

VAIO User Guide

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

E Series

SVE1412/SVE1512/SVE1712

Use this manual if you encounter any problems, or have any questions about your VAIO computer.

[Read This First](#)

Visit the VAIO support website that provides up-to-date information on your VAIO computer.

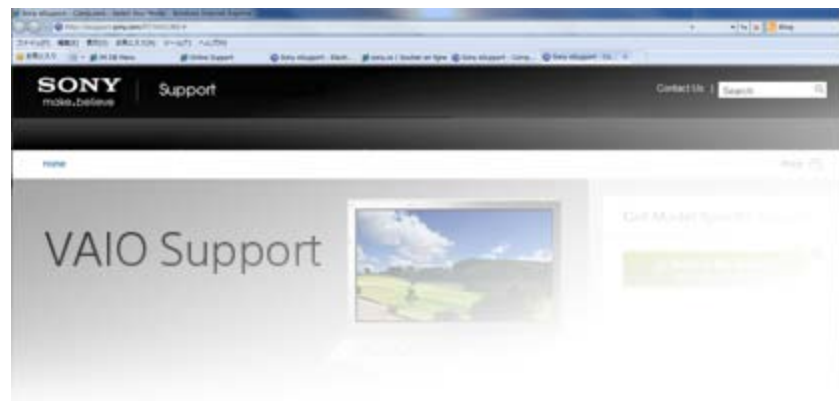
<http://esupport.sony.com/US/VAIO> (USA)

<http://www.sony.ca/support/> (Canada: English)

<http://fr.sony.ca/support> (Canada: French)

<http://esupport.sony.com/LA/VAIO> (Latin American area)

<http://esupport.sony.com/BR/VAIO> (Brazil)





[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Windows 8: The Basics

[Apps](#)

[Help and Support](#)

[Menu](#)

[Store](#)

[Display](#)

[Internet](#)

[Power](#)

[Windows](#)



[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Parts Description

[VAIO computer](#)



[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Setup

[Battery](#)

[Power](#)

[VAIO computer](#)

[Memory module](#)

[Supplied items](#)



[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Network / Internet

[Apps](#)

[LAN](#)

[Wi-Fi](#)

[Internet](#)

[Store](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Connections

[Audio](#)

[Battery](#)

[Display](#)

[Headphones](#)

[LAN](#)

[Optical digital output](#)

[Power](#)

[USB](#)

[BLUETOOTH](#)

[CD/DVD/BD](#)

[HDMI](#)

[Internet](#)

[Microphone](#)

[Peripheral device](#)

[Speakers](#)

[Wi-Fi](#)

[▶ Troubleshooting](#)**How to Use**

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Settings[Audio](#)[Battery](#)[CD/DVD/BD](#)[Display](#)[Keyboard](#)[Menu](#)[Optical digital output](#)[Peripheral device](#)[Recovery](#)[Service and support](#)[Touch pad](#)[BIOS](#)[Button](#)[Camera](#)[HDMI](#)[Memory module](#)[Microphone](#)[Password](#)[Power](#)[Security](#)[Speakers](#)[VAIO computer](#)

[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Playback

[CD/DVD/BD](#)

[HDMI](#)

[Peripheral device](#)



[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Backup / Recovery

[BIOS](#)

[Built-in storage device](#)

[CD/DVD/BD](#)

[Recovery](#)

[Service and support](#)

[Backup](#)

[Button](#)

[Partition](#)

[Refresh](#)

[VAIO computer](#)



[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Security

[BIOS](#)

[Password](#)

[VAIO computer](#)

[Internet](#)

[Service and support](#)



[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Other Operations

[Battery](#)

[CD/DVD/BD](#)

[Help and Support](#)

[Memory card](#)

[Partition](#)

[Touch pad](#)

[VAIO computer](#)

[Built-in storage device](#)

[Camera](#)

[Keyboard](#)

[Memory module](#)

[Power](#)

[USB](#)

[Windows](#)



[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notifications

[CD/DVD/BD](#)

[Important notice](#)

[Read this first](#)

[Service and support](#)

[VAIO computer](#)

[Care and maintenance](#)

[Product registration](#)

[Security](#)

[Supplied items](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

VAIO User Guide

E Series

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<http://esupport.sony.com/BR/VAIO> (Brazil)



[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Read This First

Congratulations on your purchase of this VAIO(R) computer.

About your VAIO computer's configuration

To find out about the configuration of your VAIO computer, visit the Sony online support website. [\[Details\]](#)

Some features, options, and supplied items may not be available on your VAIO computer.

Features

Available features vary depending on the model or options you selected. Not all features described in this manual are available depending on your model.

Illustrations

Illustrations, photos, or screenshots in this manual may look slightly different depending on the model or options you selected.

Apps

The preinstalled apps may vary depending on the model or options you selected. The apps described in this manual may not be preinstalled on your VAIO computer.

Supplied manuals

The following manuals are supplied with your VAIO computer.

On-screen documentation

- User Guide - Introduction Version [\[Details\]](#)
A preinstalled manual with limited information of your VAIO computer, focused on support and Internet connection. The User Guide - Introduction Version is replaced with a complete version of the User Guide (this manual), after update.
- User Guide (this manual)
General information and operation instructions about your VAIO computer including support and troubleshooting information

Printed documentation

- Quick Start Guide
An overview of how to set up and get started with your VAIO computer
- Recovery, Backup and Troubleshooting Guide
Information on how to recover and back up your VAIO computer, as well as troubleshooting information
- Safety Regulations
Read carefully before activating the wireless functions such as the wireless LAN and BLUETOOTH technology.

Other references

- Windows Help and Support [\[Details\]](#)
A comprehensive resource for practical advice, tutorials, and demonstrations to help you learn to use your VAIO computer.
- App help files
App help files may be included with the preinstalled apps on your VAIO computer. You may be able to access the help files from the help menu.

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- Sony Corporation is not liable and will not compensate for any lost recordings made to your VAIO computer, external recording media, or recording devices or any relevant losses, including when recordings are not made due to reasons including the computer failure, or when the contents of a recording are lost or damaged as a result of the computer failure or repair undertaken to the computer. Sony Corporation will not restore, recover, or replicate the recorded contents made to the computer, external recording media, or recording devices under any circumstances.
- Features and specifications are subject to change without notice.

Related Topic

[About Online Support Website](#)

[▶ Troubleshooting](#)**How to Use****Windows 8: The Basics**

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Apps[Closing Apps](#)

You can close currently running apps by following the instruction below.

[Installing Apps from Windows Store](#)

You can install apps from Windows Store.

[Opening the App Menu](#)

Many apps have app menus that you can use to control your app. Follow the instructions below to open the app menu.

[Searching/Starting Apps, Settings, or Files](#)

You can search apps, files, or settings on the charms, and then start your desired apps, files, or settings.

[Switching Apps](#)

You can switch between apps that are currently running.

[Switching User Accounts](#)

You can switch to another user account by following these steps.

[Viewing Running Apps](#)

You can view running apps by displaying the list on the Start screen. [Details]

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Help and Support

[Opening Windows Help and Support](#)

You can open Windows Help and Support by following these steps.

[> Troubleshooting](#)**How to Use****Windows 8: The Basics**

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Menu[About the Start Screen and Menu](#)

You can add shortcuts to apps, the desktop, and websites that you use the most.

[Opening Control Panel](#)

You can open Control Panel by following these steps.

[Opening the Charms](#)

You can open the charms to search for apps and files, share content, play content on other devices or print, and set up your VAIO computer.

[Opening the Desktop](#)

You can access the desktop from a tile, just like an app. Open the desktop by following the instruction below.

[▶ Troubleshooting](#)**How to Use****Windows 8: The Basics**[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Store**[Installing Apps from Windows Store](#)

You can install apps from Windows Store.

[Switching User Accounts](#)

You can switch to another user account by following these steps.

[▶ Troubleshooting](#)**How to Use****Windows 8: The Basics**

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Display[About the Start Screen and Menu](#)

You can add shortcuts to apps, the desktop, and websites that you use the most.

[Opening the Desktop](#)

You can access the desktop from a tile, just like an app. Open the desktop by following the instruction below.

You might be looking for the following topics:

[Changing the LCD Brightness](#)[Changing the Resolution \(Size\) of the Screen Image](#)[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)[Connecting a TV with an HDMI Input Port](#)[Connecting an External Display or Projector](#)[Notes on the LCD screen](#)[Selecting Display Modes](#)[Using the Multiple Monitors Function](#)

[▶ Troubleshooting](#)**How to Use****Windows 8: The Basics**[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Internet****[Installing Apps from Windows Store](#)**

You can install apps from Windows Store.

You might be looking for the following topics:

[About a Security Key for Wi-Fi\(R\) \(Wireless LAN\)](#)[About the Internet Connection Services](#)[About the Network \(LAN\)](#)[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)[Connecting to the Internet with a Wired Connection](#)[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)[Launching the Web Browser \(WEB Button\)<WEB Button equipped models>](#)[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)[Using the Antivirus App for Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Power

[Entering Sleep Mode, Shutting Down, or Restarting](#)

You can place your VAIO computer into Sleep mode or shut down/restart the computer by following these steps.

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Charging the Battery Pack](#)[Connecting a Power Source](#)[Installing/Removing the Battery Pack](#)[Notes on Sleep Mode](#)[Notes on Using the Power Source](#)[Restarting Your VAIO Computer](#)[Selecting a Power Plan](#)[Shutting Down Your VAIO Computer](#)[Turning on Your VAIO Computer](#)[Using Sleep Mode](#)

[▶ Troubleshooting](#)**How to Use****Windows 8: The Basics**[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Windows**[Opening Windows Help and Support](#)

You can open Windows Help and Support by following these steps.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

VAIO computer

[Parts and Controls on the Bottom](#)

Describes the features on the bottom of the VAIO computer.

[Parts and Controls on the Front](#)

Describes the features on the front of the VAIO computer, such as buttons and indicator lights.

[Parts and Controls on the Sides](#)

Describes the features on the sides of the VAIO computer, such as connection ports.

You might be looking for the following topics:

[About the ASSIST Button](#)[Adding and Removing Memory Modules](#)[Booting Your VAIO Computer from External Devices](#)[Checking Supplied Items](#)[Customizing Your VAIO Computer](#)[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)[Notes on Adding and Removing Memory Modules](#)[Setting Up an Appropriate Work Environment](#)[Updating Your VAIO Computer](#)[Using VAIO Update](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Battery

[Charging the Battery Pack](#)

The battery pack can be charged even while you are using your VAIO computer when the computer is connected to a power source.

[Installing/Removing the Battery Pack](#)

Install the battery pack into the battery compartment on the bottom of your VAIO computer.

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Checking the Battery Charge Capacity](#)[Extending the Battery Life](#)[Notes on Using the Battery Pack](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Power

[Charging the Battery Pack](#)

The battery pack can be charged even while you are using your VAIO computer when the computer is connected to a power source.

[Connecting a Power Source](#)

Connect your VAIO computer to an AC power source. Carefully read the precautions in [Notes on Using the Power Source](#) before connection. [Details]

[Installing/Removing the Battery Pack](#)

Install the battery pack into the battery compartment on the bottom of your VAIO computer.

[Shutting Down Your VAIO Computer](#)

Shut down your VAIO computer properly to avoid losing unsaved data.

[Turning on Your VAIO Computer](#)

Turn on your VAIO computer to start Windows. Carefully read the precautions in [Notes on Using the Power Source](#) before turning on. [Details]

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Entering Sleep Mode, Shutting Down, or Restarting](#)[Notes on Sleep Mode](#)[Notes on Using the Power Source](#)[Restarting Your VAIO Computer](#)[Selecting a Power Plan](#)[Using Sleep Mode](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

VAIO computer

[Adding and Removing Memory Modules](#)

If you want to increase your computer's speed or improve performance when running programs simultaneously, increase the amount of memory by installing optional memory modules.

[Checking Supplied Items](#)

Check all items packed with the product before use.

[Notes on Adding and Removing Memory Modules](#)

Before adding or removing memory modules, read the following precautions thoroughly.

[Setting Up an Appropriate Work Environment](#)

This topic describes where to or not to place your VAIO computer and ergonomic instructions.

You might be looking for the following topics:

[About the ASSIST Button](#)[Booting Your VAIO Computer from External Devices](#)[Customizing Your VAIO Computer](#)[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)[Parts and Controls on the Bottom](#)[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)[Updating Your VAIO Computer](#)[Using VAIO Update](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Memory module

[Adding and Removing Memory Modules](#)

If you want to increase your computer's speed or improve performance when running programs simultaneously, increase the amount of memory by installing optional memory modules.

[Notes on Adding and Removing Memory Modules](#)

Before adding or removing memory modules, read the following precautions thoroughly.

You might be looking for the following topics:

[Viewing the System Information](#)



[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Supplied items

[Checking Supplied Items](#)

Check all items packed with the product before use.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Apps

[Installing Apps from Windows Store](#)

You can install apps from Windows Store.

You might be looking for the following topics:

[Closing Apps](#)[Opening the App Menu](#)[Searching/Starting Apps, Settings, or Files](#)[Switching Apps](#)[Switching User Accounts](#)[Viewing Running Apps](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

LAN

[About the Internet Connection Services](#)

The following types of Internet connection services are available.

[About the Network \(LAN\)](#)

The network (LAN) enables you to connect your VAIO computer to the Internet and transfer data between the computer and other devices.

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

Wi-Fi allows your VAIO computer to connect to a network through a wireless connection.

[Connecting to the Internet with a Wired Connection](#)

Before using the Internet, you need to sign up with an Internet Service Provider (ISP) and set up devices required for connecting your VAIO computer to the Internet.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Wi-Fi

[About a Security Key for Wi-Fi\(R\) \(Wireless LAN\)](#)

A security key is a security protocol for a wireless LAN that encrypts data transmitted on the wireless LAN.

[About the Internet Connection Services](#)

The following types of Internet connection services are available.

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

Wi-Fi allows your VAIO computer to connect to a network through a wireless connection.

[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

You can disable the Wi-Fi function by following these steps.

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

Before using the Wi-Fi function, read the following precautions for correct use.

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can establish Wi-Fi communications between your VAIO computer and an access point (not supplied).

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can stop Wi-Fi communications by following these steps.

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Internet

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[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

You can disable the Wi-Fi function by following these steps.

[Installing Apps from Windows Store](#)

You can install apps from Windows Store.

[Launching the Web Browser \(WEB Button\)<WEB Button equipped models>](#)

By pressing the WEB button, you can launch the default web browser.

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

Before using the Wi-Fi function, read the following precautions for correct use.

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can establish Wi-Fi communications between your VAIO computer and an access point (not supplied).

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can stop Wi-Fi communications by following these steps.

[Using the Antivirus App for Your VAIO Computer](#)

Protect your VAIO computer against computer viruses by using the antivirus app.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)[Network / Internet](#)[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Store

[Installing Apps from Windows Store](#)

You can install apps from Windows Store.

You might be looking for the following topics:

[Switching User Accounts](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Audio

[Changing the Sound Output Device](#)

If there is no sound coming from an external device connected to your VAIO computer, you need to change the device for sound output.

[Connecting External Speakers or Headphones](#)

You can connect external sound output devices (such as speakers or headphones) to your VAIO computer.

[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

[Connecting an External Microphone<Microphone jack equipped models>](#)

You can connect an external microphone to your VAIO computer and enjoy voice chat, etc.

You might be looking for the following topics:

[Adjusting the Microphone Volume](#)[Adjusting the Speakers Volume](#)[Adjusting the Volume in Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Battery

[Installing/Removing the Battery Pack](#)

Install the battery pack into the battery compartment on the bottom of your VAIO computer.

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Charging the Battery Pack](#)[Checking the Battery Charge Capacity](#)[Extending the Battery Life](#)[Notes on Using the Battery Pack](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Display**[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)

You can change the screen resolution or size of your VAIO computer's screen image displayed on an external display, such as a TV, connected to the computer with an HDMI cable (not supplied).

[Connecting a TV with an HDMI Input Port](#)

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

[Connecting an External Display or Projector](#)

You can connect an external display (such as a computer display or a projector) to your VAIO computer with a display cable (not supplied).

[Notes on the LCD screen](#)

Read the following precautions for correct use of the LCD screen.

[Selecting Display Modes](#)

You can switch the display output between the computer screen and an external display connected to your VAIO computer.

[Using the Multiple Monitors Function](#)

The Multiple Monitors function allows you to distribute portions of your desktop across separate displays.

You might be looking for the following topics:

[About the Start Screen and Menu](#)[Changing the LCD Brightness](#)[Changing the Resolution \(Size\) of the Screen Image](#)[Opening the Desktop](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Headphones

Connecting External Speakers or Headphones

You can connect external sound output devices (such as speakers or headphones) to your VAIO computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

LAN

[About the Internet Connection Services](#)

The following types of Internet connection services are available.

[About the Network \(LAN\)](#)

The network (LAN) enables you to connect your VAIO computer to the Internet and transfer data between the computer and other devices.

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

Wi-Fi allows your VAIO computer to connect to a network through a wireless connection.

[Connecting to the Internet with a Wired Connection](#)

Before using the Internet, you need to sign up with an Internet Service Provider (ISP) and set up devices required for connecting your VAIO computer to the Internet.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Optical digital output

[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Power

[Connecting a Power Source](#)

Connect your VAIO computer to an AC power source. Carefully read the precautions in [Notes on Using the Power Source](#) before connection. [\[Details\]](#)

[Installing/Removing the Battery Pack](#)

Install the battery pack into the battery compartment on the bottom of your VAIO computer.

