SONY

User Guide

Personal Computer
V G C - R M 1 S e r i e s

VAIO

Contents

Before Use

Congratulations on your purchase of this Sony VAIO® computer, and welcome to the on-screen User Guide. Sony has combined leading-edge technology in audio, video, computing, and communications to provide state-of-the-art personal computing.

!
External views illustrated in this manual may look slightly different from those of your computer.

Documentation

Your documentation includes printed information and user guides to read on your VAIO computer.

Printed Documentation

❑ **Welcome mat** — Contains an overview of connections, setting up information, etc.

❑ **Safety Information** — Contains safety guidelines and owner information.

Non-printed Documentation

❑ **User Guide** (this manual) — Contains features of your computer. It also includes information about the software programs included with your computer, as well as information on solving common problems.

❑ **Specifications** — The online **Specifications** describe the hardware and software configuration of your VAIO computer.

To view the online **Specifications**:

1 Connect to the Internet.

2 Go to the Sony online support Web site at:
http://esupport.sony.com/EN/VAIO/ for customers in USA,
http://www.sony.ca/support for customers in Canada,
http://esupport.sony.com/ES/VAIO/ for customers in Spanish speaking Latin American countries or areas, or
http://esupport.sony.com/ES/VAIO/BR/ for customers in Brazil.

❑ **VAIO Recovery Guide** — Provides information about restoring individual software programs, software drivers, and drive partition(s) or your entire hard disk drive to the original factory installed settings.

To access this on-screen guide:

1 Click **Start** 🔵 and **Help and Support**.

2 Click **Manuals & Specifications**.

3 Click **VAIO Recovery Guide**.

❑ **RAID Guide** (Selected models only) — Provides an overview of RAID systems and the various RAID levels (or types) that can be configured with your VAIO computer. It lists detailed procedures for using the **RAID Recovery** program to configure the hard disk drives, change your computer's RAID array, or to remove the RAID configuration. Additional procedures are also provided for using the **VAIO Recovery** utility and the **Intel Storage Utility** programs.

To access this on-screen guide:

1 Click **Start** and **Help and Support**.

2 Click **Manuals & Specifications**.

3 Click **RAID Guide**.

Help and Support

Help and Support is easy to access and provides a single location for information and technical assistance for your VAIO computer. Choose from the following categories to find the answers you need.

To access **Help and Support**, click **Start** and **Help and Support**.

❑ **Manuals & Specifications**
Here you will find the on-screen **User Guide**, warranty information, other VAIO documents, and system and software information for your computer.

❑ **VAIO Support**
Access interactive help in the form of VAIO tutorials, an escalation page containing support and contact information, and various links to VAIO online support Web sites.

❑ **Backup & Recovery**
Find information on how to back up and restore your operating system, system software, and your personal data.

❑ **Wireless & Network**
Learn about wireless connections including Bluetooth Wireless technology and Wireless LAN. Run utilities that include **VAIO Media Setup** and **Windows Network and Sharing**, and access to wireless tutorials.

❑ **Security**
Keep your data safe and your computer running efficiently with updates and maintenance programs from Microsoft and Sony.

❑ **VAIO Sites**
Contains links to other Internet sites you might find interesting and useful.

Ergonomic Considerations

Whenever possible, you should attempt to take account of the following ergonomic considerations:
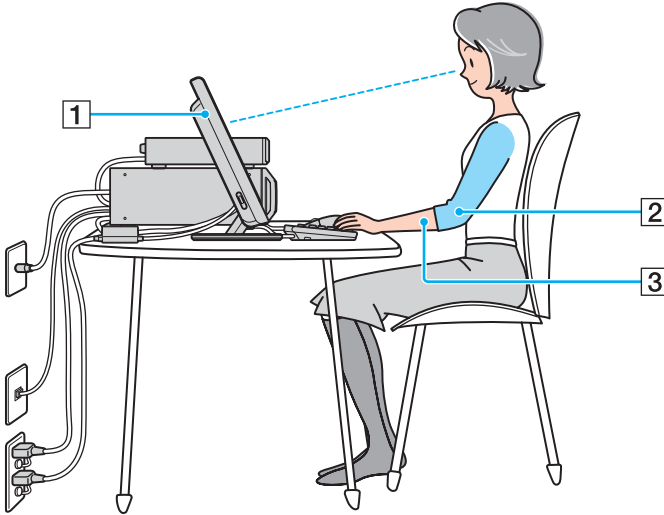
❑ **Ventilation** – Leave at least 6 inches (15 cm) of space on the back sides of your computer to enable proper ventilation.

❑ **Position of your computer** – Place the display directly in front of you (1). Keep your forearms horizontal (2), with your wrists in a neutral, comfortable position (3) while using the keyboard, pointing device, 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 display** – Position the display directly in front of you, with the top of the screen at or a little below eye level. Use the display's tilting feature to find the best position. You can reduce eye strain and muscle fatigue by placing the display in the proper position.

❑ **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. Proper lighting adds to your comfort and work effectiveness.

Getting Started

This section describes how to get started using your VAIO computer.

!
Before starting your computer for the first time, do not connect any other hardware that did not originally come with your computer. Make sure to start up your computer with only the supplied accessories connected and set up your system. Upon completion, connect one device (for example, a printer, an external hard disk drive, a scanner, and so on) at a time, following the manufacturers' instructions.

❑ **Getting to Know Your Computer (page 12)**
❑ **About the Indicator Lights (page 19)**
❑ **Setting Up Your Computer (page 20)**
❑ **Shutting Down Your Computer Safely (page 34)**

Getting to Know Your Computer

Take a moment to identify the controls and ports shown on the following pages.

!
Your computer may not be equipped with all of the hardware features described in this section. The location of the controls, ports, and jacks may vary from the illustrations shown below, depending on the model you purchased. See the online **Specifications** for your computer's specific hardware configuration.

Front

Main unit
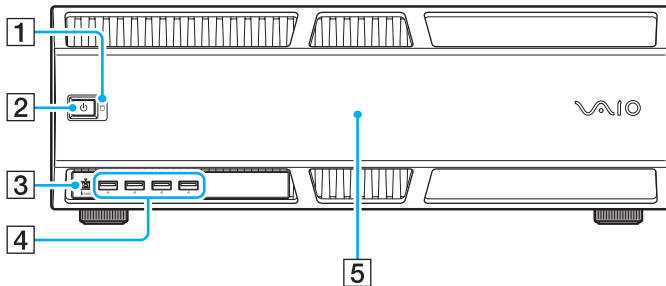
[A] Hard disk drive indicator (page 19)

[B] Power button/Power indicator (page 19)
Pressing this button will automatically turn on the access unit as well.

[C] i.LINK (IEEE 1394) S400 port (4 pins) (page 74)

[D] Hi-Speed USB (USB 2.0) ports* (page 70)

[E] Front panel
Remove this panel to access hard disk drives.

* Supports high-/full-/low- speeds.

Access unit

A Hard disk/Optical disc drive indicator (page 19)

B Power button/Power indicator (page 19)
Pressing this button will automatically turn on the main unit as well.

C Bluetooth indicator (page 19)

D Left front panel
Flip this panel down to access slots, ports, and jacks.

E Right front panel
Flip this panel down to access optical disc drives.
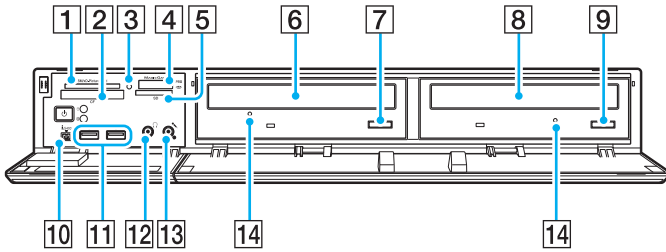
A **SM/xD-Picture Card** slot (page 54)

B **CF** (CompactFlash®) memory card slot (page 54)

C Media Access indicator (page 19)
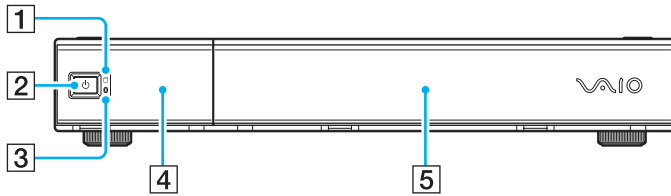
D Memory Stick PRO/Duo media slot[*1] (page 49)

E **SD** memory card slot (page 54)

F DVD-ROM disc drive (page 36)

G DVD-ROM disc drive eject button (page 36)

H Blu-ray Disc drive (page 36)

I Blu-ray Disc drive eject button (page 36)

J i.LINK (IEEE 1394) S400 port (4 pins) (page 74)

K Hi-Speed USB (USB 2.0) ports[*2] (page 70)

L Headphones jack
Connect external headphones.

M Microphone jack
Connect an external microphone.

N Manual eject holes (page 138)

[*1] Your computer supports Memory Stick Duo media and Memory Stick PRO media with high speed and high capacity capabilities.

[*2] Supports high-/full-/low- speeds.

Back

Main unit
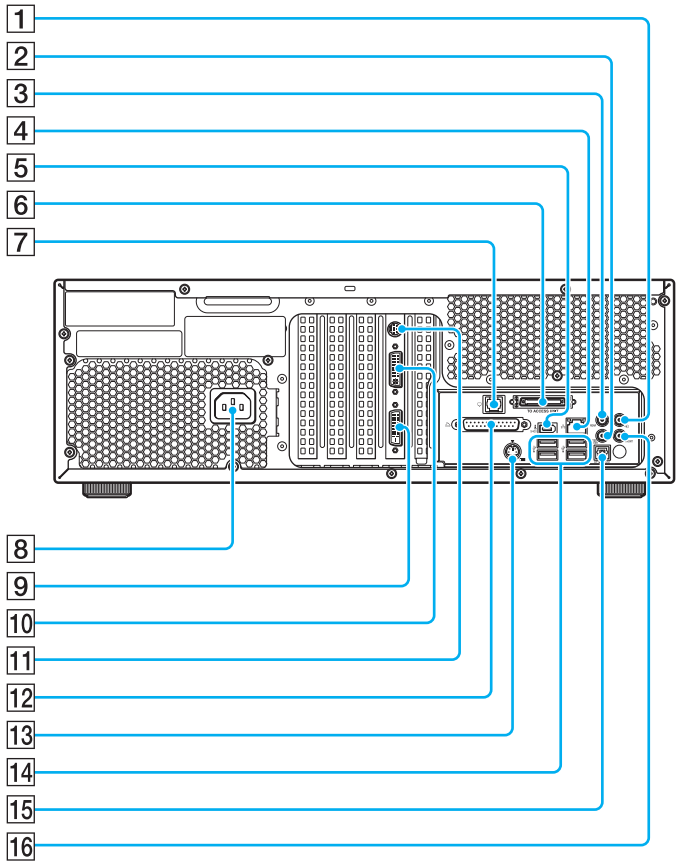
[1] Line In jack

[2] **WOOFER/CENTER** jack

[3] **REAR** jack

[4] Network (Ethernet) port (page 76)

[5] i.LINK (IEEE 1394) S400 port (6 pins) (page 74)

[6] **TO ACCESS UNIT** port (page 23)

[7] Modem port (page 29)

[8] AC In port (page 32)

[9] DVI-D port (page 24)

[10] DVI-I port (page 24)

[11] S Video/Video Out port (page 26)

[12] Printer port (page 73)

[13] Keyboard port (page 27)

[14] Hi-Speed USB (USB 2.0) ports[*] (page 70)

[15] S/PDIF **OPTICAL OUT** port
Connect digital equipment such as an AV amplifier.

[16] **FRONT** jack (page 26)

* Supports high-/full-/low- speeds.

Access unit
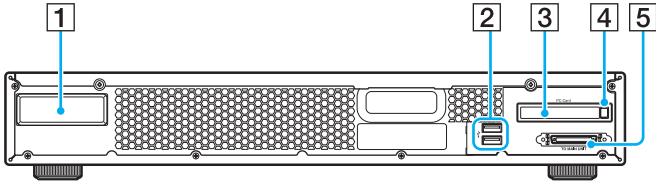
[A] Bluetooth antenna cover
There is a Bluetooth antenna behind this cover.

[B] Hi-Speed USB (USB 2.0) ports* (page 70)

[C] **PC Card** slot (page 46)

[D] PC Card release button (page 48)

[E] **TO MAIN UNIT** port (page 23)

* Supports high-/full-/low- speeds.

Keyboard
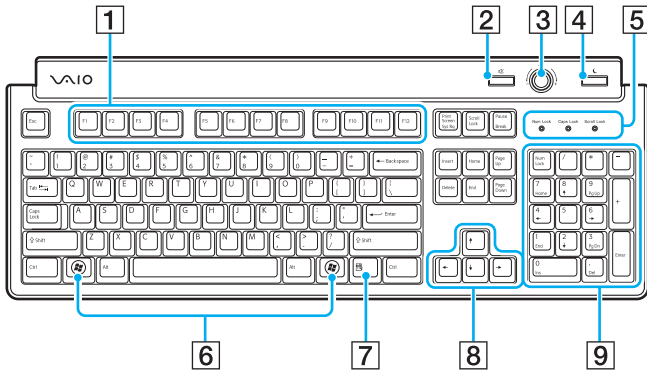
[1] Function keys
Perform certain tasks. The task associated with each function key varies among software applications.

[2] Muting button
Turns the volume on and off.

[3] Volume control
Turn this control clockwise to increase (+) or counterclockwise to decrease (-) the volume.

[4] Standby button
Places the computer into Sleep mode for power consumption. For details on power management, see **Using the Power Saving Modes** (page 83).

[5] Indicators
Num Lock: Turns on while in the Num Lock state.
Caps Lock: Turns on while in the Caps Lock state.
Scroll Lock: Turns on while in the Scroll Lock state.

[6] Windows keys
Display the **Start** menu.

[7] Applications key
Displays a shortcut menu in certain software applications.

[8] Directional arrow keys
Move the pointer on the screen.

[9] Numeric keypad
Use the numeric keypad to type numbers or to perform basic math calculations.

About the Indicator Lights

Your computer is equipped with the following indicator lights.

Indicator	Functions
Power ⏻ (Both main and access units)	The indication behavior varies depending on the state of your computer unit: Green lit: the unit is on. Orange lit: the unit is in Sleep mode. Off: the unit is off.
Hard disk drive ⬚ (Main unit only) Hard disk/Optical disc drive ⬚ (Access unit only)	Illuminates when data is read from or written to the hard disk or the optical disc. Do not enter Sleep mode or turn off the unit when this indicator is on.
Media Access (Access unit only)	Illuminates when data is read from or written to a memory card. (Do not enter Sleep mode or turn off the unit when this indicator is on.) When the indicator is off, the memory card is not being used.
Bluetooth technology ᛒ (Access unit only)	Illuminates when Bluetooth technology is enabled.

Setting Up Your Computer

Your computer may not be equipped with all of the hardware features described in this section. The location of the controls, ports, and jacks may vary from the illustrations shown below, depending on the model you purchased. See the online **Specifications** for your computer's specific hardware configuration.

Placing Your Computer

Your computer consists of the main and access units and both are designed for either flat or upright placement.

To place the units in the flat position

When placing both units in the flat position, you can put the access unit on top of the main unit.
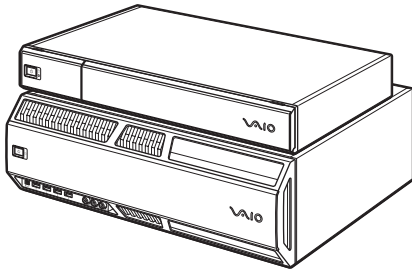
!
Do not put the main unit on top of the access unit.

To place the main unit in the upright position

The main unit comes with the four screw-type feet (1) on its bottom surface. Remove and screw them into the holes on the left side surface of the unit before placing the unit in the upright position.
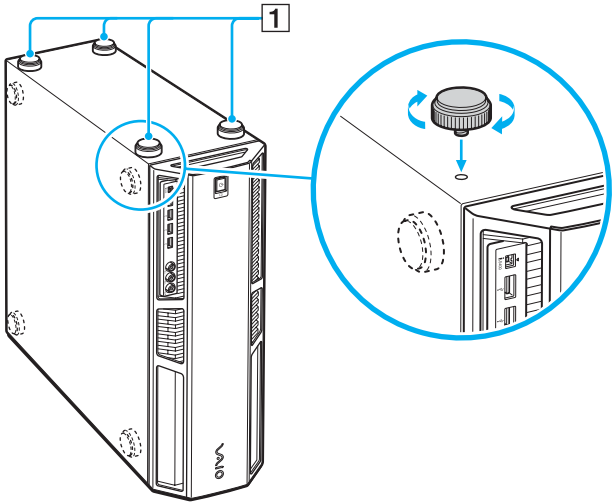
✍
Use the supplied seals to cover the screw holes on the bottom when you use the main unit in the upright position.

