along the right edge of the touchpad to scroll vertically. Move your finger along the bottom to scroll horizontally. (The scroll function is available only with applications that support a touchpad scroll feature.)

Using Center Jog Control

Your computer is equipped with a **Center Jog Control** (1) between the right and the left buttons of your computer. You can turn (2) and/or press (3) the Center Jog Control to scroll the window, select a software, adjust the internal speaker volume, etc.



The Center Jog Control window is always displayed on the screen. This window has two modes: Launcher mode or Guide mode.



The Center Jog Control window is in Launcher mode until you start an application or the Center Jog Control window becomes active. When an arrow appears next to an item in the Center Jog Control window, you can display a submenu for that item by selecting it and pressing the Center Jog Control.



The Center Jog Control window switches to Guide mode when you start an application and its window becomes active. Depending on the application, the Center Jog Control window displays different commands that you can select or execute by rotating or pressing the Center Jog Control.

 You can adjust the size of the Center Jog Control window or close it. To display the Center Jog Control window, double-click  or  on the taskbar.

To use the Center Jog Control in Launcher mode, proceed as follows:

- 1 Click the **Center Jog Control** window or press the Center Jog Control while pressing the **<Ctrl>** key to switch to Launcher mode.
- 2 Turn the Center Jog Control to select an item, then press the Center Jog Control. The Center Jog Control window switches to Guide mode, and shows the Jog Dial function.



- 3 Turn or press the Center Jog Control to use the Center Jog Control function.
- 4 To select another item, switch to Launcher mode and repeat this procedure.

Software supporting Center Jog Control

If the Sony software supporting the Center Jog Control is active, you can use Center Jog Control functions allocated to each software.

Software not supporting Center Jog Control

If the software in use does not support the Center Jog Control, you can scroll the window or adjust the window size.

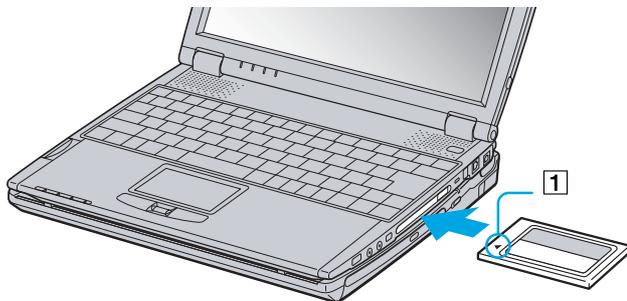
Using PC Cards

Your computer includes a PC Card slot. PC Cards allow you to connect portable external devices.

Inserting a PC Card

To insert a PC Card, proceed as follows:

- 1 Insert the PC Card into the PC Card slot, front label facing up (1).



- 2 Gently push the card into the slot until the card is fixed into the connector.

 Some PC Cards may require you to disable idle devices when using the PC Card. You can use Sony Notebook Setup to disable devices.

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

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 in the correct direction. See the manual supplied with your PC Card for more information on use.

For some PC Cards, if you alternate between normal power operation and the standby or hibernate power management modes while the card is inserted, you may find that a device connected to your system is not recognized. Reboot your system to correct the problem.

You can connect the optional PCGA-CD51/A CD-ROM drive or the optional PCGA-CDRW52 CD-RW drive to the PC Card slot on your notebook. However, do not connect these drives if the main unit is docked. A simultaneous use may cause malfunction..

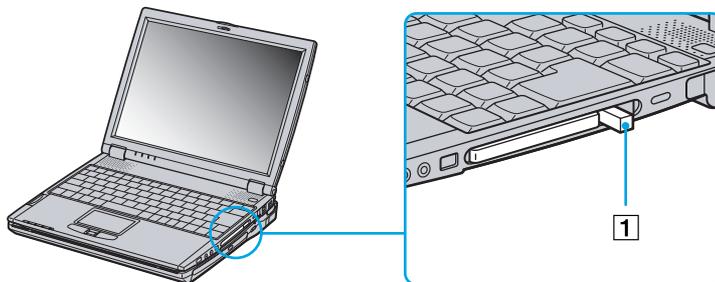
Removing a PC Card

If you unplug this device from the computer when turned on, your system might crash and you might lose data that you did not save before.

If your computer is turned off, you do not have to follow these instructions.

To remove a PC Card, proceed as follows:

- 1 Double-click  in the taskbar.
The **Unplug or Eject Hardware** window appears.
- 2 Select the hardware you want to unplug and click **Stop**.
The **Stop a Hardware device** dialog box appears.
- 3 Confirm the device to stop and click **OK**.
A **Safe to Remove Hardware** window appears, confirming the device can be safely removed from the system.
- 4 Click **OK**.
- 5 Click **Close** to close the **Unplug or Eject Hardware** dialog box.
- 6 Eject the PC Card release button (1) and then press it to eject the card.
- 7 Gently press the card and pull it out.



 While the card is inserted, your computer may not enter the Hibernate power management mode. It may enter Standby mode. It is recommended to remove the card when your computer enters Hibernate mode by pressing **<Fn> + <F12>** keys or by using the Power Panel utility, and when it is set to enter Hibernate mode automatically while using a battery as the source of power.

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

-  Do not select and stop a USB disk drive, a Sony i.LINK CD-RW/DVD-ROM drive or a Sony i.LINK DVD-ROM drive.
-  If you stopped a Sony i.LINK CD-RW/DVD-ROM drive or a Sony i.LINK DVD-ROM Drive by mistake, disconnect the docking station and connect it again. See "Disconnecting your computer from the docking station" for details.

Using Memory Stick

This new compact, portable, and versatile recording medium has a data capacity exceeding that of a floppy disk. The Memory Stick™ is specially designed for exchanging and sharing digital data with compatible products. Because it is removable, it can be used for external data storage.

 When the Memory Stick™ erasure prevention switch is set to LOCK, data cannot be recorded or erased.

You can enjoy images that you have recorded with a Memory Stick™ compatible video camera recorder or a digital still camera.

Before using Memory Sticks™, you should back up important data.

Only MagicGate™ Memory Stick media can be used with copyright protected data like music.

To avoid damaging data:

- Do not remove a Memory Stick™ or turn off the power while the access light is on.
- Do not use Memory Sticks™ in locations that are subject to static electricity or electrical noise.
- Do not touch the Memory Stick™ connector with your finger or metallic objects.
- Do not attach labels other than the supplied label to a Memory Stick™.
- Do not bend, drop, or apply strong shock to Memory Sticks™.
- Do not disassemble or modify Memory Sticks™.
- Do not allow Memory Sticks™ to get wet.
- Do not use or store Memory Sticks™ in a location that is subject to:
 - Extremely high temperatures, such as in a car parked in the sun
 - Direct sunlight

To prolong the life of Memory Sticks™, use the supplied storage case.

Types of Memory Stick media

Two types of **Memory Stick™** media are available. The first type, **MagicGate™ Memory Stick** (hereafter referred to as **MG Memory Stick** media), is provided with copyright protection. The second type, simply referred to as **Memory Stick™** media, does not have the same copyright protection as MagicGate media.

You can use both media with your notebook.

For music, which requires copyright protection, you can only use **MG Memory Stick** media with your notebook. You can also use MagicGate-compatible devices to record and playback music when they are connected to your computer.

You can store mixed data on the **Memory Stick™** media. For example, you can copy an image on to **MG Memory Stick** media that already contains music.

What is MagicGate?

MagicGate is copyright protection that consists of authentication and encryption technology. Authentication technology ensures that protected content is only transferred between compliant devices and media. Protected content is recorded and transferred in an encrypted format to prevent unauthorized duplication or playback.

 A MG Memory Stick can be recognized from its  mark.

Copyright protected music data cannot be checked out to a Memory Stick other than an MG Memory Stick.

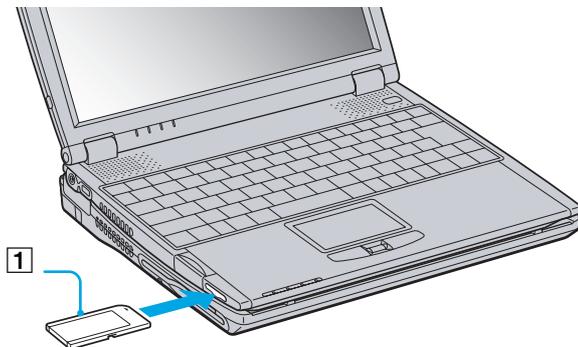
The recorded music is limited to private use only. The use of music for any purpose other than the intended use requires the permission of the copyright holders.

Sony is not responsible for music files that are not saved on your computer due to unsuccessful recording from CDs or unsuccessful downloading of music.