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Charging the Battery Pack](#)[Entering Sleep Mode, Shutting Down, or Restarting](#)[Notes on Sleep Mode](#)[Notes on Using the Power Source](#)[Restarting Your VAIO Computer](#)[Selecting a Power Plan](#)[Shutting Down Your VAIO Computer](#)[Turning on Your VAIO Computer](#)[Using Sleep Mode](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

USB

Charging a USB Device

You can charge a USB device even while your VAIO computer is off, in Hibernate mode, or Sleep mode by enabling the USB charging settings.

Connecting a USB Device

You can connect a Universal Serial Bus (USB) device such as a mouse, floppy disk drive, speaker or printer to your VAIO computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

BLUETOOTH

[About BLUETOOTH\(R\) Security](#)

The BLUETOOTH wireless technology has an authentication function, which allows you to control communication with other devices.

[About the BLUETOOTH\(R\) Function](#)

You can establish wireless communications between your VAIO computer and other BLUETOOTH devices, such as another computer, a smartphone, a mobile phone, a headset, or a mouse.

[Communicating with Another BLUETOOTH\(R\) Device such as a Mouse](#)

You can connect BLUETOOTH devices to your VAIO computer.

[Notes on Using the BLUETOOTH\(R\) Function](#)

Before using the BLUETOOTH function, read the following precautions for correct use.

[Stopping BLUETOOTH\(R\) Communications](#)

You can stop BLUETOOTH communications by following these steps.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

CD/DVD/BD

Connecting an External Drive

Connect an external disc drive or hard disk drive to a USB port on your VAIO computer.

You might be looking for the following topics:

[About Region Codes<Optical disc drive equipped models>](#)

[Booting Your VAIO Computer from External Devices](#)

[Handling Discs<Optical disc drive equipped models>](#)

[Inserting/Removing a Disc<Optical disc drive equipped models>](#)

[Notes on Using Discs<Optical disc drive equipped models>](#)

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[Supported Discs<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

HDMI

[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)

You can change the screen resolution or size of your VAIO computer's screen image displayed on an external display, such as a TV, connected to the computer with an HDMI cable (not supplied).

[Connecting a TV with an HDMI Input Port](#)

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

You might be looking for the following topics:

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Internet**[About a Security Key for Wi-Fi\(R\) \(Wireless LAN\)](#)

A security key is a security protocol for a wireless LAN that encrypts data transmitted on the wireless LAN.

[About the Internet Connection Services](#)

The following types of Internet connection services are available.

[About the Network \(LAN\)](#)

The network (LAN) enables you to connect your VAIO computer to the Internet and transfer data between the computer and other devices.

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

Wi-Fi allows your VAIO computer to connect to a network through a wireless connection.

[Connecting to the Internet with a Wired Connection](#)

Before using the Internet, you need to sign up with an Internet Service Provider (ISP) and set up devices required for connecting your VAIO computer to the Internet.

[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

You can disable the Wi-Fi function by following these steps.

[Launching the Web Browser \(WEB Button\)<WEB Button equipped models>](#)

By pressing the WEB button, you can launch the default web browser.

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

Before using the Wi-Fi function, read the following precautions for correct use.

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can establish Wi-Fi communications between your VAIO computer and an access point (not supplied).

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can stop Wi-Fi communications by following these steps.

[Using the Antivirus App for Your VAIO Computer](#)

Protect your VAIO computer against computer viruses by using the antivirus app.

You might be looking for the following topics:

[Installing Apps from Windows Store](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Microphone

[Connecting an External Microphone<Microphone jack equipped models>](#)

You can connect an external microphone to your VAIO computer and enjoy voice chat, etc.

You might be looking for the following topics:

[Adjusting the Microphone Volume](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Peripheral device

[Changing the Sound Output Device](#)

If there is no sound coming from an external device connected to your VAIO computer, you need to change the device for sound output.

[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

[Connecting a TV with an HDMI Input Port](#)

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

[Connecting an External Display or Projector](#)

You can connect an external display (such as a computer display or a projector) to your VAIO computer with a display cable (not supplied).

[Connecting an External Microphone<Microphone jack equipped models>](#)

You can connect an external microphone to your VAIO computer and enjoy voice chat, etc.

[Notes on the LCD screen](#)

Read the following precautions for correct use of the LCD screen.

[Selecting Display Modes](#)

You can switch the display output between the computer screen and an external display connected to your VAIO computer.

[Using the Multiple Monitors Function](#)

The Multiple Monitors function allows you to distribute portions of your desktop across separate displays.

You might be looking for the following topics:

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Speakers

[Connecting External Speakers or Headphones](#)

You can connect external sound output devices (such as speakers or headphones) to your VAIO computer.

You might be looking for the following topics:

[Adjusting the Speakers Volume](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Wi-Fi

[About a Security Key for Wi-Fi\(R\) \(Wireless LAN\)](#)

A security key is a security protocol for a wireless LAN that encrypts data transmitted on the wireless LAN.

[About the Internet Connection Services](#)

The following types of Internet connection services are available.

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

Wi-Fi allows your VAIO computer to connect to a network through a wireless connection.

[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

You can disable the Wi-Fi function by following these steps.

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

Before using the Wi-Fi function, read the following precautions for correct use.

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can establish Wi-Fi communications between your VAIO computer and an access point (not supplied).

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

You can stop Wi-Fi communications by following these steps.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Audio

[Adjusting the Microphone Volume](#)

You can adjust the volume level of the microphone.

[Adjusting the Speakers Volume](#)

You can change the volume level of the speakers and headphones.

[Adjusting the Volume in Windows](#)

You can adjust the volume on each device and app from Control Panel.

[Changing the Sound Output Device](#)

If there is no sound coming from an external device connected to your VAIO computer, you need to change the device for sound output.

[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

You might be looking for the following topics:

[Connecting External Speakers or Headphones](#)

[Connecting an External Microphone<Microphone jack equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Battery

[Notes on Using the Battery Pack](#)

Before using the battery pack, read the following precautions for correct use.

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Charging the Battery Pack](#)[Checking the Battery Charge Capacity](#)[Extending the Battery Life](#)[Installing/Removing the Battery Pack](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

CD/DVD/BD

[Booting Your VAIO Computer from External Devices](#)

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

You might be looking for the following topics:

[About Region Codes<Optical disc drive equipped models>](#)

[Connecting an External Drive](#)

[Handling Discs<Optical disc drive equipped models>](#)

[Inserting/Removing a Disc<Optical disc drive equipped models>](#)

[Notes on Using Discs<Optical disc drive equipped models>](#)

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[Supported Discs<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Display**[Changing the LCD Brightness](#)

You can adjust the LCD brightness.

[Changing the Resolution \(Size\) of the Screen Image](#)

You can change the screen resolution to adjust the size of the characters and images on the computer screen.

[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)

You can change the screen resolution or size of your VAIO computer's screen image displayed on an external display, such as a TV, connected to the computer with an HDMI cable (not supplied).

[Connecting a TV with an HDMI Input Port](#)

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

[Connecting an External Display or Projector](#)

You can connect an external display (such as a computer display or a projector) to your VAIO computer with a display cable (not supplied).

[Notes on the LCD screen](#)

Read the following precautions for correct use of the LCD screen.

[Selecting Display Modes](#)

You can switch the display output between the computer screen and an external display connected to your VAIO computer.

[Using the Multiple Monitors Function](#)

The Multiple Monitors function allows you to distribute portions of your desktop across separate displays.

You might be looking for the following topics:

[About the Start Screen and Menu](#)[Opening the Desktop](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Keyboard

[Changing the Button Assignment \(VAIO Button\)](#)

You can change the current task assigned to the VAIO button. [\[Details\]](#)

[Changing the Keyboard Backlight Settings<Keyboard backlight equipped models>](#)

You can turn on and off the keyboard backlight by changing the keyboard backlight settings.

You might be looking for the following topics:

[Combinations and Functions with the Fn Key](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Menu

[Opening Control Panel](#)

You can open Control Panel by following these steps.

You might be looking for the following topics:

[About the Start Screen and Menu](#)[Opening the Charms](#)[Opening the Desktop](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Optical digital output

[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Peripheral device

[Changing the Sound Output Device](#)

If there is no sound coming from an external device connected to your VAIO computer, you need to change the device for sound output.

[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

[Connecting a TV with an HDMI Input Port](#)

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

[Connecting an External Display or Projector](#)

You can connect an external display (such as a computer display or a projector) to your VAIO computer with a display cable (not supplied).

[Notes on the LCD screen](#)

Read the following precautions for correct use of the LCD screen.

[Selecting Display Modes](#)

You can switch the display output between the computer screen and an external display connected to your VAIO computer.

[Using the Multiple Monitors Function](#)

The Multiple Monitors function allows you to distribute portions of your desktop across separate displays.

You might be looking for the following topics:

[Connecting an External Microphone<Microphone jack equipped models>](#)

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Recovery

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

You might be looking for the following topics:

[About Recovery](#)[Checking the Volume of the Recovery Area](#)[Creating Recovery Media](#)[Notes on Recovery](#)[Recovering from Recovery Media](#)[Recovering from the Recovery Area](#)[Refreshing Your VAIO Computer](#)[Removing Recovery Content to Free up Disk Space](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Service and support

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

[Updating Your VAIO Computer](#)

Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

[Using VAIO Update](#)

VAIO Update provides a service that informs you of available update information, such as important notices or update programs, to keep your VAIO computer up to date.

You might be looking for the following topics:

[About Online Support Website](#)[Solving Common Problems with Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Touch pad

[Disabling the Tapping Function on the Touch Pad](#)

You can disable the tapping function to avoid unintentional clicks caused by a light touch on the touch pad during the keyboard operations.

[Enabling/Disabling the Gesture Function](#)

You can enable/disable the gesture function of the touch pad on your VAIO computer.

[Enabling/Disabling the Touch Pad](#)

You can enable/disable the touch pad on your VAIO computer.

[Using the Touch Pad](#)

By sliding your finger on the touch pad, you can move the pointer on the computer screen.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

BIOS

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

[Booting Your VAIO Computer from External Devices](#)

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

[Removing the Power-on Password](#)

If power-on password input for booting up your VAIO computer is no longer necessary, follow these steps to remove the machine password and user password.

[Setting/Changing the Power-on Password](#)

You can set a password (power-on password) for booting up your VAIO computer, using the BIOS function. Entry of the power-on password will be prompted after the VAIO logo appears to start the computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Button

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

[Changing the Button Assignment \(VAIO Button\)](#)

You can change the current task assigned to the VAIO button. [\[Details\]](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Camera

[Using the Built-in Camera<Built-in camera equipped models>](#)

You can make a video call through the Internet using the built-in camera and communication apps.

You might be looking for the following topics:

[Notes on the Built-in Camera<Built-in camera equipped models>](#)

[▶ Troubleshooting](#)**How to Use**

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

HDMI[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)

You can change the screen resolution or size of your VAIO computer's screen image displayed on an external display, such as a TV, connected to the computer with an HDMI cable (not supplied).

[Connecting a TV with an HDMI Input Port](#)

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

You might be looking for the following topics:

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Memory module

[Viewing the System Information](#)

You can view the system information of your VAIO computer.

You might be looking for the following topics:

[Adding and Removing Memory Modules](#)[Notes on Adding and Removing Memory Modules](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Microphone

[Adjusting the Microphone Volume](#)

You can adjust the volume level of the microphone.

You might be looking for the following topics:

[Connecting an External Microphone<Microphone jack equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Password

[Creating/Changing/Removing Your Windows Password](#)

Setting a Windows password allows you to protect your VAIO computer from unauthorized access by requiring password entry when the computer is turned on or returns from power saving mode to Normal mode.

[Removing the Power-on Password](#)

If power-on password input for booting up your VAIO computer is no longer necessary, follow these steps to remove the machine password and user password.

[Setting/Changing the Power-on Password](#)

You can set a password (power-on password) for booting up your VAIO computer, using the BIOS function. Entry of the power-on password will be prompted after the VAIO logo appears to start the computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Power

[Notes on Sleep Mode](#)

Read the following precautions before using Sleep mode.

[Notes on Using the Power Source](#)

Read the following precautions before plugging your VAIO computer into an AC power source.

[Selecting a Power Plan](#)

Power management helps you set up power plans to suit your requirements for power consumption.

[Using Sleep Mode](#)

In Sleep mode, all unnecessary devices of your VAIO computer are turned off, though some devices stay on to retain the computer's state including data you are working on. Sleep mode is useful when you take a short rest, for example.

You might be looking for the following topics:

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)[Charge Indicator Status List](#)[Charging the Battery Pack](#)[Connecting a Power Source](#)[Entering Sleep Mode, Shutting Down, or Restarting](#)[Installing/Removing the Battery Pack](#)[Restarting Your VAIO Computer](#)[Shutting Down Your VAIO Computer](#)[Turning on Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Security

[Updating Your VAIO Computer](#)

Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Speakers

[Adjusting the Speakers Volume](#)

You can change the volume level of the speakers and headphones.

You might be looking for the following topics:

[Connecting External Speakers or Headphones](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

VAIO computer

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

[Booting Your VAIO Computer from External Devices](#)

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

[Customizing Your VAIO Computer](#)

VAIO Control Center allows you to access system information and to change settings of various kinds of functions such as display and sounds.

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

[Updating Your VAIO Computer](#)

Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

[Using VAIO Update](#)

VAIO Update provides a service that informs you of available update information, such as important notices or update programs, to keep your VAIO computer up to date.

[Viewing the System Information](#)

You can view the system information of your VAIO computer.

You might be looking for the following topics:

[Adding and Removing Memory Modules](#)[Checking Supplied Items](#)[Notes on Adding and Removing Memory Modules](#)[Parts and Controls on the Bottom](#)[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)[Setting Up an Appropriate Work Environment](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

CD/DVD/BD

[About Region Codes<Optical disc drive equipped models>](#)

The following is a list of DVD region codes indicating playable regions of DVD media.

[Inserting/Removing a Disc<Optical disc drive equipped models>](#)

Insert/remove a disc to/from your VAIO computer that is turned on.

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

If your VAIO computer or a docking station (supplied or optional) is equipped with the Blu-ray Disc Drive and the 3D graphics controller, you can play Blu-ray 3D Disc media and view 3D images on a 3D-capable display, such as a 3D TV, by connecting the display to the computer or the docking station.

[Supported Discs<Optical disc drive equipped models>](#)

This topic explains media types that are playable/recordable on your VAIO computer.

You might be looking for the following topics:

[Booting Your VAIO Computer from External Devices](#)[Connecting an External Drive](#)[Handling Discs<Optical disc drive equipped models>](#)[Notes on Using Discs<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Peripheral device

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

If your VAIO computer or a docking station (supplied or optional) is equipped with the Blu-ray Disc Drive and the 3D graphics controller, you can play Blu-ray 3D Disc media and view 3D images on a 3D-capable display, such as a 3D TV, by connecting the display to the computer or the docking station.

You might be looking for the following topics:

[Changing the Sound Output Device](#)[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)[Connecting a TV with an HDMI Input Port](#)[Connecting an External Display or Projector](#)[Connecting an External Microphone<Microphone jack equipped models>](#)[Notes on the LCD screen](#)[Selecting Display Modes](#)[Using the Multiple Monitors Function](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

HDMI

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

If your VAIO computer or a docking station (supplied or optional) is equipped with the Blu-ray Disc Drive and the 3D graphics controller, you can play Blu-ray 3D Disc media and view 3D images on a 3D-capable display, such as a 3D TV, by connecting the display to the computer or the docking station.

You might be looking for the following topics:

[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)

[Connecting a TV with an HDMI Input Port](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

BIOS

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

[Booting Your VAIO Computer from External Devices](#)

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

You might be looking for the following topics:

[Removing the Power-on Password](#)[Setting/Changing the Power-on Password](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Built-in storage device

[Checking the Volume of the Recovery Area](#)

Your built-in storage device contains the recovery area where the data for the system recovery is stored.

[Creating Other Drives \(Modifying Partitions\)](#)

Partitions are divided areas on your built-in storage device. Dividing the built-in storage device into more than one partition may have various advantages, such as separating the system files from your data files.

[Creating Partitions](#)

This topic describes how to create partitions.

[Removing Recovery Content to Free up Disk Space](#)

Your built-in storage device contains the recovery area where the data for system recovery is stored. If your VAIO computer includes a solid state drive (SSD), you might want to minimize the recovery area by removing such data to free up disk space on the C: drive (or the last drive in your drive list, for example D: drive).

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

CD/DVD/BD

[Booting Your VAIO Computer from External Devices](#)

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

You might be looking for the following topics:

[About Region Codes<Optical disc drive equipped models>](#)

[Connecting an External Drive](#)

[Handling Discs<Optical disc drive equipped models>](#)

[Inserting/Removing a Disc<Optical disc drive equipped models>](#)

[Notes on Using Discs<Optical disc drive equipped models>](#)

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[Supported Discs<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Recovery

About Recovery

Recovery is the process of restoring the built-in storage device back to its original factory condition. Refresh is the process of reinstalling the operating system with the main settings and personal data retained.