To place the access unit in the upright position

The access unit comes with a designated stand (1) for upright placement. Use this stand to place the unit in the upright position as illustrated below.
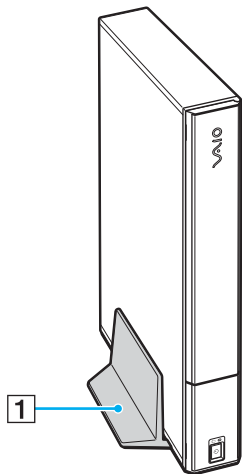
Connecting the Main and Access Units

A designated connection cable is supplied with your computer for connection between the main and access units. Plug one end of the cable to the **TO ACCESS UNIT** port (1) on the back of the main unit and the other end to the **TO MAIN UNIT** port (2) on the back of the access unit.
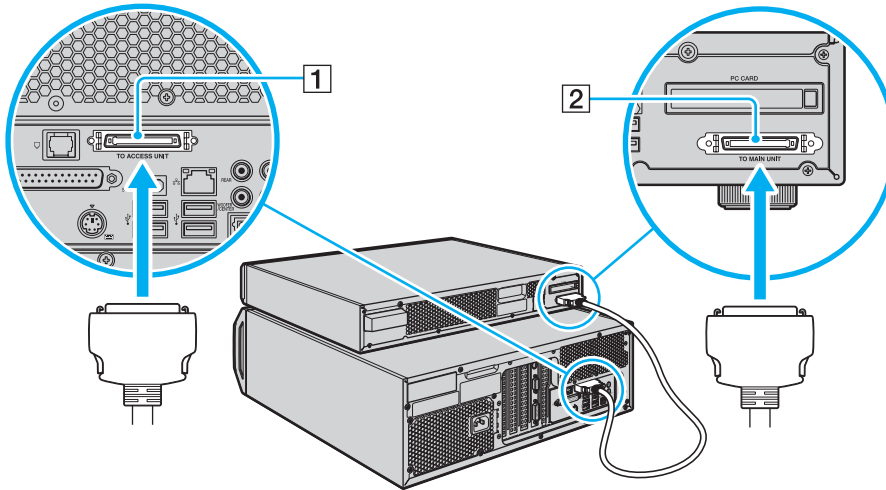
!
Make sure that each end of the cable clicks into place.

Connecting a Display

Connect a display (not supplied) to your computer. When connecting it, see the manual that came with your display as well.

To connect a display (monitor)

1 If you want to connect a DVI monitor, plug its cable into the DVI-D (1) or DVI-I (2) port on the back of the main unit.
If you want to connect a VGA monitor, use a video adapter device (not supplied) to connect its cable to the DVI-I port (2).

> **!**
> If your monitor is HDCP-compliant, connect it to the DVI-D port. The DVI-I port is not compliant with the High-bandwidth Digital Content Protection (HDCP) standard.

2 If necessary, plug the display's cable into the rear of the display.
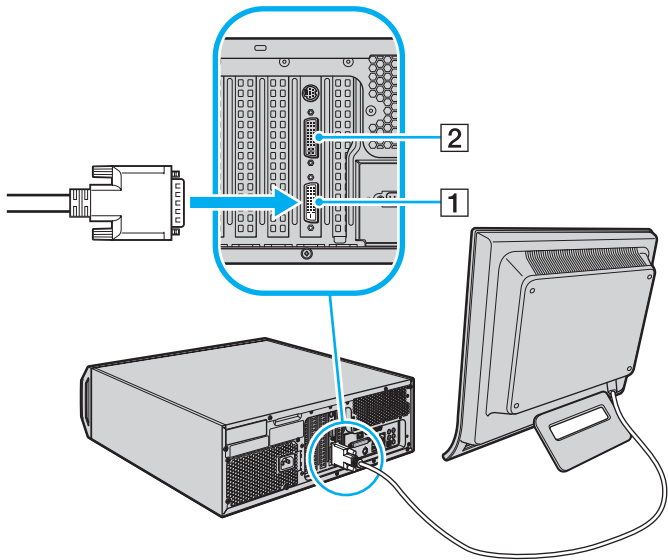
!
Your computer is compliant with the HDCP standard and capable of encrypting the transmission channel of digital video signals for the purpose of copyright protection, which enables you to play and view a wide variety of copyright protected, high-quality contents. Note that you need to connect an HDCP-compliant monitor to your computer to view the copyright protected contents. If your computer has a non-compliant monitor connected, you will not be able to play or view any copyright protected contents, including Blu-ray movie contents.

To connect a display (TV)

Plug one end of an S Video cable (1) (not supplied) into the S Video/Video Out (2) port on the back of the main unit and the other end to the S Video input port on your TV (3).
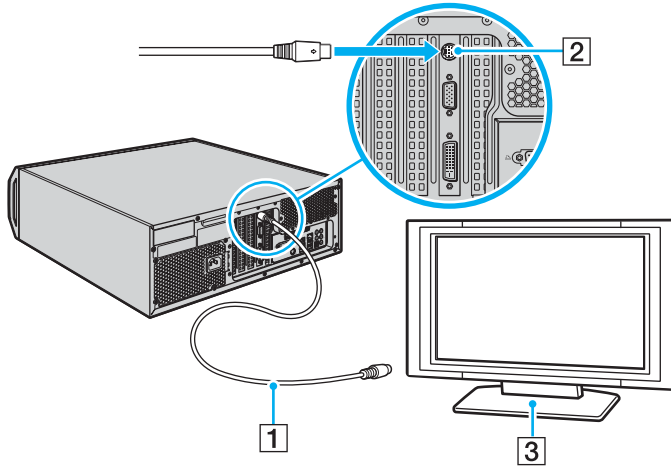
✍
You will hear audio from the speakers connected to your computer, not from the TV. To hear audio from the TV, use an audio cable (not supplied) to connect the **FRONT** jack on the back of the main unit and the audio input port on the TV. See the manual that came with your TV for more information on installation and use.

Connecting the Keyboard and Mouse

A PS/2 keyboard and a USB mouse are supplied with your computer.

To connect the keyboard and mouse

1   Plug the keyboard cable (1) into the keyboard port (2) on the back of the main unit.

2   Plug the mouse cable (3) into one of the USB ports (4) on the back of the access unit.
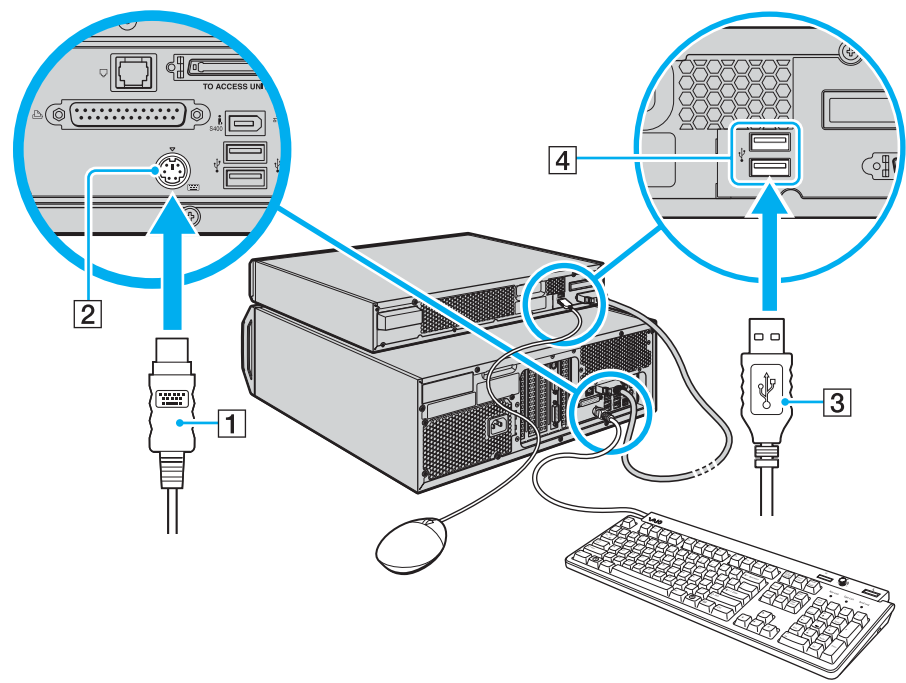
!
Be sure not to connect the mouse to any USB port on the main unit. The mouse will not be functional.

Connecting the Telephone and Modem

The main unit is equipped with a single modem port to connect the internal modem with a telephone wall jack. To use the wall jack for both telephone and modem lines, purchase an additional RJ-11 phone cable and a "1-to-2" port adapter device (splitter).

To connect the modem

1 Unplug the phone cable to your telephone from the wall jack and set aside.
2 Plug another phone cable (not supplied) into the modem port on the back of the main unit.
3 Plug the other end of the cable into the wall jack.

To connect the telephone and modem

1 Unplug the phone cable to your telephone from the wall jack.
2 Plug it into one of the ports on a "1-to-2" port adapter device (splitter) (not supplied) (1).
3 Plug one end of a second phone cable (not supplied) into the other port on the splitter device.
4 Insert the plug end of the splitter device into the wall jack.
5 Plug the other end of the second phone cable (2) into the modem port (3) on the back of the main unit.
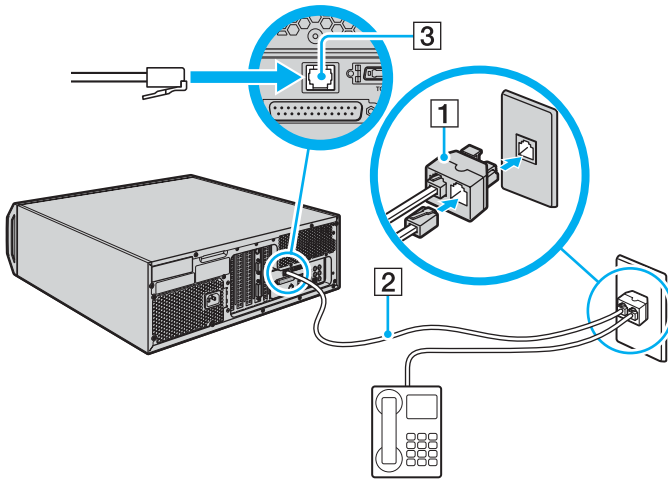
!

The main unit has a protective sticker ⊠ covering the network (Ethernet) port located on its back. Connect 10BASE-T, 100BASE-TX, or 1000BASE-T cable to the network (Ethernet) port. Using an incorrect cable, such as a phone cable, may result in an electric current overload that can cause a malfunction, excessive heat, or fire in the network (Ethernet) port. For help on connecting to a network, see your network administrator.

Connecting Speaker Systems

Note that speaker configuration varies, depending on the speaker components in use.

To set up the speakers with the computer

❑ Match the color of the mini stereo plugs (from the speaker system) to the color of the speaker jacks on the back of the main unit.

❑ Review the connection instructions provided with your speaker system, as the connection setup may vary.

To select the speaker system

1 Click **Start** and **Control Panel**.

2 Click **Hardware and Sound**.

3 Click **Manage audio devices** under **Sound**.

4 On the **Playback** tab, select **Speakers** and click **Configure**.

5 Choose your speaker configuration.

Connecting the Power Cord

!
Use only the supplied power cord for your computer.

To connect the power cord

1 Insert the power cord into the AC In port (1) on the back of the main unit.

2 Insert each of the power cord plugs from the display and the main unit into a grounded AC wall outlet, surge protector, or Universal Power Supply (UPS) (2).
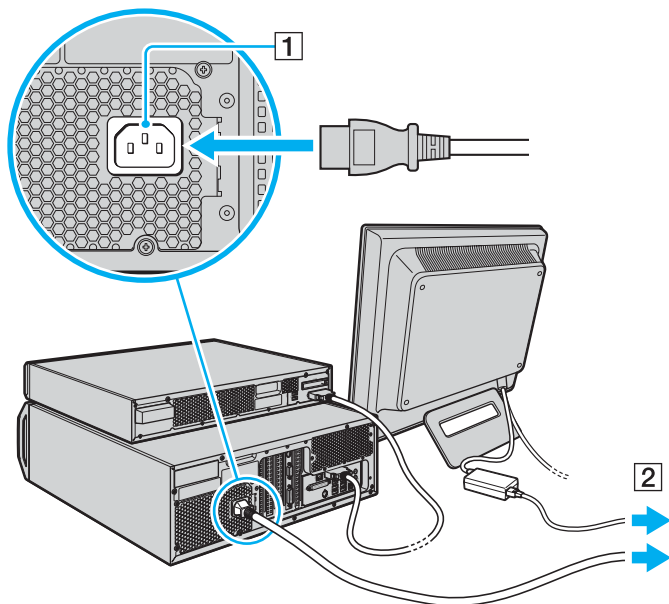
✍
To disconnect your computer completely from AC power, unplug the power cord.

Make sure that the AC outlets are easily accessible.

Shutting Down Your Computer Safely

To avoid losing unsaved data, be sure to shut down your computer properly, as described below.

To shut down your computer

1 Turn off any peripherals connected to the computer.

2 Click **Start**, the arrow ▶ next to the **Lock** button, and **Shut Down**.

3 Respond to any prompts warning you to save documents or to consider other users and wait for the computer to turn off automatically.
The power indicator light turns off.

Using Your VAIO Computer

This section describes how to get the most out of using your VAIO computer.

❑ **Using the Optical Disc Drive (page 36)**
❑ **Using PC Cards (page 46)**
❑ **Using the Memory Stick Media (page 49)**
❑ **Using Other Memory Cards (page 54)**
❑ **Using the Jog Controller (page 58)**
❑ **Using the Internet (page 60)**
❑ **Using the Bluetooth Functionality (page 61)**

Using the Optical Disc Drive

The access unit of your computer is equipped with two optical disc drives: the DVD-ROM drive on the left and the Blu-ray Disc drive on the right.

To insert a disc

1 Turn on the computer.

2 Flip down the right front panel of the access unit.

3 Press the drive eject button (1) on the optical disc drive.
The tray slides out.

4 Place a disc in the middle of the tray with the label side facing upward.

!
Be sure not to scratch the recording surface of the optical disc with any projected parts on the tray.

✍
Illustrated below is the Blu-ray Disc drive as an example.
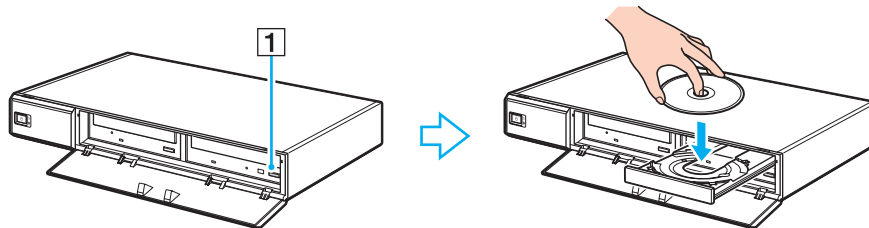
5 Close the tray by pushing it in gently.

!
Do not remove the optical disc when your computer is in Sleep mode. Doing so may cause the computer to malfunction.

Before removing the optical disc, make sure that the optical disc drive indicator light is off.

Reading and Writing Optical Discs

Your computer plays and records CDs, DVDs, or Blu-ray Discs, depending on the model you purchased. Check your specifications for the type of optical disc drive installed on your model. Use the table below to see which types of media your optical disc drive supports.

PR: playable and recordable
P: playable but not recordable
–: not playable or recordable

	CD-ROM	Video CD	Music CD	CD Extra	CD-R/RW	DVD-ROM	DVD-Video	DVD-R/RW	DVD+R/RW	DVD+R DL	DVD-R DL	DVD-RAM
DVD±RW/±R DL/RAM	P	P	P	P	PR	P	P	PR[*1][*2]	PR	PR[*5]	PR[*6]	PR[*3][*4]
DVD±RW (Supporting DVD±R DL)	P	P	P	P	PR	P	P	PR[*1][*2]	PR	PR[*5]	PR[*6]	–
CD-RW/DVD-ROM	P	P	P	P	PR	P	P	P	P	P	P	–
DVD-ROM	P	P	P	P	P	P	P	P	P	P	P	–

[*1] Supports writing data to DVD-R discs compliant with DVD-R for General Version 2.0/2.1.

[*2] Supports writing data to DVD-RW discs compliant with DVD-RW Version 1.1/1.2.

[*3] The DVD±RW/RAM disc drive on your computer does not support the DVD-RAM cartridge. Use non-cartridge discs or discs with removable cartridge.

[*4] Writing data to single-sided DVD-RAM discs (2.6 GB) compliant with DVD-RAM Version 1.0 is not supported.
DVD-RAM Version 2.2/12X-SPEED DVD-RAM Revision 5.0 disc is not supported.

[*5] Writing data to DVD+R DL (Double Layer) discs is available only on discs supporting DVD+R DL (Double Layer) recording.

[*6] Writing data to DVD-R DL (Dual Layer) discs is available only on discs supporting DVD-R DL (Dual Layer) recording.

PR: playable and recordable
P: playable but not recordable
–: not playable or recordable

	CD-ROM	Video CD	Music CD	CD Extra	CD-R/RW	DVD-ROM	DVD-Video	BD-ROM	DVD-R/RW	DVD+R/RW	DVD+R DL	DVD-R DL	DVD-RAM	BD-R[9]/RE[10]
Blu-ray Disc Drive	P	P	P	P	PR[8]	P	P	P	PR[1][2]	PR	PR[5]	PR[6]	PR[3][4]	PR[7]

[7] Supports writing data to BD-R Version 1.1 discs (single-layer discs with the capacity of 25 GB, dual-layer discs with the capacity of 50 GB) and BD-RE Version 2.1 discs (single-layer discs with the capacity of 25 GB, dual-layer discs with the capacity of 50 GB). The Blu-ray Disc drive on your computer does not support BD-RE Version 1.0 discs and Blu-ray cartridge discs.

