



# User Guide

**VGC-RA series (PCV-A21M)**

# *Read this first*

## *Notice*

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**Please note that the illustrations in this manual may not necessarily apply to your model. Please see the Specifications sheet for the specific configuration of your VAIO.**

## ENERGY STAR

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

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## Environmental information



Halogenated flame retardants are not used in cabinets.

Corrugated cardboard is used for packaging cushions.

## Owner's record

The serial number, model number and product key are located on the back of your Sony desktop. Record the numbers and refer to them if you call VAIO-Link. See also the printed **Specifications** document.

## Welcome

Congratulations on purchasing a Sony VAIO computer. Sony has combined leading-edge technology in audio, video, computing and communications to provide you with state-of-the-art personal computing.

As well as exceptional performance, here are the main features you can enjoy:

- ❑ **Dual optical drives** – Enjoy the freedom of two optical disc drives.
- ❑ **Dual hard disk drives with RAID support\*** - You VAIO contains two separate hard disk drives, enabling you to work quicker when for example producing and editing videos or images.
- ❑ **Sony audio and video quality** – The advanced graphics card and high-quality external stereo speakers enable you to take advantage of today's advanced multimedia applications, games, and entertainment software. You can link up your PC to your Home Cinema equipment and enjoy surround sound.
- ❑ **Multimedia features** – Enjoy audio and video CDs and DVDs, even record them yourself.
- ❑ **Dual layer video storage** - This new DVD media format allows writing in 2 layers for increased video storage capacity (8.5GB as compared to 4.7GB standard DVD).
- ❑ **VAIO Zone** – Take advantage of this new software application, allowing you to enjoy music, video, and photos locally or through a home networking environment. If your computer has TV tuner functionalities, you can also watch/record TV on your VAIO.
- ❑ **tvtv** – tvtv takes your VAIO's TV functions to a new level. Never miss your favourite TV programme again, by remote-recording it via the Internet onto your TV tuner-equipped VAIO. The tvtv Interactive Programme Guide gives you a comprehensive overview of what's on when and automatically synchronises it with your VAIO, wherever you happen to be at the time.
- ❑ **Sony Memory Stick PRO/Duo slot** – This compact digital storage medium allows you to easily transfer images, sounds, data and text between cameras, computers, and more.
- ❑ **Interconnectivity** – Your computer has Memory Stick, USB 2.0, i.LINK, CompactFlash, xD-Picture and Secure Digital/MMC functionalities.
- ❑ **Serial ATA** - This port on your hard drive allows you to expand your computer with up to 2 additional hard drives.

\* For more information, please consult the printed **RAID** flyer.

- ❑ **Windows XP** – Your system includes the latest operating system from Microsoft.
- ❑ **Excellent customer support** – If you are experiencing any problems with your computer, please check the VAIO-Link website for a possible solution: [www.vaio-link.com](http://www.vaio-link.com). Before contacting VAIO-Link, please try to solve the problem by reading this guide, the printed **Troubleshooting Guide**, the printed **Recovery Guide**, the online help files in the **Windows Help and Support Center** or the manuals and help files for the peripherals or software.

## Documentation pack


Your documentation pack contains printed information and user guides to read on your computer.

Guides are provided in PDF format, which you can easily browse through and print out.

The **My Info Centre** portal is a perfect starting point to using your VAIO - a comprehensive collection of everything you need to get the most from your PC.

The user guides are collected under **My Documentation**, which can be shown as follows:

- 1 Go to **Start** and click the **My Info Centre** icon .
- 2 From **My Home**, select your country and language from the drop-down boxes.
- 3 From the pictures at the top of the window click **My Documentation** .
- 4 Select the guide you want to read.

 You can manually browse to the user guides by going to **My Computer** > **VAIO (C:)** (your C drive) > **My Documentation** > **Documentation** and opening the folder for your language.

You may have a separate disc for the documentation of bundled accessories.

## *Printed documentation*

The printed part of your documentation pack includes the following:

- ❑ A **Specifications** sheet, containing a table of specifications, a list of bundled software and, on the reverse side, a guide to setting up your VAIO;
- ❑ A **Troubleshooting Guide**, where you will find solutions to common problems and VAIO-Link information;
- ❑ A **Recovery Guide**, where you will find an explanation of the purpose and use of the VAIO disc delivered with your computer;
- ❑ A **RAID flyer**, where you will find more information on your VAIO's dual hard disk drives with RAID support;
- ❑ Booklets containing the following information: **Sony Guarantee** conditions, **Safety Regulations**, **Modem Regulations** and **Wireless LAN Regulations**;
- ❑ **Wireless LAN Accessories Regulations Guide** for the Wireless LAN accessory PCWA-A320.

## *Non-printed documentation*

**My Documentation** contains the following VAIO user guides:

- ❑ The **User Guide** (this guide) explains the features of your VAIO in detail, how to use these features confidently and safely, connect peripheral devices and more.
- ❑ The **VAIO Zone** guide explains the valuable features of VAIO's multimedia portal. Since your computer has TV tuner functionalities, this is where you will find information about watching/recording TV on your VAIO.

**My Documentation** also gives you:

- ❑ Help files about reading the guides.
- ❑ Important information about your computer, in the form of notices and announcements.

In **My Info Centre** you can also find:



### **My Software**

Feeling creative? Click this icon for an overview of your software and check out our upgrade options.



### **My VAIO essentials**

Want to expand the capabilities of your VAIO? Click on this icon and have a look at your compatible accessories.



### **My Websites**

Click this icon and check out our most popular websites.



### **My ISP**

Click this icon to find out about the preferred offerings from our partners and access the world of the internet.

You have an accessory with the following guide on a separate disc:

- ❑ A guide for the Wireless LAN accessory PCWA-A320.

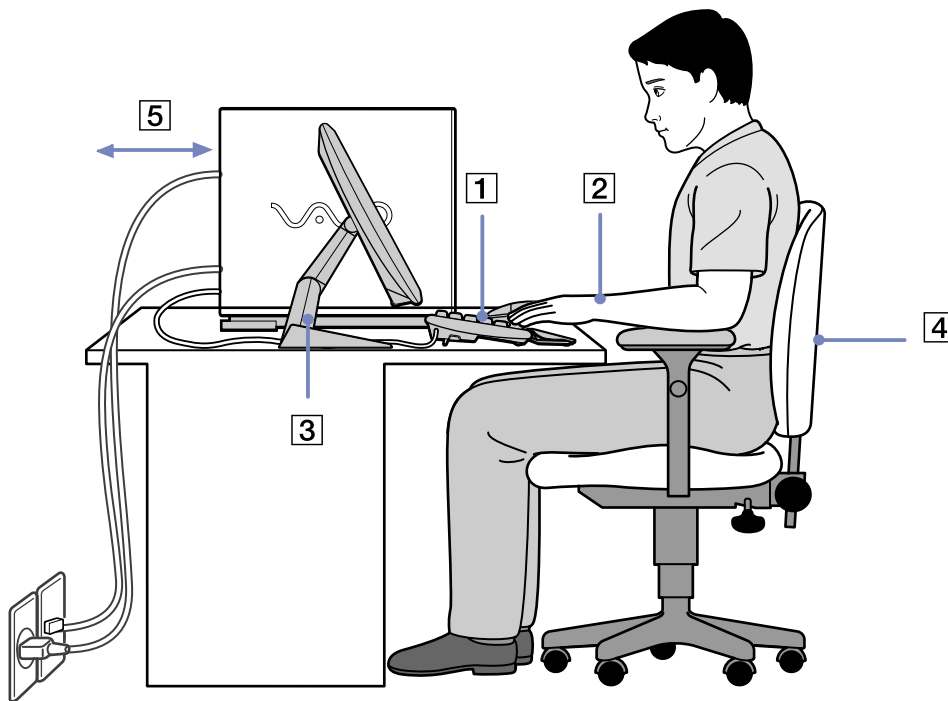


## *Further sources*

- ❑ Go to **Start > Help and Support** for VAIO support information as well as tips and tricks.
- ❑ Consult the **Online Help** files of the software you are using for detailed information on features and troubleshooting.
- ❑ Go to [www.club-vaio.com](http://www.club-vaio.com) to find online tutorials about your favourite VAIO software.
- ❑ Go to [www.vaio-link.com](http://www.vaio-link.com) to find extra guides for wireless connection setup (depending on your model).

## Ergonomic considerations

Whenever possible, try and take into account the following ergonomic considerations when using your new computer, whether at home or in the office:



- ❑ **Position of the keyboard and mouse** – Place the keyboard directly in front of you (1). Keep your forearms horizontal, with your wrists in a neutral, comfortable position (2) while using the keyboard or mouse – not at an angle. Let your upper arms hang naturally at your sides. Use the palm rest only briefly, to relax your wrists when you are not typing. Place the mouse at the same level as the keyboard and use your whole arm to move it.
- ❑ **Position and viewing angle of the monitor** – Set the display at a comfortable viewing distance (3). Make sure the display screen is at eye level or slightly lower. Use the display’s tilting feature, if available, to find the best position. You can reduce eye-strain and muscle-fatigue by adjusting the tilt of the display to the proper position. Remember to adjust the brightness setting of the display. If you are using a CRT monitor, make sure that the refresh rate is at an optimal level, that is, at least 75Hz.
- ❑ **Furniture and posture** – Sit in a chair with good back support (4). 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 too far backwards.
- ❑ **Lighting** – Choose a location where windows and lights do not create glare or reflection on the display. Use indirect lighting to avoid bright spots reflecting on the display. You can also purchase accessories for your display that help reduce glare. Proper lighting adds to your comfort and work effectiveness.
- ❑ **Ventilation** – Make sure you leave at least 25 cm of space behind and on the left and the right of the main unit (5).
- ❑ **And finally** – Remember to have breaks during sessions with your computer. Excessive use of the computer may strain muscles or tendons.

## Using your VAIO computer

Once you have read and followed the information on the **Specifications** sheet, you can start using your computer safely and confidently. Read on to get the most out of using your VAIO computer.


- Shutting down your computer safely ([page 12](#))
- Using VAIO Control Center ([page 13](#))
- Using the keyboard ([page 14](#))
- Using the pointing device ([page 19](#))
- Using the TV function ([page 21](#))
- Using the mouse ([page 22](#))
- Using the disc drives ([page 26](#))
- Using the floppy disk drive ([page 30](#))
- Using the modem ([page 31](#))
- Using power modes ([page 32](#))
- Using the media slots ([page 35](#))
- Using PC Cards ([page 44](#))
- Expansion capabilities ([page 46](#))

## Shutting down your computer safely

It is important that you shut down your computer properly so you do not lose unsaved data.

To shut down your computer, proceed as follows:

- 1 Turn off any peripherals connected to your computer.
- 2 Click the **Start** button.
- 3 Click **Turn Off Computer**.  
The **Turn off computer** window appears.
- 4 Click **Turn Off**.
- 5 Respond to any prompts warning you to save documents or to consider other users and wait for your computer to turn off automatically.  
The power indicator turns off.

 See the printed **Troubleshooting Guide** if you have problems shutting down your computer.

## Using VAIO Control Center

VAIO Control Center contains a selection of the most frequently used settings you can also find in Windows' Control Panel. VAIO Control Center offers you quick access to your VAIO's settings, enabling you to easily consult or change them.