About the ASSIST Button

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

Checking the Volume of the Recovery Area

Your built-in storage device contains the recovery area where the data for the system recovery is stored.

Creating Recovery Media

Follow the instructions below to create Recovery Media.

Notes on Recovery

Read the following notes thoroughly before recovering your VAIO computer.

Recovering from Recovery Media

If the recovery area data has been corrupted or erased, you can use Recovery Media to recover your VAIO computer. However, recovering the computer using the Recovery Media will take longer than using the recovery area.

Recovering from the Recovery Area

You can recover your VAIO computer from the recovery area on the built-in storage device. This recovery method is faster than using Recovery Media.

Refreshing Your VAIO Computer

If your VAIO computer has become unstable, it is recommended that you use the refresh function provided by Windows. Refresh the computer by following these steps.

Removing Recovery Content to Free up Disk Space

Your built-in storage device contains the recovery area where the data for system recovery is stored. If your VAIO computer includes a solid state drive (SSD), you might want to minimize the recovery area by removing such data to free up disk space on the C: drive (or the last drive in your drive list, for example D: drive).

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Service and support

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

You might be looking for the following topics:

[About Online Support Website](#)[Solving Common Problems with Your VAIO Computer](#)[Updating Your VAIO Computer](#)[Using VAIO Update](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Backup

[About Backup](#)

The backup process creates a backup copy of your data stored on the built-in storage device and saves it to another location.

[About Types of Backup](#)

You can use the Windows Backup and Restore feature to back up your valuable data.

[Backing Up Your Data when You cannot Start Windows](#)

If you cannot start Windows, back up your data with VAIO Care (Rescue Mode) : Recover or maintain your system.

[Creating a Restore Point](#)

A restore point enables you to restore your computer system files to a previous state, depending on when the restore point was created.

[Restoring System Files Using the Restore Point when You cannot Start Windows](#)

When you cannot start Windows, follow these steps to restore computer system files.

[Restoring Your Data with VAIO Data Restore Tool](#)

You can use VAIO Data Restore Tool to restore files previously backed up using VAIO Care (Rescue Mode) : Recover or maintain your system.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Button

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

You might be looking for the following topics:

[Changing the Button Assignment \(VAIO Button\)](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Partition

[Creating Other Drives \(Modifying Partitions\)](#)

Partitions are divided areas on your built-in storage device. Dividing the built-in storage device into more than one partition may have various advantages, such as separating the system files from your data files.

[Creating Partitions](#)

This topic describes how to create partitions.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Refresh

About Recovery

Recovery is the process of restoring the built-in storage device back to its original factory condition. Refresh is the process of reinstalling the operating system with the main settings and personal data retained.

Refreshing Your VAIO Computer

If your VAIO computer has become unstable, it is recommended that you use the refresh function provided by Windows. Refresh the computer by following these steps.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

VAIO computer

[About the ASSIST Button](#)

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

[Booting Your VAIO Computer from External Devices](#)

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

You might be looking for the following topics:

[Adding and Removing Memory Modules](#)[Checking Supplied Items](#)[Customizing Your VAIO Computer](#)[Notes on Adding and Removing Memory Modules](#)[Parts and Controls on the Bottom](#)[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)[Setting Up an Appropriate Work Environment](#)[Updating Your VAIO Computer](#)[Using VAIO Update](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

BIOS

[Removing the Power-on Password](#)

If power-on password input for booting up your VAIO computer is no longer necessary, follow these steps to remove the machine password and user password.

[Setting/Changing the Power-on Password](#)

You can set a password (power-on password) for booting up your VAIO computer, using the BIOS function. Entry of the power-on password will be prompted after the VAIO logo appears to start the computer.

You might be looking for the following topics:

[About the ASSIST Button](#)

[Booting Your VAIO Computer from External Devices](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Password

[Creating/Changing/Removing Your Windows Password](#)

Setting a Windows password allows you to protect your VAIO computer from unauthorized access by requiring password entry when the computer is turned on or returns from power saving mode to Normal mode.

[Removing the Power-on Password](#)

If power-on password input for booting up your VAIO computer is no longer necessary, follow these steps to remove the machine password and user password.

[Setting/Changing the Power-on Password](#)

You can set a password (power-on password) for booting up your VAIO computer, using the BIOS function. Entry of the power-on password will be prompted after the VAIO logo appears to start the computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

VAIO computer

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

[Using VAIO Update](#)

VAIO Update provides a service that informs you of available update information, such as important notices or update programs, to keep your VAIO computer up to date.

You might be looking for the following topics:

[About the ASSIST Button](#)[Adding and Removing Memory Modules](#)[Booting Your VAIO Computer from External Devices](#)[Checking Supplied Items](#)[Customizing Your VAIO Computer](#)[Notes on Adding and Removing Memory Modules](#)[Parts and Controls on the Bottom](#)[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)[Setting Up an Appropriate Work Environment](#)[Updating Your VAIO Computer](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Internet

[Launching the Web Browser \(WEB Button\)<WEB Button equipped models>](#)

By pressing the WEB button, you can launch the default web browser.

[Using the Antivirus App for Your VAIO Computer](#)

Protect your VAIO computer against computer viruses by using the antivirus app.

You might be looking for the following topics:

[About a Security Key for Wi-Fi\(R\) \(Wireless LAN\)](#)[About the Internet Connection Services](#)[About the Network \(LAN\)](#)[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)[Connecting to the Internet with a Wired Connection](#)[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)[Installing Apps from Windows Store](#)[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Service and support

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

[Using VAIO Update](#)

VAIO Update provides a service that informs you of available update information, such as important notices or update programs, to keep your VAIO computer up to date.

You might be looking for the following topics:

[About Online Support Website](#)[Solving Common Problems with Your VAIO Computer](#)[Updating Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Battery

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)

You can change the Rapid Wake settings in VAIO Control Center.

[Charge Indicator Status List](#)

The charge indicator light turns on or blinks differently according to conditions.

[Charging the Battery Pack](#)

The battery pack can be charged even while you are using your VAIO computer when the computer is connected to a power source.

[Checking the Battery Charge Capacity](#)

The battery pack is consumable. The capacity gradually declines through repeated cycles of recharging and discharging. As a result, the battery life becomes short even if it is fully charged and eventually the battery pack reaches the end of its life.

[Extending the Battery Life](#)

When your VAIO computer is running on battery power, you can extend the battery life using the following methods.

You might be looking for the following topics:

[Installing/Removing the Battery Pack](#)

[Notes on Using the Battery Pack](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

CD/DVD/BD

[Inserting/Removing a Disc<Optical disc drive equipped models>](#)

Insert/remove a disc to/from your VAIO computer that is turned on.

You might be looking for the following topics:

[About Region Codes<Optical disc drive equipped models>](#)

[Booting Your VAIO Computer from External Devices](#)

[Connecting an External Drive](#)

[Handling Discs<Optical disc drive equipped models>](#)

[Notes on Using Discs<Optical disc drive equipped models>](#)

[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[Supported Discs<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Help and Support

[Opening Windows Help and Support](#)

You can open Windows Help and Support by following these steps.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Memory card

About “Memory Stick”

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

Compatible “Memory Stick”

The “Memory Stick” slot on your VAIO computer can accommodate the following sizes and types of media:

Formatting “Memory Stick”

“Memory Stick” is formatted in the specific FAT format by default and is ready for use. Be sure to use the device that is designed to format the media and supports “Memory Stick” when formatting the media.

Inserting/Removing SD Memory Cards

Your VAIO computer is equipped with an SD memory card slot. You can use this slot to transfer data among digital cameras, camcorders, music players, and other audio/video devices.

Inserting/Removing “Memory Stick”

You can use “Memory Stick” to save data or transfer images between a digital camera and your VAIO computer. To insert/remove “Memory Stick”, follow these steps.

Notes on Using SD Memory Cards

Before using SD memory cards, read the following precautions for correct use.

Notes on Using “Memory Stick”

Before using “Memory Stick”, read the following precautions for correct use.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Partition

[Creating Other Drives \(Modifying Partitions\)](#)

Partitions are divided areas on your built-in storage device. Dividing the built-in storage device into more than one partition may have various advantages, such as separating the system files from your data files.

[Creating Partitions](#)

This topic describes how to create partitions.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Touch pad

Using the Touch Pad

By sliding your finger on the touch pad, you can move the pointer on the computer screen.

You might be looking for the following topics:

[Disabling the Tapping Function on the Touch Pad](#)[Enabling/Disabling the Gesture Function](#)[Enabling/Disabling the Touch Pad](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

VAIO computer

[Adding and Removing Memory Modules](#)

If you want to increase your computer's speed or improve performance when running programs simultaneously, increase the amount of memory by installing optional memory modules.

[Notes on Adding and Removing Memory Modules](#)

Before adding or removing memory modules, read the following precautions thoroughly.

You might be looking for the following topics:

[About the ASSIST Button](#)[Booting Your VAIO Computer from External Devices](#)[Checking Supplied Items](#)[Customizing Your VAIO Computer](#)[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)[Parts and Controls on the Bottom](#)[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)[Setting Up an Appropriate Work Environment](#)[Updating Your VAIO Computer](#)[Using VAIO Update](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Built-in storage device

[Creating Other Drives \(Modifying Partitions\)](#)

Partitions are divided areas on your built-in storage device. Dividing the built-in storage device into more than one partition may have various advantages, such as separating the system files from your data files.

[Creating Partitions](#)

This topic describes how to create partitions.

You might be looking for the following topics:

[Checking the Volume of the Recovery Area](#)

[Removing Recovery Content to Free up Disk Space](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Camera

[Notes on the Built-in Camera<Built-in camera equipped models>](#)[Using the Built-in Camera<Built-in camera equipped models>](#)

You can make a video call through the Internet using the built-in camera and communication apps.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Keyboard

[Combinations and Functions with the Fn Key](#)

Press and hold down the Fn key and another key simultaneously to perform a keyboard shortcut action.

You might be looking for the following topics:

[Changing the Button Assignment \(VAIO Button\)](#)

[Changing the Keyboard Backlight Settings<Keyboard backlight equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Memory module

[Adding and Removing Memory Modules](#)

If you want to increase your computer's speed or improve performance when running programs simultaneously, increase the amount of memory by installing optional memory modules.

[Notes on Adding and Removing Memory Modules](#)

Before adding or removing memory modules, read the following precautions thoroughly.

You might be looking for the following topics:

[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Power

[Changing the Rapid Wake \(Sleep Mode\) Settings](#)

You can change the Rapid Wake settings in VAIO Control Center.

[Charge Indicator Status List](#)

The charge indicator light turns on or blinks differently according to conditions.

[Charging the Battery Pack](#)

The battery pack can be charged even while you are using your VAIO computer when the computer is connected to a power source.

[Restarting Your VAIO Computer](#)

After changing the settings or installing an app on your VAIO computer, you may be required to restart the computer.

[Shutting Down Your VAIO Computer](#)

Shut down your VAIO computer properly to avoid losing unsaved data.

[Turning on Your VAIO Computer](#)

Turn on your VAIO computer to start Windows. Carefully read the precautions in Notes on Using the Power Source before turning on. [Details]

[Using Sleep Mode](#)

In Sleep mode, all unnecessary devices of your VAIO computer are turned off, though some devices stay on to retain the computer's state including data you are working on. Sleep mode is useful when you take a short rest, for example.

You might be looking for the following topics:

[Connecting a Power Source](#)[Entering Sleep Mode, Shutting Down, or Restarting](#)[Installing/Removing the Battery Pack](#)[Notes on Sleep Mode](#)[Notes on Using the Power Source](#)[Selecting a Power Plan](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

USB

Charging a USB Device

You can charge a USB device even while your VAIO computer is off, in Hibernate mode, or Sleep mode by enabling the USB charging settings.

Connecting a USB Device

You can connect a Universal Serial Bus (USB) device such as a mouse, floppy disk drive, speaker or printer to your VAIO computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Windows

[Opening Windows Help and Support](#)

You can open Windows Help and Support by following these steps.

[» Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

CD/DVD/BD

[About Region Codes<Optical disc drive equipped models>](#)

The following is a list of DVD region codes indicating playable regions of DVD media.

[Handling Discs<Optical disc drive equipped models>](#)

Read the following to protect data stored on discs and take proper care of discs.

[Notes on Using Discs<Optical disc drive equipped models>](#)

Observe the following notes when using discs on your VAIO computer.

[Supported Discs<Optical disc drive equipped models>](#)

This topic explains media types that are playable/recordable on your VAIO computer.

You might be looking for the following topics:

[Booting Your VAIO Computer from External Devices](#)[Connecting an External Drive](#)[Inserting/Removing a Disc<Optical disc drive equipped models>](#)[Playing Blu-ray 3D\(TM\) Disc Media on a 3D TV<Blu-ray Disc\(TM\) Drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Important notice

[About the International ENERGY STAR\(R\) Program](#)

The following information is applicable to ENERGY STAR qualified products only.

[About the Software License](#)

This product contains software owned by Sony and licensed by third parties. Use of such software is subject to the terms and conditions of license agreements enclosed with this product.

[Handling the Built-in Storage Device](#)

The built-in storage device (hard disk drive or solid state drive) has a high storage density and reads or writes data in a short time. However, it can be easily damaged if improperly used.

[Safety Information](#)

Refer to the supplied safety manual for detailed safety information.

[Trademarks](#)

[▶ Troubleshooting](#)

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Read this first

[Read This First](#)

Congratulations on your purchase of this VAIO(R) computer.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Service and support

[About Online Support Website](#)

The online support website provides information concerning your VAIO computer, as well as a selection of frequently asked questions.

[Solving Common Problems with Your VAIO Computer](#)

If you have any problem operating your VAIO computer, try these suggestions before contacting an authorized Sony service/support center or your local Sony dealer directly.

[Updating Your VAIO Computer](#)

Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

You might be looking for the following topics:

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

[Using VAIO Update](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

VAIO computer

[Checking Supplied Items](#)

Check all items packed with the product before use.

[Setting Up an Appropriate Work Environment](#)

This topic describes where to or not to place your VAIO computer and ergonomic instructions.

[Updating Your VAIO Computer](#)

Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

You might be looking for the following topics:

[About the ASSIST Button](#)[Adding and Removing Memory Modules](#)[Booting Your VAIO Computer from External Devices](#)[Customizing Your VAIO Computer](#)[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)[Notes on Adding and Removing Memory Modules](#)[Parts and Controls on the Bottom](#)[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)[Using VAIO Update](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Care and maintenance

[Cleaning Your VAIO computer/LCD screen](#)

Before cleaning your VAIO computer, read the following precautions for the correct cleaning procedure.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Product registration

[About Online Support Website](#)

The online support website provides information concerning your VAIO computer, as well as a selection of frequently asked questions.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Security

Updating Your VAIO Computer

Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Supplied items

Checking Supplied Items

Check all items packed with the product before use.



[> How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Hardware

Audio

BLUETOOTH

CD/DVD/BD

Computer

HDMI

LAN

Microphone

Power

Touch pad

Wi-Fi

BIOS

Battery

Camera

Display

Keyboard

Memory card

Password

Software

USB

[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Apps

[Display](#)

[Software](#)



[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Network / Internet

[BLUETOOTH](#)

[LAN](#)

[Wi-Fi](#)



[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Backup / Recovery

[Recovery](#)

[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Security

[BIOS](#)

[Password](#)



[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Peripheral Devices

[Printer](#)

[USB](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About Online Support Website

The online support website provides information concerning your VAIO computer, as well as a selection of frequently asked questions.

Sony online support website

- USA
<http://esupport.sony.com/US/VAIO>
- Canada
<http://www.sony.ca/support/> (English)
<http://fr.sony.ca/support/> (French)
- Spanish-speaking Latin American countries or areas
<http://esupport.sony.com/LA/VAIO>
- Brazil
<http://esupport.sony.com/BR/VAIO>

Hint

- If you experience any problem or have a technical question about your VAIO computer, launch VAIO Care first, which offers you various options to help you solve the problem.[\[Details\]](#)
- When you contact VAIO support, you may be asked for the serial number and the model number of your VAIO computer. The serial number is a 15-digit number that can be found:
 - in the VAIO Care window;
 - on the bottom, on the back panel of the computer, inside the back panel or inside the battery compartment;
 - on the original VAIO box.

The model number is located at the lower right corner of the display on the VAIO computer.

Other websites

You can also find useful information at the following Web sites.

Sony products

<http://www.sony.net/>
<http://www.sony.net/electronics/>

Operating system online support website

For Microsoft Windows operating system support, visit the Microsoft customer support site.
<http://support.microsoft.com/>

In Store Service & Support (available in USA only)

Make an appointment with a Sony certified technician at a U.S. Sony Store and get personalized service and support for your VAIO computer. Sony Technicians can assist with the setup of your new VAIO computer, system optimization, data rescue, and any repair service you might need.

<http://www.sony.com/store/>

Environmental sustainability

For Sony's environmental initiatives and recycling of your products, visit our sustainability site.

<http://www.sony.com/green>

Hint

- You can find a link to register your computer online in VAIO Care. [\[Details\]](#)

Related Topic

[Read This First](#)

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Welcome

Congratulations on the purchase of this VAIO computer.

This User Guide - Introduction Version provides you with limited information about your VAIO computer. To update this file to the complete version of the User Guide, see [Updating the User Guide to the Latest Version \[Details\]](#) for more information.