Inserting a Memory Stick

To insert a Memory Stick™, proceed as follows:

- 1 Insert it into the slot until the Memory Stick™ (1) is fixed into the connector.



- 2 When the Memory Stick™ is connected properly, you can see the contents of the card by clicking the Removable Disk (S:) icon.

 **VisualFlow** can be configured to start automatically when you insert a Memory Stick. You can change the settings in **VAIO Action Setup**.

- ! Hold the Memory Stick™ media with the arrow pointing in the correct direction when you insert it into the slot. To avoid damaging the computer or the Memory Stick™ media, do not force the Memory Stick™ media into the slot if it does not insert smoothly.

Removing a Memory Stick

To remove a Memory Stick™, proceed as follows:

- 1 Make sure the access light is off and push the Memory Stick™ in toward the computer.
- 2 When it comes out, pull it out.

The **Memory Stick™** window closes automatically when you remove the Memory Stick™.

 Always remove the Memory Stick™ gently, or it may pop out unexpectedly.

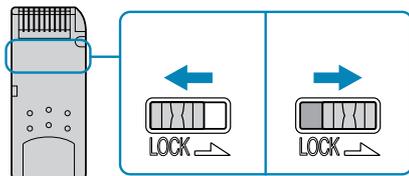
It is recommended to remove the Memory Stick™ before shutting down the computer.

- ! To prevent the possible loss of data, do not remove a Memory Stick™ media when the Memory Stick™ media access light is on. Large image files require more time to store on a Memory Stick™ media, so always check the Memory Stick™ media access indicator and make sure that it is off before you remove the Memory Stick™ media.

Write-protecting a Memory Stick

Memory Sticks™ are designed with an erasure prevention switch to protect valuable data from accidental erasure or overwriting.

Move the tab to the right or left to set or release write-protection. When the erasure prevention switch is off, data can be saved on the Memory Stick™. When the erasure prevention switch is on, data can be read from but not saved on the Memory Stick™.



Formatting a Memory Stick

Memory Sticks™ are formatted for immediate use when you purchase them. If you need to reformat a Memory Stick, use the **Memory Stick Formatter** software provided with your notebook. For more details about using **Memory Stick Formatter**, refer to the help files.

To format a Memory Stick™, proceed as follows:

- 1 Insert the Memory Stick™ into the notebook. See Inserting a Memory Stick™.
- 2 Click the **Start** button, point to **Programs**, click **Memory Stick Utility** and then click **Memory Stick Formatter**.
- 3 Click **Start Formatter**.
Memory Stick Formatter starts.

 It is not possible to format a Memory Stick™ with **Memory Stick Formatter** when **OpenMG JukeBox** is active in the taskbar.

- ! If you format a Memory Stick that already contains data, all the data (including music data) will be erased. Confirm that the Memory Stick does not contain files that you want to keep

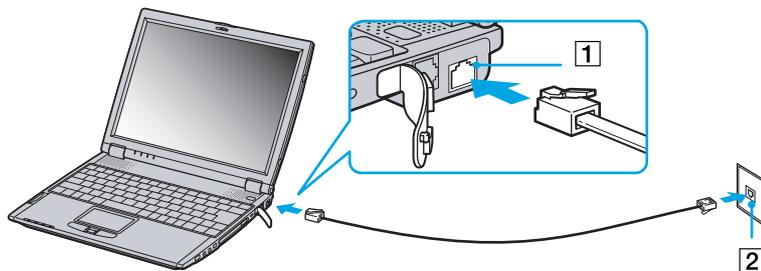
Using the modem

Your notebook is equipped with an internal modem.

You need to connect a phone line to take advantage of online services and the Internet, to register your computer and software online, and to contact VAIO-Link.

To connect a phone line, proceed as follows:

- 1 Plug one end of the phone cable (1) into the phone line jack on the computer.



- 2 Plug the other end into the wall jack (2).

 Do not pull the flexible cover too forcefully.

A country-specific phone plug is supplied with your VAIO notebook, allowing you to plug the phone line into the wall jack.

Your computer cannot be connected to a coin-operated telephone, and may not work with multiple phone lines or a private branch exchange (PBX). If you connect the modem to a parallel connected phone line, the modem or the other connected device may not function properly. Some of these connections may result in excess electrical current and could cause a malfunction in the internal modem.

Phone cable and connectors are TNV (Telecommunications Network Voltage), according to EN60950.

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: **Standby** mode and **Hibernate** mode.

When using battery power, you should be aware that the computer automatically enters **Hibernate** mode when the remaining battery charge drops below 7 percent, regardless of the power management setting you select.

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

Using 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.

Using Standby mode

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

To activate Standby mode, proceed as follows:

Use the PowerPanel utility.

To return to Normal mode, proceed as follows:

Press any key.

Using Hibernate mode

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

To activate Hibernate mode, proceed as follows:

Press **<Fn>+<F12>**.

Or,

Use the PowerPanel utility.

To return to Normal mode, proceed as follows:

Turn on the computer by pressing the power button.

The computer returns to its previous state.



When the computer is in Hibernate mode, you cannot insert a disk.

Hibernate mode requires more time than Standby mode to be activated.

It takes more time to return to normal mode from Hibernate mode than from Standby mode.

Hibernate mode uses less power than Standby mode.

Connecting peripheral devices

You can add functionality to your computer by connecting or using any of these peripherals and enjoy the software described in the About the software on your Sony Notebook user guide:

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

Connect the power cord only after connecting all cables.

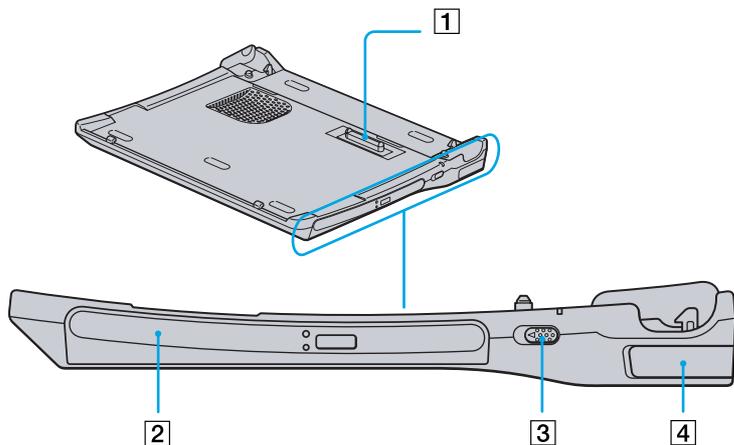
Turn on the computer only after turning on all peripherals.

Connecting a docking station

You can use the PCGA-DSM5 CD-RW/DVD docking station or the PCGA-DSD5 DVD docking station (both optional) to connect peripheral devices such as a printer or an external display or to use diskettes. Different ports are available when the main unit is docked and not docked.

Locating the docking station controls and connectors

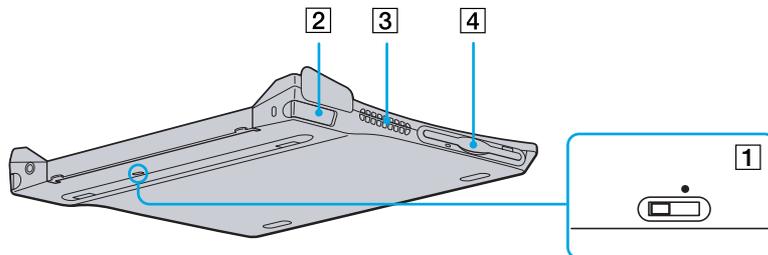
Right & Front



1	docking connector		3	UNDOCK switch	(page 49)
2	CD-RW/DVD-ROM drive or DVD-ROM drive	(page 51)	4	release lever	(page 49)

 All connectors are SELV (Safety Extra Low Voltage) according to EN60950.

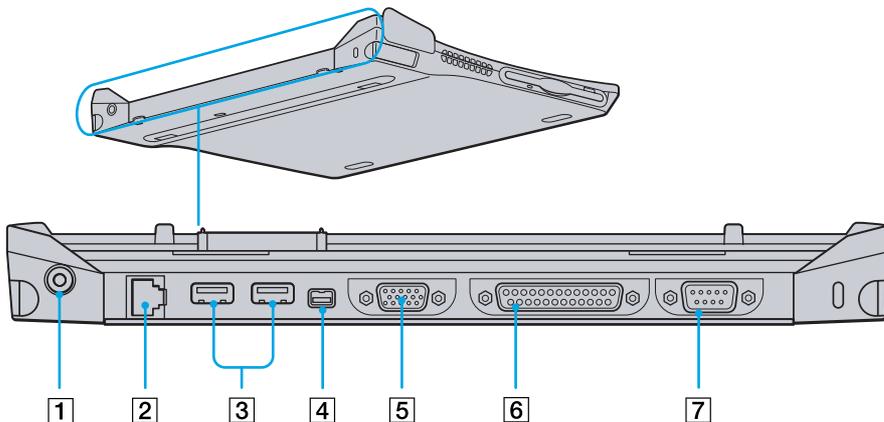
Left & Bottom



1	i.LINK™ network switch	(page 67)	3	ventilation slot	
2	release lever	(page 49)	4	floppy disk drive	(page 54)

 All connectors are SELV (Safety Extra Low Voltage) according to EN60950.