To consult/change your VAIO's settings using VAIO Control Center, proceed as follows:

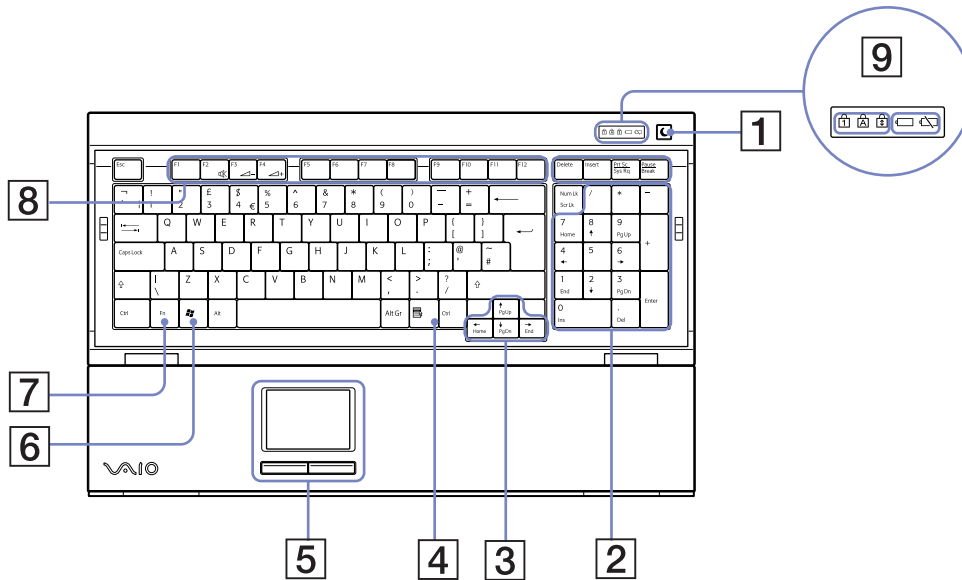
- 1 Go to **Start**, select **All Programs**, then **VAIO Control Center**.
- 2 In **VAIO Control Center**, you can consult/change your VAIO's settings via one of the following three tab sheets:
  - ❑ **Categories**: Here you get an overview of all the settings, ordered in categories. Each category contains a list of all settings you can consult/change.
  - ❑ **List**: Here you find all the settings you can consult/change in a list view.
  - ❑ **Recent Settings**: Here you get a list of all the settings you have recently consulted/changed.
- 3 Highlight the setting you want to consult and click **Open** or double-click it.  
You can now consult or change the selected setting.

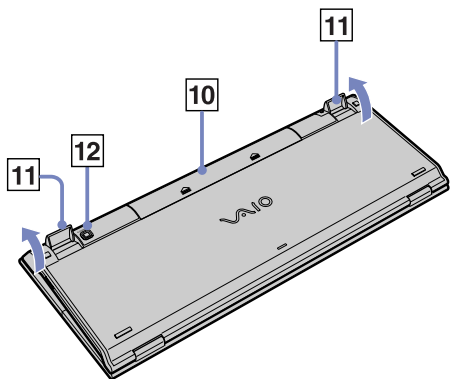
## Using the keyboard




Your VAIO is delivered with a wireless keyboard. You can place the keyboard anywhere you find comfortable within a range of approx. 10 m\* from the receiver.

The keyboard has a standard key arrangement and additional keys that perform specific functions. For more information on the standard keys and shortcuts, please go to the Windows **Help and Support Center (Start > Help and Support)**. The VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)) also contains glossary information to help you use the keyboard.





\* Effective usage distance depending on the environment.





	KEY	FUNCTION
1	<b>Standby</b> 	Press the button to place the computer in <b>Standby</b> mode. Press the power button or <b>Standby</b> key briefly to resume normal operation.
2	<b>Numeric keypad</b>	Use the numeric keypad to type numbers or to perform basic maths calculations. Press the <b>Num Lock</b> key to activate the numeric keypad. Press the <b>Num Lock</b> key again to deactivate the numeric keypad.
3	<b>Directional arrows</b>	The Up, Down, Left, and Right arrow keys move the pointer on the screen.
4	<b>Applications</b> 	The <b>Applications</b> key displays a shortcut menu in certain software programmes. Pressing this key is equivalent to clicking the right mouse button.
5	Pointing device	See <b>Using the pointing device</b> ( <a href="#">page 19</a> ) for more information.
6	<b>Windows</b> 	The <b>Microsoft Windows</b> key displays the <b>Start</b> menu. Pressing this key is equivalent to clicking <b>Start</b> on the taskbar.



	KEY	FUNCTION
7	<Fn> key	Used in combination with other keys to execute commands. <Fn>+<F2>: Turns off the speaker sound. <Fn>+<F3>: Decreases the volume of the speakers. <Fn>+<F4>: Increases the volume of the speakers.
8	<b>Function keys</b>	The 12 function keys along the top of the keyboard are used to perform certain tasks. The task associated with each function key may vary from one application to the next.
9	LED screen	<p><b>Num Lock:</b></p> <p> Turns on when the number keys in the numeric keypad are active.</p> <p><b>Caps Lock:</b></p> <p> Turns on when the letters appear in uppercase as you type. The &lt;Shift&gt; key lowers the case of typed characters when <b>Caps Lock</b> is on.</p> <p><b>Scroll Lock:</b></p> <p> Turns on when the screen scrolls differently (not all applications support this function).</p> <p><b>Battery:</b></p> <p> A battery LED indicator shows you when the battery is full or empty.</p>
10	Battery compartment	Storage compartment for the AA batteries.
11	Keyboard feet	Extend to adjust the keyboard height.
12	<b>CONNECT</b> button	Press to enable the keyboard to communicate with the system unit.

## Before you use the keyboard

Before attempting to use the wireless keyboard, you must enable communication between the computer and the keyboard.

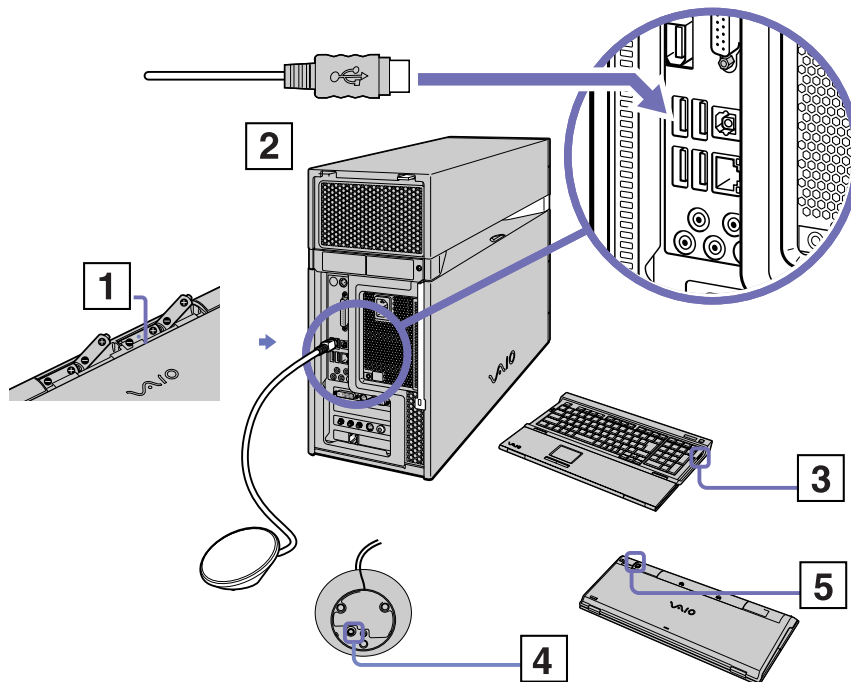
4 AA batteries, for use in the wireless keyboard, are supplied with your VAIO.

To connect the wireless keyboard, proceed as follows:

- 1 Insert the 4 AA batteries into the wireless keyboard as shown (1).
- 2 Connect the receiver to a USB connector on the main unit (2).
- 3 Turn on the computer.
- 4 Slide the power switch on the right-hand side of the keyboard to turn on the keyboard (3).
- 5 Press the **CONNECT** button on the receiver (4).
- 6 Turn the wireless keyboard over and press the **CONNECT** button (5).

You need to press the **CONNECT** button within 50 cm of the receiver!

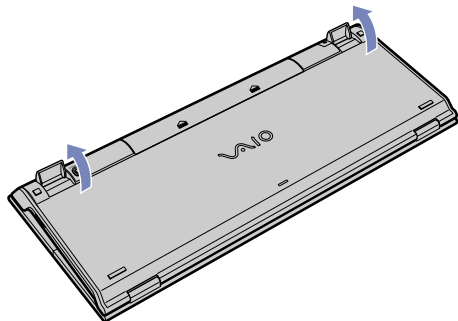
Communication between the wireless keyboard and the computer is now active.





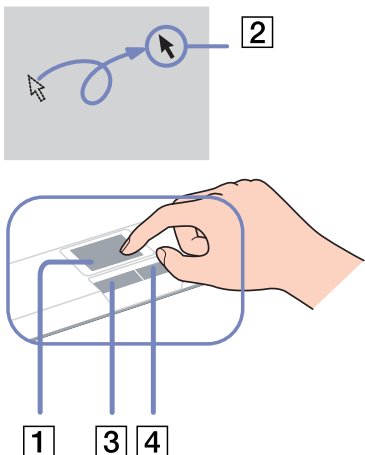
If your wireless keyboard does not operate properly, the batteries may need to be replaced. To avoid battery leakage, switch off the wireless keyboard when not used for an extended period of time. Always use new batteries from the same brand.

If you want to put the keyboard in a more 'ergonomical' position, open the keyboard feet.



## Using the pointing device

The keyboard features a pointing device (1), which controls the cursor on the screen. You can point to, select and drag objects on the screen using the built-in pointing device.



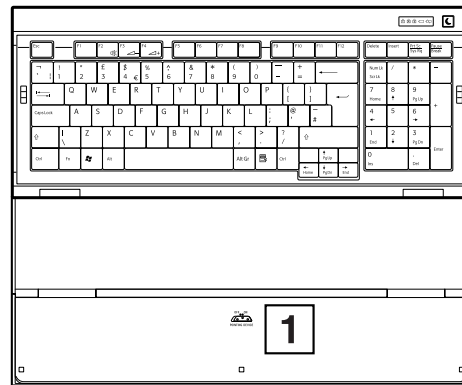
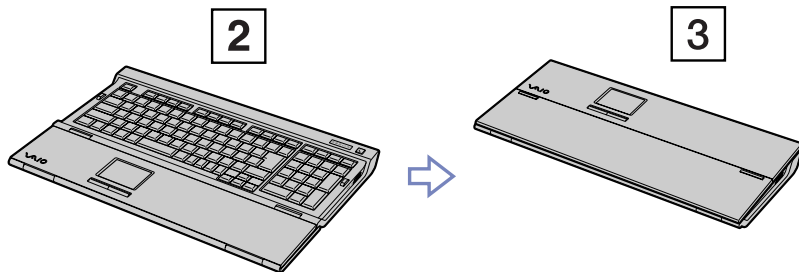
<i>Action</i>	<i>Description</i>
Point	Slide one finger on the pointing device to place the pointer (2) on an item or object.
Click	Press the left button (3) once.
Double-click	Press the left button twice.
Right-click	Press the right button (4) once. In many applications, this action displays a shortcut menu.
Drag and select	Slide one finger while pressing the left button.

## Before using the pointing device

Before attempting to use the pointing device, you must activate it.

To activate the pointing device, proceed as follows:

- 1 Fold the keyboard out.
- 2 Turn on the **Pointing Device** switch (1).
- 3 Close the lower part of the cover as shown (2).  
You can now use the pointing device together with your keyboard.
- 4 If you only want to use the pointing device, close the cover completely as shown (3).