Your VAIO computer may not support touch screen operations depending on the model you purchased. In such a case, use a touch pad or a mouse for computer operations.

Content in this guide is subject to change without notice.

Read this first

[Updating the User Guide to the Latest Version](#)[Connecting to the Internet](#)[Updating Your VAIO Computer](#)[Solving Problems on Your VAIO Computer Using VAIO Care](#)[Finding Support Information](#)

Windows 8 : How to Start

[About the Start Screen and Menu](#)[Opening the Charms](#)[Searching/Starting Apps, Files, or Settings](#)[Checking Currently Running Apps](#)[Switching Apps](#)[Opening the App Menus](#)[Closing Apps](#)[Downloading Apps from Windows Store](#)[Opening Windows Help and Support](#)[Activating Sleep Mode or Shutting Down/Restarting Your VAIO Computer](#)

Read This First

Updating the User Guide to the Latest Version

By updating this User Guide - Introduction Version through the Internet, you can get the complete version of the User Guide with detailed information on your VAIO computer. Once the User Guide is updated to the complete version, you can access it anytime even if you are offline.

With the complete version of the User Guide, you can view information about:


- Parts description
- Feature and operating instructions
- Precautions
- Troubleshooting information
- Windows 8 basic operations

Below is an example of a screenshot in English.



* Design and content of the screen are subject to change.

To get the complete version of the User Guide

1. Connect your VAIO computer to the Internet. [\[Details\]](#)
2. Exit this User Guide - Introduction Version.
3. Open the charms [\[Details\]](#) and select  (Search).
4. Select Apps.
5. Enter "VAIO Manual" in the Search box.
6. Select VAIO Manual from the list.
7. After a window prompting you to update the manual appears, follow the on-screen instructions to complete the updates.

This file will automatically update to the complete version of the User Guide.

If the window prompting you to update the User Guide does not appear, make sure your VAIO computer is connected to the Internet and repeat the above steps.

If the update window still does not appear, start VAIO Update [\[Details\]](#) so you can find and download the User Guide manually.

Hint

- It may take some time to complete the update.

To view help files for Windows OS and app operations

When you have trouble operating your VAIO computer, try referring to Windows Help

and Support or help files included with your apps.

To access Windows Help and Support, open the charms and enter "Help and Support" in the Search box. [\[Details\]](#)

[^ Go to top](#)

Connecting to the Internet

You will need to connect your VAIO computer to the Internet before updating to the complete version of the User Guide.

Before connecting to the Internet

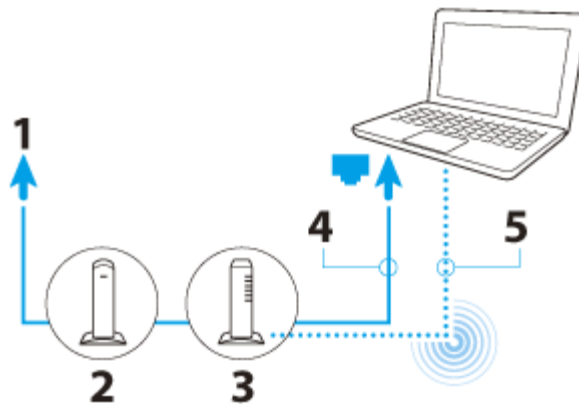
Before using the Internet, you will need to sign up with an Internet Service Provider (ISP) and set up devices required for connecting your VAIO computer to the Internet.

The following types of Internet connection services may be available from your ISP:

- Fiber to the Home (FTTH)
- Digital Subscriber Line (DSL)
- Cable modem
- Satellite
- Dial-up

For more information on devices required for Internet access and how to connect your VAIO computer to the Internet, ask your ISP.

The following is one of the Internet connection methods as an example.



1. Internet
2. Modem
3. Router/access point
4. LAN cable (not supplied)
5. Wi-Fi(R) (Wireless LAN)



To use the network (LAN)

You can connect your VAIO computer to networks with a LAN cable. Connect one end of a LAN cable to the LAN port on the computer and the other end to your network. For detailed settings and devices required for LAN access, ask your network administrator.

Note

- The connection, setting method, or required devices may vary depending on your network environment.

To use the Wi-Fi network

1. Open the charms [\[Details\]](#) and select  (Settings).
2. Select  (the network icon).
3. Select your desired network (SSID) from the list and Connect.

Note

- For detailed information on network settings and devices, refer to the information from your Internet Service Provider (ISP) or the manuals that came with your network devices.

[^ Go to top](#)

Updating Your VAIO Computer


Be sure to update your VAIO computer to enhance the computer's efficiency, security, and functionality.

Note

- Your VAIO computer must be connected to the Internet to download the updates.


To use Windows Update

Windows Update enables you to make your VAIO computer more stable.

1. Open the charms [\[Details\]](#) and select  (Search).
2. Select Settings.
3. Enter "Windows Update" in the Search box.
4. Select Windows Update from the list.
5. Follow the on-screen instructions to complete the updates.


To use VAIO Update

VAIO Update automatically notifies you of new updates available on the Internet then downloads and installs them on your VAIO computer.

1. Open the charms [\[Details\]](#) and select  (Search).
2. Select Apps.
3. Enter "VAIO Update" in the Search box.
4. Select VAIO Update from the list.
5. Follow the on-screen instructions to complete the updates.

To update the antivirus app

The antivirus app helps protect your VAIO computer against security threats by keeping the app current with the latest updates. You can download and install the updates from the website of the manufacturer.

1. Open the charms [\[Details\]](#) and select  (Search).
2. Select Apps.
3. Enter the antivirus app name in the Search box.
4. Select the antivirus app from the list.
5. Follow the on-screen instructions to complete the updates.

[^ Go to top](#)

Solving Problems on Your VAIO Computer Using VAIO Care

With VAIO Care, you can regularly conduct performance checks and system tune-ups on your VAIO computer to keep it running at optimum level. Start VAIO Care whenever a problem arises. VAIO Care will provide appropriate measures and support information to solve the problem.

To start VAIO Care

Press the ASSIST button while your VAIO computer is on.
Below is an example of a screenshot in English.



* Design and content of the screen are subject to change.

Hint

- Alternatively, search for VAIO Care on the Search charm to start VAIO Care. [\[Details\]](#)
- Refer to the help file included with VAIO Care for more information.
- Pressing the ASSIST button while your VAIO computer is off displays the VAIO Care Rescue Mode screen. You can recover the computer by selecting Recover or maintain your system in case of emergency, for example, when Windows does not start.

[^ Go to top](#)

Finding Support Information

The Sony online support website provides instant access to information on commonly encountered problems. You can find support information such as the support website URL in Contact & Support on VAIO Care or the supplied Quick Start Guide. [\[Details\]](#)

[^ Go to top](#)

Windows 8 : How to Start

About the Start Screen and Menu

You can place the shortcuts to apps, the desktop, and websites that you use the most.

Overview



1. Tiles
Select tiles to start apps, etc.
You can add and arrange tiles to suit your preference.
2. Charms [\[Details\]](#)
Search apps, files, and various computer settings including devices and wireless related items.

To show the Start screen

Touch operation

Open the charms [\[Details\]](#) and tap  (Start).

Mouse operation

Open the charms [\[Details\]](#) and click  (Start).

Keyboard operation

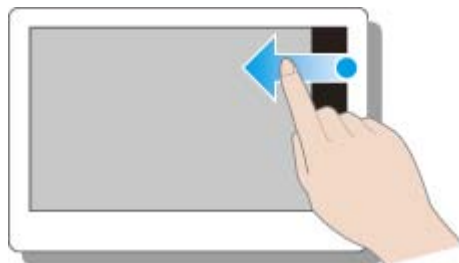


Press the  (Windows) key.

[^ Go to top](#)

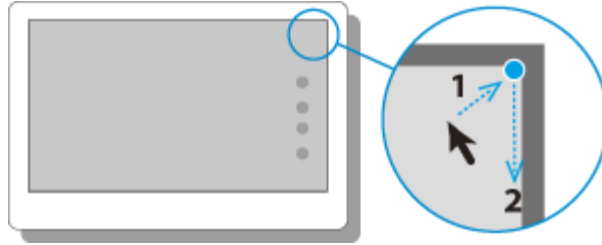
Opening the Charms

Touch operation



Swipe in from the right edge.


Mouse operation



Place the pointer at the upper-right corner, then move the pointer down when the charms appear.

Keyboard operation




Press the C key while holding down the  (Windows) key.

[^ Go to top](#)

Searching/Starting Apps, Files, or Settings

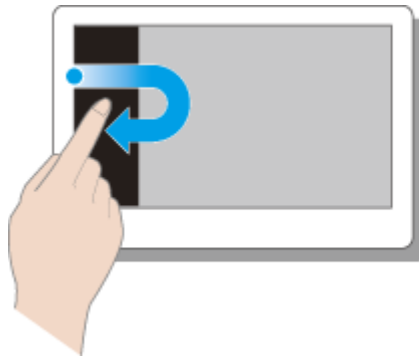


1. Open the charms [\[Details\]](#) and select  (Search).
2. Select Apps, Files, or Settings.
3. Enter a keyword in the Search box.
4. Select your desired app or file.

[^ Go to top](#)

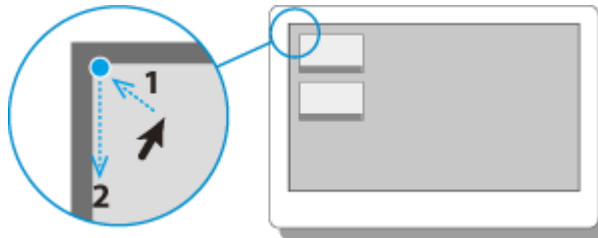
Checking Currently Running Apps

Touch operation



Swipe in from the left edge until a small app icon appears, then drag the icon back towards the left edge.


Mouse operation



Place the pointer at the upper-left corner to show an app icon(s), then move the pointer down.

Keyboard operation



Press the Tab key while holding down the  (Windows) key.

[^ Go to top](#)

Switching Apps

You can switch between apps that are currently running.



Touch operation

Display currently running apps [\[Details\]](#), touch your desired app icon, and swipe in from the left edge.

Mouse operation

Display currently running apps [\[Details\]](#) and drag your desired app icon from the left edge to the center.

[^ Go to top](#)

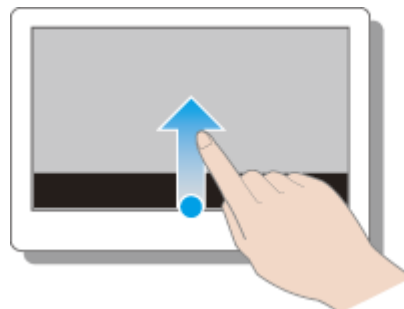
Opening the App Menus

Many apps have app menus that you can use to control your app. Follow the instructions below to open the app menu.

Hint

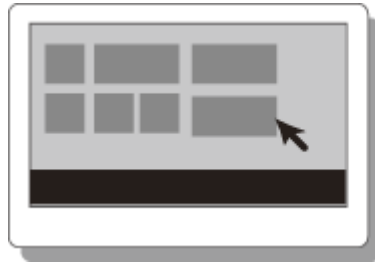
- Open the app menu when an app is displayed on the computer screen.
- App commands vary depending on the app that is currently displayed on the computer screen.

Touch operation



Swipe up from the bottom edge.


Mouse operation



Right-click on the computer screen.

Keyboard operation

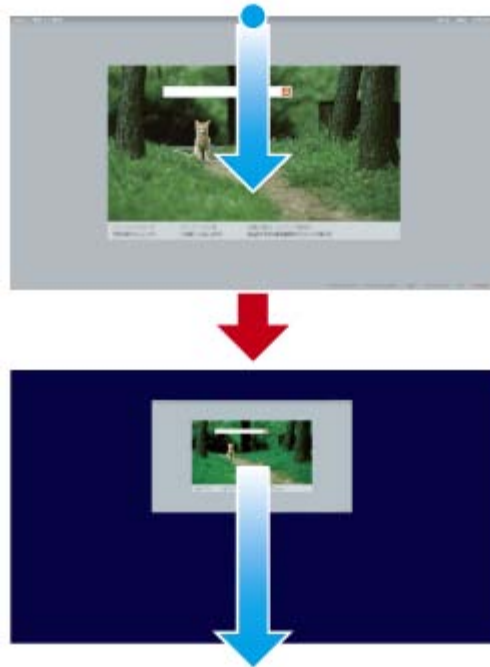


Press the Z key while holding down the  (Windows) key.

[^ Go to top](#)

Closing Apps

You can close currently running apps by following the instruction below.



Hint

- The app window becomes smaller in the bottom of the screen.
Drag the window to the bottom-center edge.

Touch operation

Display your desired app on the computer screen and swipe your finger from the top-center edge to the bottom edge.

Mouse operation

Display your desired app on the computer screen, place the pointer at the top-center edge to change the pointer into the hand pointer, and drag the app to the bottom-center edge.

Keyboard operation



Press the F4 key while holding down the Alt key.

[^ Go to top](#)

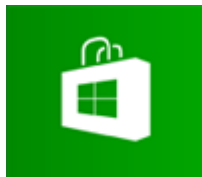
Downloading Apps from Windows Store

You can add apps from Windows Store.

Internet connection is necessary to access Windows Store. You also need to sign in with a Microsoft account.

On how to create and what you can do with the Microsoft account, refer to Windows Help and Support. [\[Details\]](#)

1. Show the Start screen [\[Details\]](#) and select the Store tile.




2. Select your desired app.
3. Follow the on-screen instructions to download and install the app.

[^ Go to top](#)

Opening Windows Help and Support



You can open Windows Help and Support by following these steps.



1. Open the charms [\[Details\]](#) and select  (Search).
2. Select Apps.
3. Enter "Help and Support" in the Search box.
4. Select Help and Support.

Activating Sleep Mode or Shutting Down/Restarting Your VAIO Computer



1. Open the charms [\[Details\]](#) and select  (Settings).
2. Select  (Power) and Sleep, Shut down, or Restart.

Trademarks


- SONY and the SONY logo are registered trademarks of Sony Corporation.
- VAIO, the VAIO logo, and other Sony product or service names are trademarks or registered trademarks of Sony Corporation or any of its affiliates.
- Microsoft, Windows, the Windows logo are trademarks of the Microsoft group of companies.
- Wi-Fi is a trademark or registered trademark of Wi-Fi Alliance.
- All other names of system, products, and services are trademarks of their respective owners.
- In the manual, the TM or (R) marks are not specified.

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Opening Windows Help and Support

You can open Windows Help and Support by following these steps.

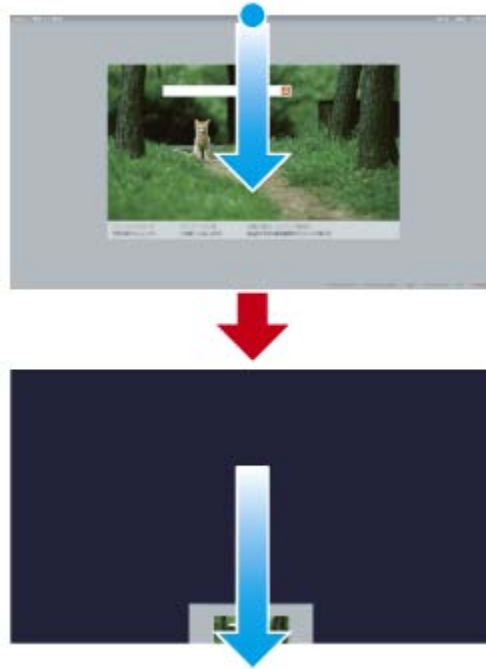


1. Open the charms [\[Details\]](#) and select the  Search charm.
2. Select Apps.
3. Enter "Help and Support" in the Search box.
4. Select Help and Support.

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Closing Apps

You can close currently running apps by following the instruction below.



Mouse/Touch pad operation

1. When an app is open, move the cursor to the top-center of the screen until the hand icon appears.
2. Drag the app to the bottom of the screen until the app disappears from the screen.

Keyboard operation



Press the Alt key and the F4 key at the same time.

Related Topic

[Searching/Starting Apps, Settings, or Files](#)[Viewing Running Apps](#)[Opening the App Menu](#)[Switching Apps](#)[Installing Apps from Windows Store](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Installing Apps from Windows Store

You can install apps from Windows Store.

You need to sign in with a Microsoft account.

On how to create and what you can do with the Microsoft account, refer to Windows Help and Support. [\[Details\]](#)

1. Connect to the Internet. [\[Details\]](#)
2. Open the Start screen [\[Details\]](#) and select the Store tile.



3. Find an app to install.
4. Follow the on-screen instructions to install the app.

Related Topic

[Searching/Starting Apps, Settings, or Files](#)[Opening the App Menu](#)[Closing Apps](#)[Switching Apps](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

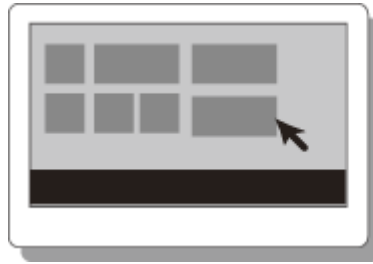
Opening the App Menu

Many apps have app menus that you can use to control your app. Follow the instructions below to open the app menu.

Hint

- Open the app menu when an app is displayed on the computer screen.
- App commands vary depending on the app that is currently displayed on the computer screen.