[8] Writing data to Ultra Speed CD-RW discs is not supported on models with the Blu-ray Disc drive.

[9] BD-R stands for Blu-ray Disc-Recordable in Version 1.1 format.

[10] BD-RE stands for Blu-ray Disc-Rewritable in Version 2.1 format.

!
This product is designed to playback discs that conform to the Compact Disc Digital Audio standard specifications (CD Standard). A DualDisc is a two sided disc product which mates DVD recorded material on one side with digital audio material on the other side. Please be aware that the audio side (non-DVD side) of a DualDisc may not play on this product because it does not conform to the CD Standard.

Due to the multiple formats of discs now available, when buying pre-recorded or blank discs for use with a VAIO computer, be sure to read the notices on the disc packaging carefully to check both playback and recording compatibility with your computer's optical disc drives. Sony does NOT guarantee the compatibility of VAIO CD drives with discs that are not compliant with the official "CD" format standard (or "DVD" standard in relation to DVD drives). USING NON-COMPLIANT DISCS CAN CAUSE FATAL DAMAGE TO YOUR VAIO PC OR CREATE SOFTWARE CONFLICTS AND CAUSE SYSTEM HANGING. For inquiries about disc formats, contact the individual publisher of the pre-recorded disc or the manufacturer of the recordable disc.

✍
8cm disc writing is not supported.

Playing an 8cm disc with an 8cm disc adapter is not supported. To play 8cm discs, use the access unit in the flat position.

!
To play copyright protected Blu-ray Discs continually, you need to update the AACS key. Note that the AACS key update requires Internet access.

As with other optical media devices, circumstances may limit compatibility or prevent Blu-ray Disc playback. VAIO computers may not support movie playback on packaged media recorded in AVC or VC1 formats at high bit rates.

Region settings are required for Movies and BD-ROM contents. If the region setting and the region of the disc do not match, playback is not possible.

Unless your external display is compliant with the High-bandwidth Digital Content Protection (HDCP) standard, you cannot play or view the contents of copyright protected Blu-ray Discs.

Some contents may restrict video output to be standard definition or prohibit analog video output at all. It is strongly recommended that digital HDCP-compliant environment be implemented for optimum compatibility and viewing quality.

Notes on writing data to a disc

❑ Use only Sony Value-added software to write data to a disc. (e.g. **Click to DVD**)
Other software programs may not be fully compatible and errors may result.

❑ To make data on a disc readable on the optical disc drive, you need to close the session before you eject it. To complete this process, follow the instructions included with your software.

❑ Only use circular discs. Do not use discs in any other shape (star, heart, card, etc.), as this may damage the optical disc drive.

❑ Do not strike or shake your computer while writing data to a disc.

❑ Deactivate the screen saver and exit anti-virus software before writing data to a disc.

❑ Do not use memory-resident utility software while writing data to a disc. This may cause your computer to malfunction.

❑ When using your software application to burn discs, make sure you exit and close all other applications.

❑ Never touch the surface of the disc. Fingerprints and dust on the surface of a disc may cause writing errors.

❑ Do not switch power modes while using the preinstalled software or any disc burning software.

❑ Never affix an adhesive label to a disc. This will affect the use of the disc irreparably.

❑ Make sure you use the same disc burning software to add data to a used disc. Use of different disc burning software for additional data burning may cause a failure. For example, if you have a disc with data that you burned with the **Roxio Easy Media Creator** software, use the **Roxio Easy Media Creator** software to add some data to the same disc.

Notes on playing discs

To achieve optimum performance when playing DVDs, you should follow these recommendations.

❑ Close all open applications before playing a DVD movie.

❑ Some CD players and computer's optical disc drives may not be able to play audio CDs created with the CD-R or CD-RW disc media.

❑ Some DVD players and computer's optical disc drives may not be able to play DVDs created with the DVD+R DL, DVD-R DL, DVD+R, DVD+RW, DVD-R, DVD-RW, or DVD-RAM disc media.

❑ Do not use memory-resident utility software to speed up disc access when playing a DVD. This may cause your computer to malfunction.

❑ Deactivate the screen saver and exit anti-virus software before playing a disc.

❑ Some discs recorded at 20 or 24 bits may produce noise while playing. If you have audio devices connected, this may damage your hearing and the speakers. Reduce the volume before playing a DVD.

❑ Do not switch to power saving modes while your computer is playing a DVD.

❑ Region code indicators are labeled on the DVDs to indicate in which region and on what type of player you can play the disc. If the DVD is labeled "all," this means that you can play this DVD in most regions of the world. If the region code of your residence area is different from the label on the DVD disc or on the packaging, you cannot play the disc on your computer.

!
You can change the DVD region code only a limited number of times. When you have exceeded this number, the drive's DVD region code is permanently assigned and you will not be able to change it again. Reconfiguring your computer does not reset this count.

If you change the DVD region code while the **WinDVD** or **WinDVD BD** software is running, restart the software or eject the disc and re-insert it to make the new setting effective.

❑ When you are playing a DVD (video or audio) and you want to remove a USB device, such as USB-compatible speakers, make sure you stop the DVD first. Removing a USB-compatible device during DVD (video or audio) playback may cause a malfunction.

Playing CDs

To play an audio CD

1 Insert a disc into the optical disc drive.

2 If nothing appears on the desktop, then click **Start**, **All Programs**, and the desired CD software to play the CD.

If the **Audio CD** window appears, click to select an option.

Copying Files to CDs

To copy files to a disc

!
Do not strike or shake your computer while writing data to a disc.

1 Insert a disc into the optical disc drive.
If the **AutoPlay** window appears, click **Burn files to disc** and follow the on-screen instructions until the empty disc folder appears.

2 Open the folder that contains the file(s) you want to copy and drag them to the empty disc folder.

3 Close the disc folder.

Playing DVDs

To play a DVD

1 Close all running software applications.

2 Insert a DVD into the optical disc drive.

3 If nothing appears on the desktop, then click **Start**, **All Programs**, and the desired DVD software to play the DVD.

For instructions on how to use the software, see the help file on your DVD software.

Copying Files to DVDs

To copy files to a disc

1 Insert a disc into the optical disc drive.

2 If nothing appears on the desktop, then click **Start**, **All Programs**, and the desired DVD software to copy files to the disc.

For instructions on how to use the software, see the help file on your DVD software.

Using PC Cards

PC Cards allow you to connect portable external devices to your computer.

Inserting a PC Card

!
Some PC Cards or their functions may not be compatible with your computer.

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

To insert a PC Card

1 With the front label facing upward, insert the PC Card into the PC Card slot on the back of the access unit.

2 Gently push the PC Card into the slot all the way to the end.
The PC Card is automatically detected by your system.
The **Safely Remove Hardware** icon appears on the taskbar.
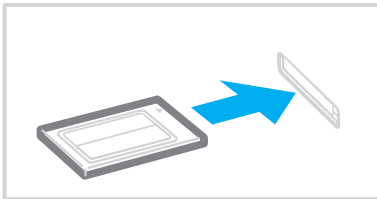
✍
Some devices may not function properly if you continually switch to Normal mode from Sleep mode. For some PC Cards, if you alternate between Normal mode and Sleep mode while the card is inserted, you may find that a device connected to your system is not recognized. Restart your system to correct the problem. Restarting will restore the original state of your computer.

Make sure you use the most recent software driver provided by the PC Card manufacturer.

Do not force a PC Card into the slot. It may damage the connector pins. If you have difficulty inserting a PC Card, check that you are inserting the PC Card in the correct direction. See the manual that came with your PC Card for more information.

Removing a PC Card

Follow the steps below to remove the PC Card while your computer is on. If it is not removed properly, your system may not work properly.

To remove a PC Card

✍
To remove a PC Card when your computer is off, skip steps 1 to 7.

1 Double-click the **Safely Remove Hardware** icon on the taskbar.
The **Safely Remove Hardware** window appears.

2 Select the hardware you want to unplug.

3 Click **Stop**.
The **Stop a Hardware device** window appears.

4 Confirm that the device can be safely removed from the system.

5 Click **OK**.
A message appears stating it is now safe to remove the hardware device.

6 Click **OK**.

7 Click **Close** to close the **Safely Remove Hardware** window.

8 Push the PC Card release button so that the release button pops out.

9 Push the PC Card release button a second time so that the PC Card pops out.

10 Gently take hold of the Card and pull it out of the slot.

11 If the PC Card release button is still out, push it back in all the way to the end.

Using the Memory Stick Media

Your computer supports the Memory Stick media. Memory Stick media is a compact, portable, and versatile IC recording media especially designed for exchanging and sharing digital data with compatible products, such as digital cameras, mobile phones and other devices. Because it is removable, it can be used for external data storage.

For the latest information about the Memory Stick media, visit the Memory Stick Web site at http://www.memorystick.com/en/.

!
Your computer has been tested and found compatible with the Sony branded Memory Stick media with capacity of up to 4 GB that are available as of September 2006. However, not all Memory Stick media that meet the same conditions as the compatible media are guaranteed of compatibility.

Inserting a Memory Stick media with multiple conversion adapters is not guaranteed of compatibility.

MagicGate is the general name of the copyright protection technology developed by Sony. Use a Memory Stick media with the MagicGate logo to use this feature.

✍
The Memory Stick PRO/Duo media slot is located behind the left front panel of the access unit. You need to open this panel before accessing the slot.

Inserting a Memory Stick Media

To insert a Memory Stick media

1 Flip down the left front panel of the access unit.

2 Locate the Memory Stick PRO/Duo media slot (page 14).

3 Hold the Memory Stick media with the arrow facing upward and pointing toward the Memory Stick PRO/Duo media slot.

4 Carefully slide the Memory Stick media into the slot until it clicks into place.
The Memory Stick media is automatically detected by your system and appears in your **Computer** window as a local drive, under the appropriate drive name (depending on the configuration of the computer).
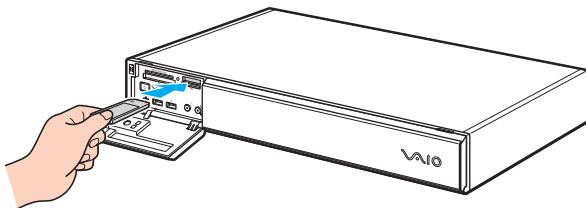
!
Be sure to hold the Memory Stick media with the arrow pointing in the correct direction as you insert it into the slot. To avoid damaging your computer or the Memory Stick media, do not force the Memory Stick media into the slot if you cannot insert it smoothly.

Do not insert more than one Memory Stick media into the slot. Improper insertion of the media may damage both your computer and the media.

✍
Your computer supports Memory Stick Duo media and is equipped with the Memory Stick PRO/Duo slot that is compatible with both standard- and duo-size media. For more information on the Memory Stick Duo media, visit the Memory Stick Web site at http://www.memorystick.com/en/.

You can insert a Memory Stick Duo media directly into the slot.

To view the contents of the Memory Stick media

1 Click **Start** and **Computer** to open the **Computer** window.

2 Double-click the Memory Stick media icon to view the list of data files saved in the Memory Stick media.

To format a Memory Stick media

The Memory Stick media has been formatted in the factory default setting and is ready for use.
If you want to reformat the media with your computer, follow these steps.

! Be sure to use the device that is designed to format the media and supports the Memory Stick media when formatting the media.

Formatting the Memory Stick media erases the entire data on the media. Avoid accidental erasure of your valuable data.

Do not remove the Memory Stick media from the slot while formatting the media. This could cause a malfunction.

1 Carefully slide the Memory Stick media into the slot until it clicks into place.

2 Click **Start** and **Computer** to open the **Computer** window.

3 Right-click the Memory Stick media icon and select **Format**.

4 Click **Restore device defaults**.

! The size of the allocation unit and file system may change.

Do not select **NTFS** from the **File system** drop-down list.

✍ The formatting process will be completed more quickly if you select **Quick Format** in **Format options**.

5 Click **Start**.

6 At the confirmation prompt, click **OK**.
The formatting process starts.

!
It may take time to format the Memory Stick media depending on the media.

7 Once completed, click **OK**.

8 Click **Close**.

Removing a Memory Stick Media

To remove a Memory Stick media

1 Flip down the left front panel of the access unit.

2 Check that the Media Access indicator light is off.

3 Push the Memory Stick media in toward the computer.
The Memory Stick media ejects.

4 Pull the Memory Stick media out of the slot.

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

Do not remove the Memory Stick media while the Media Access indicator light is turned on. If you do, you may lose data. Large volumes of data may take time to load, so be sure the indicator is off before removing the Memory Stick media.

Using Other Memory Cards

In addition to the Memory Stick PRO/Duo media slot, the access unit of your computer is equipped with three other memory card slots to accommodate many popular types of memory cards. You can use these slots to transfer data among digital cameras, camcorders, music players, and other audio/video devices.

✍
The memory card slots are located behind the left front panel of the access unit. You need to open this panel before accessing the slots.

Before You Use Memory Cards

The memory card slots on the access unit of your computer support the following memory cards:

❑ **CF** (CompactFlash) memory card slot

  ❑ CompactFlash

  ❑ Microdrive

❑ **SD** memory card slot

  ❑ Secure Digital (SD)

  ❑ MultiMediaCard (MMC)

❑ **SM/xD-Picture Card** slot

  ❑ SmartMedia

  ❑ xD-Picture Card

For the latest information on compatible memory cards, visit the Sony online support Web site regularly.

!
Always insert the correct memory card into the appropriate memory card slot.

SD memory cards with capacity of over 2 GB, such as SD High Capacity (SDHC) memory cards, are not supported.

Do not attempt to insert a different memory card or memory card adapter into a different memory card slot. An incompatible memory card or adapter may be difficult to remove from the wrong slot and can cause damage to the access unit.

Use care when inserting or removing a memory card from the slot. Do not force the memory card in or out of the slot.

The **CF** (CompactFlash) memory card slot on the access unit supports Type I and Type II media.

The **SD** memory card slot on the access unit does not support the high-speed data transfer feature of the SD memory card.

Your computer has been tested and found compatible only with major memory card media available as of September 2006. However, not all memory card media that meet the same conditions as the compatible media are guaranteed of compatibility.

Inserting a Memory Card

To insert a memory card

1 Flip down the left front panel of the access unit.
Do not use force to open the panel.

2 Locate the appropriate slot for the memory card you want to use.

SM/xD-Picture Card

MAGICGATE

PRO

SD

CF
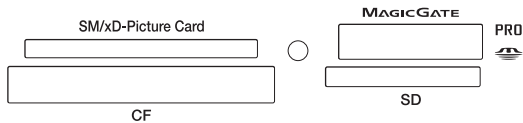
3 Carefully slide the memory card into the slot until it clicks into place.
Do not force the card into the slot.

✍
If the memory card does not go into the slot easily, remove it gently and verify you are inserting it in the proper direction.

Removing a Memory Card

!
Do not remove a memory card while the Media Access indicator light is on. The card or its data may become damaged.

To remove a memory card

1 Flip down the left front panel of the access unit.

2 Check that the Media Access indicator light is off.

3 Firmly grasp the extended part of the memory card.

4 Carefully pull it out of the slot.

Using the Jog Controller

The jog controller supplied with your computer comes in handy when you edit or play videos, as application-specific tasks are automatically assigned to the jog controller buttons. See the help file on the **VAIO USB Jog Utility** software for more information.
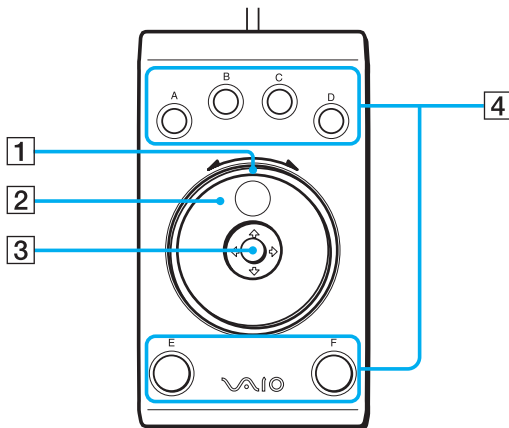
1 LED
   Illuminates when the jog controller is connected to the computer to indicate that the jog controller is ready for use.

2 Jog dial
   Rotate the jog dial clockwise or counterclockwise, for example, to feed a video forward or backward by one frame.

3 Center point
   Push the center point up/down or sideways or push it in to perform an assigned task. The associated task varies among software applications.

4 **A** to **F** buttons
   Perform certain tasks. The task associated with each button varies among software applications.

✍
When more than one software application is running, click the desired application window to make it active.

Do not disconnect the jog controller while using the support software.