## Using the TV function

Your computer is equipped with a TV-tuner board. In combination with Sony's **VAIO Zone** software, it allows you to:

- Watch, record and play back analogue broadcasted cable and terrestrial TV programmes, all by remote control;
- Digitise analogue video and audio using the S-Video or composite and audio inputs;
- Set up a timer to record channels at a repeated time;
- Suspend viewing TV (time-shifting);
- Stream your recorded TV contents via Ethernet (or WLAN) to connected PCs.



Sony cannot guarantee the streaming of recorded content if it is beyond a certain level of high quality.

For details on using **VAIO Zone** and the remote control, please see the dedicated guide. Otherwise read the help files within the software itself.

tvvtv takes your VAIO's TV functions to a new level. Never miss your favourite TV programme again, by remote-recording it via the Internet onto your TV tuner-equipped VAIO.

The tvvtv Interactive Programme Guide gives you a comprehensive overview of what's on when and automatically synchronises it with your VAIO, wherever you happen to be at the time. For more information, read the **Welcome to tvvtv** HTML files on your computer.


## Using the mouse

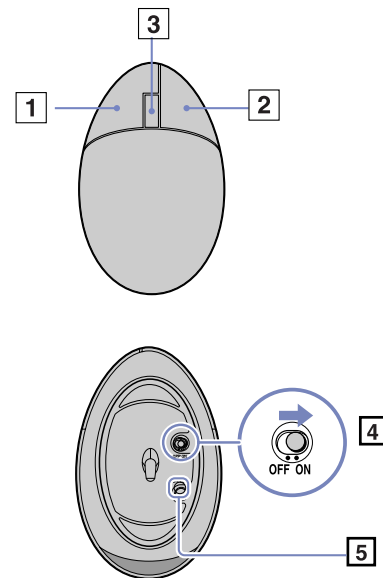
Your computer is delivered with a wireless optical mouse, which has no cables to plug in and uses a light-emitting diode (LED) instead of a ball. You can use the mouse anywhere you feel comfortable within a range of approx. **10 m\*** of the receiver. Avoid using the mouse on a piece of glass or other transparent material, as this can interfere with smooth cursor movement on the screen.

\* Effective usage distance depending on the environment.

1	Left button	Click or double-click the left button to select items. To drag and drop items, hold the left button down while sliding the mouse, then release the button to drop the item.
2	Right button	Press the right button once to display a context-sensitive shortcut menu (not always an active function).
3	Central wheel	Turn the central wheel to scroll up or down a page. Press the wheel once to lock the scroll action and control the movement by moving the entire mouse (The scroll function is available only with applications that support it).
4	Power switch	Slide switch to turn the mouse on and off. This will help you save battery power.
5	<b>CONNECT</b> button	Press to enable communication between your VAIO computer and the wireless mouse.

You can adjust the mouse pointer speed and other functions under **Mouse Properties**. To display **Mouse Properties**, go to **VAIO Control Center**, select **Keyboard and Mouse**, then select **Mouse**.

 When the remaining battery level is low, the back end of the mouse lights up.



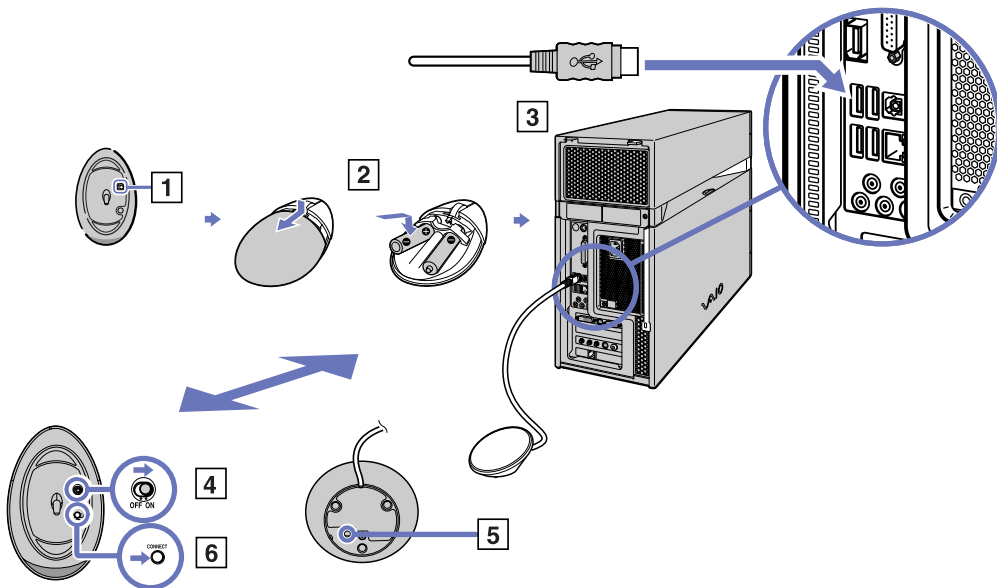
## Before using the mouse

Before attempting to use the wireless mouse, you must enable communication between the computer and the mouse.


Two AA batteries, specific for use in the wireless mouse, are supplied with your VAIO.

To connect the wireless mouse, proceed as follows:

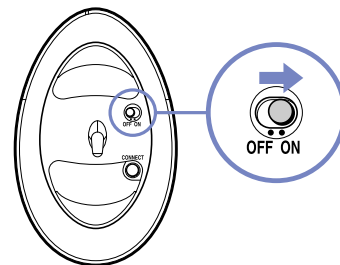
- 1 Turn the wireless mouse over and slide the power button to the **OFF** position (1).
- 2 Insert the two specific AA batteries into the wireless mouse as shown (2).
- 3 Make sure the wireless receiver is connected to a USB connector (3) on the main unit.
- 4 Turn on the computer.
- 5 Turn the wireless mouse over and slide the power button to the **ON** position (4).
- 6 Press the **CONNECT** button on the wireless receiver (5).
- 7 Press the **CONNECT** button on the underside of the mouse (6).  
Press this button within 50 cm of the receiver.  
Communication between the wireless mouse and the computer is now active.





 Steps 5 and 6 must be carried out within 10 seconds of each other.

If your wireless mouse does not operate properly, the batteries may need to be replaced. To avoid battery leakage, switch off the wireless mouse when not used for an extended period of time. Always use new batteries from the same brand.



## Setting up the mouse for left-handed users

To set your mouse up for left-handed users, proceed as follows:

- 1 Go to **Start**, select **All Programs** and then **VAIO Control Center**.
- 2 Click **Keyboard and Mouse** and then **Mouse**.  
The **Mouse Properties** dialog box appears.
- 3 In the **Buttons** tab, select the option button next to **Switch primary and secondary buttons**.
- 4 Click **OK**.  
The new mouse settings are now in place.

## Using the disc drives

Your computer is equipped with two separate optical drives. Please see the printed **Specifications** sheet to see which drives your model has.

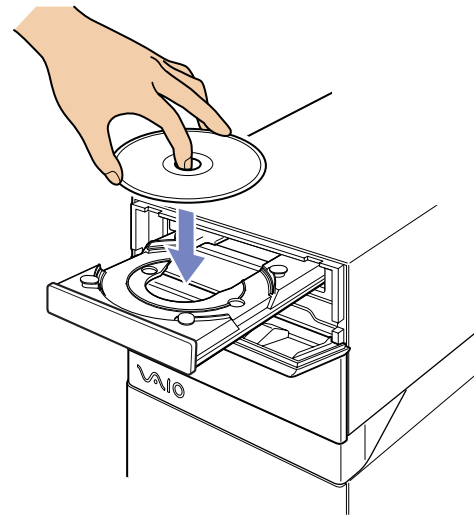
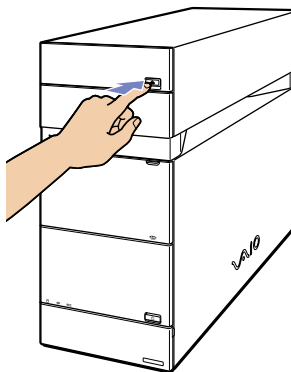
For installing software and using the **VAIO Recovery Disc** it is recommended that you use the upper drive.

- ❑ A DVD±RW drive reads data from and writes data onto DVD and CD.
- ❑ A DVD-ROM drive reads data from DVDs and CDs.
- ❑ A CD-RW drive reads data from and writes to CDs.
- ❑ A CD-ROM drive reads data from CDs.

To insert a disc, proceed as follows:


- 1 Turn on the computer.
- 2 Press the appropriate eject button to open the drive. The tray slides out.
- 3 Place a disc in the tray with the label side facing upwards. Make sure the disc is secure in the centre of the tray.
- 4 Close the tray by pushing it gently or press the eject button on the keyboard.

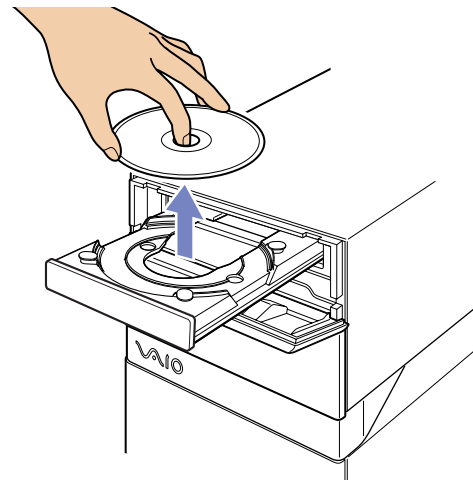
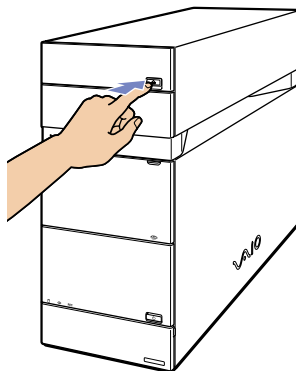
 See the printed **Troubleshooting Guide** if you have problems using discs.



To remove a disc, proceed as follows:

- 1 Make sure the disc indicator light is not on.
- 2 Press the appropriate eject button to open the drive and remove the disc carefully.  
You can also use the **Eject** buttons at the top of the keyboard.

 Do not use the eject button when the LED indicator is turned on. Otherwise, data may be lost.



## Reading and writing CDs and DVDs

To achieve optimum performance when writing data on to disc (also called 'burning'), follow these recommendations:

- Only use circular discs. Do not use discs with any other shape (star, heart, card, etc.), as this may damage the disc drive.
- Do not strike or shake the computer while writing data to a disc.
- For optimal writing speed, deactivate the screensaver before writing data to a disc.
- Memory-resident disc utilities may cause unstable operation or data loss. Deactivate these utilities before writing data to a disc.
- When using a 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.
- Never put stickers on discs. This will affect the use of the disc irreparably.

## Playing DVDs

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

- Close all open applications before playing a DVD movie.
- You can play DVDs with the software **VAIO Zone**.
- Do not switch power saving modes while playing a DVD.
- Do not use utility applications to speed up the access of discs, because they may cause the system to become unstable.
- Make sure that the screensaver is deactivated.
- Region codes indicators are labelled on the DVDs to indicate in which region and on what type of player you can play the disc. Unless a **2** (Europe belongs to region **2**) or **ALL** (this means that you can play this DVD everywhere in the world) is labelled on your DVD disc or on the packaging, you cannot play the disc on this player.
- Do not try to change the region code settings of the DVD drive. Any difficulties caused by changing the region code settings of the DVD drive are out of warranty.

## Using two screens while watching a DVD

To use two screens and change the DVD playback settings, proceed as follows:

- 1 Connect your TV / DVI-D display to the computer as described in **Connecting a TV set (page 50)** or **Connecting a display (page 48)**.
- 2 Go to **VAIO Control Center**, select **Display** and then **Display** again. The **Display Properties** dialog box appears.
- 3 Click the **Settings** tab and click **Advanced**.
- 4 On the **Displays** tab, select the **TV** or **DVI-D** button and click **OK**.
- 5 On the **Overlay** tab, click **Clone mode options...** and make sure **Overlay Display Mode** is set to **Theater Mode**.