Back



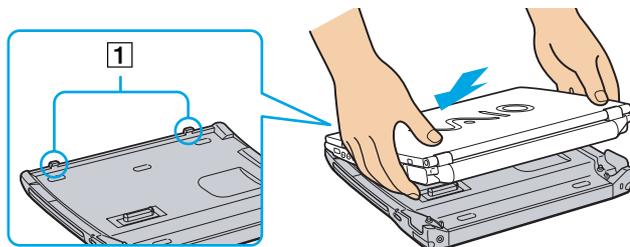
1	DC In		5	monitor connector	(page 55)
2	Ethernet network connector	(page 69)	6	printer connector	(page 63)
3	USB connectors	(page 61)	7	serial port	
4	S400 i.LINK™ connector	(page 64)			

 All connectors are SELV (Safety Extra Low Voltage) according to EN60950.

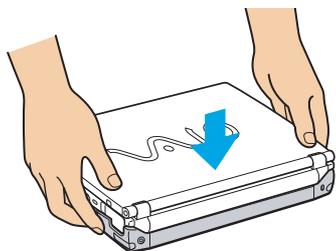
Attaching your computer to the docking station

To connect your computer to the docking station, proceed as follows:

- 1 Plug the AC adapter cable into the DC In connector on the docking station and the other end to an AC outlet.
The DC In LED turns on.
- 2 Close the cover of your computer.
- 3 Grab the sides of the notebook in both ends.
- 4 Insert the front of the notebook into the docking station tabs (1).



- 5 Press the bottom of the notebook on the docking station until you hear two clicks.
The docking station is now connected to the computer.

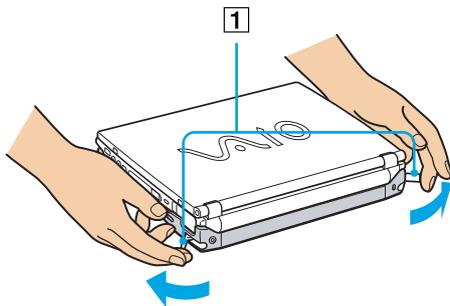


-  You cannot connect the docking station when the notebook is in a power saving mode. Return to normal mode before docking.
Do not connect the docking station when the battery is removed.
If the battery is charged, you can connect the notebook to the docking station even when the notebook is on.
Make sure all cables and peripherals are removed before connecting your main unit to the docking station.
The LCD display may be damaged if you press the top of the notebook too forcefully.

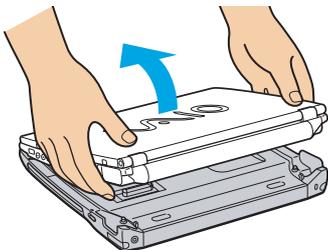
Disconnecting your computer from the docking station

To disconnect your computer from the docking station, proceed as follows:

- 1 If the notebook is off, simply follow steps 3 to 5.
- 2 If the notebook is on, click **Start**, then **Eject PC** or pull the UNDOCK switch towards you.
- 3 Close the cover of your notebook.
- 4 Grab the right and left release levers (1) and pull them to the outside until you hear two clicks.



- 5 Release the notebook from the docking station.



- 6 Click **OK** to the **Windows 2000 has finished undocking the system. If you need to remove the system from the Docking Station, please do so now** message if your notebook was on before undocking.



Do not undock the notebook when the docking station indicator is on. If you undock when the docking station indicator on the notebook is on, you may lose data or malfunction may occur.

Make sure all cables and peripherals are removed before disconnecting the main unit from the docking station.

Make sure the battery is connected when you undock the main unit while it is running.

If you undock when battery power is low, you may lose data.

If the i.LINK device is connected, stop the i.LINK device before undocking.

You cannot undock when the notebook is in a power saving mode. Return to normal mode before undocking.

Do not place any objects on top of the notebook when you handle the release levers.

Do not wait too long before you release the notebook from the docking station.

Using the optical disk drive on the docking station

The docking station is equipped with an optical disk drive*. From the docking station, you can listen to audio CDs or use the recovery CDs, play DVDs and burn CDs**

* PCGA-DSM5 docking station: CD-RW/DVD-ROM drive / PCGA-DSD5 docking station: DVD-ROM drive

** PCGA-DSM5 docking station only.

To insert a disk, proceed as follows:

- 1 Turn on the computer.
- 2 Press the eject button to open the optical disk drive.
The tray slides out.
- 3 Place an optical disk in the middle of the tray with the label side facing up until the disk clicks into place.
- 4 Close the tray by pushing it gently.

 When the computer is in **Standby** or **Hibernate** mode, you cannot insert or remove a disk.

Be sure to seat the disk firmly over the disk drive hub fingers. If you do not seat the disk firmly, you could damage your disk drive and you may not be able to open the tray.

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

If the disk does not come out when you press the Eject button, go to **Windows Explorer**. Select the drive, click the right button of your mouse and select **Eject**. If it still doesn't work, turn off the computer and insert a thin, pointed object into the manual eject hole.

You can also connect the optional PCGA-CD51/A CD-ROM drive or the optional PCGA-CDRW52 CD-RW drive to the PC Card slot on your notebook. However, do not connect these drives if the main unit is docked. A simultaneous use may cause malfunction.

To achieve optimum performance when playing **DVD-ROM** disks, you should follow the following recommendations.

- ❑ You can play DVDs using the **WinDVD** software. See the help files in the WinDVD software for details.
 - ❑ Close any open application before playing a DVD-ROM movie.
 - ❑ When playing DVD movies on battery power, set the power management profile to DVD. With other profiles, the movies can be choppy.
 - ❑ Do not switch the power saving modes while playing DVD video.
 - ❑ If the virus checker is active, you need to disable it.
 - ❑ Do not use resident disk utilities and resident utilities to speed up access to disks because they may cause unstable operation.
 - ❑ Make sure that the screensaver is deactivated.
 - ❑ Depending on the display setup properties you selected, you may use **<Fn> + <F>** command to expand the screen to full screen size.
 - ❑ Region codes indicators are labeled on the DVD disks to indicate in which region and what type of player can play the disk. Unless a '2' or 'all' is labeled on your DVD disk or on the packaging, you cannot play the disk on this player.
 - ❑ Do not try to change the region code settings of the DVD-ROM drive. Trouble caused by changing the region code settings of the DVD-ROM drive are not covered by the warranty.
-  Some DVD videos may allow limited operations or functions, or present sound noise or dropped frames.

Using the CD-RW/DVD-ROM functions on the docking station

To listen to audio CDs or to use the recovery CDs, you can use a CD-ROM drive, a CD-RW drive or a DVD-ROM drive.

To play DVDs, you have to use a DVD-ROM drive.

To burn CDs, you have to use a CD-RW drive and you can use CD-RW or CD-R disks.

To achieve optimum performance when writing data on a CD-RW/CD-R, follow these recommendations.

- ❑ A **CD-RW** (CD-ReWritable) disk is a data memory medium that can be used to write, erase and rewrite a program or other data.
- ❑ A **CD-R** (CD-Recordable) is a data memory medium that can be used to write a program or other data, but only once.
- ❑ You can use the **Drag'n Drop CD** software to write data to a CD-R or CD-RW.
- ❑ To make a CD-R's data readable on a CD-ROM drive, you need to close the session when you eject it. To complete this process, follow the instructions included with your software.
- ❑ Always use the AC adapter as the power source for your computer when you write data to a CD-RW or CD-R. It is not possible to burn CDs when the CD-RW/DVD docking station is not connected to AC power.
- ❑ Only use circular disks. Do not use disks with any other shape (star, heart, card, etc.), as this may damage the CD-RW drive.
- ❑ Do not strike or shake the computer while writing data to a disk.
- ❑ For optimal writing speed, deactivate the screensaver before writing data to a disk.
- ❑ Memory-resident disk utilities may cause unstable operation or data loss. Deactivate these utilities before writing data to a disk.
- ❑ For best results, use CD-Rs that are compatible with 4x speed.
- ❑ When using a software to burn CDs, be sure to exit and close all other applications.
- ❑ Exit anti-virus software before writing data to a disk.
- ❑ Never touch the surface of the disk. Fingerprints and dust on the surface of a disk may cause writing errors.
- ❑ Do not put your notebook into a power saving mode while using a software to write data to CDs.