Mouse/Touch pad operation



Right-click within an app.

Keyboard operation



Press the  (Windows) key and the Z key at the same time.

Related Topic

[Searching/Starting Apps, Settings, or Files](#)[Viewing Running Apps](#)[Closing Apps](#)[Switching Apps](#)[Installing Apps from Windows Store](#)

» [Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Searching/Starting Apps, Settings, or Files

You can search apps, files, or settings on the charms, and then start your desired apps, files, or settings.

To search and start them, open the charms [\[Details\]](#), select the Search charm, and follow these steps.



1. Select Apps, Settings, or Files.
2. Enter a keyword in the Search box.
3. Select your desired app or file.

Related Topic

- [Opening the App Menu](#)
- [Viewing Running Apps](#)
- [Closing Apps](#)
- [Switching Apps](#)
- [Installing Apps from Windows Store](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Switching Apps

You can switch between apps that are currently running.



Display currently running apps [\[Details\]](#) and drag your desired app icon from the left edge to the center.

Related Topic

[Searching/Starting Apps, Settings, or Files](#)[Opening the App Menu](#)[Viewing Running Apps](#)[Closing Apps](#)[Installing Apps from Windows Store](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)


[Notifications](#)

Switching User Accounts

You can switch to another user account by following these steps.

1. Open the Start screen [\[Details\]](#) and select an account name at the upper-right corner of the computer screen.
2. Select your desired account name.

Hint

- To create a new user account, you need to sign in as an administrator. Then, open the charms [\[Details\]](#) and select the  Settings charm. Select Change PC settings in the lower right corner, and select Users in the left pane.
-

» [Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

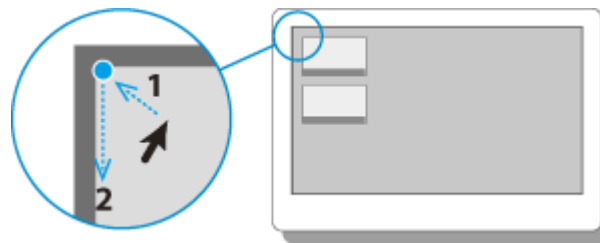
[Notifications](#)

Viewing Running Apps

You can view running apps by displaying the list on the Start screen. [\[Details\]](#)



Mouse/Touch pad operation



Point to the upper-left corner, then move downward.

Keyboard operation



Press the (Windows) key and the Tab key at the same time.

Related Topic

[Searching/Starting Apps, Settings, or Files](#)

[Opening the App Menu](#)

[Closing Apps](#)

[Switching Apps](#)

[Installing Apps from Windows Store](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

About the Start Screen and Menu

You can add shortcuts to apps, the desktop, and websites that you use the most.

Overview



1. Tiles


Select a tile to start an app and personalize the Start screen by adding and rearranging tiles.

2. Charms

Search for apps and files, share content, play content on other devices or print, and set up your VAIO computer.

To open the Start screen

Mouse/Touch pad operation

Open the charms [\[Details\]](#), then click the  Start charm.

Keyboard operation

Press the  (Windows) key.

Related Topic


[Opening the Charms](#)[Opening the Desktop](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Opening Control Panel

You can open Control Panel by following these steps.

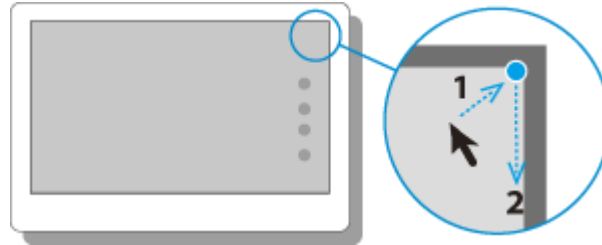


1. Open the charms [\[Details\]](#) and select the  Search charm.
2. Select Apps.
3. Enter "Control Panel" in the Search box.
4. Select Control Panel.

[Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Opening the Charms**

You can open the charms to search for apps and files, share content, play content on other devices or print, and set up your VAIO computer.


Mouse/Touch pad operation



Point to the upper-right corner, then move downward.
With a touch pad, you can also swipe in from the right edge.

Keyboard operation



Press the  (Windows) key and the C key at the same time.

Related Topic

[About the Start Screen and Menu](#)

[Searching/Starting Apps, Settings, or Files](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Opening the Desktop

You can access the desktop from a tile, just like an app. Open the desktop by following the instruction below.

1. Open the Start screen [\[Details\]](#) and select the Desktop tile.

Related Topic

[About the Start Screen and Menu](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Changing the LCD Brightness

You can adjust the LCD brightness.

1. Press the Fn+F5 key or Fn+F6 keys.

To decrease lighting intensity, keep pressing the Fn+F5 keys. To increase lighting intensity, keep pressing the Fn+F6 keys.

Hint

- The LCD brightness setting is retained even after your VAIO computer is turned off and restarted.

Related Topic

[Combinations and Functions with the Fn Key](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Changing the Resolution (Size) of the Screen Image

You can change the screen resolution to adjust the size of the characters and images on the computer screen.

Refer to Windows Help and Support [\[Details\]](#) for more information.

1. Right-click on the desktop [\[Details\]](#) and select Screen resolution.
2. Select the current screen resolution next to Resolution and move the slider to change the screen resolution.

Note

- You may not be able to play high-resolution videos depending on the amount of video memory on your VAIO computer. In such a case, lower the screen resolution.
- Do not change the display resolution while using video/image apps or playing DVDs, as it may cause unsuccessful playback/display or unstable system operations.

Related Topic

[Connecting an External Display or Projector](#)[Connecting a TV with an HDMI Input Port](#)[Notes on the LCD screen](#)

[▶ Troubleshooting](#)**How to Use**

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Changing the Resolution (Size) of the Screen Image on an HDMI-Connected Device

You can change the screen resolution or size of your VAIO computer's screen image displayed on an external display, such as a TV, connected to the computer with an HDMI cable (not supplied).

1. Connect your VAIO computer to an HDMI equipped TV with an HDMI cable. [\[Details\]](#)
2. Turn on the TV.
3. Start VAIO Control Center [\[Details\]](#) and select Image Quality.
4. Select Details in External Display Resolution.
5. On the Select Resolution tab, select the desired resolution.
After a few seconds, the selected resolution is applied.
6. If the computer image does not fit the displayable region of the TV, select the Adjust Resolution tab to adjust the display size.

Note

- Some resolution options may not be available, depending on the model or the HDMI-connected device.
- The function to adjust the screen resolution may be disabled depending on the selected resolution.

Related Topic[Connecting a TV with an HDMI Input Port](#)[Selecting Display Modes](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

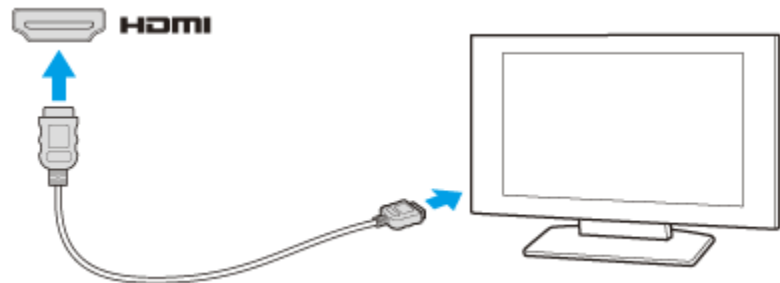
Connecting a TV with an HDMI Input Port

You can connect a TV with an HDMI input port to your VAIO computer with an HDMI cable (not supplied).

Refer to the manual that came with your TV for more information on installation and use.

1. Plug the power cord of your TV into an AC outlet and turn it on.
2. Connect one end of an HDMI cable to the HDMI output port [\[Details\]](#) on your VAIO computer and the other end to the TV.
3. Set the TV input to the external input.

The screen image of your VAIO computer is displayed on the TV.

**Note**

- If a device driver other than the one provided by Sony is used, the image will not be displayed and audio will not be heard. Always use the device driver provided by Sony for updates.
- To hear sound from a device connected to the HDMI output port, you need to change the sound output device. For detailed instructions, see [Changing the Sound Output Device](#). [\[Details\]](#)
- You cannot use the HDMI output port and the monitor port on your VAIO computer at the same time.

Hint

- The HDMI output port on your VAIO computer is compliant with the High-bandwidth Digital Content Protection (HDCP) standard and capable of encrypting the transmission channel of digital video signals for the purpose of copyright protection, which enables you to view a wide variety of copyright protected and high-quality content.

Related Topic[Selecting Display Modes](#)[Using the Multiple Monitors Function](#)[Changing the Resolution \(Size\) of the Screen Image](#)[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)[Connecting an External Display or Projector](#)

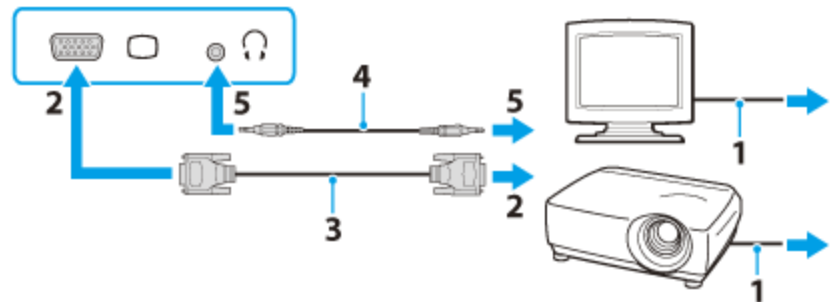
[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Connecting an External Display or Projector

You can connect an external display (such as a computer display or a projector) to your VAIO computer with a display cable (not supplied).

Refer to the manual that came with your external display or projector for more information on installation and use.

1. Plug the power cord (1) of your external display or the projector into an AC outlet and turn it on.
2. Connect the external display or the projector to the monitor port [\[Details\]](#) on your VAIO computer (2) with a display cable (3) (not supplied).
3. Press the Fn+F7 keys several times to select the external display or the projector, and then press the Enter key. [\[Details\]](#)
The screen image of the computer is displayed on the external display or the projector.
4. If necessary, connect the external display or the projector to the headphones jack on your VAIO computer (5) with a speaker cable (4) (not supplied).

**Note**

- You cannot use the monitor port and the HDMI output port on your VAIO computer at the same time.
- Some external displays and projectors may not support some of the resolutions your VAIO computer can use. If your computer display does not support the selected resolution, lower the resolution setting of the computer [\[Details\]](#).

Related Topic[Selecting Display Modes](#)[Using the Multiple Monitors Function](#)[Connecting a TV with an HDMI Input Port](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on the LCD screen

Read the following precautions for correct use of the LCD screen.

- The LCD screen 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 screen. This is a normal result of the manufacturing process and does not indicate a malfunction.
- Do not scratch the surface of the LCD screen or exert pressure on it. This could cause damage.
- Do not exert pressure on the LCD screen lid with the lid closed as it may scratch the LCD screen or soil it.
- The LCD screen may become warm during operation. This is normal and does not indicate a malfunction.
- Do not leave the LCD screen facing the sun. This could damage the LCD screen. Be sure to block direct sunlight when using your VAIO computer near a window.
- Do not exert pressure on the LCD screen or its edges when opening the LCD screen lid or lifting your VAIO computer. The LCD screen may be sensitive to pressure or added stress, and exerting pressure may damage the screen or cause it to malfunction. When opening the computer, hold the base with one hand and gently lift the LCD screen lid with the other. To carry the computer with the lid open, be sure to hold the computer with both hands.
- Using your VAIO computer in low temperature conditions may produce a residual image on the LCD screen. This does not indicate a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- A residual image may appear on the LCD screen if the same image is displayed for an extended period of time. The residual image disappears after a while. You can use a screen saver to prevent residual images.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Selecting Display Modes

You can switch the display output between the computer screen and an external display connected to your VAIO computer.

1. Turn on an external display.
2. Press the Fn+F7 keys several times to select your desired display output, and then press the Enter key.

Note

- If you disconnect a display cable (not supplied) while only an external display is selected as the display output, it is hard to operate your VAIO computer because the computer screen is blank.
To switch the display output to the computer screen, press the Fn+F7 keys twice, then the Enter key.
- The display switch may become unavailable or your VAIO computer may become unstable during video playback. Exit the video playback app before switching the display output.
- The display switch may not be available depending on the type of external display or projector.

Related Topic

[Using the Multiple Monitors Function](#)[Connecting a TV with an HDMI Input Port](#)[Connecting an External Display or Projector](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Using the Multiple Monitors Function

The Multiple Monitors function allows you to distribute portions of your desktop across separate displays.

For example, if you have an external display connected to the monitor port, the computer screen and the external display can function as a single desktop.

1. Right-click on the desktop [\[Details\]](#) and select Screen resolution.
2. Select Extend these displays from the drop-down list next to Multiple Displays and OK.
The setting options vary depending on the number of the connected external displays.

Note

- Your external display may not support the Multiple Monitors function.
- Certain apps may not be compatible with the Multiple Monitors settings.
- Do not change the display settings while using video/image apps or playing DVDs, as it may cause unsuccessful playback/display or unstable system operations.
Change the display settings after you exit the video/image app.

Hint

- You can set the screen resolution for each display used for the Multiple Monitors function.

Related Topic

[Changing the Resolution \(Size\) of the Screen Image](#)[Selecting Display Modes](#)[Connecting a TV with an HDMI Input Port](#)[Connecting an External Display or Projector](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)



About a Security Key for Wi-Fi(R) (Wireless LAN)

A security key is a security protocol for Wi-Fi that encrypts data transmitted on Wi-Fi. It is also referred to as an encryption key or a WEP (Wired Equivalent Privacy) key.

The security key allows wireless devices that have the same key, such as a Wi-Fi access point and a computer, to communicate with each other on Wi-Fi.

The security key is assigned to each access point by default. (Make sure the default security key has been changed to protect data from unauthorized use.) If you cannot find the default security key, refer to the manual that came with your access point.

If you enter a wrong security key, follow these steps to re-enter the security key.

1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select  (the network icon).
3. Right-click the desired network and select View connection properties.
4. Select the Security tab.
5. Enter a security key in the Network security key field and select OK.

Related Topic

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About the Internet Connection Services

The following types of Internet connection services are available.

You can select from among the services according to your preference, for example, communication speed or a usage fee. For detailed information on a variety of connection services, contact Internet Service Providers (ISPs).

- Fiber to the Home (FTTH)
- Cable modem
- Digital Subscriber Line (DSL)
- Satellite
- Dial-up

Related Topic

[Connecting to the Internet with a Wired Connection](#)

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About the Network (LAN)

The network (LAN) enables you to connect your VAIO computer to the Internet and transfer data between the computer and other devices.

You can connect your VAIO computer to 1000BASE-T/100BASE-TX/10BASE-T type networks with a LAN cable (not supplied). Connect one end of a LAN cable to the LAN port on the computer and the other end to your network.

For information on peripheral devices required for LAN access, ask your Internet Service Provider (ISP) or refer to the manual that came with your modem.

For information on how to connect your VAIO computer to the network, refer to your ISP's instructions or the manual that came with the modem and other peripheral devices. If you require information on the network settings at your workplace, ask the network administrator.

Related Topic

[About the Internet Connection Services](#)[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About the Wi-Fi(R) (Wireless LAN) Standards

Wi-Fi allows your VAIO computer to connect to a network through a wireless connection. Wi-Fi uses the following IEEE 802.11a/b/g/n standard, which specifies the type of technology used.

Refer to the specifications to find out about the configuration of the computer.

IEEE 802.11a (Frequency band:5 GHz)

Exclusive to models compliant with the IEEE 802.11a/b/g/n standard.

IEEE 802.11b/g (Frequency band:2.4 GHz)

The IEEE 802.11g standard provides higher-speed communications than the IEEE 802.11b.

IEEE 802.11n (Frequency band:2.4 GHz/5 GHz)

For models compliant with the IEEE 802.11b/g/n standard, only 2.4 GHz band can be used.

Related Topic

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

▶ Troubleshooting

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

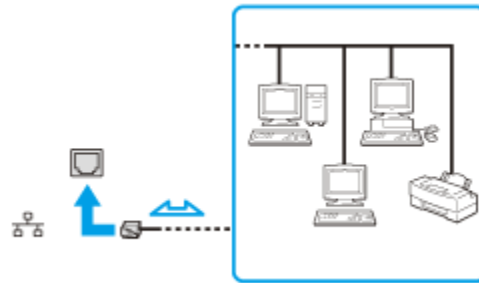
Security

Other Operations

Notifications

Connecting to the Internet with a Wired Connection

Before using the Internet, you need to sign up with an Internet Service Provider (ISP) and set up devices required for connecting your VAIO computer to the Internet. Connect one end of a LAN cable (not supplied) to the LAN port on your VAIO computer and the other end to your network.



Note

- For detailed information on devices required for Internet access and how to connect your VAIO computer to the Internet, ask your ISP.
- When connecting your VAIO computer to the Internet, be sure to use a cable with “Network” or “Ethernet” writing on it.
- Do not plug a telephone cable into the LAN port on your VAIO computer. If the LAN port is connected to the following networks or telephone lines, high electric current to the port may cause damage, overheating, or fire.
 - Any network, except 1000BASE-T/100BASE-TX/10BASE-T type networks
 - Public telephone subscriber line
 - Private branch exchange (PBX)
 - Home (intercom speakerphone) or business-use telephone lines (multi-line business telephone)

Hint

- To connect your VAIO computer to the Internet using the Wi-Fi(R) (Wireless LAN) function, you need to set up the Wi-Fi settings. [\[Details\]](#)

Related Topic

[About the Internet Connection Services](#)

[About the Network \(LAN\)](#)

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)


[Security](#)

[Other Operations](#)

[Notifications](#)

Disabling the Wi-Fi(R) (Wireless LAN) Function

You can disable the Wi-Fi function by following these steps.