## *Troubleshooting discs*

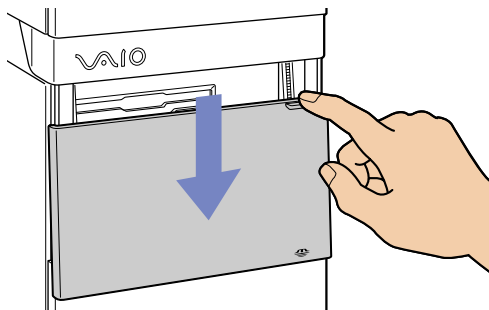
If you have problems with your optical disc, check the printed **Troubleshooting Guide** and the VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)).

## Using the floppy disk drive


Your VAIO desktop is equipped with a floppy disk drive.

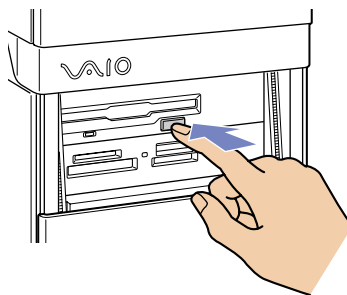
To insert a floppy disk, proceed as follows:

- 1 Pull out and slide down the front cover, as shown.
- 2 Hold the floppy disk with the label side facing up and gently push the disk into the floppy disk drive until it clicks into place.



To remove a floppy disk, proceed as follows:

- 1 Wait until the LED indicator turns off.
  - 2 Press the eject button and pull the disk out gently.
-  Do not press the eject button when the LED indicator is turned on. Otherwise, data may be lost.




## *Troubleshooting floppy disks*

### *My floppy disk drive cannot write to a floppy disk*

- ❑ The floppy disk is write-protected. Disable the write-protect feature or use a floppy disk that is not write-protected.
- ❑ Check that the disk is properly inserted into the floppy disk drive.
- ❑ Your disk may be corrupt. Try to insert another floppy disk.
- ❑ If you have problems with your floppy disks, check the printed **Troubleshooting Guide** and the VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)).

## *Using the modem*

Your VAIO desktop is equipped with an internal modem. Use the single RJ-11 jack  to connect the supplied modem cable to the phone line. Once you have connected the phone line and registered with an Internet Service Provider, you can take advantage of online services and the Internet, to register your computer and software online, and to contact VAIO-Link.

## *Troubleshooting the modem*

If you have problems with your modem, check the printed **Troubleshooting Guide** and the VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)).



## Using power modes

The colour of the power indicator light on the main unit tells you which mode the computer is in.

<i>Power indicator</i>	<i>Mode</i>
Green	Computer is in <b>Normal</b> mode
Amber	Computer is in <b>Standby</b> mode
No light	Computer is turned off or in <b>Hibernate</b> mode


 Please see the printed **Specifications** sheet for the exact location of the indicators.

To set the timer for your computer to automatically enter **Standby** or **Hibernate** mode after a certain amount of time, go to **VAIO Control Center**, click **Power Management** and then **Power Options**. You can change the settings under **Power Schemes**.

## Using **Standby** mode

If you plan to stop using your computer for a short period of time (not overnight), you can put it into **Standby** mode instead of turning it off completely. Putting the computer into **Standby** mode saves energy and allows a quick return to normal computer use.

To activate **Standby** mode manually, proceed as follows:

- 1 Save your work, close all applications and close your Internet connection, if applicable.
- 2 Press the **Standby** button on the keyboard .

Alternatively;

- 1 From the **Start** menu on the Windows taskbar, select **Turn Off Computer**.
- 2 Select **Stand By**.  
The computer goes into **Standby** mode, indicated by the amber light of the power indicator.

To return to **Normal** mode, press the **Standby** button again or any key on the keyboard.

 You can leave Windows running when using **Standby**.

When the computer is in **Standby** mode, you cannot insert a disc.

The computer comes out of **Standby** mode quicker than out of **Hibernate** mode and uses more power.

## Using **Hibernate** mode

If you are interrupted and need to leave your computer suddenly, you can put it into **Hibernate** mode. This power saving mode saves you the time of shutting down in the normal way.

When you put your computer into **Hibernate** mode:

- Everything in the memory is saved to the hard disk.
- The monitor and system are turned off.
- The computer is turned off.
- The power indicator light turns off.


To activate **Hibernate** mode manually, proceed as follows:

- 1 Save your work.
- 2 From the **Start** menu on the Windows taskbar, select **Turn Off Computer**.
- 3 In the **Turn Off Computer** screen, hold down the **<Shift>** key to reveal the **Hibernate** button.
- 4 Click **Hibernate**.

The computer goes into **Hibernate** mode, the computer turns off.

To return to **Normal** mode, quickly press the power button.

Operation returns to the same state as before.

 You can leave Windows running when using **Hibernate**.

If you press the power button for more than six seconds, the computer will switch off completely.

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

**Hibernate** uses less power than **Standby** and requires more time.

You can also set the **Sleep** button to enter **Hibernate** mode instead of **Standby** mode. Go to **VAIO Control Center**, **Power Management** and then **Power Options**. You can change the settings under **Power Schemes**.

## Using the media slots

As well as the Sony Memory Stick, your VAIO computer also supports other high capacity memory card formats, such as CompactFlash, Secure Digital (SD) and xD Picture. You can exchange digital data with a number of compatible products, such as digital cameras, mobile phones or handheld devices.

Please refer the manual of the individual devices and memory cards.

 Some devices may not support the formats that this PC uses as standard. In this case, you may see a message telling you to format the card.

Before you use memory cards other than Memory Sticks in devices such as a digital camera or audio device, you must format them beforehand on the device which you use to record data. Please be aware that formatting the card will delete all the data on it.

## Using Memory Sticks

Your VAIO computer is designed to support Sony's Memory Stick. The Memory Stick is a compact, portable, and versatile device especially designed for exchanging and sharing digital data with compatible products, such as digital cameras, mobile phones and CLIÉ handheld devices. Because it is removable, it can be used for external data storage.

Use the flash memory technology to download anything that can be converted into digital data, such as pictures, music, words, sounds, movies and photographs.

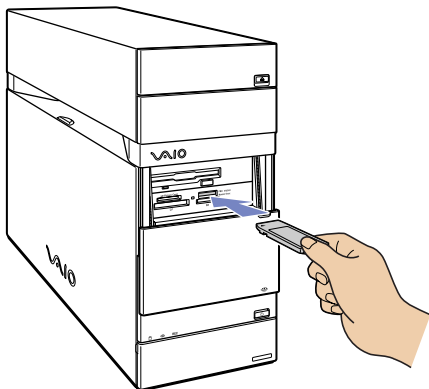
Please see your printed **Specifications** sheet to see which Memory Stick types are compatible with your VAIO and if there are any limitations.

- You can purchase Memory Sticks from the Sony Style website ([www.sonymstyle-europe.com](http://www.sonymstyle-europe.com)), or from your local Sony dealer.
- Detailed information about which CLIÉ handhelds are compatible with which Memory Sticks can be found here: [www.clie-link.com](http://www.clie-link.com).
- Detailed information about which VAIO computers are compatible with which Memory Sticks can be found here: [www.vaio-link.com](http://www.vaio-link.com).


## Inserting a Memory Stick

To insert a Memory Stick, proceed as follows:

- 1 Pull and slide down the front panel cover and locate the appropriate memory stick slot. See the printed **Specifications** sheet for the exact location of the slots.
- 2 Insert the memory stick into the slot with the arrow side pointing upwards.



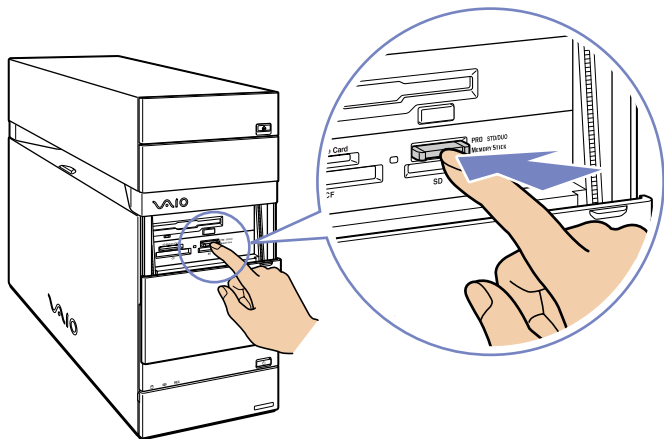
- 3 Make sure the memory stick is secure in the slot.  
The memory stick is automatically detected by your system and appears in the **My Computer** window with its own drive.

 Always hold memory sticks with the arrow pointing in the correct direction when you insert it into the slot. To avoid damaging the computer or the memory stick, do not force the stick into the slot if it does not insert smoothly.

## Removing a Memory Stick

To remove a Memory Stick, proceed as follows:

- 1 Make sure the indicator light is not on.
- 2 Push the memory stick in to release it, and then pull it out.



 You are recommended to remove the memory stick before shutting down the computer.

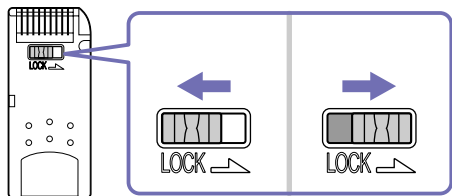
If an error message appears when you remove it, insert the memory stick into the slot again and press **<Enter>**. Wait until the active application finishes, then remove the memory stick. If the message confirms the ejection of the card, click **OK**.

Please do not remove the Memory Stick when the memory card access lamp is on. Otherwise, the card may not be detected the next time it is inserted into the slot. If the stick is removed by mistake and is subsequently not detected, please shut off the power of the computer, wait ten seconds and then turn it on again.

## Write-protecting Memory Sticks

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

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



 Some kinds of Memory Stick do not have a lock switch.


## Using xD Picture cards

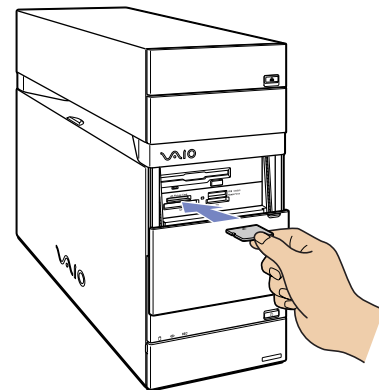
Your VAIO has an xD-Picture card slot that allows you to transfer pictures between your digital camera, PC, PDA, printer and more. The xD-Picture Card is small and light, featuring high-speed transfer rates and high-volume capacity. Currently available in 16 MB, 32 MB, 64 MB, 128 MB, 256 MB and 512 MB versions, the card reaches high read/write speeds, and has an impressive range of compatibility.

### Inserting an xD Picture card

To insert an xD Picture card, proceed as follows:

- 1 Pull and slide down the front panel cover and locate the appropriate memory card slot. See the printed **Specifications** sheet for the exact location of the slots.
- 2 Insert the memory card into the slot with the arrow side pointing upwards.
- 3 Make sure the card is secure in the slot.  
The card is automatically detected by your system and appears in the **My Computer** window with its own drive.

 Always hold memory cards with the arrow pointing in the correct direction when you insert it into the slot. To avoid damaging the computer or the memory card, do not force the card into the slot if it does not insert smoothly.