Connecting the Jog Controller

To connect the jog controller

1   Choose the USB port (1) you prefer to use on the front of the main or access unit.
2   Plug the USB cable (2) into the USB port.
    The jog controller icon appears on the taskbar and you can now use your jog controller (3).
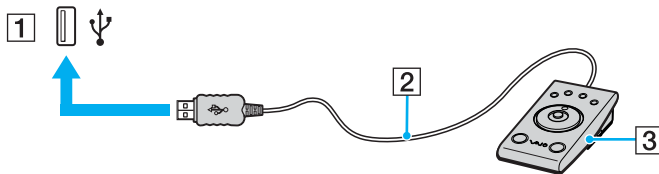
Using the Internet

Setting Up a Dial-up Internet Connection

Before you can connect to the Internet, you need to connect your computer to a telephone line with a telephone cable (not supplied). Once you have set up your telephone cable connection, you're ready to connect to the Internet.

For details of telephone cable connections, see **Connecting the Telephone and Modem (page 29)**.

To set up a dial-up connection to the Internet

1 Click **Start** and **Control Panel**

2 Click **Connect to the Internet** under **Network and Internet**.
The **Connect to the Internet** window appears.

3 Click **Dial-up**.

4 Follow the on-screen instructions.

Using the Bluetooth Functionality

You can establish wireless communication between your computer and other Bluetooth devices such as another computer or a mobile phone. You can transfer data between these devices without cables and up to 33 feet (10 meters) range in open space.

To connect to a Bluetooth device

1 Double-click B on the taskbar to display the **Wireless Device Switch** window.

2 Make sure that the **Enable Bluetooth Device** option is selected.

3 Click **OK**.

Notes on using the Bluetooth functionality

❑ The data transfer rate varies, depending on the following conditions:

❑ Obstacles, such as walls, located between devices

❑ Distance between devices

❑ Material used in walls

❑ Proximity to microwaves and cordless telephones

❑ Radio frequency interference and other environmental conditions

❑ Device configuration

❑ Type of software application

❑ Type of operating system

❑ Size of file being exchanged

❑ Note that due to limitations of the Bluetooth standard, large files may occasionally be corrupted during continuous transfer due to electromagnetic interference from the environment.

❑ All Bluetooth devices must be certified to make sure that the applicable standard requirements are maintained. Even if standards are met, individual device performance, specifications, and operation procedures can vary. Data exchange may not be possible in all situations.

❑ As general characteristics of Bluetooth technology, video and audio may go out of synchronization if you play videos on your computer with audio output from the connected Bluetooth device.

❑ The 2.4 GHz band, with which Bluetooth devices or wireless LAN devices work, is used by various devices. Bluetooth devices use the technology to minimize the interference from other devices that use the same wave length. Simultaneous use of the Bluetooth functionality and wireless communication devices, however, may cause radio interference and result in poorer communication speeds and distances than the standard values.

❑ The Bluetooth functionality may not work depending on the third party devices or the software version used by third party companies.

❑ As general characteristics of Bluetooth technology, connecting multiple Bluetooth devices to your computer may cause bandwidth congestion, resulting in poor performance of the devices.

Bluetooth Security

The Bluetooth wireless technology has an authentication function, which allows you to determine with whom you choose to communicate. With the authentication function, you can avoid any anonymous Bluetooth device to access your computer.

The first time two Bluetooth devices communicate, a common passkey (a password required for authentication) should be determined for both devices to be registered. Once a device is registered, there is no need to re-enter the passkey.

✍
The passkey can be different each time, but must be the same at both ends.

For certain devices, such as a mouse, no passkey can be entered.

Communicating with Another Bluetooth Device

You can connect your computer to a Bluetooth device such as another computer, a mobile phone, a PDA, a headset, a mouse, or a digital camera without the use of any cables.
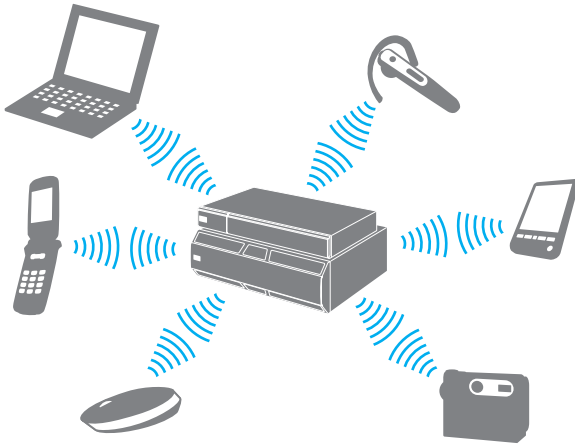
To communicate with another Bluetooth device

To communicate with another Bluetooth device, you need first to set up the Bluetooth functionality. For setting up and using the Bluetooth functionality, see the help file on the Bluetooth utility software.

To see the help file

1 Right-click the Bluetooth icon on the taskbar, and select **Help** from the menu.

Stopping the Bluetooth Connection

1 Double-click on the taskbar to display the **Wireless Device Switch** window.

2 Deselect the **Enable Bluetooth Device** option and click **OK**.

Using the Bluetooth Headset

The Bluetooth headset (not supplied) will come in handy during a video conference over the Internet using instant messaging software. For details on using the Bluetooth headset, see the manual that came with your Bluetooth headset.

To connect the headset with your computer

1 Press and hold the headset power button for at least five seconds to turn on the Bluetooth headset.

2 Press and hold the volume buttons for at least five seconds until the indicator light blinks in red and green.

3 Right-click the Bluetooth icon on the taskbar and select **Bluetooth Settings** from the menu.
The **Bluetooth Settings** window appears and **Add New Connection Wizard** automatically starts.

4 If the **Add New Connection Wizard** window does not appear, click **New Connection**.
The **Add New Connection Wizard** window appears.

5 Select **Express Mode (Recommended)** and then click **Next**.
The wizard searches for Bluetooth devices in range and lists available devices, if any.

6 Select the device name for your Bluetooth headset and then click **Next**.
The **Bluetooth Manager-Bluetooth Security** window appears when a connection is established.

7 Enter "0000" for **Bluetooth Passkey (PIN)** and then click **OK**.

8 Click **Next**.
The headset icon appears in the **Bluetooth Settings** window.

9 Right-click the icon and select **Connect** from the menu.

To disconnect the headset from your computer

1 Right-click the Bluetooth icon on the taskbar and select **Bluetooth Settings** from the menu.
The **Bluetooth Settings** window appears.

2 Right-click the headset icon and select **Disconnect** from the menu.

3 Click **Yes**.

Using Peripheral Devices

You can add functionality to your VAIO computer by using the various ports on the computer.

❑ **Connecting a Universal Serial Bus (USB) Device** **(page 70)**

❑ **Connecting a Printer** **(page 72)**

❑ **Connecting an i.LINK Device** **(page 74)**

❑ **Connecting to a Network (LAN)** **(page 76)**

Connecting a Universal Serial Bus (USB) Device

✍
You need to flip down the left front panel to access the USB ports on the front of the access unit.

Connecting a USB Floppy Disk Drive

You can purchase a USB floppy disk drive and connect it to your computer.

To connect a USB floppy disk drive

1 Choose the USB port (1) ⊻ you prefer to use.

2 Plug the USB floppy disk drive cable (2) into the USB port.
Your USB floppy disk drive (3) is now ready for use.
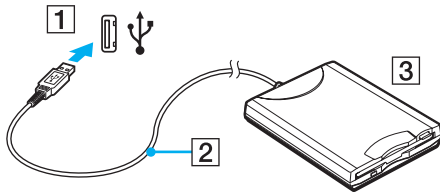
!
When using a USB floppy disk drive, do not apply force on the USB port. This may cause a malfunction.

Disconnecting a USB floppy disk drive

You can disconnect a USB floppy disk drive when your computer is on or off. Disconnecting the drive when the computer is in Sleep mode may cause the computer to malfunction.

If the computer is off, you can unplug the USB cable directly from the computer.

To disconnect a USB floppy disk drive

1   Close all programs accessing the floppy disk drive.

2   Double-click the **Safely Remove Hardware** icon on the taskbar.
The **Safely Remove Hardware** window appears.

3   Select the floppy disk drive you want to unplug.

4   Click **Stop**.
The **Stop a Hardware device** window appears.

5   Confirm that the floppy disk drive can be safely removed from the system.

6   Click **OK**.
A message appears stating it is now safe to remove the hardware device.

7   Click **OK**.

8   Click **Close** to close the **Safely Remove Hardware** window.

9   Disconnect the floppy disk drive from the computer.

Connecting a Printer

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

Connecting a Printer Using the USB Port

You can connect a USB printer compatible with your version of Windows to the computer.

✍
You need to flip down the left front panel to access the USB ports on the front of the access unit.

To connect a printer using the USB port

1 Plug the power cord (1) of your printer into an AC outlet.

2 Choose the USB port (3) 🖞 you prefer to use.

3 Plug one end of a USB printer cable (2) (not supplied) into the USB port and the other end to your printer.
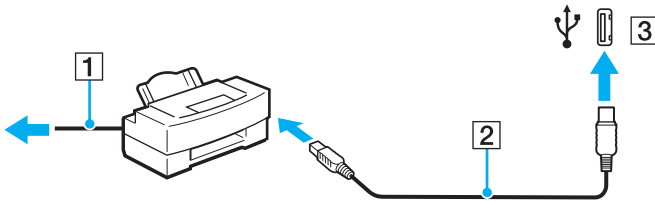
Connecting a Printer Using the Printer Port

To connect a printer using the printer port

1 Plug the power cord (1) of your printer into an AC outlet.

2 Plug the printer cable (2) supplied with your printer into the printer port (3) 🖶 on the back of the main unit.
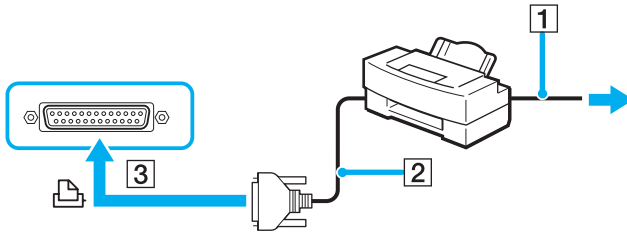
✍
Before connecting the printer, turn off your computer and the printer.

Connecting an i.LINK Device

Notes on connecting i.LINK devices

❑ Your computer is equipped with an i.LINK port, which you can use to connect to an i.LINK device such as a digital video camcorder or to connect two VAIO computers in order to copy, delete or edit files.

❑ The i.LINK port on your computer does not supply power to external devices generally powered by i.LINK ports.

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

❑ The optional i.LINK cables may not be available, depending on the country or area of your residency.

❑ 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. See the manual that came with your software for more information.

❑ Check the working conditions and OS compatibility of i.LINK-compatible PC peripherals (for example, an HDD or a CD-RW drive) before you connect them to your computer.

Connecting a Digital Video Camcorder

✍
You need to flip down the left front panel to access the i.LINK port on the front of the access unit.

To connect a digital video camcorder

1 Plug one end of an i.LINK cable (1) (not supplied) into the i.LINK port (2) on the computer and the other end into the DV In/Out port (3) on the digital video camcorder.

2 Launch the **DVgate Plus** software.
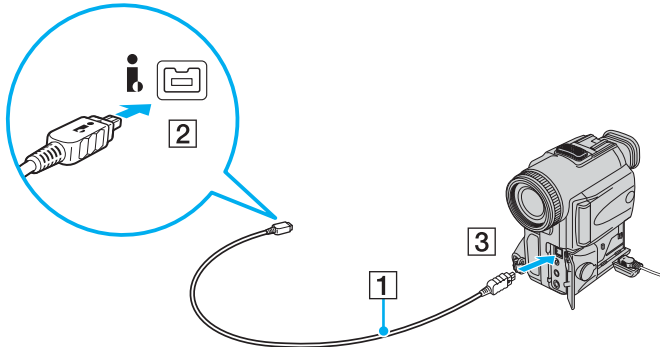
✍
On Sony digital video cameras, ports labeled **DV Out**, **DV In/Out**, or **i.LINK** are i.LINK-compatible.

The Sony digital video camcorder shown here is an example; your digital video camcorder may need to be connected differently.

You cannot access the pictures stored on a Memory Stick media when using an i.LINK connection.

Connecting to a Network (LAN)

You can connect your computer to 1000BASE-T/100BASE-TX/10BASE-T-type networks with an Ethernet network cable. Connect one end of a network cable (not supplied) to the network (Ethernet) port on the back of the main unit and the other end to your network. For detailed settings and devices needed to connect to the network, ask your network administrator.

!

The main unit has a protective sticker ⊠ covering the network (Ethernet) port located on its back. Connect 10BASE-T, 100BASE-TX, or 1000BASE-T cable to the network (Ethernet) port. Using an incorrect cable, such as a phone cable, may result in an electric current overload that can cause a malfunction, excessive heat, or fire in the network (Ethernet) port. For help on connecting to a network, see your network administrator.
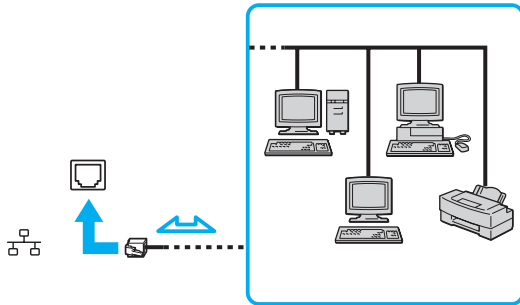
✍
Your computer can be connected to the network with the default settings.

!
Telephone lines cannot be connected to the network (LAN) connector on your computer.
If the network (LAN) connector is connected to the telephone lines mentioned below, high electric current to the connector may cause damage, overheating, or fire.

- Home (intercom speakerphone) or business-use telephone lines (multi-line business telephone)

- Public telephone subscriber line

- PBX (private branch exchange)

Do not plug a telephone cable into the network port.

Customizing Your VAIO Computer

This section briefly describes how to change the main settings of your VAIO computer. Among other things, you will learn how to use and customize the look of your Sony software and utilities, etc.

❑ **Setting the Password (page 79)**

❑ **Setting Up Your Computer with VAIO Central (page 82)**

❑ **Using the Power Saving Modes (page 83)**

Setting the Password

Use one of the BIOS functions to set the password.

Once you have set the password, you will have to enter the password after the VAIO logo appears to start your computer. The power-on password will allow you to protect the computer from unauthorized access.

Adding the Power-on Password

The power-on password is provided to protect your computer from unauthorized access.

There are two types of the power-on password: machine password and user password. The machine password is provided for users with administrator rights on the computer to change all the setup options on the BIOS setup screen, as well as to start the computer. The user password is provided for other standard users to allow for changing some of the BIOS setup options, as well as starting the computer. To set the user password, you must first set the machine password.

!
Once you have set the power-on password, you cannot start your computer without entering the password. Make sure not to forget the password. Write down your password and keep it safe and private from other people.

If you forget the power-on password and need assistance to reset it, a password reset fee will be charged, and your computer may need to be sent in for depot service for password reset.

To add the power-on password

1 Turn on the computer.

2 Press the **F2** key when the VAIO logo appears.
The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.

3 Press the ⬅ or ➡ key to select **Security** to display the **Security** tab, select **Set User Password**, and then press the **Enter** key.

4 On the password entry screen, enter the password twice and press the **Enter** key.
The password can be at least 2 and at most 19 characters (including spaces) long.

✍
The following is to configure your computer to display the BIOS setup screen.

5 Press the ⬅ or ➡ key to key to select **Exit**, select **Exit Saving Changes**, and then press the **Enter** key.
At the confirmation prompt, press the **Y** key.

Changing/Removing the Power-on Password

To change or remove the power-on password

1 Turn on the computer.

2 Press the **F2** key when the VAIO logo appears.
The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.

3 Enter the current password for **Enter Current Password** and press the **Enter** key.
The BIOS setup screen appears.

4 Press the ← or → key to select **Security** to display the **Security** tab, select **Clear User Password**, and then press the **Enter** key.

5 Press the ← or → key to select **Exit**, select **Exit Saving Changes**, and then press the **Enter** key
At the confirmation prompt, press the **Y** key.

Setting Up Your Computer with VAIO Central

The **VAIO Central** utility allows you to consult system information and specify preferences for system behavior.

To use VAIO Central

1 Click **Start**, **All Programs**, and **VAIO Central**.
The **VAIO Central** window appears.

2 Click the **System Information** tab.

3 Select the desired control item and change the settings.

4 Once finished, click **OK**.
The setting of the desired item has been changed.

✍
Some of the control items will not be visible if you open **VAIO Central** as a standard user.

Using the Power Saving Modes

In addition to the normal operating mode, which allows you to turn off specific devices, your computer has a distinct power saving mode called Sleep mode.

Using Normal Mode

This is the normal state of the computer when it is in use. To save power while not working, you can turn off a specific device such as the connected display or the hard disk.

Using Sleep Mode

Sleep mode temporarily suspends the entire system operations for lower power consumption. The orange power light is on in this mode.

To activate Sleep mode

Click **Start**, the arrow next to the **Lock** button, and **Sleep**.

✍
Alternatively, you can press the standby button on the keyboard to put your computer in Sleep mode.

To return to Normal mode

Press the power button on your computer or the standby button on the keyboard.

!
If you press and hold the power button for more than four seconds, your computer will turn off automatically. You will lose any unsaved data.

If the computer is not used for more than 20 minutes, it will enter Sleep mode. To avoid this, you can change the Sleep mode settings.