Using the floppy disk drive on the docking station

The docking station is equipped with an internal floppy disk drive.

You can also use an external USB floppy disk drive on the undocked main unit. It is not possible to use any USB floppy disk drive when the notebook is docked.

Inserting a diskette

To insert a diskette, proceed as follows:

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

Removing a diskette

To remove a diskette, proceed as follows:

- 1 Wait until the LED indicator turns off.
- 2 Press the eject button to remove the diskette.

Connecting an external display

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

- ❑ Computer display (monitor)
- ❑ Projector

 Turn off your computer and the peripherals, unplug the AC adapter and the power cord before connecting the external display.

Connect the power cord after connecting all other cables.

Turn on the peripherals, then turn on your computer.

Connecting a computer display

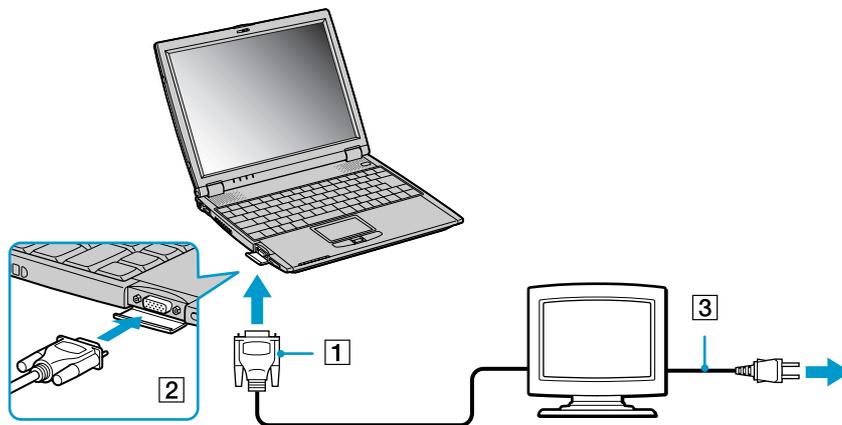
You can connect a computer display either directly to your notebook or via the docking station.

You may not be able to display the computer's LCD and the external display together, depending on the type of computer display and projector used.

When you connect an external display to the monitor connector, you can press **<Fn>+<F7>** to toggle the output between the Liquid Crystal Display (LCD), the external monitor or both devices.

To connect a computer display to your notebook, proceed as follows:

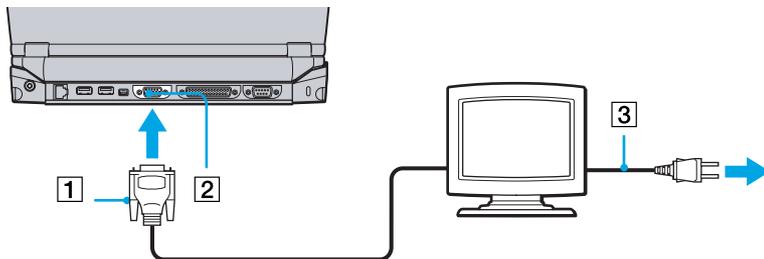
- 1 Plug the monitor plug (1) into the notebook monitor connector (2).
- 2 Plug the power cord (3) into an AC outlet.



 You cannot use the monitor connector on your notebook when the docking station is connected to the notebook.

To connect a computer display to the docking station, proceed as follows:

- 1 Plug the monitor plug (1) into the docking station monitor connector (2).
- 2 Plug the power cord (3) into an AC outlet.



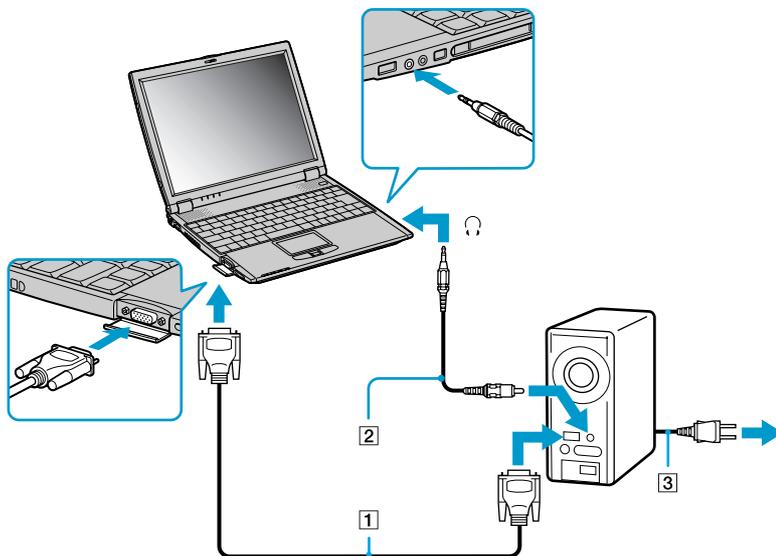
 If the main unit is docked, you can only use the monitor connector on the docking station

Connecting a projector

You can connect a projector (such as the Sony LCD projector) directly to your notebook or via the docking station.

To connect a projector to your notebook, proceed as follows:

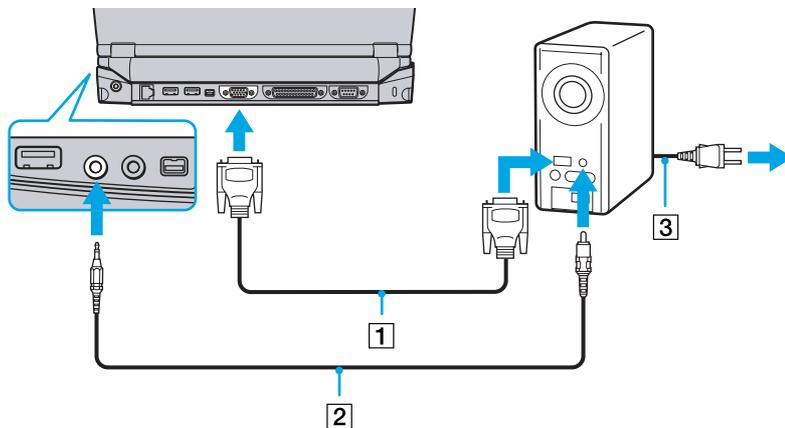
- 1 Plug the RGB signal cable (1) into the notebook monitor connector identified by the I/O symbol.
- 2 Plug the audio cable (2) into the earphone connector identified by the  symbol.
- 3 Connect the power cord (3) of the projector into an AC outlet.



You cannot use the monitor connector on your notebook when the docking station is connected to the notebook.

To connect a projector to your docking station, proceed as follows:

- 1 Plug the RGB signal cable (1) into the docking station monitor connector identified by the I/O symbol.
- 2 Plug the audio cable (2) into the notebook earphone connector identified by the  symbol.
- 3 Connect the power cord (3) of the projector into an AC outlet.



 If the main unit is docked, you can only use the monitor connector on the docking station.

Connecting external speakers

You can enhance the sound quality of your computer by connecting external speakers.

To connect external speakers, proceed as follows:

- 1 Plug the speaker cable into the notebook earphone connector identified by the  symbol.
- 2 Turn down the volume of the speakers before you turn them on.

 Make sure your speakers are designed for computer use.

Do not place diskettes on the speakers; their magnetic field may damage the data on the diskettes.

Connecting an external microphone

It is possible to plug in an external microphone to your VAIO notebook.

To connect an external microphone, proceed as follows:

Plug the microphone cable into the microphone connector identified by the  symbol.

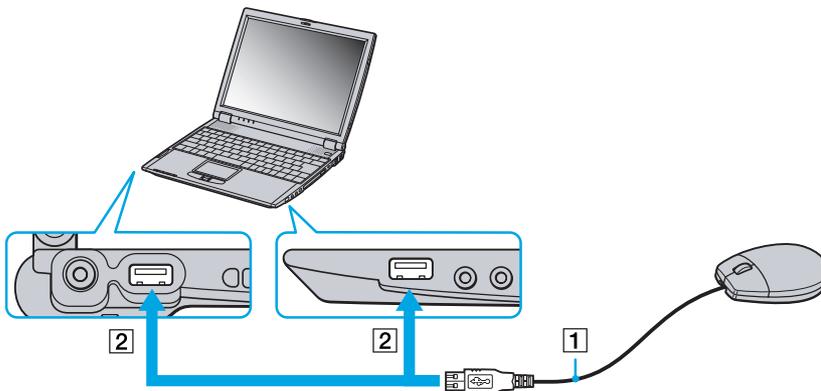
 Make sure your microphone is designed for computer use.