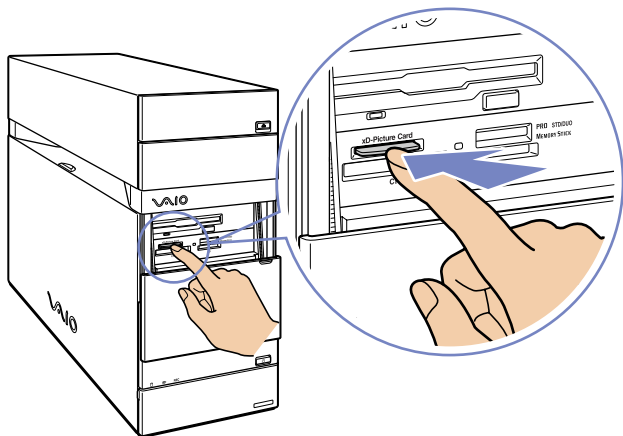




## Removing an xD Picture card

To remove an xD Picture card, proceed as follows:

- 1 Make sure the indicator light is not on.
- 2 Push the card in to release it, and then pull it out.



 You are recommended to remove the memory card before shutting down the computer.

If an error message appears when you remove it, insert the memory card into the slot again and press **<Enter>**. Wait until the active application finishes, then remove the memory card. If the message confirms the ejection of the card, click **OK**.

Please do not remove the memory card when the access lamp is on. Otherwise, the card may not be detected the next time it is inserted into the slot. If the card is removed by mistake and is subsequently not detected, please shut off the power of the computer, wait ten seconds and then turn it on again.

## Using CompactFlash cards


Your VAIO desktop has a CompactFlash slot that supports Type I or Type II cards. CompactFlash is a removable mass storage device. And is used to interconnect digital cameras, digital music players, desktop computers, handheld PCs, personal communicators, Palm PCs, digital voice recorders and photo printers. Its advanced features include a high transfer rate for fast copy/download and a high storage capacity.

- This slot cannot be use anything except for writing and reading memory cards or storage device cards.
- Some CompactFlash cards may require you to disable idle devices during use.
- You may not be able to use some of the card's features with this computer.
- Your system may run into serious problems if;
  - you remove the card or turn the computer off while the card is in use.
  - your working environment contains high electrical activity.
- When not is use, always put the CompactFlash card in its case to avoid high electrical effects.

### *Inserting a CompactFlash card*

Simply insert the card gently into the card slot.


The card is automatically detected by your system and will appear with its own icon under **My Computer**.

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

### *Removing a CompactFlash card*

To remove a CompactFlash card, proceed as follows:

- 1 Make sure the card is not in use and the indicator is not lit.
- 2 Push the card in to release it, and then pull it out.

 If you remove the CompactFlash card from the computer when it is still in use, unsaved data may be lost. Always back up important data.

## Using Secure Digital cards


The Secure Digital (SD) card is a small, high-capacity data storage media card.

 The Secure digital card slot is exclusively for the use of SD cards and Multi Media cards. Please do not insert other memory cards.

### Inserting a Secure Digital card

To insert the SD card, proceed as follows:


- 1 Insert the SD card into the SD card slot.
- 2 Push the card in until it clicks into place.  
The card is automatically detected by your system and will appear with its own icon under **My Computer**.

 Do not force the SD card into the slot. If you have difficulty with it, check that you are inserting the card in the correct direction. See the manual supplied with your card for more information on use.

### Removing a Secure Digital card

To remove an SD card, proceed as follows:

- 1 Make sure the card is not in use and the indicator is not lit.
- 2 Push the card in to release it, and then pull it out.

 If you remove the SD card from the computer when it is still in use, unsaved data may be lost. Always back up important data.

## Troubleshooting memory cards

Check the write-protect switch on your Memory Stick. If it is set to on, you cannot write or delete data on the card.

## Using PC Cards

Your VAIO desktop has a PC Card slot on the front panel that supports Type I or Type II PC Cards. PC Cards allow you to interconnect with portable external devices.

### Inserting a PC Card

To insert a PC Card proceed as follows:

- 1 Open the bottom panel on the front of your VAIO.
- 2 Insert the PC Card gently into the PC Card slot with the label and the arrow facing upwards.

The PC Card is automatically detected by your system and the **Safely**

**Remove Hardware** icon  appears in the taskbar.

- 3 Close the cover flap (unless the PC Card peripheral prevents it).

 Picture may vary from actual configuration.

You do not need to shut down your computer when inserting a PC Card.

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 supplied with your PC Card for more information on use.

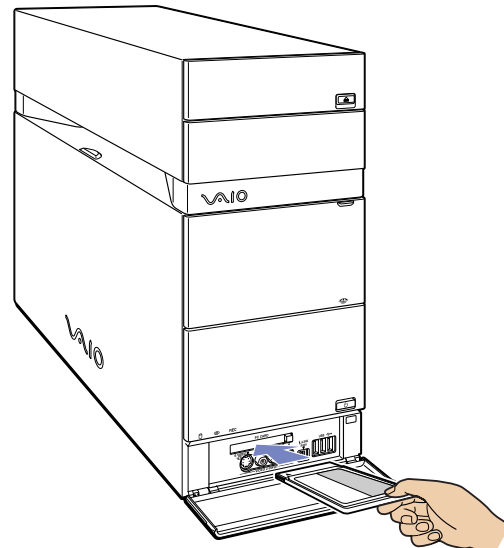
Some PC Cards may require you to disable idle devices when using the PC Card.

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

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

If the PC Card is operating abnormally, go to **Control Panel, Performance and Maintenance, System**, click the **Hardware** tab, and then **Device Manager**. If an “!” mark appears next to the PC Card device, remove the software driver and then reinstall it from the installation CD that accompanies the PC Card.


For some PC Cards, if you alternate between **Normal** power operation and **Standby** or **Hibernate** power management modes while the card is inserted, you may find that a device connected to your system is not recognised. Reboot your system to correct the problem.



## 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 crash and unsaved data may be lost. If you want to remove a PC Card when your computer is off, skip steps 1 to 5.

To remove a PC Card, proceed as follows:

- 1 Close any applications that are using the PC Card.
- 2 Double-click the **Safely Remove Hardware** icon  in the taskbar. The **Safely Remove Hardware** dialog box appears.
- 3 Select the hardware you want to unplug and click **Stop**.
- 4 In the **Stop a Hardware Device** dialog box, select the device, confirm that it can be safely removed from the system and click **OK**.  
You see the message that it is safe to remove the device.

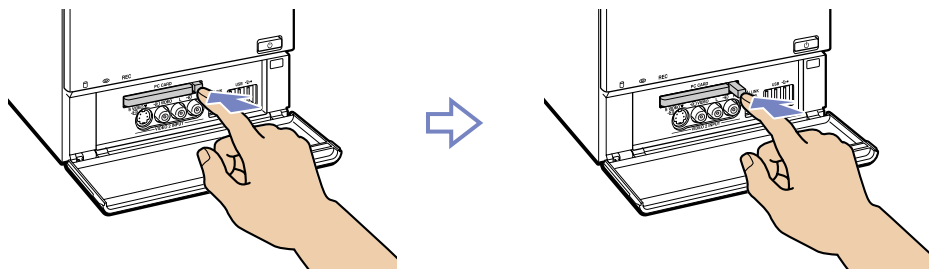
5 Click **Close**.

6 Open the panel cover and press the PC Card release button once so it is extended and ready for use.

7 Push the PC Card release button to eject the card.

8 Gently grasp the card and pull it out.

 Picture may vary from actual configuration.



## *Expansion capabilities*

There are four expansion slots at the rear of your VAIO computer, as follows:

- Top slot:** PCI Express slot containing the graphics card.
- Second slot:** Empty PCI slot.
- Third slot:** This is a PCI slot containing the **TV tuner** ports.
- Bottom slot:** PCI Express slot containing the modem card and PCMCIA interface.

Empty PCI slots allow you the choice of adding to the expansion capabilities of your computer.

You are strongly advised not to add hardware yourself. Please contact your local Sony dealer for advice on changing the internal hardware components.

## Connecting peripheral devices

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

- ❑ Connecting a display ([page 48](#))
- ❑ Connecting a sound system ([page 52](#))
- ❑ Connecting a Universal Serial Bus (USB) device ([page 52](#))
- ❑ Connecting a printer ([page 53](#))
- ❑ Connecting an i.LINK device ([page 54](#))
- ❑ Connecting an S/PDIF device ([page 55](#))
- ❑ Connecting a microphone ([page 55](#))
- ❑ Connecting to a network ([page 56](#))

To identify and locate the ports on your computer, please see the printed **Specifications** sheet.

Sony computer supplies, accessories and peripherals can be purchased from your local retailer or from the Sony website:

[www.sonymstyle-europe.com](http://www.sonymstyle-europe.com)

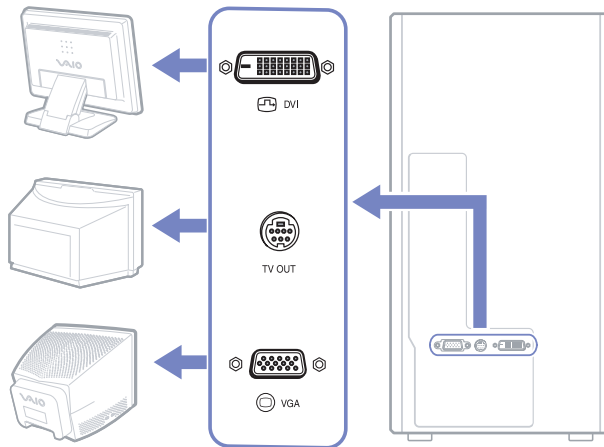
For more information about connection compatibility, go to the VAIO-Link website: [www.vaio-link.com](http://www.vaio-link.com)



## Connecting a display

You can connect multiple displays to your desktop, each using a different port on the back of your computer:

- ❑ an LCD screen using the DVI-D connector
- ❑ a TV using the S-video/video Combo output port
- ❑ a CRT or LCD screen using the VGA monitor connector



Please make note of the following viewing possibilities:

- ❑ If you have a VGA and a DVI-D connected, the image is shown on both screens by default.
- ❑ If you have a VGA and a TV connected, the image is shown on both screens by default.
- ❑ If you have a DVI-D and a TV connected, the image is shown on both screens by default.
- ❑ If you have a VGA, a DVI-D and a TV connected, the image will be shown on both the VGA and the DVI-D by default.

To change your display from VGA to DVI-D or vice versa, proceed as follows:

- 1 Connect the display(s), as described in the instructions delivered with the display, if applicable.
- 2 Go to **VAIO Control Center**.
- 3 Click **Display** and then **Display** again.  
The **Display Properties** dialog box appears.
- 4 Click the **Settings** tab and then **Advanced**.
- 5 On the **Displays** tab, select **DVI-D** (or **VGA**) and click **OK** when you have finished.

## Connecting a TV set

You can connect a TV directly to your computer.

In order to be able to use a TV screen, you also have to enable the TV output function.

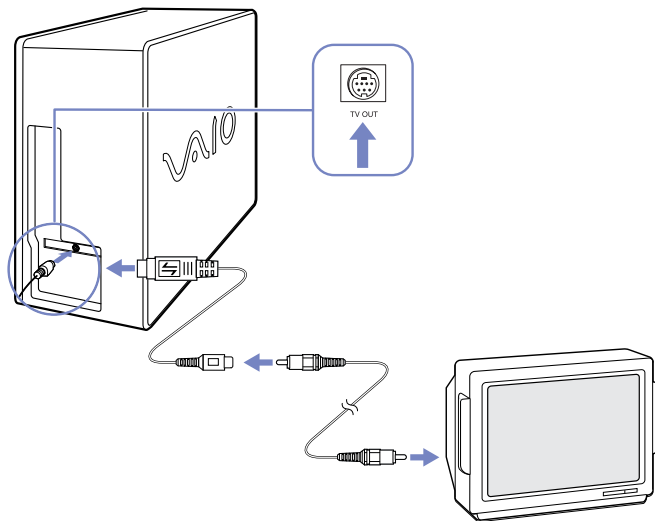
Your VAIO desktop is delivered with a video cable (or 'converter cable'), which is for use with TV sets without an S-Video port.