1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select Change PC settings in the lower right corner.
3. Select Wireless in the left pane of the PC settings screen.
4. Change the Wi-Fi setting under Wireless devices to Off.

Hint

- To enable the Wi-Fi function, turn off Airplane mode and change the Wi-Fi setting under Wireless devices to On.
- To disable all wireless functions, turn on Airplane mode. The WIRELESS indicator light will be turned off.
- The wireless function(s) whose setting is on will be enabled when you turn off Airplane mode. When any wireless function is enabled, the WIRELESS indicator light turns on.
- Refer to Windows Help and Support for more information on Airplane mode. [\[Details\]](#)

Related Topic

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Launching the Web Browser (WEB Button) <WEB Button equipped models>

By pressing the WEB button, you can launch the default web browser. Even when your VAIO computer is off, pressing the WEB button starts Windows, and launches the web browser.

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Notes on Using the Wi-Fi(R) (Wireless LAN) Function

Before using the Wi-Fi function, read the following precautions for correct use.

- In some countries or regions, using the Wi-Fi products may be restricted by the local regulations.
- Wi-Fi devices work on the 2.4 GHz band, which is used by a variety of devices. They use the technology to minimize radio interference from other devices that use the same band; however, radio interference may still slow communication speeds, reduce communication range, or cause communication failure.
- If both the BLUETOOTH function and the 2.4 GHz Wi-Fi function of your VAIO computer are enabled, interference may occur and cause slower communication speeds or other problems.
- To communicate via Wi-Fi while you are on the road, you may need to contract with a Wi-Fi connection service provider.
- If your VAIO computer is equipped with the IEEE 802.11a/b/g/n standard, outdoor use of the 5 GHz Wi-Fi function is prohibited by law.
- The communication speed and range may vary depending on the following conditions:
 - Distance between devices
 - Existence of obstacles between devices
 - Device configuration
 - Radio conditions
 - Ambient environment (including wall material, etc.)
 - Apps in use
 Communications may be cut off depending on radio conditions.
- The data transfer rate specified in the specification is the theoretical maximum, and may not reflect actual data transfer rate.
- Actual communication speed may not be as fast as the one displayed on your VAIO computer.
- The 2.4 GHz and 5 GHz Wi-Fi frequency bands are not communicable with one another.
- The data transfer rate of IEEE 802.11g and IEEE 802.11n (2.4 GHz) may be affected by interference when used with an IEEE 802.11b product. Also, IEEE 802.11g and IEEE 802.11n automatically lower the transfer rate to maintain compatibility with an IEEE 802.11b product. The transfer rate may be regained by changing the channel settings of your access point.
- To stop the Wi-Fi function abruptly, turn off your VAIO computer.
- The WLAN standard includes the encryption methods: Wired Equivalent Privacy (WEP), which is a security protocol, Wi-Fi Protected Access 2 (WPA2), and Wi-Fi Protected Access (WPA). Proposed jointly by the IEEE and Wi-Fi Alliance, both WPA2 and WPA are specifications of standards based on interoperable security enhancements that increase the level of data protection and access control for existing Wi-Fi networks. WPA is designed to be forward compatible with the IEEE 802.11i specification. It utilizes the enhanced data encryption Temporal Key Integrity Protocol (TKIP) in addition to user authentication using 802.1X and Extensible Authentication Protocol (EAP). Data encryption protects the vulnerable wireless link between clients and access points. Besides that, there are other typical LAN security mechanisms to ensure privacy, such as: password protection, end-to-end encryption, virtual private networks, and authentication. WPA2, the second generation of WPA, provides stronger data protection

and network access control and is also designed to secure all versions of 802.11 devices, including 802.11b, 802.11a, 802.11g, and 802.11n standards, multi-band and multi-mode. In addition, based on the ratified IEEE 802.11i standard, WPA2 provides government grade security by implementing the National Institute of Standards and Technology (NIST) FIPS 140-2 compliant AES encryption algorithm and 802.1X-based authentication. WPA2 is backward compatible with WPA.

Related Topic

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[Notes on Using the BLUETOOTH\(R\) Function](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Starting Wi-Fi(R) (Wireless LAN) Communications

You can establish Wi-Fi communications between your VAIO computer and an access point (not supplied).

Before using Wi-Fi, make sure a Wi-Fi access point is on and operating.

1. Connect an access point to your VAIO computer.
Refer to Windows Help and Support [\[Details\]](#) and the manual that came with the access point for more information.
2. Open the charms [\[Details\]](#) and select the Settings charm.
3. Select Change PC settings in the lower right corner.
4. Select Wireless in the left pane of the PC settings screen.
5. Change Airplane mode to Off and the Wi-Fi setting under Wireless devices to On.
Hint
 - Refer to Windows Help and Support for more information on Airplane mode. [\[Details\]](#)
6. Open the charms [\[Details\]](#) and select the Settings charm.
7. Select (the network icon).
8. Select the desired access point and Connect.
After the connection is established, Connected appears in the selected wireless access point field.
If a security key [\[Details\]](#) entry window appears, enter the security key as required and select OK.
Note that security keys are case-sensitive.

Note

- On IEEE 802.11a/b/g/n equipped models, when only the 2.4 GHz Wi-Fi function is enabled, your VAIO computer cannot connect to a 5 GHz Wi-Fi access point. Also, when only the 5 GHz Wi-Fi function is enabled, the computer cannot connect to a 2.4 GHz Wi-Fi access point.
On IEEE 802.11b/g/n equipped models, when the 2.4 GHz Wi-Fi function is disabled, the computer cannot connect to an access point. Also, the computer cannot connect to a 5 GHz Wi-Fi access point.
- It may take some time to find and connect to a Wi-Fi access point before starting communications via Wi-Fi.

Hint

- Once you connect your VAIO computer to the access point by entering the security key, the access point will be registered in the computer. You do not have to enter the security key for subsequent connections.

To check Wi-Fi connection status

Open the desktop [\[Details\]](#) and move the mouse pointer over (the Network icon) in the desktop notification area to check the Wi-Fi connection status, such as the access point currently connected to your VAIO computer.

Related Topic

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)

[Stopping Wi-Fi\(R\) \(Wireless LAN\) Communications](#)

[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

[About a Security Key for Wi-Fi\(R\) \(Wireless LAN\)](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)



[Security](#)

[Other Operations](#)

[Notifications](#)

Stopping Wi-Fi(R) (Wireless LAN) Communications

You can stop Wi-Fi communications by following these steps.

1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select  (the network icon).
3. Select the desired access point and Disconnect.

Note

- Do not disable the Wi-Fi function while accessing remote documents, files, or resources, as it may result in data loss.

Related Topic

[About the Wi-Fi\(R\) \(Wireless LAN\) Standards](#)[Starting Wi-Fi\(R\) \(Wireless LAN\) Communications](#)[Notes on Using the Wi-Fi\(R\) \(Wireless LAN\) Function](#)[Disabling the Wi-Fi\(R\) \(Wireless LAN\) Function](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Using the Antivirus App for Your VAIO Computer

Protect your VAIO computer against computer viruses by using the antivirus app. You can keep the antivirus app current with the latest updates by downloading and installing the updates from the website of the app publisher. To update the antivirus app, find the antivirus app installed on your VAIO computer from the following and follow these steps.

Trend Micro:

1. Make sure your VAIO computer is connected to the Internet.
2. Start Trend Micro Titanium Maximum Security. [\[Details\]](#)
3. Follow the on-screen instructions.

McAfee:

1. Make sure your VAIO computer is connected to the Internet.
2. Start McAfee Internet Security or McAfee Total Protection. [\[Details\]](#)
3. Follow the on-screen instructions.

Kaspersky Internet Security:

1. Make sure your VAIO computer is connected to the Internet.
2. Start Kaspersky Internet Security. [\[Details\]](#)
3. Follow the on-screen instructions.

Note

- The actual procedure may be different from the above depending on the version of the app installed on your VAIO computer. In such a case, follow the on-screen instructions.

Hint

- Refer to the help file included with your app for more information.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Entering Sleep Mode, Shutting Down, or Restarting

You can place your VAIO computer into Sleep mode or shut down/restart the computer by following these steps.



1. Open the charms [\[Details\]](#) and select the Settings charm.
2. Select Power and Sleep, Shut down, or Restart.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Changing the Rapid Wake (Sleep Mode) Settings

You can change the Rapid Wake settings in VAIO Control Center.

Rapid Wake is enabled by default. With this function, you can keep your VAIO computer in Sleep mode without risk of data loss because the computer enters Sleep mode after your working data is saved on the built-in storage device.

For models that support Rapid Wake + ECO, you can conserve more battery power by reducing power consumption when the computer is in Sleep mode.

1. Start VAIO Control Center [\[Details\]](#) and select Hardware.
2. Enable/disable the setting in Rapid Wake.

Note

- With Rapid Wake disabled, your working data is not saved on the built-in storage device when the computer enters Sleep mode. Therefore, if the computer is turned off during Sleep mode because, for example, the battery pack runs out of power or the computer is disconnected from an AC power source, the working data will be lost and cannot be restored. To avoid data loss, be sure to save the data before the computer enters Sleep mode. With Rapid Wake disabled, the power indicator light blinks slowly in orange during Sleep mode, and the charge and power indicator lights blink simultaneously when the battery pack runs out of power during Sleep mode.

When you use the Hibernate mode, you need to disable Rapid Wake.

Related Topic

[Using Sleep Mode](#)[Notes on Sleep Mode](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)


[Backup / Recovery](#)

[Security](#)

[Other Operations](#)


[Notifications](#)

Charge Indicator Status List

The charge indicator light  turns on or blinks differently according to conditions.

Lit in orange

The battery pack is charging. (Turns off when charging is completed.)

Blinks in orange along with the green power indicator 

The battery pack is running out of power. (Normal mode)

Blinks fast in orange

A battery error has occurred due to a failed battery pack, an unlocked battery pack, etc.

Related Topic

[Charging the Battery Pack](#)[Checking the Battery Charge Capacity](#)[Extending the Battery Life](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)



[Notifications](#)

Charging the Battery Pack

The battery pack can be charged even while you are using your VAIO computer when the computer is connected to a power source. The charging time may vary depending on operating conditions.

1. Install the battery pack into your VAIO computer. [\[Details\]](#)
2. Plug your VAIO computer into an AC outlet. [\[Details\]](#)

Hint

- The charging time varies depending on ambient temperature.
Note that at a low ambient temperature, it takes longer time to charge the battery pack.
- Open the desktop [\[Details\]](#) and select the battery icon, such as  (on battery) or  (plugged in), in the desktop notification area to check the battery status of your VAIO computer.

Related Topic

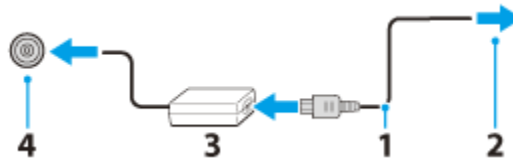
[Charge Indicator Status List](#)[Checking the Battery Charge Capacity](#)[Extending the Battery Life](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Connecting a Power Source

Connect your VAIO computer to an AC power source. Carefully read the precautions in [Notes on Using the Power Source](#) before connection. [\[Details\]](#)

1. Plug one end of the power cord (1) into the AC adapter (3).
2. Plug the other end of the power cord into an AC outlet (2).
3. Plug the cable from the AC adapter (3) into the DC IN port (4) on your VAIO computer.

**Note**

- Do not plug more than one device into the same AC outlet.
- The shape of the AC adapter varies depending on the model you purchased.
- Make sure that the power plug is firmly plugged into your VAIO computer.

Hint

- You can purchase a power strip with a surge protector to help prevent damage to your VAIO computer caused by sudden power surges (in an electrical storm, for example).

Related Topic[Installing/Removing the Battery Pack](#)[Charging the Battery Pack](#)[Notes on Using the Battery Pack](#)[Turning on Your VAIO Computer](#)[Shutting Down Your VAIO Computer](#)[Notes on Using the Power Source](#)

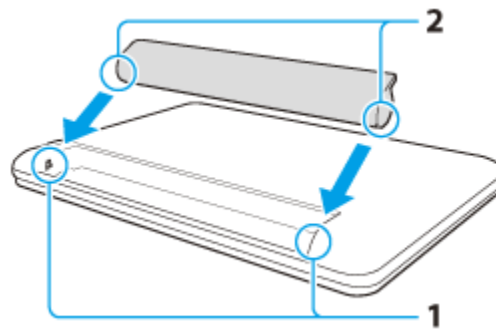
[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Installing/Removing the Battery Pack

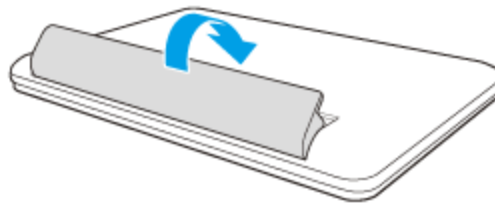
Install the battery pack into the battery compartment on the bottom of your VAIO computer.

To install the battery pack

1. Turn off your VAIO computer and close the LCD screen lid.
2. Slide the battery LOCK switch to the unlock position.
3. Slide the battery pack diagonally into the battery compartment until the projection (1) on each side of the battery compartment fits into the groove (2) on each side of the battery pack.



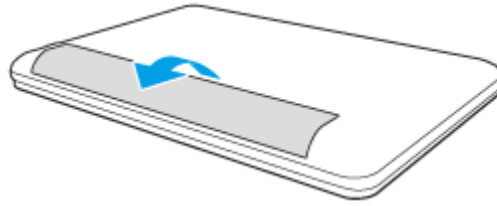
4. Turn the battery pack in the direction of the arrow and push the battery pack down into the compartment until it clicks into place.



5. Slide the battery LOCK switch to the LOCK position to secure the battery pack on your VAIO computer.

To remove the battery pack

1. Turn off your VAIO computer and close the LCD screen lid.
2. Slide the battery LOCK switch to the unlock position.
3. Slide and hold the battery RELEASE latch, put your fingertip underneath the tab on the battery pack, and lift the battery pack in the direction of the arrow.



4. Slide the battery pack diagonally to take out from your VAIO computer.

Note

- You will lose all unsaved data if you remove the battery pack while your VAIO computer is on or in Sleep mode and not connected to the AC adapter.
Be sure to turn off the computer before removing the battery pack.

Related Topic

[Charging the Battery Pack](#)

[Notes on Using the Battery Pack](#)

[Shutting Down Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on Sleep Mode

Read the following precautions before using Sleep mode.

- Some apps may not support Sleep mode. When running such apps, exit them before placing your VAIO computer into Sleep mode.
- Some USB devices may not support Sleep mode. When your VAIO computer resumes from Sleep mode, the computer may not recognize such USB devices, depending on the type and number of connected USB devices.
If you cannot place the computer into Sleep mode, disconnect all USB devices and try again.
- If your VAIO computer enters Sleep mode when Windows or the computer is unstable, it may not resume from Sleep mode. The following operations are recommended:
 - Before placing your VAIO computer into Sleep mode, save your files and exit all running apps.
 - Shut down your VAIO computer periodically.
- Depending on the condition of Windows, your VAIO computer cannot enter Sleep mode.
- If your VAIO computer enters Sleep mode while running a task, such as DVD writing, the task may be suspended.

Related Topic

[Using Sleep Mode](#)[Notes on Using the Power Source](#)[Notes on Using the Battery Pack](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on Using the Power Source

Read the following precautions before plugging your VAIO computer into an AC power source.

- If you remove the battery pack while your VAIO computer is turned on or in Sleep mode, but the computer is disconnected from an AC power source, you may lose all unsaved data.
- If you leave your VAIO computer without connecting it to an AC power source for an extended period of time, turn off the computer.

Notes on the AC adapter

- Use the AC adapter supplied with your VAIO computer or with genuine Sony products. Do not use any other AC adapter as it may cause a malfunction.
- Do not connect the AC adapter to a power conversion device such as a travel power converter. It may cause overheating or a malfunction.
- If the AC adapter cable becomes damaged or broken, do not use it.

Notes on turning on your VAIO computer

- Because your VAIO computer contains magnetic components, keep magnetic storage media, such as floppy disks, away from the computer, as it may cause data corruption.
- Your VAIO computer will automatically enter Sleep mode (with the default settings) when you move magnetic devices closer to the computer. Keep magnetic devices away from the computer.

Related Topic

[Connecting a Power Source](#)[Turning on Your VAIO Computer](#)[Shutting Down Your VAIO Computer](#)[Restarting Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)



[Security](#)

[Other Operations](#)

[Notifications](#)

Restarting Your VAIO Computer

After changing the settings or installing an app on your VAIO computer, you may be required to restart the computer.

1. Save your data and close all running apps.
2. Open the charms [\[Details\]](#) and select the  Settings charm.
3. Select  Power and Restart.
Your VAIO computer will restart.