Connecting a Universal Serial Bus (USB) mouse

You can connect a USB device (e.g. mouse, floppy disk drive, printer...) to your notebook or to your docking station. If the main unit is docked, you can only use the USB connectors on the docking station.

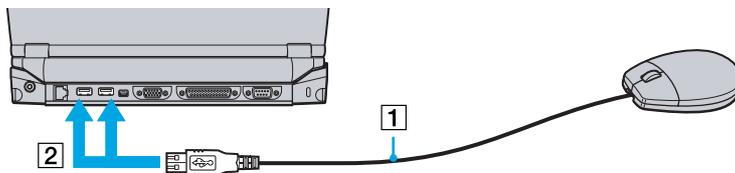
To connect a USB mouse to the notebook, proceed as follows:

Plug the USB cable (1) into one of the notebook USB connectors (2) identified by the  symbol.



To connect a USB mouse to the docking station, proceed as follows:

Plug the USB cable (1) into one of the docking station USB connectors (2) identified by the Ψ symbol.



You do not need to shut down the computer before connecting or disconnecting a USB peripheral.

You can connect the optional Sony USB mouse (PCGA-UMS1 series). As the driver for this mouse is preinstalled on your computer, you can use the mouse by just connecting it.

Connecting a printer

You can connect a Windows-compatible printer to your computer to print documents.

Connecting a printer using the USB connector

To connect a printer using the USB connector, proceed as follows

- 1 Plug an optional USB printer cable into one of the USB connectors on your computer or your docking station. A USB connector is identified by the  symbol.
- 2 Plug the printer power cord into an AC outlet.

Before using the printer, you may need to change the Printer settings in the Sony Notebook Setup software.

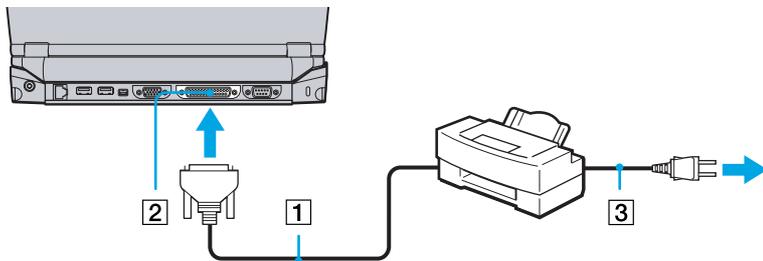
Turn off your computer and the printer, unplug the AC adapter and the power cord before connecting the printer.

Connecting a printer using the printer connector

The docking station (optional) is equipped with a printer connector.

To connect a printer using the printer connector, proceed as follows:

- 1 Plug the printer cable (1) supplied with the printer into the docking station printer connector (2) identified by the  symbol.
- 2 Plug the printer power cord (3) into an AC outlet.



 Before using the printer, you may need to change the Printer settings in the Sony Notebook Setup software.

Connecting an i.LINK device

Your computer includes an i.LINK™ (IEEE1394) connector, which you can use to connect to an i.LINK™ device such as a digital video camera recorder or to connect two VAIO notebooks in order to copy, delete or edit files.

The i.LINK™ connector of your notebook does not supply power to external devices generally powered by i.LINK™ connectors.

The i.LINK™ connector supports transfer rates up to 400 Mbps; however, the actual transfer rate depends on the transfer rate of the external device.

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

i.LINK™ cables compatible with your VAIO notebook include cables with the following part numbers: VMC-IL4415A (a 1.5 meter cable with a 4-pin connector at each end), VMC-IL4408Series (a 0.8 meter cable with a 4-pin connector at each end).

 An i.LINK™ connection with other compatible devices is not fully guaranteed.

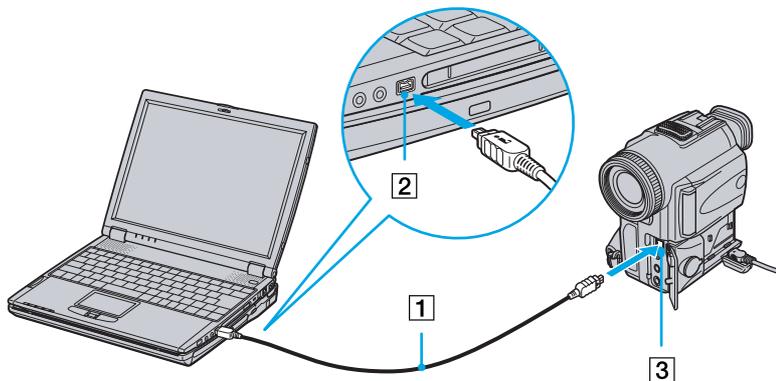
The i.LINK™ connection varies depending on the software applications, operating system and i.LINK™ compatible devices you use. Refer to the documentation that came with your software for more information.

Check the working conditions and OS compatibility of i.LINK-compatible PC peripherals (HDD, CD-RW drive etc.) before you connect them to your notebook.

Connecting a digital video camera recorder

To connect a digital video camera recorder to your notebook, proceed as follows:

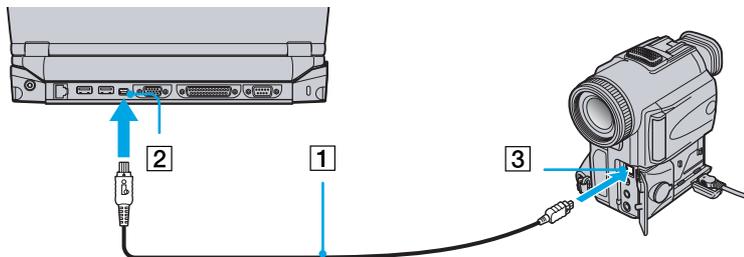
- 1 Plug one end of the i.LINK™ cable (1) into the i.LINK™ connector (2) of the computer and the other end into the DV Out connector (3) on the digital video camera recorder.



- 2 Launch the DVgate application.

To connect a digital video camera recorder to the docking station, proceed as follows:

- 1 Plug one end of the i.LINK™ cable (1) into the i.LINK™ connector (2) of the docking station and the other end into the DV Out connector (3) on the digital video camera recorder.



- 2 Launch the DVgate application.

 On Sony digital video cameras, connectors labeled **DV Out**, **DV In/Out** or **i.LINK™** are i.LINK™-compatible.

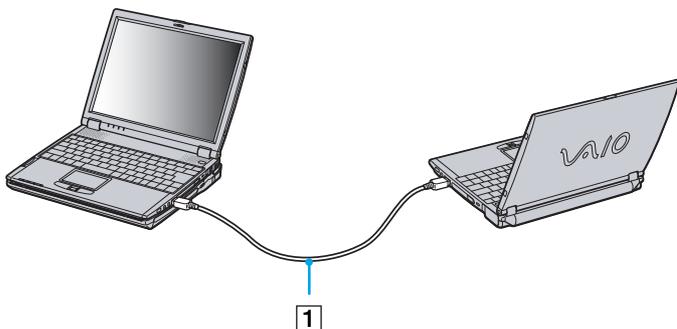
The Sony digital video camera recorder is an example; your digital video camera recorder may need to be connected differently.

If your digital video camera recorder includes a Memory Stick™ slot, you can copy images from it to your computer via a Memory Stick™. To do so, simply copy images on the Memory Stick™, then insert it into the Memory Stick™ slot of your computer.

Connecting two VAIO notebooks

With Smart Connect you can copy, edit or delete files on another VAIO computer (equipped with Smart Connect) connected to your computer with an optional i.LINK™ cable (1).

You can also print a document on a printer connected to another VAIO computer.



If the notebook is connected to the optional docking station, proceed as follows to exchange data with another computer using an i.LINK™ cable (optional):

- 1 Disconnect your notebook from the docking station.
- 2 Disconnect all cables from the docking station.
- 3 Set the i.LINK™ network switch on the bottom of the docking station to the position marked by a dot (to the right) by means of a thin pen tip.
- 4 Connect the docking station to your notebook as described in 'Connecting a docking station'.
- 5 Turn on the notebook.
- 6 Connect your computer to another computer with the i.LINK™ cable.

 When you use Smart Connect to connect two VAIO computers, you must assign each computer a unique name by which it can be identified when the two computers are networked.

Do not set the i.LINK™ network switch on the docking station when the notebook is on. It causes malfunction.

Set the i.LINK™ network switch on the docking station after removing all cables connected to the docking station.

When using Smart Connect, do not connect or remove the docking station: Smart Connect may become unavailable.