To change the Sleep mode settings

1   Right-click the power status icon on the taskbar and select **Power Options**.
2   Click **Change plan settings** under the current power plan.
3   Change the time to put the computer to sleep and click **Save Changes**.

Upgrading Your VAIO Computer

Your VAIO computer, memory modules, add-on cards, and hard disk drives use high precision components and electronic connectors technology. To avoid invalidation of the warranty during your product warranty period, we recommend that:

❑ You contact your dealer to install a new component.

❑ You do not install it yourself, if you are not familiar with upgrading a computer.

❑ You do not touch the connectors on any component.

For the type of components available for upgrading and the amount of memory installed on your model, see the online **Specifications**.

For assistance, contact an authorized Sony Service Center. To find the nearest center or agent, see **Sony Support Information (page 156)** or visit the Sony online support Web site.

❑ **Before Upgrading Your Computer (page 86)**
❑ **Removing and Replacing Computer Panels (page 87)**
❑ **Adding and Removing Memory (page 93)**
❑ **Installing an Add-on Card (page 99)**
❑ **Replacing the Lithium Battery (page 103)**
❑ **Installing the Hard Disk Drive (page 106)**

Before Upgrading Your Computer

The upgrading procedures described in this section assume that you are familiar with the general terminology associated with personal computers, safety practices, required regulatory compliances, and the modification of electronic equipment.

Disconnect your computer from its power source and from telecommunications links, networks, or modems before you follow any procedures in this section.

!
Failure to disconnect your computer from its power source may result in personal injury or equipment damage. Always turn the power off before you remove any computer panels or connect peripheral equipment. Otherwise, damage may occur to the integrated circuits.

Electrostatic discharge (ESD) can damage disk drives and other components. Follow the procedures described here 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 (for example, cellophane wrappers). Ground yourself by maintaining continuous contact with an unpainted metal portion of the chassis while performing the procedure.

Removing and Replacing Computer Panels

To access memory modules, add-on cards, and hard disks inside your computer, you need to remove and replace the top or front panel of the main unit beforehand and afterward.

!
If you remove any panel immediately after you shut down your computer, the internal components may be too hot to touch. Wait about one hour to let the components cool down before you attempt to remove the panel.

Removing and Replacing the Main Unit Top Panel

To remove the top panel

1 Shut down your computer and turn off all peripheral devices, such as a printer.

2 Unplug the main unit and disconnect all peripheral devices, including the access unit.

3 Place the main unit in the flat position.

4 Remove the two screws from the back of the main unit.

5 Slide the top panel toward the back of the unit, lift the panel, and set it aside.
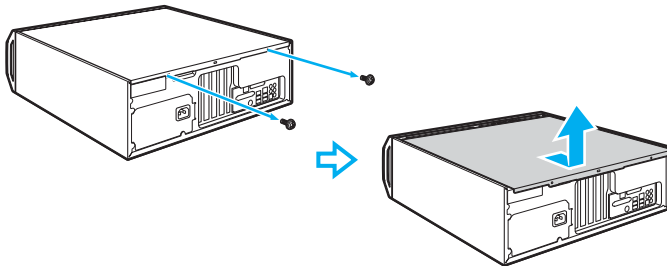
To replace the top panel

1 Place the top panel on the main unit and slide it toward the front.

2 Tighten the two screws on the back of the main unit to secure the panel.
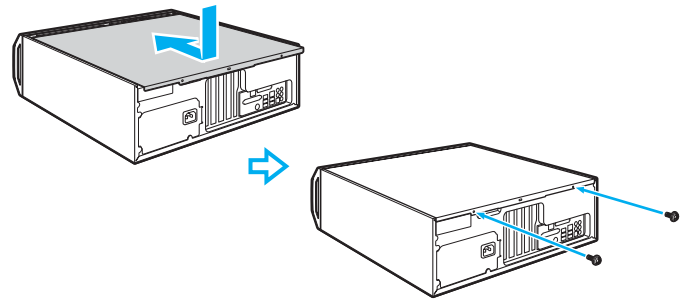
Removing and Replacing the Main Unit Front Panel

To remove the front panel

1 Shut down your computer and turn off all peripheral devices, such as a printer.

2 Unplug the main unit and disconnect all peripheral devices, including the access unit.

3 Place the main unit in the flat position.

4 Pull the front panel (1) slightly toward you to disengage it from the chassis frame, and then completely take the panel off.
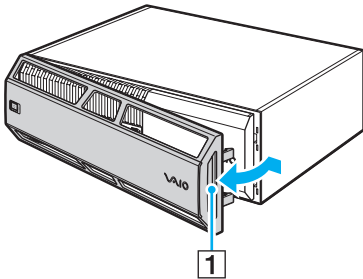
5 Slide and hold the latch (2) in the direction of the arrow (3) and remove the plastic HDD cover (4).
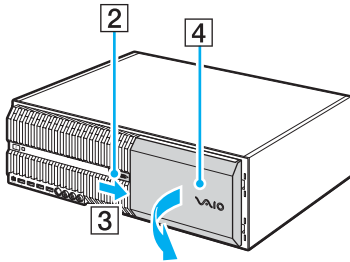
6 Pull the metal HDD shield (5) toward you to take it off.
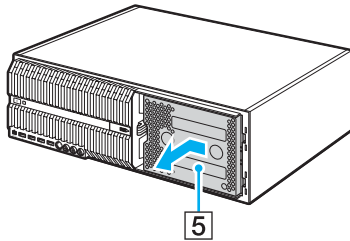
To replace the front panel

1 Push in the metal HDD shield (1).
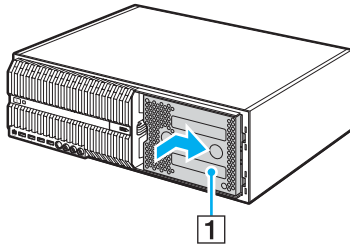
2 Insert the tabs (2) on the right edge of the plastic HDD cover underneath the chassis frame and push in the left end of the cover.
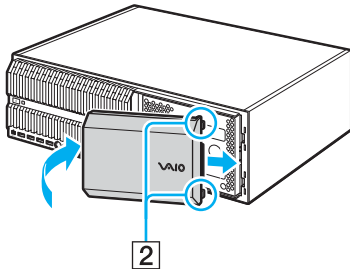
3 Push in the left tabs (3) of the front panel into the slits on the chassis frame first and then the right tabs (4) into the right slits.
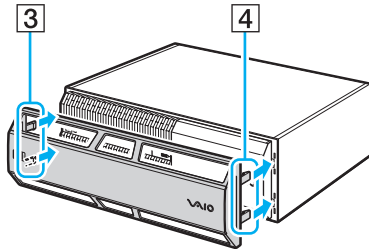
Adding and Removing Memory

If you want to expand the functionality of your computer, you can increase the memory by installing optional memory modules. Before you upgrade your computer's memory, read the notes and procedures in this section. The number of available slots depends on your computer's hardware configuration.

Notes on adding/removing memory modules

❑ Be careful when changing memory. Improper installation of memory modules may cause damage to your system. This damage may void your manufacturer's warranty.

❑ Only use memory modules that are compatible with your computer. If a memory module is not detected by the computer or the Windows operating system becomes unstable, contact your sales dealer or the manufacturer of your memory module.

❑ Electrostatic discharge (ESD) can damage electronic components. Before touching a memory module, ensure the following:

    ❑ 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.

    ❑ Turn off your computer and disconnect it from its power source (that is, AC adapter) and from any telecommunication links, networks, or modems before you remove any cover or panel from the computer. Failure to do so may result in personal injury or equipment damage.

    ❑ 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 before you are ready to change the module. The package protects the module from ESD.

❑ Use the special bag delivered with the memory module or wrap the module in aluminum foil to protect it from ESD.

❑ Introducing any liquids, foreign substances, or objects into the memory module slots or other internal components of your computer will result in damage to the computer and any repair costs will not be covered by the warranty.

❑ Do not place the memory module in a location 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 95°F (35°C) or less than 41°F (5°C)

  ❑ High humidity

❑ Handle the memory module with care. To avoid injuries to your hands and fingers, do not touch the edges of the components and circuit boards inside your computer.

Removing and Installing a Memory Module

To change or add a memory module

1 Remove the top panel of the main unit.
See **Removing and Replacing the Main Unit Top Panel (page 87)** for the detailed instructions.

2 Remove the two screws from the chassis brace (1) and take out the brace.
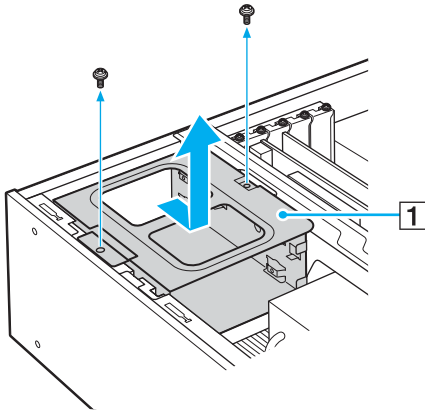
3 Touch a metal object (such as the chassis frame) to discharge static electricity.

4 Locate the memory module(s) you wish to remove.

5 Push down on the latches (2), located on either side of the module, to gently eject it from the slot.
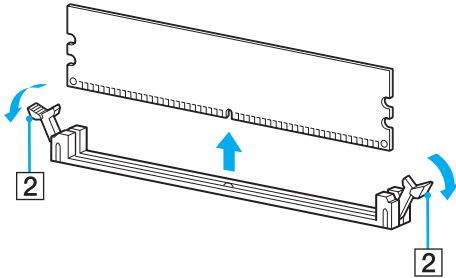
6 Grasp the memory module by the sides and remove from the main unit. Store the module in a static-free bag.
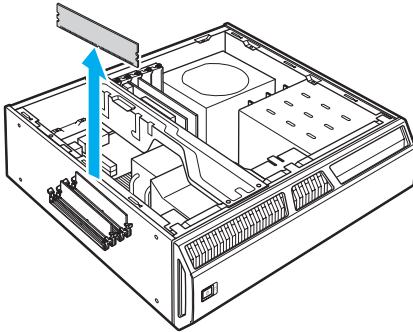
7 Remove the memory module from its anti-static package, handling it by the edges.

8 Locate the center notch (3) on the bottom edge of the memory module and align it to the center bump in the open module slot.

9 Firmly insert the lower edge of the module (4) into the slot by pressing down evenly against the module's upper corners.

10 The side latches (5) snap into position, holding the memory module in place.
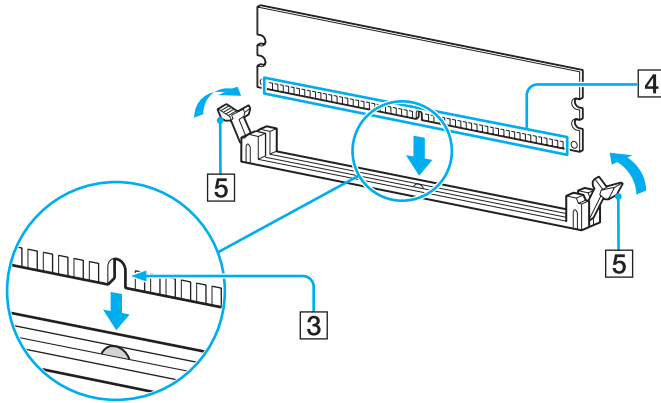
!
To avoid damaging a memory module or the memory module slot, move the side latches slightly outward to relieve pressure.

11 Replace the chassis brace and secure it with the screws.

12 Replace the top panel.
See **Removing and Replacing the Main Unit Top Panel (page 87)** for the detailed instructions.

Viewing the Amount of Memory

To view the amount of memory

1 Turn on the computer.

2 Click **Start**, **All Programs**, and **VAIO Central**.
The **VAIO Central** window appears.

3 Click the **System Information** tab.

4 Double-click the **System Information** folder.

5 Double-click the **System Information** icon.
You can view the amount of system memory. If the additional memory does not appear, repeat the whole installation procedure and restart the computer.

Installing an Add-on Card

The main unit of your computer has two open expansion slots: one PCI compliant slot (PCI slot 1) and one PCI Express x4 compliant slot (PCI slot 2). To PCI slot 2, you can install a PCI Express x1 or x2 compliant card as well as a PCI Express x4 compliant card. An expansion slot enables you to install a PCI standard based expansion card to expand the functionality of your computer. Before you purchase an expansion card, make sure the card supports Windows Vista and the PCI standard. The length of the add-on card (1) should not exceed 12.3 inches (31 cm) for PCI slot 1 and 6.7 inches (17 cm) for PCI slot 2 (the one close to the power unit).
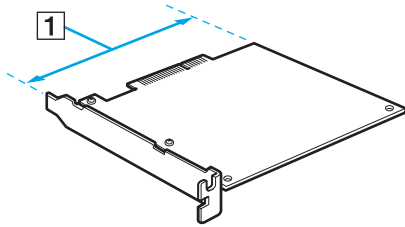
!
Observe the proper safety precautions when you install an add-on card to your computer. See **Before Upgrading Your Computer (page 86)**.

The entire repair cost will be charged if there is a failure or an accident arising from installation of an add-on card by yourself.

Make sure you unplug the main unit and peripheral devices, including the access unit, from the power sources and allow the main unit to cool down before installing or removing an add-on card. Installing or removing an add-on card while the main unit is plugged to its power source may cause damage to the both units and the peripheral devices as well as the add-on card.

Do not touch the electronic components on the internal circuit board of the main unit to avoid a malfunction as they are susceptible to external pressure and static electricity.

Do not touch the electronic components on the add-on card to avoid a malfunction as they are susceptible to static electricity from a human body. Be sure to touch a metal object to discharge static electricity from your body before handling the add-on card.

Do not place the add-on card on a surface that is likely to produce or hold static electricity, such as carpet. The components on the add-on card are susceptible to static electricity, resulting in damage to the card.

Keep your hand away from the add-on card connector.

Do not drop or apply strong shock to the add-on card as it has high precision components.

Be sure to follow the proper produce to remove the add-on card from the main unit. Forceful removal of the add-on card may cause a malfunction of the card or the unit.

Be sure to keep the add-on card dry.

If you leave a foreign object, for example a screw, inside the main unit during add-on card installation, turning on your computer may cause to produce fumes. Be sure to remove the object from the unit and replace the top panel before turning on the computer.

To install an add-on card

1 Remove the top panel of the main unit.
See **Removing and Replacing the Main Unit Top Panel (page 87)** for the detailed instructions.

2 Touch a metal object (such as the chassis frame) to discharge static electricity.

3 Locate an available expansion slot. Remove the slot cover's screw, and then remove the slot cover.
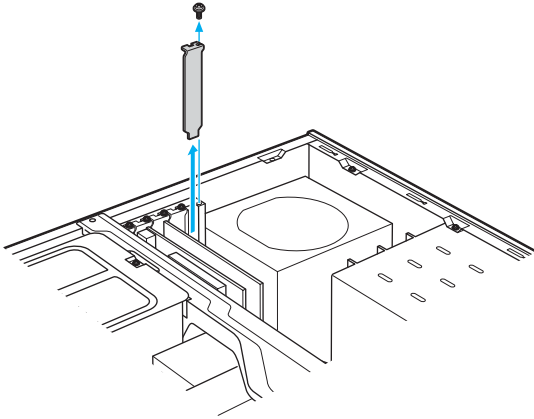
!
Be careful not to damage the circuit board and cables inside.

4 Insert the add-on card into the expansion slot and secure it with the screw from the expansion slot cover.
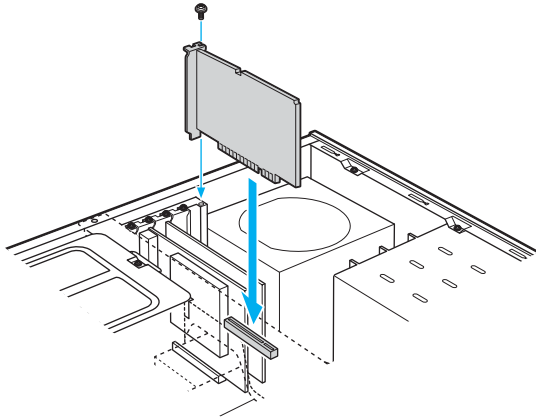
!
Be careful not to touch other internal components when inserting the card as it may cause a failure.

5 Replace the top panel.
See **Removing and Replacing the Main Unit Top Panel (page 87)** for the detailed instructions.

# Replacing the Lithium Battery

The lithium battery starts to weaken after several years and the system settings, such as the date and time stored in CMOS RAM, may become inaccurate. Replace the lithium battery when this occurs.

!
There is danger of the battery exploding if it is replaced incorrectly. Replace the battery only with a CR2032-type lithium battery.

To replace the lithium battery

1 Write down any changes you may have made to the settings in the BIOS Setup utility.

2 Remove the top panel of the main unit.
See **Removing and Replacing the Main Unit Top Panel** for the detailed instructions.