Related Topic

[Turning on Your VAIO Computer](#)[Shutting Down Your VAIO Computer](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Selecting a Power Plan

Power management helps you set up power plans to suit your requirements for power consumption.

1. Open Control Panel. [\[Details\]](#)
2. Select Hardware and Sound and Power Options.
3. Select your desired power plan.
4. If you want to change the power plan settings, select Change plan settings on the right of your desired power plan in the Power Options window.
By selecting Change advanced power settings, you can change the advanced settings.
Refer to Windows Help and Support for more information on the power plan settings. [\[Details\]](#)

Hint

- The power status icon indicates what kind of power source your VAIO computer is currently using, and you can see the computer's power status by selecting this icon.
-



[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Shutting Down Your VAIO Computer

Shut down your VAIO computer properly to avoid losing unsaved data.

1. Turn off any peripherals connected to your VAIO computer.
2. Save your data and close all running apps.
3. Open the charms [\[Details\]](#) and select the  Settings charm.
4. Select  Power and Shut down.

After a short time, your VAIO computer automatically turns off and the green power indicator light turns off.



Before closing the LCD screen lid, make sure the power indicator is off.

Note

- An improper shutdown may cause loss of unsaved data or cause your VAIO computer to malfunction.
- To disconnect your VAIO computer completely from an AC power source, turn off the computer and unplug the power cord from the AC outlet.

To fully shut down your VAIO computer

You can fully shut down your VAIO computer by placing the computer into ACPI S5 mode. This mode will take more time in the start-up process than fast start-up mode.

1. Turn off any peripherals connected to your VAIO computer.
2. Save your data and close all running apps.
3. Open the charms [\[Details\]](#) and select the  Settings charm.
4. Select  Power, press and hold down the Shift key, and select Shut down.
After a short time, your VAIO computer automatically turns off and the green power indicator light turns off.

Related Topic

[Turning on Your VAIO Computer](#)[Restarting Your VAIO Computer](#)[Using Sleep Mode](#)[Notes on Using the Power Source](#)


[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)




Turning on Your VAIO Computer

Turn on your VAIO computer to start Windows. Carefully read the precautions in Notes on Using the Power Source before turning on. [\[Details\]](#)

1. Install the battery pack on your VAIO computer [\[Details\]](#), and then connect to an AC outlet. [\[Details\]](#)
2. Lift the LCD screen lid.
3. Press and hold down the  (Power) button until the power indicator light turns on in green.

Your VAIO computer is turned on, and Windows starts after a while.

Note

- If you press and hold down the  (Power) button for more than four seconds, your VAIO computer will not turn on. Press the  (Power) button lightly, and release it immediately when the power indicator light turns on.
- Do not use your VAIO computer without installing the battery pack as it may cause the computer to malfunction.
- When opening the LCD screen lid, do not hold the built-in camera as it may cause your VAIO computer to malfunction. (Built-in camera equipped models)
- If you press the  (Power) button with the LCD screen lid closed, your VAIO computer will not turn on.

Hint

- By default, your VAIO computer automatically enters Sleep mode after a certain period of inactivity while the computer is connected to an AC outlet. [\[Details\]](#)

Related Topic

[Installing/Removing the Battery Pack](#)[Charging the Battery Pack](#)[Notes on Using the Battery Pack](#)[Connecting a Power Source](#)[Shutting Down Your VAIO Computer](#)[Restarting Your VAIO Computer](#)[Notes on Using the Power Source](#)



[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Using Sleep Mode

In Sleep mode, all unnecessary devices of your VAIO computer are turned off, though some devices stay on to retain the computer's state including data you are working on. Sleep mode is useful when you take a short rest, for example.



With the default Sleep mode settings, Rapid Wake is enabled and the computer's state is saved to the built-in storage device.

To activate Sleep mode


1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select  Power and Sleep.

The power indicator light turns off when your VAIO computer enters Sleep mode.

Hint

- By default, your VAIO computer enters Sleep mode automatically after about 30 minutes of inactivity while running on AC power.
- The operations below also place your VAIO computer into Sleep mode.
 - Press the  (Power) button (with the default setting).
Note that if you press and hold down the  (Power) button for more than four seconds, your VAIO computer will turn off automatically. Doing this will erase all unsaved data.
 - Close the LCD screen lid and leave the computer unused for a few seconds.


To return to Normal mode

1. Press the  (Power) button.

Note

- By default, your VAIO computer automatically enters Hibernate mode when the battery pack is running out of power. However, depending on the operating conditions, the computer may fail to enter Hibernate mode.
If this occurs and the battery pack is running out of power, the computer will be turned off, resulting in loss of unsaved data.
While the computer is running on battery power, save data frequently.
- Before moving your VAIO computer, make sure that the power indicator light is off to avoid impact or vibration to the running hard disk drive.

Hint

- If you press and hold down the  (Power) button for more than four seconds, your VAIO computer will turn off automatically. Doing this will erase all unsaved data.
- You can set to restore your VAIO computer from Sleep mode to Normal mode by opening the LCD screen lid.
To change the action when you open the lid, start VAIO Control Center [\[Details\]](#) and change the settings in Power and Battery.

Related Topic

[Notes on Using the Power Source](#)
[Notes on Sleep Mode](#)
[Extending the Battery Life](#)
[Changing the Rapid Wake \(Sleep Mode\) Settings](#)

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[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Parts and Controls on the Bottom

Describes the features on the bottom of the VAIO computer.

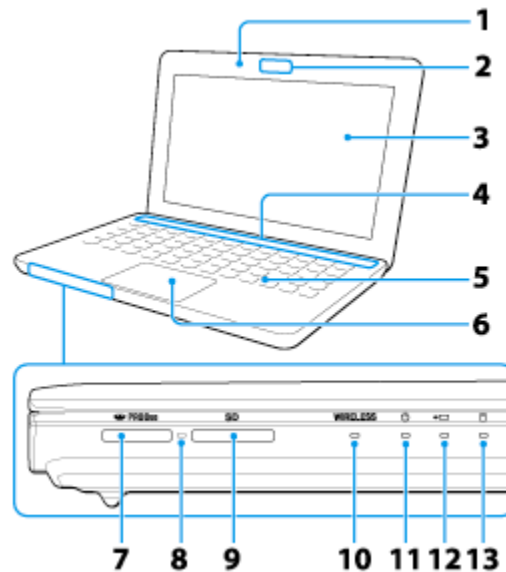
- Air intake vents
- Battery connector [\[Details\]](#)
- Memory module compartment cover [\[Details\]](#)








Related Topic

[Parts and Controls on the Front](#)[Parts and Controls on the Sides](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Parts and Controls on the Front**

Describes the features on the front of the VAIO computer, such as buttons and indicator lights.



1. Built-in microphone (monaural)
2. Built-in camera / Built-in camera indicator [\[Details\]](#)
3. LCD screen
4.
 - ASSIST button [\[Details\]](#)
 - WEB button [\[Details\]](#)
 - VAIO button [\[Details\]](#)
 -  Power button [\[Details\]](#)
 -  Num lock indicator
 -  Caps lock indicator
 -  Scroll lock indicator
 - Built-in speakers (stereo)
5. Keyboard
6. Touch pad [\[Details\]](#)
7. "Memory Stick Duo" slot [\[Details\]](#)
8. Media access indicator ("Memory Stick Duo" [\[Details\]](#), SD memory card [\[Details\]](#))
9. SD memory card slot [\[Details\]](#)
10. WIRELESS indicator [\[Details\]](#)
11.  Power indicator [\[Details\]](#)
12.  Charge indicator [\[Details\]](#)
13.  Disc drive indicator

Related Topic

[Parts and Controls on the Sides](#)

[Parts and Controls on the Bottom](#)

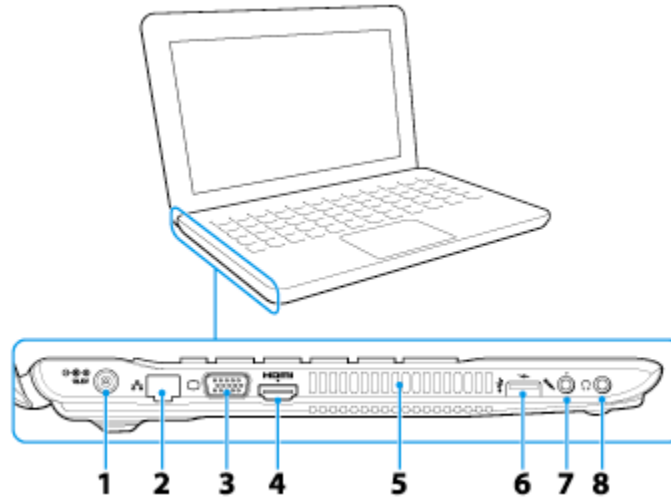
▶ Troubleshooting

How to Use

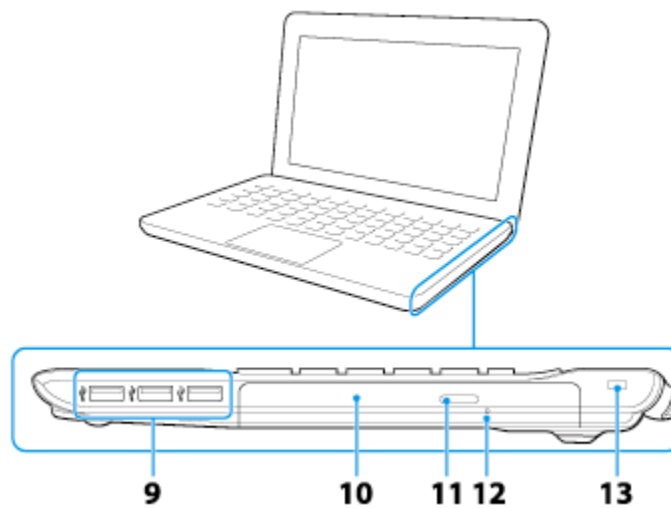
- [Windows 8: The Basics](#)
- [Parts Description](#)
- [Setup](#)
- [Network / Internet](#)
- [Connections](#)
- [Settings](#)
- [Playback](#)
- [Backup / Recovery](#)
- [Security](#)
- [Other Operations](#)
- [Notifications](#)


Parts and Controls on the Sides

Describes the features on the sides of the VAIO computer, such as connection ports.



1. DC IN port [\[Details\]](#)
2. LAN port [\[Details\]](#)
3. Monitor port [\[Details\]](#)
4. HDMI output port [\[Details\]](#)
5. Air exhaust vent
6. USB port [\[Details\]](#)
This USB port supports USB charging. [\[Details\]](#)
7. Microphone jack [\[Details\]](#)
8. Headphones jack [\[Details\]](#)



9.  USB ports x 3 [\[Details\]](#)
10. Optical disc drive [\[Details\]](#)
11. Drive eject button [\[Details\]](#)
12. Manual eject hole
13. Security slot

Related Topic

[Parts and Controls on the Front](#)

[Parts and Controls on the Bottom](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About the ASSIST Button

Press the ASSIST button to perform regular maintenance of your VAIO computer or to solve problems you might encounter when using the computer.

While the computer is on, the ASSIST button starts VAIO Care.

While the computer is off, the ASSIST button starts VAIO Care Rescue Mode.

VAIO Care (Rescue Mode) : Recover or maintain your system can be used to recover the computer in case of emergency, for example, when Windows does not start.

Note

- If the VAIO Care Rescue Mode screen is displayed and five minutes pass without any operation, your VAIO computer automatically turns off.

Related Topic

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

[Recovering from the Recovery Area](#)

[Backing Up Your Data when You cannot Start Windows](#)

[Restoring Your Data with VAIO Data Restore Tool](#)

» Troubleshooting

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

Security

Other Operations

Notifications

Adding and Removing Memory Modules

If you want to increase your computer's speed or improve performance when running programs simultaneously, increase the amount of memory by installing optional memory modules.

Before you upgrade your computer's memory, see Notes on Adding and Removing Memory Modules. [\[Details\]](#)

If you install memory modules into two or more slots, the dual-channel mode is enabled to help improve performance.

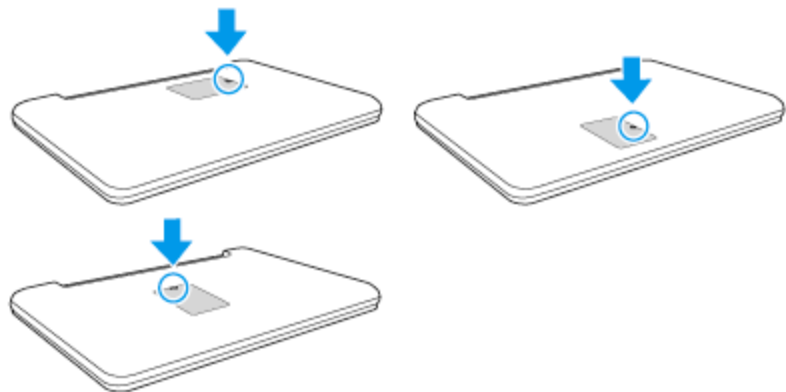
The type of module and the amount of memory installed on your computer may differ depending on the model.

1. Turn off your VAIO computer and peripheral devices, disconnect the power cord and all connection cables, and remove the battery pack. [\[Details\]](#)
2. Wait for a while until your VAIO computer cools down.
The inner parts of your VAIO computer may be hot just after turning off. Be careful to avoid burns while handling your VAIO computer in this state.
3. Lay a clean cloth on a level, flat surface, place your VAIO computer on it as illustrated below. Remove the screws with a cross slot screwdriver to open the memory module compartment cover.

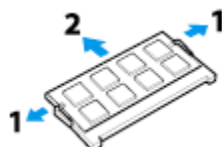
The screw locations are indicated by the arrows in the illustration below.

On some models, captive screws are used on the memory module compartment cover and cannot be detached from the cover.

The shape and location of the memory module compartment cover varies depending on models. Look at the bottom of your VAIO computer for its location.



4. Touch an external metal object to discharge static electricity.
Do not touch any metal parts inside your VAIO computer.
5. If there is no free slot, remove the currently installed memory module. Pull the latches in the direction of the arrows to pop up the module at an angle (1), then pull the module out in the direction of the arrow (2).



6. Remove the new memory module from its antistatic bag.
7. Hold the memory module by its edge and slide it into the memory module slot with its end terminal facing downward while aligning the notch on the module with the small projection in the slot.



8. Hold the memory module by its edge and push in until it clicks into place as shown in the illustration.
The latches on both sides of the slot snap into place to secure the module. Do not touch any ICs (black components) on the memory module.



9. Replace the memory module compartment cover and secure it with the screws you removed in step 3.
10. Install the battery pack and connect all connection cables and peripherals that you removed in Step 1, and turn on the computer.
11. Check that the amount of system memory has correctly changed. [\[Details\]](#)
If the amount of indicated system memory is correct, memory module installation was successful.

Related Topic

[Notes on Adding and Removing Memory Modules](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Booting Your VAIO Computer from External Devices

You can boot your VAIO computer from external devices, such as an optical disc drive, a USB floppy disk drive, or a USB flash drive by using the BIOS function.

1. Connect an external device to your VAIO computer.
2. Press the ASSIST button while your VAIO computer is off.
The VAIO Care Rescue Mode screen appears.
3. Select Start from media (USB device/optical disc).
The booting process from the external device starts.

Note

- Disconnect all devices from your VAIO computer except for the external device from which you intend to boot up. Some devices cannot be used to boot the computer, or cannot be used with the computer.
- If an AC adapter is supplied with the external device, be sure to connect it to an AC power source in advance.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Checking Supplied Items

Check all items packed with the product before use.

AC adapter

Power cord

Battery pack

Hint

- No Recovery Media is included because your VAIO computer can be recovered using data stored in the hard disk drive or SSD. See Recovering from the Recovery Area for more information. [\[Details\]](#)
-

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Customizing Your VAIO Computer

VAIO Control Center allows you to access system information and to change settings of various kinds of functions such as display and sounds.

1. Start VAIO Control Center. [\[Details\]](#)
2. Select your desired item and change the settings.

Hint

- Some of the items will not be visible if you sign in as a user without administrative rights.
-

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Keeping Your VAIO Computer in Optimum Condition (VAIO Care)


With VAIO Care, you can perform the following operations to keep your VAIO computer running at an optimum level.

- Conduct regular performance checks and tune-ups.
- Find support information (the support website URL, the contact information phone number, etc.).
- Start VAIO Care just by pressing the ASSIST button and search for appropriate measures if you have any problem.

1. Press the ASSIST button while your VAIO computer is on.
VAIO Care starts.

Refer to the help file included with VAIO Care for more information.

Hint

- Pressing the ASSIST button while your VAIO computer is off starts VAIO Care Rescue Mode. VAIO Care Rescue Mode can be used to recover the computer in case of emergency, for example, if Windows does not start.
- Alternatively, open the charms [\[Details\]](#), select the  Search charm and Apps, and enter "VAIO Care (Desktop)" in the Search box to start VAIO Care.

Related Topic

[Recovering from the Recovery Area](#)

[Backing Up Your Data when You cannot Start Windows](#)

[Restoring Your Data with VAIO Data Restore Tool](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Notes on Adding and Removing Memory Modules

Before adding or removing memory modules, read the following precautions thoroughly.