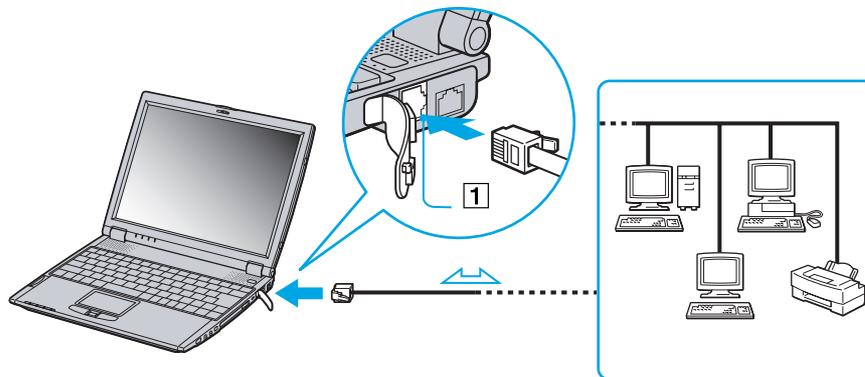
Set the i.LINK™ network switch to the off position once you have finished exchanging data.

Connecting to a network (LAN)

You can connect your notebook or your docking station to 10BASE-T/100BASE-TX-type networks via an Ethernet network cable. For the detailed settings and devices needed to connect to the network, consult your Network Administrator.

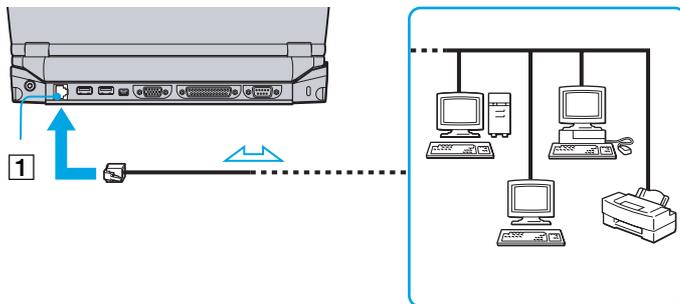
To connect your notebook to a LAN, proceed as follows:

Connect the network cable to the ethernet network connector (1) on the notebook.



To connect your docking station to a LAN, proceed as follows:

Connect the network cable to the ethernet network connector (1) on the docking station.



If the main unit is docked, you can only use the ethernet network connector on the docking station.

For more information about connecting your notebook to the network, please consult the Hardware troubleshooting section of the Vaio-Link website:

[How to troubleshoot network problems](#)

- ! Do not plug a phone cable into the ethernet network connector on your notebook.

Getting help

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

Sony support options

Sony provides several support options for your computer.

Printed documentation supplied with your notebook

- ❑ The **Customer Guide** explains how to start your computer and use the basic functions. This guide gives you the information to access VAIO-Link.
- ❑ The **Getting Started** gives you a list of the items you find in the box and a summary of the bundled applications.

Online user guides on your computer's hard drive

- ❑ The **Hardware guide** explains how to use your computer, connect peripheral devices. It gives you a packing list and the list of specifications of your computer and accessories.
- ❑ The **Software guide** lists the pre-installed software titles and explains how to use the utility programs and perform basic computer tasks.
- ❑ The **Customer Service Guide** gives you complete information on the VAIO-Link Services.

Other sources of information

- ❑ The **online help files** that accompany your pre-installed software contain instructions on using the software.
- ❑ **VAIO-Link website:** if you have any problem with your computer, you can access the VAIO-Link web site. Go to:
<http://www.vaio-link.com>

- ❑ **VAIO-Link Response Centre:** Before contacting VAIO-Link Response Centre, try to solve the problem by reading the User Guides and help files for the peripherals or software.

 You need to plug in the phone line and configure your modem for use before using the communication features described in this manual.

Troubleshooting

This section describes how to solve common problems you might encounter when using your notebook. Many problems have simple solutions. Please, try these suggestions before contacting VAIO-Link.

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 packs are inserted properly and that they are charged.
- ❑ Make sure there is no diskette in the floppy disk drive.
- ❑ Confirm that the power cord and all cables are connected firmly.
- ❑ If you have plugged the computer into a UPS, make sure the UPS is turned on and works.
- ❑ If you are using an external display, check that it is plugged into a power source and turned on. Check that you have switched to the external display and that the brightness and contrast controls are adjusted correctly.
- ❑ Moisture condensation may have occurred. Do not use the computer for at least one hour and then turn it on.
- ❑ When the internal backup battery is low on power, it may not be able to start your system properly.

The message Press <F1> to resume, <F2> to setup appears at startup

If the floppy disk drive is empty, proceed as follows to initialize the BIOS:

- 1 Turn off the computer.
- 2 Remove any peripheral devices connected to the computer.
- 3 Turn on the computer and press **<F2>** 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 **<Enter>**. The message **Load default configuration now?** appears.
- 6 Make sure that **[Yes]** is selected and then press **<Enter>**.
- 7 Press the arrow keys to select **Exit** (save changes) and then press **<Enter>**.
The message **Save configuration changes and exit now?** appears.
- 8 Make sure that **[Yes]** is selected and then press **<Enter>**.
- 9 Restart the computer by pressing **<Ctrl> + <Alt> + <Delete>** and by choosing **Shut Down**.

My computer does not shut down

It is recommended to shut down your computer using the **Shut Down** command on the Windows® **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, proceed as follows:

- Restart the computer by pressing **<Ctrl> + <Alt> + <Delete>** and by choosing **Shut Down**.
- If this does not work, press the power switch 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

- ❑ If you suspect one application is locking your system, you can try to stop it. To do this, press **<Ctrl>+<Alt>+<Delete>** once, click **Task Manager**, select the application or the process that is locking your system, and then click **End Task**.
- ❑ If the above method does not work or you do not know which application is locking your system, restart the computer. On the Windows[®] taskbar, click the **Start** button, click **Shut Down**, and then select **Shut Down** in the list and click **OK**.
- ❑ If the above method does not work, press the power switch and hold it for at least four seconds. This turns off the power.
- ❑ If your computer locks up while playing a CD-ROM, stop the CD-ROM, and shut down the computer by pressing **<Ctrl>+<Alt>+<Delete>**, and then click **Shut Down**.

My software program locks up or crashes

Contact the software publisher or designated provider for technical support.

My touchpad interprets a single tap as a double-click

Open the **Mouse** icon in the **Control Panel** and change the button assignments in the **Mouse Properties** dialog box. One of the buttons is assigned to the double-click action.

My mouse does not work

- ❑ Check that the mouse is plugged into the USB connector.
- ❑ If you are using an optional Sony USB mouse, check that the appropriate driver and mouseware are properly installed.

About the display

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 packs are inserted properly and that they are charged.
- ❑ Adjust the brightness of the LCD.
- ❑ The display mode may be set to external display mode. Press and hold the **Fn** key while pressing **F7** several times.

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

Use the controls on your external display to adjust the image.

The window I have just closed continues to appear on my LCD

Press the Windows[®] key and D key twice to refresh the screen.

About CD-ROMs and diskettes

My CD-ROM drive tray does not open

- ❑ Make sure the computer is turned on.
- ❑ Press the **Eject** button on the optical device drive.
- ❑ If the **Eject** button does not work, you can open the tray by inserting a sharp, pointed object into the hole to the right of the **Eject** button.

I cannot play a CD-ROM disk

- ❑ Make sure the label of the disk is facing up.
- ❑ If the disk requires software, make sure the software is installed according to the instructions of the program.
- ❑ Check the volume of your speakers.
- ❑ Clean the disk.
- ❑ Moisture condensation may have occurred. Leave the computer for at least 1 hour while it is turned on.

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.

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

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

The optional PCGA-UFD5 (USB) floppy disk drive is not recognized as drive A

To set the UFD5 to A, proceed as follows :

- 1 Turn the system power off and remove the docking station.
- 2 Turn the system power on.
- 3 Connect the UFD5

- 4 Select **Settings** from the **Start** menu, then click **Control Panel**.
- 5 Double-click **System**.
- 6 Select the **Hardware** tab, then click **Device Manager**.
- 7 Select **Universal Serial Bus controllers**, then **Y-E Data USB Floppy**.
- 8 Select **Operation**, then **Delete**.
- 9 Keep clicking **OK** until the message **Confirmation of deletion of device** appears.
- 10 Perform the **Scan to change hardware** from **Operation**.
The UFD5 will be recognized as drive A.