3 Remove the two screws from the chassis brace (1) and take out the brace.
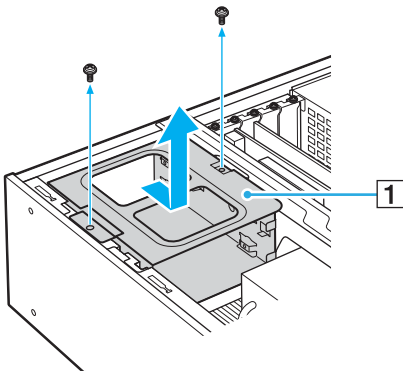
4 Remove the old battery and install the new battery with the plus (+) side facing up.
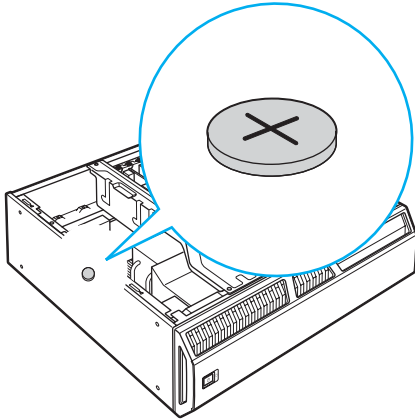
5 Replace the chassis brace and secure it with the screws.

6 Replace the top panel.
See **Removing and Replacing the Main Unit Top Panel** (page 87) for the detailed instructions.

The values stored in the CMOS memory are now reset to the factory default values. Run the Setup utility to reset the date, time, passwords, and other changes you may have made to the BIOS settings. If you do not wish to customize your BIOS settings, do not run the Setup utility.

!
Dispose of the lithium battery properly. In some areas, the disposal of lithium batteries in household or business trash may be prohibited. You can return your unwanted lithium batteries to your nearest Sony Service Center or Factory Service Center. To find the nearest center or agent, see **Sony Support Information** (page 156) or visit the Sony online support Web site.

Resetting the Computer's Date and Time

To reset the computer's date and time

1 Click the time readout displayed on the taskbar.
The window appears showing the current date and time.

2 Click **Change date and time settings**.
The **Date and Time** window appears.

3 On the **Date and Time** tab, change the settings as desired.

4 Click **Apply**.

5 Click **OK**.

Installing the Hard Disk Drive

The main unit of your computer is equipped with open internal bays to hold additional 3.5-inch hard disk drives.

Review the manufacturer's information provided with your new hard disk drive before attempting to install it in the unit.

✍
Certain models may already have additional hard disk drives installed that support the Redundant Array of Independent Disks (RAID) technology.

The installation information provided in this section may not apply if you have purchased a model that supports RAID.

!
The entire repair cost will be charged if there is a failure or an accident arising from installation of a hard disk by yourself.

Hard disk installation requires great care. Improper installation or removal will cause a malfunction of your computer.

If you need assistance to install a hard disk, contact an authorized Sony Service Center. To find the nearest center or agent, see **Sony Support Information** or visit the Sony online support Web site.

Be sure to avoid accidental disconnection of the internal cables of the main unit during hard disk installation.

Be sure to avoid injury during hard disk installation as the main unit contains components and circuit boards with sharp corners and edges.

If you leave a foreign object, for example a screw, inside the main unit during hard disk installation, turning on your computer may cause to produce fumes. Be sure to remove the object from the unit and replace the top panel before turning on the computer.

Do not touch the electronic components on the internal circuit board of the main unit to avoid a malfunction as they are susceptible to external pressure and static electricity.

The drive bay size of your computer is 3.5 inches.

Some hard disks are not compatible with your computer. Contact the manufacturer of your hard disk for compatibility with VAIO computers.

There may be some limitations on video import from i.LINK devices, depending on your hard disk.

Make sure you unplug the main unit and peripheral devices, including the access unit, from the power sources before installing or removing a hard disk. Installing or removing a hard disk while the main unit is plugged to its power source may cause damage to the both units and the peripheral devices as well as the hard disk.

The internal components of the main unit are too hot to touch immediately after you shut down your computer. Wait until the components cool down before you attempt to install a hard disk.

The label of the installed hard disk, for example "Local disk (E:)" and "Local disk (F:)," depends on the hardware configuration of your computer. It may also change after your computer recovery.

By default, recorded videos are stored on your C drive.

Installing an Additional Hard Disk Drive

You can install up to four SATA hard disk drives to the internal hard disk drive bay.

To install an additional hard disk drive

1 Remove the front panel of the main unit.
See **Removing and Replacing the Main Unit Front Panel (page 89)** for the detailed instructions.

2 Push the button (1) to release the hard disk drive holder lever (2).
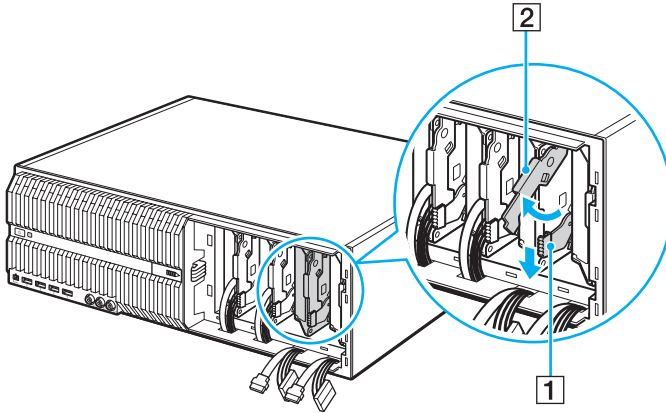
3 Grasp the lever and pull out the holder (3) from the hard disk drive bay and set it aside.
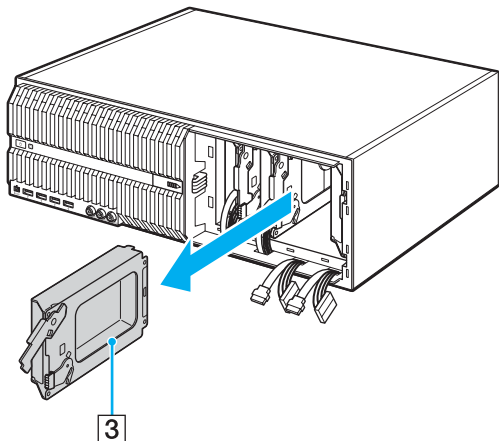
4 Unscrew the four screws from the holder cover.
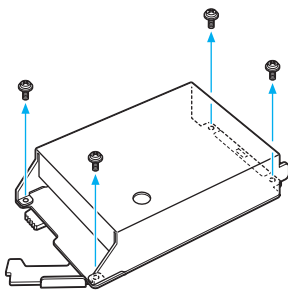
5 Remove the holder cover and insert a new hard disk drive.
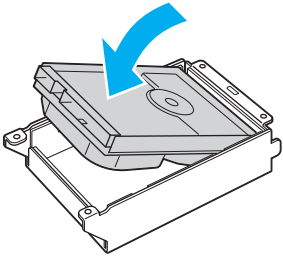
6 Replace the holder cover and secure it with the screws.

7   Slide the hard disk drive holder into the hard disk drive bay and push in the holder lever into place.
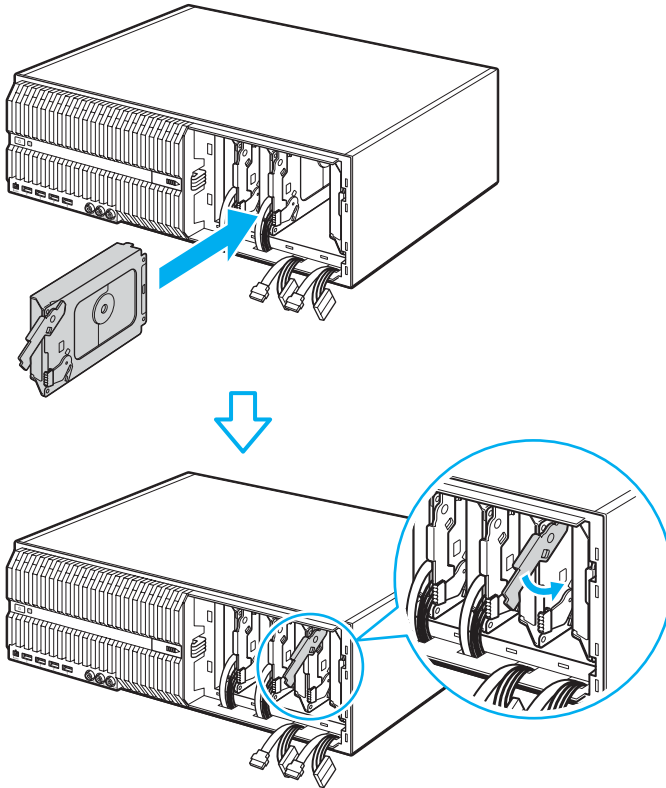
8   Connect the power connectors to the preinstalled and new hard disk drives.

9 Connect the SATA cables to the hard disk drives as follows:

Connect the internal SATA cables:	To the hard disk drives in:
PORT0 cable	Rightmost drive bay
PORT1 cable	Second drive bay from the right
PORT2 cable	Third drive bay from the right
PORT3 cable	Leftmost drive bay

!
Use of a commercially available SATA cable with the straight-head connector may damage the connector on the hard disk drive by being pulled out when you replace the drive holder. We recommend you use Sony SATA cables exclusively designed for your computer.

10 Replace the front panel.
See **Removing and Replacing the Main Unit Front Panel (page 89)** for the detailed instructions.

Identifying the Additional Hard Disk Space

When you initialize the new hard disk, it must be configured as an extended partition in Windows NT file system (NTFS) format.

To identify the additional hard disk space

1 Log on to Windows as a user with administrator rights.

2 Click **Start** and right-click **Computer**.

3 Select **Manage** from the menu.
The **Computer Management** window appears.

4 Under the file directory on the right, double-click **Storage** and then **Disk Management**.

5 Right-click on the newly installed, unformatted hard disk (disk label identified with red marking) and select **Initialize Disk** from the menu.

6 Click on the allocated area of the disk.

7 Right-click the area and select **New Partition** from the menu.
The **New Partition** wizard window appears.

8 Follow the on-screen instructions to complete the process.

The Windows Vista operating system recognizes the new hard disk drive and applies the NTFS format.

Precautions

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

On Using the Power Source

❑ See the online **Specifications** to check the power operation of your model.

❑ 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, in an electrical storm, for example.

❑ 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 AC outlet if you are not planning to use the computer for a long period of time.

❑ Make sure that the AC outlet is easily accessible.

❑ Use the power cord supplied with your computer or genuine Sony products. Do not use any other power cord as it may cause a malfunction.

On Handling Your Computer

❑ Clean the cabinet with a soft cloth, which is dry or lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your computer.

❑ If you drop a solid object or any liquid onto your computer, shut down the computer and then unplug it. You may want to have the computer checked by qualified personnel before operating it again.

❑ Do not drop your 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 95°F (35°C) or less than 41°F (5°C)

   ❑ High humidity

❑ Do not place electronic equipment near your computer. The electromagnetic field of the computer may cause a malfunction.

❑ Provide adequate air circulation to prevent internal heat from building 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 air vents.

❑ Your computer uses high-frequency radio signals and may cause interference to radio or TV reception. If this occurs, relocate the computer a suitable distance away from the set.

❑ Use only specified peripheral equipment and interface cables; otherwise, problems may occur.

❑ Do not use cut or damaged connection cables.

❑ If your computer is brought directly from a cold location to a warm one, moisture may condense inside the computer. In this case, allow at least one hour before turning on the computer. If any problems occur, unplug the computer and contact an authorized Sony Service Center. To find the nearest center or agent, see **Sony Support Information (page 156)** or visit the Sony online support Web site.

❑ Make sure you disconnect the power cord before cleaning your computer.

❑ To avoid losing data if your computer is damaged, back up your data regularly.

On Handling Floppy Disks

❑ Do not open the shutter manually or touch the surface of the floppy disk.

❑ Keep floppy disks away from magnets.

❑ Keep floppy disks away from direct sunlight and other sources of heat.

❑ Keep floppy disks away from any liquid. Do not let them get wet. When you are not using your floppy disk, always remove it from the floppy disk drive and use a storage case.

❑ If the floppy disk comes with an adhesive label, make sure that the label is properly affixed. If the edge of the label is curled up, the label may stick to the inside of the floppy disk drive and cause a malfunction or damage your floppy disk.

On Handling Discs

❑ Do not touch the surface of the disc.

❑ Do not drop or bend the disc.

❑ Fingerprints and dust on the surface of a disc may cause read errors. Always hold the disc by its edges and central hole, as shown below:
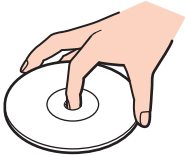
❑ Proper care of the disc is essential to its continuous reliability. Do not use solvents (such as benzine, thinner, alcohol, commercially available cleaners, or anti-static spray) which may cause damage to the disc.

❑ For normal cleaning, hold the disc by its edge and use a soft cloth to wipe the surface from the center out.

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

❑ Never affix an adhesive label to a disc. This will affect the use of the disc irreparably.

On Using Headphones

Preventing hearing damage – Avoid using headphones 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 Media

❑ Do not use the media in a location subject to static electricity or electrical noise.

❑ Do not touch the Memory Stick media connector with your finger or metallic objects.

❑ Use only the adhesive label supplied with the Memory Stick media as a label.

❑ Do not bend, drop, or apply strong shock to the Memory Stick media.

❑ Do not disassemble or modify Memory Stick media.

❑ Do not let Memory Stick media get wet.

❑ Do not use or store Memory Stick media in a location subject to:

   ❑ Extremely high temperatures, such as in a car parked in the sun

   ❑ Direct sunlight

   ❑ High humidity

   ❑ Corrosive substances

❑ Use the storage case supplied with the Memory Stick media.

❑ Be sure to make a backup copy of your valuable data.

❑ Keep the Memory Stick media out of reach of children. There is a risk of swallowing the media.

❑ When using the Memory Stick Duo media, do not use a fine-tipped pen to write on the label adhered to the Memory Stick Duo media. Exerting pressure on the media may damage internal components.

On Handling the Hard Disk

The hard disk has a high storage density and reads or writes data in a short time. However, it can be easily damaged by mechanical vibration, shock, or dust.

Although the hard disk has the internal safety device to prevent losing data due to mechanical vibration, shock or dust, you should be careful when handling your computer.

To avoid damaging your hard disk

❑ Do not subject your computer to sudden movements.

❑ Keep your computer away from magnets.

❑ Do not place your computer in a location subject to mechanical vibration or in an unstable position.

❑ Do not move your computer while the power is on.

❑ Do not turn off the power or restart your computer while reading or writing data to the hard disk.

❑ Do not use your computer in a place subject to extreme changes in temperature.

✍
If the hard disk is damaged, the data cannot be restored.

Troubleshooting

This section describes how to solve common problems you might encounter when using your VAIO computer. Many problems have simple solutions. Try these suggestions before visiting the Sony online support Web site at:
http://esupport.sony.com/EN/VAIO/ for customers in USA,
http://www.sony.ca/support for customers in Canada,
http://esupport.sony.com/ES/VAIO/ for customers in Spanish speaking Latin American countries or areas, or
http://esupport.sony.com/ES/VAIO/BR/ for customers in Brazil.

Computer

What should I do if my computer does not start?

❑ Make sure your computer is securely plugged into a power source and turned on. Make sure the power indicator shows the power is on.

❑ Make sure the floppy disk drive (if applicable) is empty.

❑ If your computer is plugged into a power strip or an uninterruptible power supply (UPS), make sure the power strip or UPS is plugged into a power source and turned on.

❑ Make sure your external display is plugged into an appropriate power source and turned on.

❑ Make sure the brightness and contrast controls on your external display are adjusted correctly.

❑ Disconnect the AC adapter. Wait three to five minutes. Reattach the AC adapter and press the power button to turn on your computer.

❑ Condensation may cause your computer to malfunction. If this occurs, do not use the computer for at least one hour.

❑ Remove any extra memory modules you may have installed since purchase.

❑ Make sure your computer is not in Sleep mode by pressing the power button on the computer or the standby button on the keyboard.

What should I do if a BIOS error appears when I turn on my computer?

If the message "Press <F1> to resume, <F2> to setup" appears at the bottom of the screen, follow these steps:

1 Press the **F2** key.
The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.

2 Set the date (month/day/year) with the **Tab** key and the **+/-** keys.

3 Press the ↓ key to select **System Time**, and then set the time (hour: minute: second) with the **Tab** key and the **+/-** keys.

4 Press the → key to select the **Exit** tab, and then select **Load Optimal Defaults** and press **Enter** key.
The message **Load Defaults?(Y/N)** appears.

5 Press the **Y** key.

6 Select **Exit Saving Changes** and press the **Enter** key.
The message **Exit Saving Changes? (Y/N)** appears.

7 Press the **Y** key.
Your computer restarts.

If this occurs frequently, contact an authorized Sony Service Center. To find the nearest center or agent, see **Sony Support Information (page 156)** or visit the Sony online support Web site.

What should I do if the power indicator lights but my screen stays blank?

❑ Make sure the proper input for your display (TV, VGA, DVI-D monitor) is selected.

❑ Make sure your display (TV, VGA, DVI-D monitor) is turned on.

❑ If your display is still blank, follow these steps:

1 Press the power button on your computer for more than four seconds to check that the power indicator goes out. Then turn on your computer again.

2 If your display still stays blank, unplug the power cord and leave the computer for about a minute. Then plug in the power cord and turn on the computer again.