### Connecting a TV that has no S-Video port\*

To connect a TV to your VAIO desktop with the supplied video out cable, proceed as follows:

- 1 Plug one end of the video cable into the S-video/video Combo output port on the back of your computer.
- 2 Take your composite cable (not supplied) and connect one end to the inserted video cable.
- 3 Connect the other end to the yellow-coloured port (video-in) on your TV set.  
The video output is now in place.
- 4 Connect the single end of your audio cable (not supplied) to the headphones port, either on the back or front of your computer or on the connected speaker.
- 5 Connect the double end of the audio cable to the red and white ports respectively on your TV set.  
The audio output is now in place and your TV is ready for use with your computer.


\* If your TV does not have an S-Video port, it should have a composite port to connect it to your VAIO desktop.



## Connecting a TV that has an S-Video port

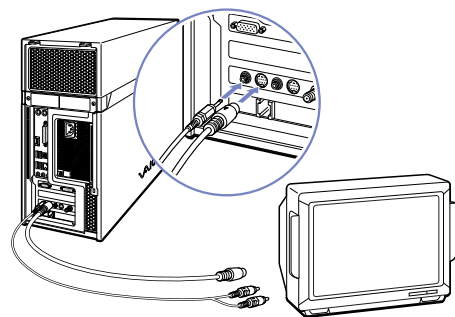
To connect a TV to your VAIO desktop with an S-Video cable (not supplied), proceed as follows:

- 1 Plug one end of the S-Video cable into the S-video/video Combo output port on the back of your computer.
- 2 Plug the other end of the S-Video cable into your TV's S-Video port.
- 3 Connect the audio cable (not supplied).

 Picture may vary from actual configuration.

To enable TV output, proceed as follows:

- 1 Go to **VAIO Control Center**.
- 2 Click **Display** and then **Display** again.  
The **Display Properties** dialog box appears.
- 3 Click the **Settings** tab and then **Advanced**.
- 4 On the **Displays** tab, select **TV** and click **OK** when you have finished.




## Connecting a sound system

Your new PC allows you to enjoy your DVDs and audio files with the unbeatable experience of surround sound. There are 3 audio ports on the back of the unit to make a connection to your home cinema system via your amplifier. 1 port makes a connection to the centre speakers, another port to the front (left and right) speakers and the third port to the rear (left and right) speakers.

Please read the printed **Specifications** document for the exact location of the audio ports, as well as the documentation provided with your amplifier/home cinema equipment for connection information.

## Connecting a Universal Serial Bus (USB) device

You can connect a USB device such as a scanner, a floppy disk drive or a printer, to your VAIO desktop.

To connect a USB device, simply plug in the USB cable of the device into one of the  ports on your computer.

- ❑ USB devices are hot plug and play devices. You do not need to shut down your computer prior to connecting these devices unless the manual supplied with the device states otherwise.
- ❑ For some USB devices you need to install the software before you connect the device. Not following this procedure might cause the device not to work properly. For more information, check the manual provided with the USB device.

## Connecting a printer

To connect a printer, you can use either the printer port (shown in the top picture) or a USB port (bottom picture), depending on the cable you use for your printer.

Please see your printer's documentation for details on connection and installation.

Always check the printer manufacturer's website for the latest drivers for your operating system. Some printers do not function properly without updated drivers.

USB printer drivers should be automatically installed. Once you plug the printer's USB cable into one of the USB ports on your computer, the **Found New Hardware Wizard** will guide you through any setup procedure you need to follow.

If the printer is not automatically installed, you can try the following:

- 1 From the **Control Panel**, select **Printers and Other Hardware**, then **Printers and Faxes**.
- 2 Under **Printer Tasks**, click **Add a printer**.
- 3 Let the **Add Printer Wizard** guide you through the installation process.
- 4 Click **Finish**.

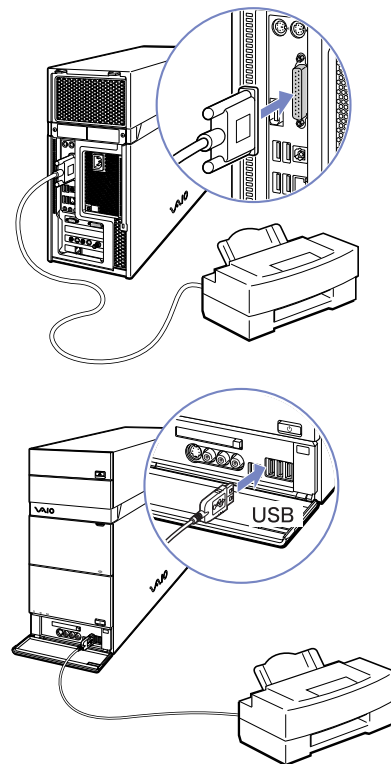
The printer is now installed.

 This procedure applies for most, but not for all printers.

Picture may vary from actual configuration.

## Troubleshooting printing

If you have problems printing, check the printed **Troubleshooting Guide**; the documentation delivered with your printer; and the VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)).



## Connecting an i.LINK device


Your VAIO computer includes a 4-pin i.LINK port on the front of the system and a 6-pin i.LINK port on the back of the system. Use these ports (i) to connect an i.LINK device such as a digital video camera recorder, or to link up two VAIO computers so you can copy, delete or edit files.

- ❑ The i.LINK device will need its own power supply.
- ❑ You are strongly advised to use only Sony i.LINK cables, as using other brands may cause problems with the i.LINK devices.
- ❑ The i.LINK connection may vary, depending on the software applications, operating system, and compatible i.LINK devices. Not all products with an i.LINK connection may communicate with each other.
- ❑ Please refer to the documentation that came with your compatible i.LINK device and software for information on operating conditions and proper connection.

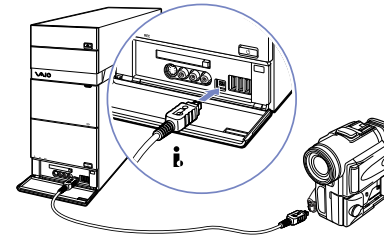
## Connecting a digital camera

To connect a digital camera, proceed as follows:

- 1 Plug one end of the i.LINK cable (not supplied) into the i.LINK port (i) of the computer and the other end into the DV out port on your digital camera. On Sony digital cameras, ports marked DV out, DV in/out or i.LINK are i.LINK-compatible.
- 2 Launch **DVgate Plus** for videos or **PictureGear Studio** for photos (see the Help files within the software itself for more information).

 If the connected i.LINK device is not recognised, disconnect then reconnect it.

Picture may vary from actual configuration.



## *Troubleshooting i.LINK devices*

If you have problems with your i.LINK device, check the printed **Troubleshooting Guide**, the documentation delivered with the device, and the VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)).


## *Connecting an S/PDIF device*

The S/PDIF (Sony/Philips Digital Interface) port on your computer allows you to transfer audio files to optical devices. The advantage is that it does not use the conversion to and from an analog format, which could degrade the signal quality.

Please read the documentation provided with your optical device for connection information.

## *Connecting a microphone*

Your VAIO desktop does not contain an internal microphone. If you need to use a sound input device, for example to chat on the Internet, you need to plug in an external microphone.

To connect an external microphone, plug the microphone cable into the microphone connector identified by the symbol . You can find a microphone connector on the front as well as the back of your PC.


 Make sure your microphone is designed for computer use.

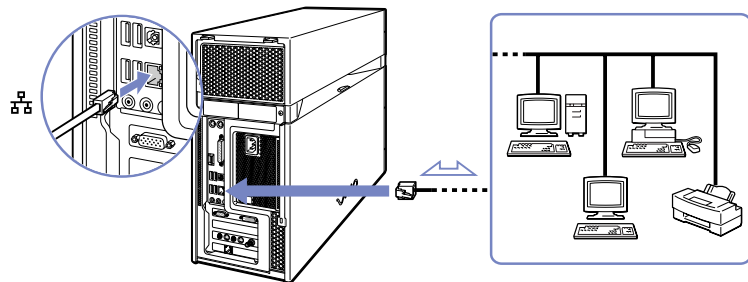


## Connecting to a network


Your computer comes with a built-in Ethernet interface.

To connect to a network, proceed as follows:

- 1 Connect your 10BASE-T/100BASE-TX/1000BASE-T Ethernet cable (not supplied) to the Ethernet port, identified by the symbol , on the back of the computer. If there is a sticker covering the Ethernet port, this is to remind customers in Germany not to insert an ISDN cable (see caution below).
- 2 Go to **Start**, right-click **My Computer** and select **Properties**.
- 3 Click the **Hardware** tab and select **Device Manager**. The **Device Manager** screen appears with the list of devices.
- 4 Under **Network Adapters**, right-click the name of the adapter and click **Properties**.
- 5 Under **Device Usage**, select **Use this device (enable)**.
- 6 Click **OK** to close the **Properties** window. The Ethernet connection is now enabled.



**!** Connect only 10BASE-T/100BASE-TX/1000BASE-T cables to the Ethernet port. Using other cables or a telephone cable may cause a malfunction, excessive heat or even fire in the port. If using this computer in Germany, please make sure you do not use an ISDN cable. It is physically very similar, but its higher voltage of 12V may destroy the motherboard inside the computer.

 For more information about connecting your VAIO desktop to the network, please consult the hardware troubleshooting section of the VAIO-Link website ([www.vaio-link.com](http://www.vaio-link.com)).

For help on connecting to a network, see your network administrator if you have one.

Picture may vary from actual configuration.

## Upgrading your VAIO computer

Sony recommends contacting your local dealer for upgrade or maintenance of your new computer. Your local dealer has knowledge of this specialised personal computer and familiar with the safety practices and regulatory compliance required for using and modifying electronic equipment.

The upgrading procedures described in this section assume that you are familiar with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.

Disconnect the computer from its power source and from telecommunication links, networks, or modems before you open the unit or follow any procedures described in this section.

Your computer may not be equipped with all of the hardware features mentioned in this section. The interior configuration of your system may vary from the illustrations, depending on the computer purchased.

To view the hardware configuration for your computer, see the printed **Specifications** sheet.

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

- You contact your local Sony dealer to install any new internal hardware components.
  - You do not install memory modules yourself, if you are not familiar with upgrading memory on a computer.
  - Please contact VAIO-Link if you need assistance.
- ! Failure to disconnect your computer from its power source may result in personal injury or equipment damage.
- ! Electrostatic discharge (ESD) can damage disk drives, add-on cards, and other components. Follow the procedures here only at an ESD workstation. Otherwise, do not work on a carpeted area and do not handle materials that produce or hold static electricity, such as cellophane wrappers. Ground yourself by keeping constant contact with an unpainted metal part of the unit while carrying out any of these procedures.


## Upgrading memory

In the future, you may want to upgrade the memory installed on your VAIO by replacing / adding memory modules. However, we recommend that you do not install them yourself unless you are familiar with upgrading memory on a computer.

For memory upgrades, use only those modules mentioned in the printed **Specifications** table.