The floppy disk drive in the optional docking station connected to the notebook is not recognized as drive A

To set the docking station floppy disk drive to A, proceed as follows :

- 1 Turn the system power off and disconnect all peripherals.
- 2 Connect the docking station, then turn the system power on.
- 3 Select **Settings** from the **Start** menu, then click **Control Panel**.
- 4 Double-click **System**.
- 5 Select the **Hardware** tab, then click **Device Manager**.
- 6 Select **Floppy disk controllers**, then **Standard floppy disk controller**.
- 7 Select **Operation**, then **Delete**.
- 8 Keep clicking **OK** until the message **Confirmation of deletion of device** appears.
- 9 Perform the **Scan to change hardware** from **Operation**.
The docking station floppy disk drive will be recognized as drive A.

About sound

My speakers are not producing sound

- ❑ The built-in speakers may be turned off. Press **<Fn>+<F3>** to turn on the speakers.
- ❑ The speaker volume may be turned to the minimum. Press **<Fn>+<F4>**, and then press **→** or **↑** to increase the volume.
- ❑ If your computer is powered by battery, check that the battery is inserted 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®.
- ❑ If you use 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 batteries power the speakers, check that the batteries are inserted properly and that they are charged.
- ❑ If you have connected an audio cable to the headphone connector, disconnect the cable.

My microphone does not work

If you are using an external microphone, check that the microphone is plugged into the microphone connector.

About the docking station

I cannot operate the CD-RW/DVD-ROM drive or the DVD-ROM drive in the docking station connected to the notebook

To switch on the i.LINK™ network switch, proceed as follows :

- 1 Disconnect your notebook from the docking station.
- 2 Disconnect the AC adapter and all cables from the docking station if necessary.

- 3 Set the i.LINK network switch on the bottom of the docking station to the unmarked side with a thin pen tip.
- 4 Connect the docking station to your notebook.
- 5 Turn on your notebook.

You can now operate the CD-RW/DVD-ROM drive or the DVD-ROM drive.



Do not set the i.LINK network switch when the notebook is on. It causes malfunction.

Set the i.LINK network switch after removing all cables connected to the docking station.

I cannot operate the CD-RW/DVD-ROM drive or the DVD-ROM in the docking station connected to the notebook when the notebook is connected to another computer by means of an i.LINK cable

Set the i.LINK™ network switch on the bottom of the docking station to the on position. See 'Connecting two VAIO notebooks'.

I cannot remove the disk inserted in the drive

You cannot remove disks when the computer is in a power saving mode. Return to normal mode and then press the eject button.

The disk tray does not eject even when the eject button is pressed

Open the tray by inserting a sharp, pointed object in the manual eject hole.

When I disconnect the docking station, a warning message appears

Close all open applications and disconnect the peripheral devices, then disconnect the docking station by following the procedure in 'Disconnecting your computer from the docking station'.

About the modem

My internal modem does not work

- ❑ Check that the phone line is plugged into your computer.
- ❑ 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.
- ❑ In the **Phone and Modem Options** dialog box (**Control Panel / Phone and Modem Options**), check that your modem is listed on the **Modems** tab, and that the location information is correct on the **Dialing Rules** tab.

My modem cannot establish a connection

The modem dialing mode may be incompatible with your telephone line.

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

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 of all connected devices and disconnect unused devices. Check the connection and then turn on the power again.

I cannot print

- ❑ Check that all the cables of the printer are correctly connected.
- ❑ Check that your printer is correctly configured and that you have up-to-date drivers. If needed, contact your dealer.
- ❑ The default setting for the printer port mode is correct for most printers. If you cannot print, try changing the printer port mode. In **Sony Notebook Setup**, select the **Printer** tab. If the printer port mode is set to ECP, change it to bi-directional. If the printer port mode is set to bi-directional, change it to ECP.

About digital video captures and DVgate

While I am recording images to a digital video device using DVgate, my system displays the message Recording to DV device failed. Check the power and cable connections to the DV device and try the operation again...

Close all open applications and restart your computer. Frequent recording of images to a digital video device while using DVgate sometimes causes this error.

Precautions

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

Your notebook and memory modules use high precision components and electronic connectors technology. To avoid the invalidation of your guarantee by mishandling, it is recommended that:

- You contact your dealer to install a new memory module.
- You do not install it yourself, if you are not familiar with upgrading memory on a notebook.
- You do not touch the connectors or open the memory panel.

Please contact VAIO-Link if you need assistance.

Adding and removing memory

In the future you may want to install memory modules to expand the functionality of your computer. You can increase the memory by installing optional memory modules.

Be careful when adding memory. Mistakes on installation or removal of the memory module may cause a malfunction.

For memory upgrades, use only PC100 (CL2) SDRAM SO-DIMM (gold leaf contacts).

Electrostatic discharge can damage electronic components. Before touching a memory expansion board, ensure the following:

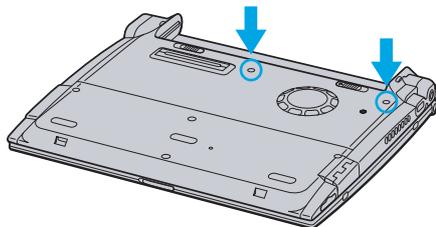
- Handle the memory module gently.
- The procedures described in this document assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.

- ❑ Disconnect the system from its power source and from any telecommunication links, networks, or modems before you open the system. Failure to do so may result in personal injury or equipment damage.
- ❑ Electrostatic Discharge (ESD) can damage memory modules and other components. Install the memory Module only at an ESD workstation. If such a station is not available, do not work in a carpeted area, and do not handle materials that produce or hold static electricity (cellophane wrappers, for example). Ground yourself by maintaining contact with an unpainted metal portion of the chassis while performing the procedure.
- ❑ Do not open the memory module package until you are ready to install the module. The package protects the module from ESD.
- ! Use the special bag delivered with the memory module or wrap the module in aluminium foil to protect it from electrostatic discharge.
- ! Do not place the memory module in places subject to:
 - Heat sources such as radiators or air ducts,
 - Direct sunlight,
 - Excessive dust,
 - Mechanical vibration or shock,
 - Strong magnets or speakers that are not magnetically shielded,
 - Ambient temperature of more than +35°C or less than +5°C,
 - High humidity.

Removing a memory module

To remove a memory module, proceed as follows:

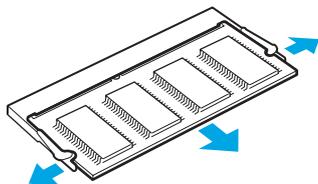
- 1 Shut down your computer and disconnect all peripheral devices.
- 2 Unplug the computer and remove the battery pack.
- 3 Wait until the computer cools down.
- 4 Unscrew the two screws at the bottom of your computer.



- 5 Slide the LCD lock lever and lift the cover.
- 6 Slide the keyboard toward the LCD display, then lift it away slightly.
- 7 Lift the keyboard from the LCD display side.
- 8 Gently turn it over the touchpad. Be careful not to detach the cable when lifting the keyboard.
- 9 Touch a metal object (such as the connector panel on the back of your computer) to discharge static electricity.

10 Remove the memory module:

- ❑ Pull the tabs in the direction of the arrows.
The memory module is released.
- ❑ Pull the memory module in the direction of the arrow.

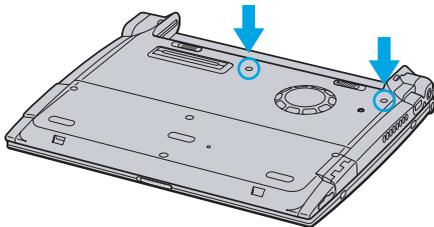


- 11** Gently replace the keyboard, then press it into your computer. Be careful not to detach the cable when lifting the keyboard.
- 12** Close the computer cover, then tighten the screws on the bottom of the computer.

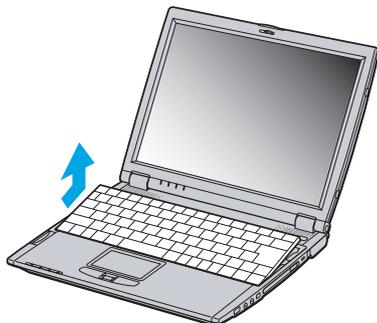
Adding a memory module

To add a memory module, proceed as follows:

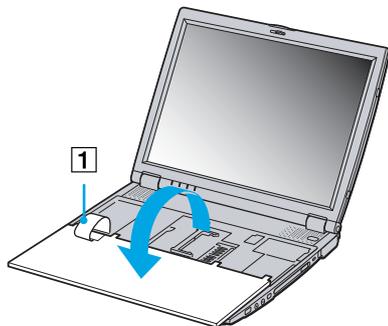
- 1 Shut down your computer and disconnect all peripheral devices.
- 2 Unplug the computer and remove the battery packs.
- 3 Wait until the computer cools down.
- 4 Unscrew the two screws at the bottom of your computer.