!
Turning off your computer with the power button may cause loss of unsaved data.

What should I do if my computer or software stops responding?

❑ If your computer stops responding while a software application is running, press the **Alt**+**F4** keys to close the application window.

❑ If the **Alt**+**F4** keys do not work, click **Start**, the arrow next to the **Lock** button, and **Shut Down** to turn off your computer.

❑ If your computer does not turn off, press the **Ctrl**+**Alt**+**Delete** keys and click the arrow ◢ next to the **Shut down** button and **Shut Down**.
If the **Windows Security** window appears, click **Shut Down**.

!
Turning off your computer with the **Ctrl**+**Alt**+**Delete** keys or the power button may cause loss of unsaved data.

❑ If your computer still does not turn off, press and hold the power button until the computer turns off.

❑ Remove the power cord.

❑ Try reinstalling the software.

❑ Contact the software publisher or designated provider for technical support.

Why doesn't my computer enter Sleep mode?

Your computer may become unstable if the operating mode is changed before the computer completely enters Sleep mode.

To restore your computer to normal operating stability

1 Close all open programs.

2 Click **Start**, the arrow next to the **Lock** button, and **Restart**.

3 If your computer does not restart, press the **Ctrl**+**Alt**+**Delete** keys and click the arrow next to the **Shut down** button and **Restart**.

4 If this procedure does not work, press and hold the power button until the computer turns off.

> !
> Turning off your computer with the power button may cause loss of unsaved data.

What should I do if Windows does not start, showing a message, when I start my computer?

❑ Make sure the optical disc drives on the access unit of your computer do not contain a "non-bootable" disc.

❑ If a non-bootable disc is in either drive, follow these steps:

1 Remove the disc.

2 Restart your computer and confirm that the Windows operating system launches properly.

❑ If you enter a wrong power-on password three times consecutively, the **Password Check failed** message appears and Windows will not start. Press and hold the power button for more than four seconds to check that the VAIO power indicator goes off. Wait for 10 or 15 seconds, then restart your computer and enter the correct password. When entering the password, check that the Num Lock indicator and Caps Lock indicator on the keyboard are off. If any are lit, press the **Num Lock** key or the **Caps Lock** key to turn off the indicator before entering the password.

❑ If the Windows operating system still does not launch, follow these steps to initialize the BIOS:

1 If there is a disc in the optical disc drive, remove it.

2 Turn off your computer.

3 Remove any peripheral devices connected to the computer.

4 Restart the computer.

5 Press the **F2** key when the VAIO logo appears.
The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.

6 Press the ➡ key to select the **Exit** menu.

7 Press the ⬇ key to select **Load Setup Defaults**.

8 Press the **Enter** key.
The **Load Setup Defaults** window appears.

9 Select **OK**, and press the **Enter** key.

10 Select **Exit (Save Changes)**, and press the **Enter** key.
The **Save configuration changes and exit now?** window appears.

11 Select **OK**, and press the **Enter** key.
Your computer restarts.

What should I do if my game software does not work or it keeps crashing?

❑ Check the Web site of the game if there are any patches or updates to download.

❑ Make sure you have installed the latest video driver.

❑ On some VAIO models, the graphics memory is shared with the system. The optimal graphic performance in this case is not guaranteed.

What should I do if I cannot remember the BIOS password?

If you have forgotten the BIOS password, contact an authorized Sony Service Center to reset it. A reset fee will be charged. To find the nearest center or agent, see **Sony Support Information (page 156)** or visit the Sony online support Web site.

Why does it take time before my computer starts?

If Norton Internet Security's Personal Firewall is active, it may take some time before the desktop screen appears due to network security checkups.

Why doesn't my screen turn off when the time selected for the automatic turn-off action has passed?

The **VAIO Original Screen Saver** disables the timer setting, which you can select using the Windows power options, for your screen to turn off.
Select the screen saver other than the **VAIO Original Screen Saver**.

System Security

This section provides information about keeping your computer operating smoothly and protecting against potential threats to the computer's security.

How can I protect my computer against security threats, such as viruses?

The Microsoft Windows operating system is preinstalled on your computer. The best way to protect your computer against security threats, such as viruses, is to download and install the latest Windows updates regularly.

You can get important Windows updates by doing the following:

!
Your computer must be connected to the Internet before you can receive updates.

1   Connect to the Internet.
2   Double-click the **Windows Security Alerts** icon on the taskbar.
3   Follow the on-screen instructions to set up automatic or scheduled updates.

How do I keep my antivirus software updated?

You can keep the **Norton Internet Security** software program current with the latest updates from Symantec Corporation.

To download and install the latest security update

1   Click **Start**, **All Programs**, **Norton Internet Security**, and **Norton Internet Security.**
2   Click the item to update the software on the left pane.
3   Follow the on-screen instructions to select and download updates.

Internet

What should I do if my modem does not work?

❑ Make sure the telephone cable is securely plugged into the modem port on the main unit of your computer and the wall jack.

❑ Make sure the telephone cable is working. Plug the cable into an ordinary telephone and listen for a dial tone.

❑ Make sure that the telephone number the program is dialing is correct.

❑ Make sure the software you are using is compatible with your computer's modem. (All preinstalled Sony programs are compatible.)

❑ Follow these steps to check the settings:
  1 Click **Start** and **Control Panel**.
  2 Click **Hardware and Sound**.
  3 Click **Phone and Modem Options**.
  4 On the **Modems** tab, check that your modem is listed.
  5 On the **Dialing Rules** tab, check the location information is correct.

Why is my modem connection slow?

Your computer is equipped with a V.92/ V.90 compatible modem. Many factors may 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 (ISP), do any of the following:

❑ Ask your telephone company to verify your telephone line is free of any line noise.

❑ If your problem is fax-related, make sure 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 ISP, make sure the ISP is not experiencing technical problems.

❑ If you have a second telephone line, try connecting the modem to that line.

Bluetooth Technology

What should I do if other Bluetooth devices cannot discover my computer?

❑ Make sure both devices have the Bluetooth functionality enabled.

❑ If the Bluetooth indicator is off, activate the Bluetooth functionality. See **Using the Bluetooth Functionality (page 61)** for the detailed instructions.

❑ You cannot use the Bluetooth functionality when your computer is in a power saving mode. Return to Normal mode, then activate the Bluetooth functionality. See **Using the Bluetooth Functionality (page 61)** for the detailed instructions.

❑ Your computer and the device may be too far apart. Wireless Bluetooth technology works best when the devices are within 33 feet (10 meters) of each other.

Why can't my computer discover other Bluetooth devices?

If the connected device is also connected to other devices, it may not appear in the Bluetooth utility software or you may not be able to communicate with the device.

What should I do if I cannot find the Bluetooth device with which I want to communicate?

❑ Check that the Bluetooth functionality of the device with which you want to communicate is on. See the other device's manual for more information.

❑ If the device with which you want to communicate is already communicating with another Bluetooth device, it may not be found or it may not be able to communicate with your computer.

❑ To allow other Bluetooth devices to communicate with your computer, right-click the Bluetooth icon 📶 on the taskbar and select **Options** from the menu to open the **Options** window. Then, check if proper security modes are selected on the **Security** tab. For details on the security modes, see the help file on the Bluetooth utility software.
For more information on the Bluetooth Device window, see **Communicating with Another Bluetooth Device (page 65)**.

What should I do if other Bluetooth devices cannot connect to my computer?

❑ Make sure the other device is authenticated.

❑ Your computer may not allow connections from other devices. To enable Bluetooth device connections, follow these steps:

1 Right-click the Bluetooth icon 🔵 on the taskbar.

2 Select **Options** from the menu.
The **Options** window appears.

3 Check if **Standard** or **Low** is selected for the Bluetooth security level on the **Security** tab.
If a custom Bluetooth security level is selected, click the **Default level** button.

4 Click **OK**.

❑ The data transfer distance can be shorter than 33 feet (10 meters) depending on existing obstacles between the two devices, on radio wave quality, and on the operating system or the software in use. Move your computer and Bluetooth devices closer to each other.

❑ If the device with which you want to communicate is already communicating with another Bluetooth device, it may not be found or it may not be able to communicate with your computer.

❑ Check that the Bluetooth functionality of the device with which you want to communicate is on. See the other device's manual for more information.

Why is my Bluetooth connection slow?

❑ The data transfer speed depends on the obstacles and/or the distance between the two devices, on the radio wave quality, and on the operating system or the software in use. Move your computer and Bluetooth devices closer to each other.

❑ The 2.4 GHz radio frequency used by Bluetooth and wireless LAN devices is also used by other devices. Bluetooth devices incorporate technology that minimizes interference from other devices using the same wavelength, however, communication speed and connection range may be reduced. Interference from other devices may also stop communication altogether.

❑ Connection availability is affected by distance and obstructions. You may need to move your computer away from obstructions or closer to the device to which it is connected.

❑ Identify and remove obstacles between your computer and the device to which it is connected.

❑ Note that due to limitations of the Bluetooth standard, large files may occasionally be corrupted during continuous transfer due to electromagnetic interference from the environment.

Why does the message requesting authentication appear?

The target Bluetooth-enabled device is requesting connection authentication. Mutual authentication is required to enable Bluetooth communications with this device.

Why can't I connect to service supported by the target Bluetooth device?

Connection is only possible for services also supported by the computer with the Bluetooth functionality. For more details, see the help file on the Bluetooth utility software.

Can I use a device with Bluetooth technology on airplanes?

With Bluetooth technology, your computer transmits a radio frequency of 2.4 GHz. Sensitive locations, such as hospitals and airplanes, may have restrictions on use of Bluetooth devices, due to radio interference. Check with facility staff to see if use of the Bluetooth functionality on the computer is permitted.

Why can't I connect to a Bluetooth device by specifying its IP address on a Personal Area Network (PAN)?

The Bluetooth utility software uses Dynamic Host Configuration Protocol (DHCP) to assign IP addresses to active wireless devices. If you specify a fixed IP address for the device to which you want to connect, the utility cannot assign a dynamic IP address to the device and fails. Do not specify IP addresses when using a PAN.

Why can't I use the Bluetooth functionality when I log onto my computer as a user with a standard user account?

The Bluetooth functionality may not be available to a user with a standard user account on your computer. Log onto the computer as a user with administrator rights.

Why can't I connect to a Bluetooth device in Personal Area Network User mode?

If the device to which you want to connect supports Bluetooth communication in Personal Area Network User mode only, you cannot establish a connection from your computer.

Why can't I use the Bluetooth utility software when I switch a user?

If you switch a user without logging off from your system, the Bluetooth utility software will not work successfully. Make sure to log off before switching a user. To log off from your system, click **Start**, the arrow next to the **Lock** button, and **Log Off**.

Optical Discs

Why does my computer freeze when I try to read a disc?

The disc that your computer is trying to read may be dirty or damaged. Follow these steps:

1 Press the **Ctrl+Alt+Delete** keys and click the arrow next to the **Shut down** button and **Restart** to restart the computer.

2 Remove the disc from the optical disc drive.

3 Check the disc for dirt or damage. If you need to clean the disc, see **On Handling Discs (page 119)** for instructions.

What should I do if the drive tray does not open?

❑ Make sure your computer is on.

❑ Press the drive eject button.

❑ If the drive eject button does not work, click **Start** and **Computer**. Right-click the optical disc drive icon, and select **Eject** from the shortcut menu.

❑ If none of the above options work, insert a thin, straight object (such as a paper clip) in the manual eject hole on the optical disc drive.

❑ Try restarting your computer.

What should I do if I cannot play a disc properly on my computer?

❑ Make sure the disc is inserted into the optical disc drive with the label facing upward.

❑ Make sure the necessary program(s) is installed according to the manufacturer's instructions.

❑ If a disc is dirty or damaged, your computer will stop responding. Follow these steps:

1 Press the **Ctrl+Alt+Delete** keys and click the arrow next to the **Shut down** button and **Restart** to restart the computer.

2 Remove the disc from the optical disc drive.

3 Check the disc for dirt or damage. If you need to clean the disc, see **On Handling Discs (page 119)** for instructions.

❑ If you are playing a disc and cannot hear sound, do any of the following:

❑ Check if the volume is turned off or minimized by the muting button or the volume control, respectively, on the keyboard.

❑ Right-click the volume icon on the taskbar and click **Open Volume Mixer** to check the settings.

❑ Check the volume setting in the audio mixer.

❑ If you are using external speakers, check the volume settings on the speakers and the connections between the speakers and your computer.

❑ Make sure the correct driver software is installed. Follow these steps:

1 Click **Start** and **Control Panel**.

2 Click **System and Maintenance**.

3 Click **System**.

4 Click **Device Manager** on the left pane.
The **Device Manager** window appears with a listing of your computer's hardware devices.
If an "X" or an exclamation point appears on the listed device, you may need to enable the device or reinstall the drivers.

5 Double-click the optical disc drive device to open a list of the optical disc drives of your computer.

6 Double-click the desired drive.
You can confirm the driver software by selecting the **Driver** tab, and clicking **Driver Details**.

7 Click **OK** to close the window.

❑ Make sure an adhesive label is not affixed to a disc. Adhesive labels can come off while the disc is in the optical disc drive and damage the drive or cause it to malfunction.

❑ If a region code warning appears, the disc may be incompatible with the optical disc drive. Check the DVD package to make sure the region code is compatible with the optical disc drive.

❑ If you notice condensation on your computer, do not use the computer for at least one hour. Condensation can cause the computer to malfunction.

What should I do if I cannot write data to CD media?

❑ Make sure you neither launch any software application nor allow any to launch automatically, not even a screen saver.

❑ Stop using the keyboard.

❑ If you are using a CD-R/RW disc with an adhesive label affixed, replace it with one with no affixed adhesive label. Using a disc with an affixed adhesive label could cause a write error or other damage.

What should I do if I cannot write data to DVD media?

❑ Make sure you are using the correct DVD recordable media.

❑ Check which DVD recordable format is compatible with your optical disc drive. Note the possibility that some brands of DVD recordable media do not work.

❑ The preinstalled software on your computer does not support copying DVD movies. Macrovision or a similar video protection technology prevents users from copying DVD movies. Copying a DVD movie would be a copyright infringement and therefore illegal.

Display

Why did my screen go blank?

❑ Your display screen may go blank if your computer enters Sleep mode. If the computer is in Sleep mode, press the power button on the computer or the standby button on the keyboard to bring the computer back into Normal mode. See **Using the Power Saving Modes (page 83)** for more information.

❑ Make sure that both power cords of your computer and display are securely plugged into power sources.

❑ Make sure that your computer and display are properly connected.

❑ Make sure that both your computer and display are turned on.

❑ If your display comes with an AC adapter, make sure that the supplied adapter is used for power connection. Use of any other AC adapter may cause this problem.

❑ If you have unplugged and re-plugged your display while your computer is on, restart the computer.

What should I do if my screen is dark?

Adjust the brightness control on your display to brighten the screen. See the manual that came with your display for the detailed instructions.

How do I run Windows Aero?

This Q & A entry applies to selected models only.
To run Windows Aero, follow these steps:

1 Click **Start** and **Control Panel**.

2 Click **Customize colors** under **Appearance and Personalization**.

3 Click **Open classic appearance properties for more color options**.
The **Appearance Settings** window appears.

4 Select **Windows Aero** from the **Color scheme** options on the **Appearance** tab.

5 Click **OK**.

Printing

What should I do if I cannot print a document?

❑ Make sure your printer is on, and the printer cable is securely connected to the ports on the printer and computer.

❑ Make sure your printer is compatible with the Windows operating system installed on your computer.

❑ You may need to install the printer driver software before you use your printer. See the manual that came with your printer for more information.

❑ If your printer is not functioning after your computer resumes from Sleep mode, then restart the computer.

❑ If the bidirectional communication functions are provided with your printer, disabling the functions on your computer may enable printing. Follow these steps:

1 Click **Start** and **Control Panel**.

2 Click **Printer** under **Hardware and Sound**.

3 Right-click the printer icon and select **Properties**.

4 Click the **Ports** tab.

5 Click to cancel the **Enable bidirectional support** check box.

6 Click **OK**.

This change to the settings disables the bidirectional communication functions of the printer, such as data transfer, status monitoring, and remote panel.

Microphone

What should I do if my microphone does not work?

If you are using an external microphone, make sure the microphone is turned on and is properly plugged into the microphone jack on your computer.

❑ If you are using an external microphone, make sure the microphone is turned on and is properly plugged into the microphone jack on your computer.

❑ The muting button on the keyboard may have been pressed. Press the button once again.

❑ The volume may have been turned off with the volume control on the keyboard. Turn the control clockwise to turn up the volume loud enough to hear sound.

Mouse

What should I do if my computer does not recognize my mouse?

❑   Make sure your mouse is securely plugged into the port.

❑   Restart your computer with your mouse connected.

What should I do if the pointer does not move when I use my mouse?

❑   Make sure another mouse is not connected.

❑   If the pointer does not move while a software application is running, press the **Alt**+**F4** keys to close the application window.

❑   If the **Alt**+**F4** keys do not work, click **Start**, the arrow next to the **Lock** button, and **Restart** to restart your computer.