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

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

- ❑ Handle the memory module gently.
  - ❑ The procedures described in this document assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.
  - ❑ Disconnect the system from its power source and from any telecommunication links, networks, or modems before you open the system. Failure to do so may result in personal injury or equipment damage.
  - ❑ Do not open the memory module package until you are ready to install the module. The package protects the module from ESD.
  - ❑ Use the special bag delivered with the memory module, or wrap the module in aluminium foil to protect it from electrostatic discharge.
-  Do not place the memory module in places subject to: Heat sources such as radiators or air ducts, direct sunlight, excessive dust, mechanical vibration or shock, strong magnets or speakers that are not magnetically shielded, ambient temperature of more than +35°C or less than +5°C , or high humidity.
- !** Introducing any liquids or any foreign substances or objects into the memory slots, or other internal components of the computer, will result in damage to the computer and any repairs will be out of warranty.

## Viewing the amount of memory

To view the amount of memory, proceed as follows:


- 1 Turn on the computer.
- 2 Click the **Start** button, point to **All Programs, Security & Utilities**, then **VAIO System Information**, and click **VAIO System Information** again.  
You can view the amount of installed memory here.

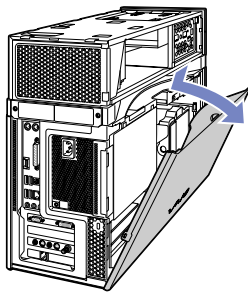
## Adding / replacing a memory module

If you are not familiar with upgrading memory on a computer, we highly recommend that you contact your dealer.

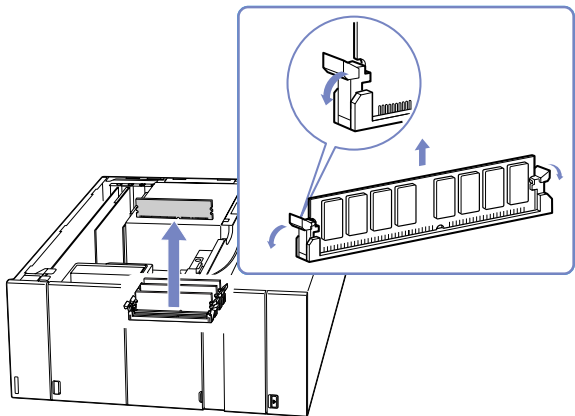
To add or change a memory module, proceed as follows:

- 1 Shut down the computer, unplug it, and remove any peripheral devices.
- 2 Wait for the computer to cool down.  
The inside of the main unit becomes very hot during operation. Wait for about one hour for the computer to cool down before opening the unit.
- 3 With the main unit's back panel facing you, locate the tabs on the side cover, and release them up until the cover opens, as shown.
- 4 Set the cover aside.

 Picture may vary from actual configuration.

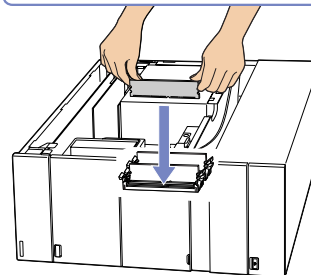
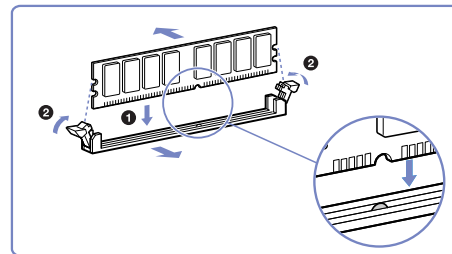
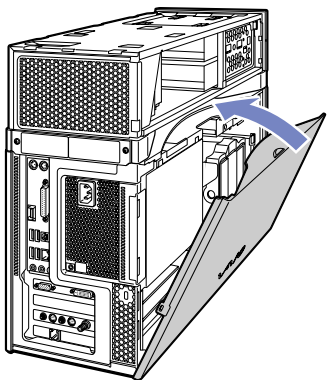


- 5 To remove an existing memory module, release the end latches and gently lift out the module, as shown (may vary from actual configuration):



- 6 To insert a new memory module, remove it from its anti-static package, handling it only by the edges.

- 7 Locate the notch on the bottom edge of the memory module.
- 8 Align the memory module over the slot, making sure the module is facing the correct way.
- 9 Press evenly against the memory module's upper corners. The end latches snap into position automatically, as shown.
- 10 Align the tabs on the side cover to the rim of the unit and press the side cover firmly against the unit until it snaps into place.



 The illustrations here may vary from the actual configuration of your VAIO.

- ! Use only the memory modules specified on the printed **Specifications** sheet.
- ! To avoid damaging a memory module or the memory module slot, move the side latches slightly outward to relieve pressure. The module is properly inserted when the side latches click into place.

## Getting help

This section describes how to get help and support if something goes wrong with your computer. Sony offers you many support options for your computer.

### *Sony documentation*

Please see the section **Documentation pack (page 5)** for details on the printed and online documentation delivered with your computer, as well as further sources of reference.

### *Other sources of information*

- Go to the **online help files** that accompany your software for instructions on using the software.
- Go to the **online help files** in the **Windows Help and Support Center** by pressing the <F1> key.
- VAIO-Link website:** If you have any problems with your computer, you can access the VAIO-Link website for troubleshooting. Go to: [www.vaio-link.com](http://www.vaio-link.com)
- e-Support:** This interactive part of our website [www.vaio-link.com](http://www.vaio-link.com) allows you to get in contact with our dedicated support team over the internet. Using a personalised account, you can log your technical queries with ease.
- Visit the other Sony websites:
  - [www.club-vaio.com](http://www.club-vaio.com) if you want to know more about VAIO and become part of the growing VAIO community.
  - [www.sonystyle-europe.com](http://www.sonystyle-europe.com) for online purchases.
  - [www.sony.net](http://www.sony.net) for other Sony products.



You need to set up an Internet connection before you can access the online features described here.

## *e-Support*

### *What is e-Support?*

You have searched our user guides and website ([www.vaio-link.com](http://www.vaio-link.com)) but have not found an answer to your question/issue? e-Support is the ideal solution for you!

Our e-Support Web Portal is an interactive website on which you can submit any technical query you may have regarding your VAIO and receive answers from our dedicated support team.

Every submitted query will result in a unique 'case number' to ensure smooth communication between yourself and the e-Support Team.

### *Who can use e-Support?*

All registered VAIO customers are entitled to unlimited access to the VAIO-Link e-Support Web Portal.

### *How can I access the e-Support portal?*

When you register your VAIO computer online at Club-VAIO ([www.club-vaio.com](http://www.club-vaio.com)), you will automatically receive an email with the link to the e-Support Web Portal, your Customer ID and some basic explanation a few hours later.

All you need to do is activate your account by clicking on the provided link in the email.

You are now ready to create your first case!

You can access the e-Support Web Portal from any computer with an active Internet connection.

A complete help file is available on the e-Support Web Portal to help you use our e-Support Service.

### *Can I submit questions in my native language?*

Since you are interacting with our e-Support Team through a portal, which connects you directly to our central database, e-Support will only accept and deal with queries submitted in English.



### *Can I submit my questions at any time?*

Yes, you can submit your questions 24/7, but please keep in mind that our e-Support Team can only treat your queries from Monday till Friday between 8am and 6pm.

### *Is there a cost involved for using e-Support?*

No, this is a complete free of charge service offered to all registered VAIO customers!

### *How do I know when the e-Support Team has handled my query/case?*

As soon as your case has been dealt with by our e-Support Team, you will receive an email, notifying you that your case has been updated.

## *Precautions*

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

Please contact VAIO-Link if you need assistance.

- ❑ On handling the hard disk ([page 66](#))
- ❑ On using the power source ([page 67](#))
- ❑ On handling your computer ([page 68](#))
- ❑ On handling LCD screens ([page 69](#))
- ❑ On handling floppy disks ([page 70](#))
- ❑ On handling discs ([page 70](#))
- ❑ On handling Memory Sticks ([page 71](#))


## 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 the 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 the computer while reading or writing data to 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.

**!** If you disable RAID in the BIOS of your computer, all data on the hard disks will be lost.  
For more information, please consult the printed **RAID** flyer.

## *On using the power source*

- See the printed **Specifications** sheet to check the power operation of your VAIO.
- Do not share the AC outlet with other high 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 wall outlet if you are planning to not use the computer for a long time.
- Make sure that the socket outlet is easily accessible.

## On handling your computer

- ❑ Clean the unit with a soft cloth, which is either 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 benzene, as these may damage the finish of your computer.
- ❑ Should you drop a solid object or any liquid onto the computer, shut down your computer and then unplug it. You may want to have the computer checked by qualified personnel before operating it again.
- ❑ Do not drop the computer or place heavy objects on top of the computer.
- ❑ Do not place your computer in a location subject to:
  - ❑ Heat sources, such as radiators or air ducts
  - ❑ Direct sunlight
  - ❑ Excessive dust
  - ❑ Moisture or rain
  - ❑ Mechanical vibration or shock
  - ❑ Strong magnets or speakers that are not magnetically shielded
  - ❑ An ambient temperature of more than 35°C or less than 5°C
  - ❑ High humidity.
- ❑ Do not place electronic equipment near your computer. The electromagnetic field of your computer may cause a malfunction.
- ❑ Provide adequate air circulation to prevent 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 ventilation slots.
- ❑ The computer uses high-frequency radio signals and may cause interference to radio or TV reception. Should this occur, relocate the computer a suitable distance away from the set.
- ❑ Use only specified peripheral equipment and interface cables; otherwise, problems may occur.
- ❑ Do not use cut or damaged connection cables.

- ❑ If the computer is brought directly from a cold location to a warm one, moisture may condense inside your computer. In this case, allow at least one hour before turning on your computer. If any problems occur, unplug your computer and contact VAIO-Link.
- ❑ Make sure you disconnect the power cord before cleaning the computer.
- ❑ As you may lose important data once your computer is damaged, you should back up your data regularly. You can restore most of the original application programs from the supplied disc (read the **Troubleshooting Guide** for details).

### *On handling LCD screens*

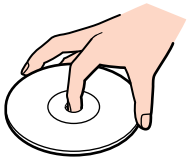
- ❑ Do not leave the LCD facing the sun as it can damage the LCD. Be careful when using the computer near a window.
- ❑ Do not scratch the LCD or exert pressure on it. This could cause malfunction.
- ❑ Using the computer in low temperature conditions may produce a residual image on the screen. This is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

## On 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.

## 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 reading errors. Always hold the disc by its edge and central hole, as shown.



- ❑ Proper care of the disc is essential to its continuous reliability. Do not use solvents such as benzene, thinning agents, commercially available cleaners or anti-static spray, as they may cause damage to the disc.
- ❑ For normal cleaning, hold the disc by its edge and use a soft cloth to wipe the surface from the centre 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 centre out. Wipe off any remaining moisture with a dry soft cloth.
- ❑ Never put stickers on discs. This will affect the use of the disc irreparably.

## On handling Memory Sticks

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



## *Installing and updating applications*

This section explains how to install, run or uninstall software.

Furthermore, you will learn how to download the latest updates from our website.

- ❑ Installing software ([page 73](#))
- ❑ Changing or removing software ([page 75](#))
- ❑ Downloading software ([page 77](#))

## Installing software

To install bundled software from the supplied **VAIO Recovery Disc** or your hard disk drive, please read the printed **Recovery Guide** for details.

For software bundled with accessories, check first the installation procedure that comes with the accessory.


To install other software, use the following procedure.

Before installing the applications:

- Install and connect a hardware device, if necessary (see the **Managing drivers (page 78)** section);
- Close all open applications.