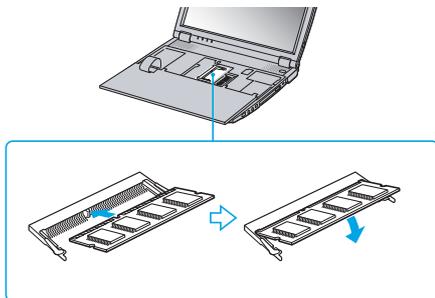
- 5 Slide the LCD lock lever and lift the cover.
- 6 Slide the keyboard toward the LCD display, then lift it away slightly.



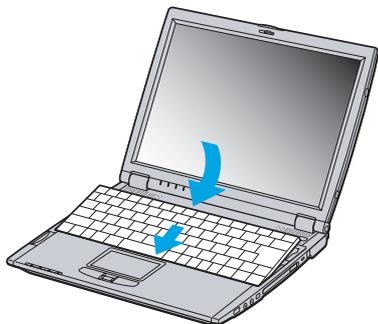
- 7 Lift the keyboard from the LCD display side, then gently turn it over the touchpad. Be careful not to detach the cable (1) when lifting the keyboard.



- 8 Remove the existing memory module.
- 9 Remove the new memory module from its packaging.
- 10 Install the memory module. Be careful not to touch the other components on the motherboard.
 - ❑ Slide the memory module into the slot.
 - ❑ Snap the connectors into place when the board is correctly seated.



- 11 Gently replace the keyboard, then press it into your computer. Be careful not to detach the cable when lifting the keyboard.



- 12 Close the computer cover, then tighten the screws on the bottom of the computer.

Viewing the amount of memory

To view the amount of memory, proceed as follows:

- 1 Turn on the computer.
- 2 Click the **Start** button, point to **VAIO**, and click **Sony Notebook Setup**.
The **Sony Notebook Setup** screen appears.
- 3 Click the **About this Computer** tab to view the amount of system memory. If the additional memory does not appear, you should try again to add memory.

Other precautions

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 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 screensaver 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.
- ❑ Avoid rubbing the LCD screen, as this can damage the screen. Use a soft, dry cloth to wipe the LCD screen.

On using 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 photocopier 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 power 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.
- ❑ Use only the supplied AC adapter. Do not use any other AC adapter.

On handling your notebook

- ❑ 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 benzene, 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.
- ❑ 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 electromagnetic field of your computer may cause a malfunction.
- ❑ Provide adequate air circulation to prevent that internal heat builds up. Do not place your computer on porous surfaces such as rugs or blankets, or near material 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.
- ❑ Your computer cannot be connected to a coin-operated telephone, and may not work with a private branch exchange (PBX).
- ❑ 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 one hour before turning on your computer. If any problem occurs, unplug your computer and contact VAIO-Link.
- ❑ Make sure to disconnect the power cord before cleaning the computer.

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 disks

- ❑ Do not touch the surface of the disk.
- ❑ Do not drop or bend the disk.
- ❑ Fingerprints and dust on the surface of a disk may cause read errors. Proper care of the disk is essential to maintain its reliability.
- ❑ Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray, as they may cause damage to the disk.
- ❑ For normal cleaning, hold the disk by its edge and use a soft cloth to wipe the surface from the center out.

- ❑ If the disk is badly soiled, moisten a soft cloth with water, wring it out well, and use it to wipe the surface of the disk from the center out. Wipe off any remaining moisture with a dry soft cloth.

On using the battery pack

- ❑ 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 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 using earphones

- ❑ **Road safety** – Do not use earphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in some areas. It can also be potentially dangerous to play loud music while walking, especially at pedestrian crossings.
- ❑ **Preventing hearing damage** – Avoid using earphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce the volume or discontinue use.

On handling Memory Stick

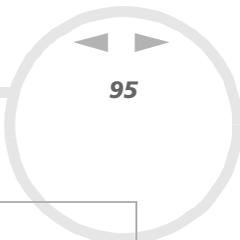
- ❑ Do not touch the connector with your finger or metallic objects.
- ❑ Use only the label supplied with the Memory Stick™ as a label.
- ❑ Do not bend, drop, or apply strong shock to the Memory Stick™.
- ❑ Do not disassemble or modify Memory Sticks™.
- ❑ Do not let cards get wet.
- ❑ Do not use or store Memory Sticks™ in a location subject to:
 - ❑ Extremely high temperatures, such as in a car parked in the sun,
 - ❑ Direct sunlight,
 - ❑ High humidity or near corrosive substances.
- ❑ Use the storage case supplied with the Memory Stick™.

PCG-R600HEK specifications

Product name

PCG-R600HEK

<i>Operating system</i>	Microsoft® Windows® 2000 Professional
<i>Processor</i>	Mobile Intel® Pentium® III processor 850 MHz featuring Intel® SpeedStep™ technology
<i>Hard disk drive</i>	20 GB
<i>Standard RAM</i>	128 MB SDRAM
<i>Maximum RAM</i>	256 MB
<i>LCD screen</i>	12.1" XGA TFT
<i>L2 cache memory</i>	256 KB (CPU integration)
<i>MPEG</i>	MPEG 2 Digital Video Supports full-screen playback
<i>Graphics</i>	Intel 815EM Chipset integrated graphic accelerator Video RAM: max 11MB (shared with main memory)
<i>Display cache</i>	4 MB
<i>Sound capabilities</i>	16-bit CD-quality stereo sound
<i>Internal modem</i>	Built-in modem V.90/K56Flex (56kbps) data/fax modem
<i>Telecommunication capabilities</i>	Ethernet network, PSTN data connectivity



Product name

PCG-R600HEK

<i>Expansion capabilities</i>	One PCMCIA type II Card and Cardbus support
<i>Built-in capabilities</i>	Stereo speakers, touchpad, Center Jog Control, Memory Stick™
<i>Special button</i>	Center Jog Control
<i>Connection capabilities on notebook</i>	docking connector, VGA monitor, external speakers or headphone, microphone, 2xUSB, type II PC Cards, i.LINK™ (IEEE1394) S400, network (LAN), phone line
<i>Supplied accessories</i>	rechargeable battery, AC adapter, AC cord, phone cable, phone plug.
<i>Service</i>	± 1 year free VAIO-Link Service
<i>Guarantee</i>	± 1 year guarantee (parts and labour)
<i>Power source</i>	80.4 watts maximum (19.5V DC/AC100-240V)
<i>Power management</i>	Energy Star compliant ACPI (Advanced Configuration & Power Interface)
<i>Battery</i>	Lithium ion
<i>Dimensions</i> <i>Width</i> <i>Height</i> <i>Depth</i>	279.5 mm 23 mm to 29.3 mm 239 mm

*Product name**PCG-R600HEK*

<i>Weight</i> <i>With battery</i> <i>With battery & optional docking station</i>	1.7 kg 2.7 kg
<i>Operating temperature</i>	+5°C to +35°C (temperature gradient less than 10°C/hour)
<i>Storage temperature</i>	-20°C to +60°C (temperature gradient less than 10°C/hour)
<i>Operating humidity</i>	20% to 80% (not condensed), provided that humidity is less than 65% at +35°C (hygrometer reading of less than 29°C)
<i>Storage humidity</i>	10% to 90% (not condensed), provided that humidity is less than 20% at +60°C (hygrometer reading of less than 35°C)

‡ See our special Guarantee extension conditions.

Specifications are subject to change without notice.

Docking station (optional) specifications

	<i>CD-RW/DVD Docking station (PCGA-DSM5)</i>	<i>DVD Docking station (PCGA-DSD5)</i>
<i>Optical drive</i>	up to 24x max. CD-ROM reading speed up to 8x max. CD-R writing speed up to 4x max. CD-RW writing speed up to 8x max. DVD-ROM reading speed	up to 24x max. CD-ROM reading speed up to 8x max. DVD-ROM reading speed
<i>Floppy disk drive</i>	3.5" 1.44 MB/720 KB	
<i>Connectors</i>	i.LINK™ (IEEE1394) S400 connector, Ethernet (10Base-T/100Base-TX) network port, printer port, VGA monitor port, serial port, 2 USB ports, docking connector, DC In	
<i>Dimensions</i>	Approx. 11.0"(w) x 0.8" (0.9" backside) h x 9.3"(d) (Approx. 279.5 mm x 18.5 mm (21.5 mm backside) x 235.0 mm) (The projecting parts are not included)	
<i>Weight</i>	2.38 lbs. (1,080 g)	2.27 lbs. (1,030 g)

Specifications are subject to change without notice.

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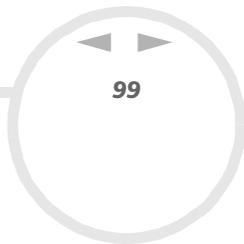
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