❑   If your computer does not restart, press the **Ctrl**+**Alt**+**Delete** keys and click the arrow next to the **Shut down** button and **Restart**.
If the **Windows Security** window appears, click **Restart**.

❑   If this procedure does not work, press and hold the power button until the computer turns off.

!
Turning off your computer with the power button may cause loss of unsaved data.

Speakers

What should I do if my speakers do not work?

❑ Make sure your speakers are properly connected and the volume is turned up loud enough to hear sound.

❑ Make sure your speakers are designed for computer use.

❑ If your speakers have a muting button, set the button to off.

❑ The speaker volume may have been turned off. Press the muting button on the keyboard.

❑ The volume may have been turned off with the volume control on the keyboard. Turn the control clockwise to turn up the volume loud enough to hear sound.

❑ If you have connected an audio cable to the headphones jack, disconnect the cable and use the speaker cable supplied with your speakers.

❑ If your speakers require external power, make sure the speakers are connected to a power source. See the manual that came with your speakers for more information.

What should I do if I cannot hear sound from my speakers?

❑ If you are using a program that has its own volume control, make sure the volume control is properly set. See the program's help file for more information.

❑ Make sure the speaker volume is turned up loud enough and the audio option is enabled.

❑ The speaker volume may have been turned off. Press the muting button on your keyboard.

❑ The volume may have been turned off with the volume control on the keyboard. Turn the control clockwise to turn up the volume loud enough to hear sound.

❑ Check the Windows volume controls by clicking the volume icon on the taskbar.

What should I do if I do not hear 5.1ch audio from my speakers?

Follow these steps to check the speaker setup.

1 Click **Start** and **Control Panel**.

2 Click **Hardware and Sound**.

3 Click **Manage audio devices** under **Sound**.

4 On the **Playback** tab, select **Speakers** and click **Configure**.
The **Speaker Setup** window appears.

5 Select **5.1 Surround** under **Audio channels** and click **Next**.

6 Select the check boxes for your speakers under **Optional speakers** and click **Next**.

7 Select the check boxes under **Full-range speakers** and click **Next**.

8 Click **Finish**.

Keyboard

What should I do if the keyboard configuration is wrong?

The language layout of your keyboard is labeled on the packaging box. If you choose a different regional keyboard when you complete the Windows setup, the key configuration will be mismatched.
To change the keyboard configuration, follow these steps:

1 Click **Start** and **Control Panel**

2 Click **Clock, Language, and Region**, and click **Regional and Language Options**.

3 Change the settings as desired.

What should I do if I cannot enter certain characters with the keyboard?

If you cannot use the numeric keypad, the **Num Lk** key may not be activated. Check if the Num lock indicator is off. If the Num lock indicator is off, press the **Num Lk** key to turn it on before entering numerals.

Floppy Disks

Why doesn't the Safely Remove Hardware icon appear on the taskbar when the drive is connected?

Your computer does not recognize the floppy disk drive. First, make sure the USB cable is properly connected to the USB port. If you need to secure the connection, wait a few moments for the computer to recognize the drive. If the icon still does not appear, follow these steps:

1 Close all programs that are accessing the floppy disk drive.

2 Wait for the LED indicator on the floppy disk drive to turn off.

3 Push the eject button to remove the disk, and disconnect the USB floppy disk drive from your computer.

4 Reconnect the floppy disk drive by inserting the USB connector (with the USB icon facing upward) into the USB port.

5 Restart the computer by clicking **Start**, the arrow next to the **Lock** button, and **Restart**.

What should I do if I cannot write data to a floppy disk?

❑ Make sure the floppy disk is properly inserted in the drive.

❑ If the disk is inserted properly and you are still unable to write data to it, the disk may be full or write-protected. You can either use a floppy disk that is not write-protected or disable the write-protect feature.

PC Cards

What should I do if my PC Card does not work?

❑ Make sure the PC Card is inserted properly. See **Inserting a PC Card (page 46)** for more information.

❑ Make sure the PC Card is compatible with the Microsoft Windows operating system installed on your computer.

❑ See the manual that came with your PC Card for more information. You may need to install driver software if you are not using a Sony PC Card.

❑ If your PC Card, which worked normally before, does not work, you may need to install the most recent driver software. Follow these steps:

1 Click **Start** and **Control Panel**.

2 Click **System and Maintenance**.

3 Click **System**.

4 Click **Device Manager** on the left pane.
The **Device Manager** window appears.

5 Double-click the device name for the PC Card to display the properties window.

6 Select the **Driver** tab and click **Update Driver**.

Why doesn't my computer recognize attached devices?

For some PC Cards, if you alternate between Normal mode and Sleep mode while the card is inserted into the PC Card slot, your computer may not recognize the PC Card or the connected device. Restart the computer.

Why can't I insert my PC Card?

❑ Make sure you are inserting the card correctly. See **Inserting a PC Card (page 46)** for more information.

❑ You may not be able to use some PC Cards or some functions of the PC Card on your computer. See the manual that came with your PC Card for more information.

Audio/Video

What should I do if I cannot use my DV camcorder?

If the message appears to indicate DV equipment seems to be disconnected or turned off, the i.LINK cable may not be securely plugged into the ports on your computer or camcorder. Unplug the connectors, and plug them in again. See **Connecting an i.LINK Device (page 74)** for more information.

✍
i.LINK is a trademark of Sony used only to designate that a product contains an IEEE 1394 connection. The procedure to establish an i.LINK connection may vary, depending on a software application, an operating system, and a compatible i.LINK device. Not all products with an i.LINK connection can communicate with each other. See the manual that came with your compatible i.LINK device for more information on operating conditions and proper connection. Before connecting compatible i.LINK PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

How do I turn off the Windows startup sound?

To turn off the Windows startup sound, follow these steps:

1 Click **Start** and **Control Panel**.
2 Click **Hardware and Sound**.
3 Click **Manage audio devices** under **Sound**.
4 On the **Sounds** tab, click to cancel the **Play Windows Startup sound** check box.
5 Click **OK**.

Memory Stick Media

What should I do if I cannot use Memory Stick media, which were formatted on a VAIO computer, on other devices?

You may need to reformat your Memory Stick media.

Formatting Memory Stick media erases all data, including music data previously saved on it. Before you reformat Memory Stick media, back up important data and confirm that the media does not contain files you want to keep.

1 Copy the data from the Memory Stick media onto your computer's hard disk to save data or images.

2 Format the Memory Stick media by following the steps in **To format a Memory Stick media (page 51)**.

Why can't I save music files onto my Memory Stick media?

Copyright protected music cannot be checked out to any Memory Stick media other than those with the MagicGate logo.

!
Use of recorded music requires permission from the copyright holders.

Sony is not responsible for music files that cannot be recorded from a CD or downloaded from other sources.

Can I copy images from a digital camera using Memory Stick media?

Yes, and you can view video clips that you have recorded with Memory Stick media-compatible digital cameras.

Why can't I write data to Memory Stick media?

Some versions of Memory Stick media are equipped with an erasure prevention switch to protect data from accidental erasure or overwriting. Make sure the erasure prevention switch is off.

Peripherals

What should I do if I cannot connect a USB device?

❑ If applicable, check the USB device is turned on and using its own power supply. For example, if you are using a digital camera, check if the battery is charged. If you are using a printer, check if the power cable is connected properly to the AC outlet.

❑ Try using another USB port on your computer. The driver could be installed to the specific port you used the first time you connected the device.

❑ See the manual that came with your USB device for more information. You may need to install software before you connect the device.

❑ Try connecting a simple, low-powered device such as a mouse to test if the port is working at all.

❑ USB hubs may prevent a device from working because of the distribution of power. We recommend you connect the device directly to your computer without a hub.

Support Options

This section contains information on where to go for answers to questions about your VAIO computer and the preinstalled software.

Sony Support Information

See the following sources for answers in the sequence listed below.

1 VAIO Computer Documentation

This on-screen **User Guide** (this manual) and the printed **Welcome mat** provide information on how to maximize your computer's capabilities and solve common problems.

2 Program Guides and Help Files

The preinstalled programs on your computer may be supplied with individual help guides. These guides are stored on the hard disk as on-screen help files. You can find the help files from the help menu under the specific program.

3 Operating System Online Support

Your computer comes preinstalled with a Microsoft Windows operating system. For operating system support, you can visit Microsoft customer support at: http://support.microsoft.com/directory/.

4 Sony Computing Support

This service provides instant access to information on commonly encountered problems. Type a description of the problem and the Knowledge Database searches for the corresponding solutions online.
You can visit the Sony online support Web site at:
http://esupport.sony.com/EN/VAIO/ for customers in USA,
http://www.sony.ca/support for customers in Canada,
http://esupport.sony.com/ES/VAIO/ for customers in Spanish speaking Latin American countries or areas, or
http://esupport.sony.com/ES/VAIO/BR/ for customers in Brazil.

5 VAIO Update

When your computer is connected to the Internet, **VAIO Update** automatically notifies you when critical software and security information is posted on the support Web site. Click the **VAIO Update** notice to open the VAIO Support Web site and view the information.

Program Support Information

Depending on the computer model and particular configuration you purchased, your computer may not include all of the software programs listed below.

Contacts for Sony software products are listed below:

❑ For users in USA
Web site http://esupport.sony.com/EN/VAIO/
Telephone 888-4-SONY-PC (888-476-6972)

❑ For users in Canada
Web site http://www.sony.ca/support
Telephone 888-4-SONY-PC (888-476-6972)

❑ For users in Spanish speaking Latin American countries or areas
Web site http://esupport.sony.com/ES/VAIO/

❑ For users in Brazil
Web site http://esupport.sony.com/ES/VAIO/BR/

For contacts about third-party software products, see the following.

Adobe® Photoshop® Elements, Premiere®, Reader®

Adobe Systems Inc.

❑ For users in USA and Canada
Web site http://www.adobe.com/support
Telephone 800-685-3652

America Online® (Dial-Up)

America Online, Inc.

❑ For users in USA and Canada
Web site http://www.aol.com

AOL® Music Now

America Online, Inc.

❑ For users in USA and Canada
Web site http://www.premiumservices.aol.com

AOL® Explorer

America Online, Inc.

❑ For users in USA and Canada
Web site http://www.aol.com

AOL® Toolbar

America Online, Inc.

❑ For users in USA and Canada
Web site http://help.aol.com/help

AOL® Instant Messenger™

America Online, Inc.

❑ For users in USA and Canada
Web site http://www.aim.com

Ask Search Assistant

IAC Search & Media, Inc.

For contacts about the software, see **Program Support Information (page 158)**.

Ask Toolbar

IAC Search & Media, Inc.

For contacts about the software, see **Program Support Information (page 158)**.

Bluetooth® Utility

TOSHIBA Corporation

For contacts about the software, see **Program Support Information (page 158)**.

Cingular Connection Manager

Cingular Wireless

For contacts about the software, see **Program Support Information (page 158)**.

Click to DVD® software

Sony Electronics Inc.

At the touch of a button, Click to DVD software allows you to automatically burn DVDs from a digital video (DV) device. Create DVDs by capturing video content straight from a DV device or by importing video from stored files — and you can also edit the video. Create DVD photo albums and slide shows with picture files or by importing pictures from a digital still camera. What's more, you can give a professional look to your DVDs by adding chapter menus, backgrounds, and menu screens. You are only a few clicks away from your own DVDs!
For contacts about the software, see **Program Support Information** .

DVgate Plus™ software

Sony Electronics Inc.

Connect a compatible digital video camera to your computer's i.LINK port and capture video clips and still images. Edit clips from your video, add new clips, and combine clips into new movie segments. Save your movies back to your digital video camera or in a variety of popular file formats.
For contacts about the software, see **Program Support Information** .

InstantOn

InterVideo, Inc.

❑ For users in USA and Canada
Web site http://www.intervideo.com/jsp/Support.jsp

Microsoft® Office Basic Edition, Office Professional Edition, Office Small Business Edition

Microsoft Corp.

❑ For users in USA and Canada
Web site http://support.microsoft.com

60-Day Trial Version of Microsoft® Office

!
The Microsoft Office 60-Day Trial software included with this computer system is intended for evaluation purposes only. The software has been installed and you must activate the software before you can use it. Product activation procedures will be detailed during initial launch of the software; activation requires Internet access. This software has an expiration date of 60 days from the date of first use, at which time the software will operate under reduced-functionality mode, limiting end-user options and operations.

Microsoft Corp.

❑ For users in USA and Canada
Web site http://support.microsoft.com

Microsoft® Internet Explorer, Movie Maker, Media Player, Works

Microsoft Corp.

❑ For users in USA and Canada
Web site http://support.microsoft.com

MobiTV®

MobiTV, Inc.

❑ For users in USA and Canada
Web site http://www.mobitv.com/support/support.php

Netscape® Browser

America Online, Inc.

❑ For users in USA and Canada
Web site http://browser.netscape.com

Norton Internet Security™

Symantec Corporation

❑ For users in USA and Canada
Web site http://www.symantec.com/techsupp

PenPlus for VAIO® PC

Sony Electronics Inc.

PenPlus for VAIO PC will allow you to write or draw directly on the screen with the stylus or create "sticky note" reminders. For contacts about the software, see **Program Support Information** .

Protector Suite QL

Sony Electronics Inc.

Protector Suite QL Edition allows you to easily setup your fingerprint sensor that comes with your computer. Protector Suite QL supports fingerprint logon, fast user switching, file encryption, registering forms and more.
For contacts about the software, see **Program Support Information (page 158)**.

Quickbooks Free Starter Edition

Intuit Inc.

❑ For users in USA and Canada
Web site http://www.intuit.com/support/quicken/

Roxio® Easy Media Creator® 9 Suite

Sonic Solutions

❑ For users in USA and Canada
Web site http://support.sonic.com/

SmartWi™ Connection Utility

Sony Electronics Inc.

SmartWi Connection Utility allows you to easily switch between the various wireless components (Wireless LAN, Wireless WAN, and Bluetooth® technology connectivity) that came with your computer.
For contacts about the software, see **Program Support Information (page 158)**.

SonicStage® software

Sony Electronics Inc.

The SonicStage jukebox software program gives you all the tools you need to manage music on your computer. SonicStage software supports high-quality digital audio storage, a sleek player skin design, and audio CD burning capability.
For contacts about the software, see **Program Support Information (page 158)**.

SonicStage Mastering Studio™ software

Sony Electronics Inc.

Use SonicStage Mastering Studio software to record songs from analog records or cassette tapes into your computer and output them to CDs, DVDs, or audio files in WAV format.
For contacts about the software, see **Program Support Information (page 158)**.

System Mechanic® 6

iolo technologies®, LLC

❑ For users in USA and Canada
   Web site http://www.iolo.com/contactus.cfm

Trend Micro™ Anti-Spyware

Trend Micro, Inc.

❑ For users in USA and Canada
   Web site http://kb.trendmicro.com/search/default.asp

Ulead BD DiscRecorder for VAIO® computers

Ulead Systems, Inc.

For questions and technical assistance, please check the help and the readme files.

VAIO® Action Setup

Sony Electronics Inc.

VAIO Action Setup manages the settings for your computer's shortcut keys.

For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Camera Capture Utility

Sony Electronics Inc.

VAIO Camera Capture Utility is provided for capturing still images and movies with the external camera connected to a USB port or an i.LINK® port on your computer or with the built-in MOTION EYE® camera on your computer.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Camera Utility

Sony Electronics Inc.

VAIO Camera Utility provides you with various video quality settings when using the internal camera.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Central

Sony Electronics Inc.

VAIO Central provides a central location that gathers resources to configure your VAIO computer and view your computer's configuration and specifications.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Diagnostic

Sony Electronics Inc.

For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Edit Component

Sony Electronics Inc.

VAIO Edit Component provides enhanced editing functionality when using Adobe Premiere Pro or Adobe Premiere Elements on your VAIO computer.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® HDD Protection

Sony Electronics Inc.

VAIO HDD Protection allows you to customize your settings for protecting your hard disk against shock hazards.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO Media™ software

Sony Electronics Inc.

VAIO Media™ software brings multimedia to your network, enabling you to share music, video, and still image files between your VAIO® computers. You can set up one or more VAIO computers as "media servers," which store your multimedia files and make them available to other compatible VAIO computers on your wired or wireless network.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Security Center

Sony Electronics Inc.

Sony cares about your VAIO personal computer. The VAIO Security Center highlights some of the security features your machine includes.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Touch Launcher

Sony Electronics Inc.

VAIO Touch Launcher allows you to run an application program or change the sound/display settings with the buttons on the launcher window.
For contacts about the software, see **Program Support Information (page 158)**.

VAIO® Update

Sony Electronics Inc.

The VAIO Update utility helps you keep your VAIO® computer up to date by regularly checking the Sony online support Web site for important software updates and information for your specific VAIO computer model.
For contacts about the software, see **Program Support Information** .

WinDVD® software for VAIO® computers

InterVideo, Inc.

❑ For users in USA and Canada
Web site http://www.intervideo.com/jsp/Support.jsp
Telephone 510-651-0888

Xdrive™

America Online, Inc.

❑ For users in USA and Canada
Web site http://www.xdrive.com/support

Zoom Utility

Sony Electronics Inc.

The Zoom Utility will allow you to magnify a portion of the screen.
For contacts about the software, see **Program Support Information** .