To install an application, proceed as follows:

- 1 Click **Start** and then **Control Panel**.  
The **Control Panel** window appears.
- 2 Click **Add or Remove Programs**.  
The **Add or Remove Programs** dialog box appears.
- 3 Click **Add New Programs**, and then click **CD or Floppy**.  
The **Install Program From Floppy Disk or CD-ROM** window appears.
- 4 Insert the first installation floppy disk or CD-ROM and click **Next**.  
The **Run Installation Program** appears.
- 5 Click **Browse...** to find the installation program.  
The **Browse** window appears.
- 6 Select the installation program and click **Open**.  
The path of the installation program appears in the **Open:** text box.
- 7 Click **Finish**.  
A **Licence Agreement** dialog box might appear.

- 8 Read the agreement and click **Yes** to accept.  
You are asked to define the location where you want to install the software.
  - 9 Click **Browse** to select the folder and click **Next**.  
If necessary, select the type of installation you wish and click **Next**.  
The software installation begins.  
Make sure to select **Yes, I want to restart my computer now** if you are asked to.
  - 10 Click **Finish**.  
Installation is complete and your computer restarts.
-  When using **Add or Remove Programs**, you can only install programs that were written for Windows operating systems.

## Changing or removing software

You can remove or change a software application any time you like. Before proceeding, close the application you want to change/remove.

To change or remove software, proceed as follows:

- 1 From the **Start** menu, click **Control Panel**.  
The **Control Panel** window appears.
- 2 Click the **Add or Remove Programs** icon.  
The **Add or Remove Programs** dialog box appears.
- 3 Select the software you want to change or remove.
  - To change a program, click **Change/Remove** or **Change** and follow the on-screen instructions.
  - To uninstall a program, click **Change/Remove** or **Remove**, then click **Next** followed by **OK**.  
If the **Locked file detected** dialog box appears, click **Reboot**. The computer restarts once uninstallation is completed and all previously used files are deleted.  
If the **Shared file detected** dialog box appears, it is recommended that you click **No** to keep shared files.  
Click **Close**.  
The software is uninstalled.

**!** When you click **Change or Remove**, some programs may be removed without any further warning. **Make sure you are certain you want to remove it beforehand.**

 You can sort programs by selecting different options in **Sort by**.

**Add or Remove Programs** will only remove programs that were written for Windows operating systems. For other programs, check the documentation to see if other files (such as .ini files) should be removed.

Some programs can only be removed, not changed.

## Caution

### Windows File protection

Installing a program might overwrite shared system files such as **dynamic-link libraries** (DLL files)\* and executable files (EXE files). When system files are overwritten, system performance becomes unpredictable, programs behave erratically, and the operating system can fail.

Never delete files with the following extensions: SYS, DLL, OCX, TTF, or FON.

In Windows XP, **Windows File Protection** prevents the replacement of protected system files such as SYS, DLL, OCX, TTF, FON, and EXE files. **Windows File Protection** runs in the background and protects all files installed by the **Windows Setup** program.

**Windows File Protection** detects attempts by other programs to replace or move a protected system file. It also checks the file's digital signature.

\* This is an operating system feature that allows executable routines (generally serving a specific function or set of functions) to be stored separately as files with DLL extensions. These routines are loaded only when needed by the program that calls them.

### File Signature verification

When you install a new application on your computer, you might overwrite system files and device driver files with unsigned or incompatible versions, which might provoke system instability.


The system files and device driver files provided with Windows XP have a Microsoft digital signature, which indicates that the files are original, unaltered system files or that they have been approved by Microsoft for use with Windows.

## Downloading software

Please note it is possible to download the latest upgrades of software for your computer from our website.

To download the latest upgrades, proceed as follows:

- 1 Go to [www.vaio-link.com](http://www.vaio-link.com) and choose your language.
- 2 Select **Drivers and Updates** and follow the procedure.

 To install an application anew, see the **Installing software (page 73)** section.

# Managing drivers

A driver is a software enabling you to use hardware devices. For example, in order for you to be able to use a printer, you must first install its driver. Many drivers, such as the mouse driver, come with the operating system.

This section explains how to install, check, update or uninstall a driver. The Windows XP Rollback feature is also explained. Finally, you will learn how to download the latest drivers from our site.

- ❑ Installing a driver ([page 79](#))
- ❑ Checking the driver's installation ([page 81](#))
- ❑ Updating a driver ([page 83](#))
- ❑ Uninstalling a driver ([page 84](#))
- ❑ Restoring a driver ([page 85](#))
- ❑ Downloading a driver ([page 86](#))

## Installing a driver

For more information on (re)installing drivers, see the printed **Recovery Guide** for details.

To install a driver that is stored on the C: drive, proceed as follows:

- 1 Go to the folder **C:\Drivers**.
- 2 Select the correct folder.  
If you need to update a modem driver, for example, select the **Modem** folder.
- 3 If there is an .exe file, double-click the .exe file and follow the online procedure.  
If there is no .exe file, you need to go through the **Device Manager** to update the driver (see the second option in the **Updating a driver (page 83)** chapter).

If the driver comes on a CD-ROM or disk accompanying an accessory and the driver does not come with a specific installation procedure, please proceed as follows to install it:

- 1 Insert the installation CD-ROM or disk accompanying the device into the disc drive.
- 2 Connect the device that needs a driver, to your computer.  
The **Found New Hardware Wizard** screen appears.
- 3 Select **Specify a location**, then click **Next**.
- 4 When installing a driver from the provided CD-ROM (or disk) by using a CD-ROM (or disk) drive connected to the computer, select the **Drivers** folder on the disc drive.
- 5 When installing a driver after having copied the contents of the provided CD-ROM (or disk) to your hard disk, browse to the appropriate subdirectory containing the driver. The subdirectory should be found in the folder you copied from the CD-ROM (or disk).
- 6 Click **OK** to begin the search procedure.
- 7 Click **Next** to install the driver.  
A new window appears when the driver has been installed.




**8** Click **Finish**.

You may be asked to restart your machine.

**9** Click **Yes**.

The driver is installed.

 To install your device driver, you must log on to your computer as a user with administrator rights.

## Checking the driver's installation

When the computer restarts, check that the device is working properly.

To check the driver's installation, proceed as follows:

- 1 From the **Start** menu, click **Control Panel**.  
The **Control Panel** window appears.
- 2 Click the **System** icon.  
The **System** dialog box appears.  
If you do not see the **System** icon, click **Switch to Classic View** on the left side.
- 3 Click the **Hardware** tab, then click **Device Manager**.
- 4 Double-click the option corresponding to the device you installed, then double-click your device.  
The **Properties** dialog box appears.
- 5 Make sure that the **This device is working properly** message is displayed under **Device status**.
- 6 Click **OK**.  
Close all the opened windows, your device is ready for use.

The device is not working properly in the following cases:

- Your device is shown in **Device Manager** with a yellow question or exclamation mark.  
Right-click your device and click **Uninstall**. Then repeat from step 2 in [Installing a driver \(page 79\)](#).
- Double-clicking the category of your device in the device manager list does not display your device.  
You have to remove your device. Please refer to [Uninstalling a driver \(page 84\)](#) to remove it. Then repeat from step 2 in [Installing a driver \(page 79\)](#).
- Double-clicking **Other devices** displays your device.  
You have to right-click your device, then click **Uninstall**. Repeat from step 2 in [Installing a driver \(page 79\)](#).
- If the **This device is working properly** message is not displayed, the device is not working properly.  
Click **OK** to close the **Properties** dialog box, then reinstall the driver as follows:

- ❑ Right-click **Uninstall**.
- ❑ When the **Confirm Device Removal** dialog box appears, click **OK**.
- ❑ Click **Yes** and restart the computer.
- ❑ When the computer restarts, repeat from step 2 in **Installing a driver (page 79)**.
- ❑ If your device is not displayed in the **Properties** dialog box, the device is not working properly. Repeat steps 1 through 4 in the previous sections to check the driver's installation. Click your device, then click **Uninstall** to remove the driver. Click **Yes** to restart the computer. When the computer restarts, repeat from step 2 in **Installing a driver (page 79)**.


## Updating a driver

To update the driver, proceed as follows:

- 1 Click **Start** on the taskbar.
- 2 Click **Control Panel**.
- 3 Click the **Printers and Other Hardware** icon.  
And then click the device you want to revert.
- 4 On the **Hardware** tab, click **Properties**.
- 5 On the **Driver** tab, click **Update driver**.
- 6 Follow the instructions that appear on your screen. You can have Windows search for the driver, or point to the driver's location yourself.

Or:

- 1 Click **Start** on the taskbar.
- 2 Click **My computer** from the menu.
- 3 Click **View system information** on the left of the window.
- 4 Click the **Hardware** tab, then click **Device Manager**.
- 5 Double-click the option corresponding to the device you installed, then double-click your device.  
The **Properties** dialog box appears.
- 6 Click the **Driver** tab.
- 7 Click **Update driver**.  
The driver is updated.

 To install your device driver, you must log on to your computer as a user with administrator rights.

## Uninstalling a driver

Leave the device connected to your computer while uninstalling the driver.

To uninstall the driver, proceed as follows:

- 1 Click **Start** on the taskbar.
- 2 Click **Control Panel**.
- 3 Click the **Printers and Other Hardware** icon.  
And then click the device you want to revert.
- 4 On the **Hardware** tab, click **Properties**.
- 5 On the **Driver** tab, click **Uninstall**.
- 6 If you are prompted to restart your computer, click **Yes**.  
The **Uninstall** button is unavailable if removing the driver would make your device unusable.

Or:

- 1 Click **Start** on the taskbar.
- 2 Click **My computer** from the menu.
- 3 Click **View system information** on the left of the window.
- 4 Click the **Hardware** tab, then click **Device Manager**.
- 5 Double-click the option corresponding to the device you installed, then double-click your device.  
The **Properties** dialog box appears.
- 6 Click the **Driver** tab.
- 7 Click **Uninstall**.  
The driver is uninstalled.

 To uninstall your device driver, you must be logged on to your computer with administrator rights.

## Restoring a driver

System Restore is a feature of Microsoft Windows XP that restores your computer to a previous state, if a problem occurs, without losing your personal data files.

System Restore monitors changes to the system, and it automatically creates easily identified restore points. These restore points allow you to revert the system to a previous time. They are created daily and at the time of significant system events (such as when an application or driver is installed).

To revert to your previous driver, proceed as follows:

- 1 Open the device that is not working correctly in **Control Panel**.

To open the device:

- Click **Start** on the taskbar.
- Click **Control Panel**.  
The **Control Panel** window appears.
- Click the **Printers and Other Hardware** icon.
- And then click the device you want to revert.

- 2 On the **Hardware** tab, click **Properties**.


- 3 Click the **Driver** tab.

- 4 On the **Driver** tab, click **Roll Back Driver**.

Or:

- 1 Click **Start** on the taskbar.
- 2 Click **My computer** from the menu.
- 3 Click **View system information** on the left of the window.
- 4 Click the **Hardware** tab, then click **Device Manager**.

- 5 Double-click the option corresponding to the device you installed, then double-click your device. The **Properties** dialog box appears.
- 6 Click the **Driver** tab.
- 7 On the **Driver** tab, click **Roll Back Driver**.  
You have your previous driver back.

 You must be logged on to your computer with administrator rights in order to complete this procedure.

Restoring your computer does not affect or change your personal data files.

For more information about System Restore, see the Windows **Help and Support Center**.

## *Downloading a driver*

Please note it is possible to download the latest versions of drivers for your computer on our website.

To download the latest drivers, proceed as follows:

- 1 Go to [www.vaio-link.com](http://www.vaio-link.com) and choose your language.
- 2 Select **Drivers and Updates** and follow the procedure.

For more information, follow the instructions you received with the device, or see the printed **Recovery Guide**.

 Downloading or installing drivers not provided by VAIO-Link might cause compatibility issues.

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