- Your VAIO computer and memory modules use high precision components and electronic connector technology. To avoid invalidation of the warranty during your product warranty period, we recommend that:
 - You should contact your dealer to install a new memory module.
 - You should not install a memory module by yourself, if you are not familiar with upgrading memory on a computer.
 - You should not touch the connectors or open the memory module compartment cover.
- For assistance, contact an authorized Sony service/support center. To find the nearest center or agent, refer to online support website.[\[Details\]](#)
- If you add or remove memory modules by yourself, your VAIO computer may result in malfunction or accident caused by breakage of slot and module, or connection mistake. In this case, repair fee will be charged.
- Be careful not to injure your hands or fingers with sharp edges of the memory module, inner components, or circuit boards of your VAIO computer.
- Be careful not to catch your fingers on any inner cables of your VAIO computer, as the cable may become loose or disconnected.
- If your VAIO computer is turned on while liquid such as water or other foreign object remains inside, it may cause a fire. Be sure to remove any foreign objects and attach the memory module compartment cover before turning on your VAIO computer.
- Sony does not guarantee that third party memory modules will work in your VAIO computer. For information on third party memory modules, consult the respective sales dealers.
- Be sure to turn off your VAIO computer and peripherals and disconnect all attachments and connection cables before adding or removing memory modules. Failure to do so may cause damage to the memory module, your VAIO computer, or peripheral devices.
- To prevent damage from electrostatic discharge to memory modules, follow the instructions below:
 - Do not work at a place that produces static electricity easily, such as on a carpet.
 - Before adding or removing memory modules, touch an external metal object from your VAIO computer to eliminate static electricity. Do not touch any metal parts inside the computer.
 - Do not open the memory module package before you are ready to install the module. The package protects the module from ESD (electrostatic discharge). To store the module, cover it with an antistatic bag or a sheet of aluminum foil.
- When holding a memory module, do not touch the chips or electrical terminal of the module.
- Do not insert a memory module into the slot facing in wrong direction. It may cause damage to the module or slot, or cause the circuit board to catch fire.
- Use a screwdriver that matches the size of the screw (such as a miniature screwdriver).
- Do not remove or loosen screws that are not specified to be removed.

Related Topic[Adding and Removing Memory Modules](#)[Viewing the System Information](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Setting Up an Appropriate Work Environment

This topic describes where to or not to place your VAIO computer and ergonomic instructions.

Where to place your VAIO computer

When placing your VAIO computer, ensure that:

- You have easy access to a power source and necessary ports.
- You leave enough space around the computer.
- The computer is placed on a flat surface that is wide enough and you can face the computer screen as you operate it.
- You can place the computer in front of you where you can sit upright and keep your forearms parallel to the floor.

Where not to place your VAIO computer

Placing your VAIO computer in an inappropriate location may cause damage or a malfunction. Do not place the computer in a location subject to:

- Direct sunlight
- Magnetic items or sources
- Heat sources, such as residential heating equipment
- Excessive dust
- High humidity
- Poor ventilation

Note

- The area around the air exhaust vent may become extremely hot while your VAIO computer is on. Be careful before touching the area.
- Do not place any object near the air exhaust vent that may block the vent.

Hint

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

Ergonomic considerations

Whenever possible, you should attempt to take account of the following ergonomic considerations.

Furniture and posture

Sit in a chair with good back support. Adjust the level of the chair so your feet are flat on the floor. A footrest may make you more comfortable.

Sit in a relaxed, upright posture and avoid slouching forward or leaning far backwards.

Viewing angle of the computer screen

Use the screen tilting feature to find the best position. Make sure the computer screen is at or slightly below eye level when you are sitting in front of your VAIO computer. Adjust the

brightness level of the display as well.

You can reduce eye strain and muscle fatigue by adjusting the tilt and brightness level of the computer screen to the proper position.

Lighting

Choose a location where windows and lights do not cause glare and reflection on the computer screen. Use indirect lighting to avoid bright spots on the computer screen. Proper lighting adds to your comfort and work efficiency.

Note

- While adjusting the viewing angle, do not exert excessive pressure on your VAIO computer to eliminate a risk of mechanical damage.

Hint

- The same considerations apply when you use an external display.

Notes on handling your VAIO computer

Observe the following to avoid malfunctions and damage to your VAIO computer.

- Place your VAIO computer gently on a flat surface to avoid a mechanical shock.
 - Be sure to turn off your VAIO computer before moving the computer. Moving the computer that is turned on may cause a hard disk malfunction. Be sure to disconnect all cables connected to the computer before moving it.
 - Do not drop or hit your VAIO computer. Even a slight shock or vibration may cause a hard disk malfunction.
 - Do not place your VAIO computer in an unstable position.
-

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Updating Your VAIO Computer


Be sure to update your VAIO computer with the following apps to enhance the computer's efficiency, security, and functionality.

Note

- Your VAIO computer must be connected to the Internet to download the updates.

Windows Update

Windows Update enables you to make your VAIO computer more stable.

1. Open the charms [\[Details\]](#) and select the  Search charm.
2. Select Settings and enter "Windows" in the Search box.
3. Select Windows Update from the list and follow the on-screen instructions to complete the updates.

VAIO Update

VAIO Update automatically notifies you of new updates available on the Internet, and downloads and installs them on your VAIO computer.

1. Start VAIO Update [\[Details\]](#) and follow the on-screen instructions.

Related Topic

[Using VAIO Update](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Using VAIO Update

VAIO Update provides a service that informs you of available update information, such as important notices or update programs, to keep your VAIO computer up to date. Through the Internet, VAIO Update automatically detects the update programs that are necessary for enhancing your computer's performance or new software that is available, and let you download and install with simple steps.

1. Start VAIO Update [\[Details\]](#) and follow the on-screen instructions.

Hint

- You can also start VAIO Update from VAIO Care (Desktop).

Related Topic

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Viewing the System Information

You can view the system information of your VAIO computer.

For example, after installing a memory module, you can view the information to confirm system memory changes.

1. Start VAIO Care (Desktop). [\[Details\]](#)
2. Select About Your VAIO and System information.
The system information of your VAIO computer is displayed.

Related Topic

[Notes on Adding and Removing Memory Modules](#)[Adding and Removing Memory Modules](#)[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Checking the Battery Charge Capacity

The battery pack is consumable. The capacity gradually declines through repeated cycles of recharging and discharging. As a result, the battery life becomes short even if it is fully charged and eventually the battery pack reaches the end of its life.

If the battery life has become short, replace the battery pack with a new one specified by Sony. Refer to the help file for more information on battery charge status and capacity decrease.

1. Start VAIO Control Center [\[Details\]](#) and select Power and Battery.
2. Select Details in Battery.
Detailed battery pack information, such as charging capacity, is displayed.

Hint

- Enable the battery care function to maximize the battery lifespan. With this function, you can reduce battery degradation by limiting the maximum charging capacity.

Related Topic

[Extending the Battery Life](#)[Notes on Using the Battery Pack](#)[Charging the Battery Pack](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Extending the Battery Life

When your VAIO computer is running on battery power, you can extend the battery life using the following methods.

- Use Sleep mode. [\[Details\]](#)

When you do not need to use your VAIO computer temporarily, you can use Sleep mode. To extend the battery life, use Sleep mode frequently. If you do not intend to use the computer for an extended period of time, turn off the computer.

Resuming the computer from Sleep mode is faster than from booting up the computer.

- Decrease the LCD brightness of the computer screen. [\[Details\]](#)
- Turn down the volume of the speakers and headphones. [\[Details\]](#)
- Disconnect peripheral devices that are not in use.

Related Topic

[Checking the Battery Charge Capacity](#)[Charging the Battery Pack](#)[Notes on Using the Battery Pack](#)[Using Sleep Mode](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on Using the Battery Pack

Before using the battery pack, read the following precautions for correct use.

About the battery pack

- The supplied battery pack is designed specifically for your VAIO computer.
- For your safety, only use the supplied battery pack or an optional battery pack that is specified by Sony.
- For safety reasons, battery charging may be suspended at higher or lower temperatures.
- While your VAIO computer is connected to an AC outlet with the AC adapter, it runs on AC power, even if the battery pack is installed.
- The battery pack is not fully charged at the time of delivery.
- While the battery pack is in use or being charged, heat builds up in the battery pack. This is normal and is not cause for concern.
- Do not use your VAIO computer without installing the battery pack as it may cause the computer to malfunction.

About battery discharge

After battery charge, the battery pack will gradually discharge over time even while not in use. If it is left unused for an extended period of time, the battery power may be depleted. It is recommended that you recharge the battery pack before use.

About battery life

Battery life varies depending on usage and settings.

About battery deterioration and replacement

- The battery pack is consumable. The capacity gradually declines through repeated cycles of recharging and discharging. As a result, the battery life becomes short even if it is fully charged and eventually the battery pack reaches the end of its life.
- If the battery pack quickly runs out of power after being fully charged or it has reached the end of its life, replace it with a new one.

When the battery pack is running out of power

If the battery pack runs out during your absence, power will be cut off and any data you are working on will be lost.

While your VAIO computer is running on battery power, save data frequently.

Related Topic

[Notes on Using the Power Source](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Changing the Sound Output Device

If there is no sound coming from an external device connected to your VAIO computer, you need to change the device for sound output.

1. Open Control Panel [\[Details\]](#) and select Hardware and Sound.
2. Select Sound.
3. Select the Playback tab.
4. Ensure there is a check mark next to the icon of the device you intend to output computer sound from.
If there is no check mark next to the icon, select it and Set Default.
5. Select OK.

To change the sound rate and bit depth

The sound rate and bit depth of the digital audio output signal should be set according to your digital audio device. Follow these steps.

1. Open Control Panel [\[Details\]](#) and select Hardware and Sound.
2. Select Sound.
3. Select the Playback tab.
4. Select the HDMI device or OPTICAL OUT (optical digital audio output) icon and Properties.
5. Select the Advanced tab.
6. Select the sample rate and bit depth (for example, 16 bit, 48000 Hz (DVD quality)) which the device supports.
7. Select OK.

Related Topic


[Connecting External Speakers or Headphones](#)

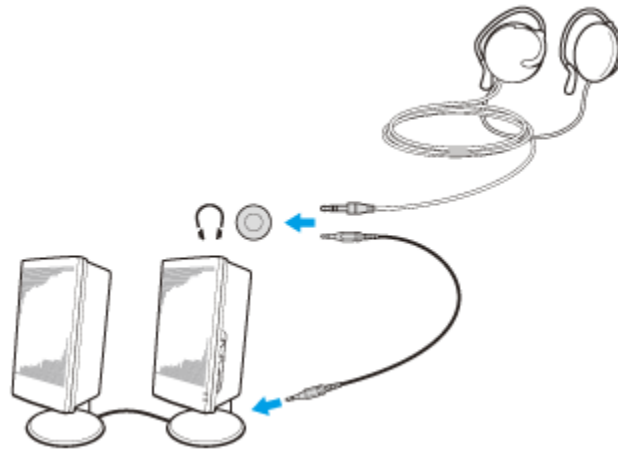
[Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Connecting External Speakers or Headphones

You can connect external sound output devices (such as speakers or headphones) to your VAIO computer.

1. Connect external speakers to the headphones jack  [\[Details\]](#) with a speaker cable (not supplied).

**Note**

- Turn down the volume of the speakers before turning them on.

Hint

- Refer to the manual that came with your speakers or headphones.

Related Topic[Adjusting the Speakers Volume](#)[Connecting an External Microphone<Microphone jack equipped models>](#)[Changing the Sound Output Device](#)[Adjusting the Volume in Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Connecting a High-Quality Digital Sound Output Device between Your VAIO Computer and a TV

You can connect a high-quality home theater receiver or other surround sound decoder devices between your VAIO computer and a TV using an HDMI connection.

1. Make sure the HDMI connection has been set up between the TV and the home theater receiver or surround sound decoder device.
2. Change the device for sound output to the HDMI output. [\[Details\]](#)
3. Turn on the TV and set its input to the HDMI input.
4. Turn on the home theater receiver or surround sound decoder device and set its input to the HDMI input.
5. Plug one end of an HDMI cable to the HDMI input port on the home theater receiver or surround sound decoder device and the other end to the HDMI output port on your VAIO computer.

Hint

- You can adjust the screen resolution of the connected TV with your VAIO computer. [\[Details\]](#)
- With the HDMI connection, the volume can be adjusted by the connected audio device only. Your VAIO computer has no control over the output volume of any connected devices.

Related Topic

[Changing the Sound Output Device](#)[Changing the Resolution \(Size\) of the Screen Image](#)[Connecting a TV with an HDMI Input Port](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Connecting an External Microphone <Microphone jack equipped models>

You can connect an external microphone to your VAIO computer and enjoy voice chat, etc.

1. Plug the microphone cable into the microphone jack [\[Details\]](#).

**Note**

- If you connect or disconnect the microphone to/from your VAIO computer while running a voice recording app, voice recording may fail or the app may exit. Connect the microphone and select it as the sound recording device for Windows before starting the app.

Hint

- Use a plug-in-power microphone.
- Refer to the manual that came with your microphone.
- If microphone feedback occurs, move the microphone away from your speakers.

Related Topic[Adjusting the Microphone Volume](#)[Connecting External Speakers or Headphones](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Adjusting the Microphone Volume

You can adjust the volume level of the microphone.

1. Open Control Panel [\[Details\]](#) and select Hardware and Sound.
2. Select Sound.
3. Select the Recording tab.
4. Double-click the microphone icon.
5. Select the Levels tab in the Microphone Properties window.
6. Move the slider under Microphone right and left to your desired volume level.
If the microphone volume is still not loud enough even at the maximum volume level, move the slider under Microphone Boost right and left to adjust the volume level.
7. Select OK.

Related Topic

[Connecting an External Microphone<Microphone jack equipped models>](#)[Adjusting the Speakers Volume](#)[Adjusting the Volume in Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Adjusting the Speakers Volume

You can change the volume level of the speakers and headphones.

To reduce the volume using the Fn key

1. Press the F3 key while holding down the Fn key.
The volume is turned down.

To increase the volume using the Fn key

1. Press the F4 key while holding down the Fn key.
The volume is turned up.

Hint

- You can press the Fn+F2 keys to turn off the speakers and headphones. Press the Fn+F2 keys once more to turn on the volume.
- You can also press the Fn+F3 or Fn+F4 keys to turn on the volume.

Related Topic

[Adjusting the Volume in Windows](#)[Adjusting the Microphone Volume](#)[Connecting External Speakers or Headphones](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)




[Other Operations](#)

[Notifications](#)

Adjusting the Volume in Windows

You can adjust the volume on each device and app from Control Panel.

1. Open Control Panel [\[Details\]](#) and select Hardware and Sound.
2. Select Adjust system volume under Sound.
3. Move the slider under Device or Applications up and down to your desired volume level.

When the volume is turned off () , select  (Deactivate muting) to turn on the volume (). When the volume is low, turn the volume up with the slider.

Related Topic

[Adjusting the Speakers Volume](#)[Adjusting the Microphone Volume](#)[Connecting External Speakers or Headphones](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Charging a USB Device

You can charge a USB device even while your VAIO computer is off, in Hibernate mode, or Sleep mode by enabling the USB charging settings.

Change the settings while the USB device is disconnected from the USB port that supports USB charging.

1. Start VAIO Control Center [\[Details\]](#) and select Hardware.
2. Enable the USB Charging setting.
3. Connect a USB device to the USB port with the ⚡ mark printed around it.

If charging does not start even when you connect a USB device to the USB port that supports USB charging, disconnect and connect the device.

Note

- With the USB charging settings enabled, power consumption when your VAIO computer is off or in Hibernate mode or Sleep mode increases because the computer supplies power to the USB port even when a USB device is not connected to the port.
- When the USB charging settings are enabled, you cannot use the remote wake-up function on the USB device connected to the USB port that supports USB charging.

Hint

- The USB charging settings are disabled by default.
-

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

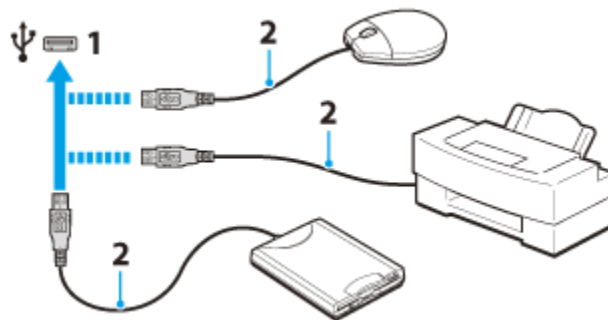
Connecting a USB Device

You can connect a Universal Serial Bus (USB) device such as a mouse, floppy disk drive, speaker or printer to your VAIO computer.

Installation of the device driver supplied with the USB device may be required when connecting.

Refer to the manual that came with the device for more information.

1. Choose the USB port (1) you prefer to use.
2. Plug the USB device cable (2) (not supplied) into the USB port.

**Note**

- You may need to install the driver supplied with your USB device before use. Refer to the manual that came with the USB device for more information.
- In order to print documents, be sure the USB printer is compatible with your version of Windows.
- Before disconnecting USB speakers from your VAIO computer, stop DVD or music playback or turn off the computer. If you disconnect the USB speakers during playback, it may cause a malfunction.
For information on how to remove a USB device, refer to the manual that came with the device.
- To protect your VAIO computer and/or USB devices from damage, observe the following:
 - When moving your VAIO computer with USB devices connected, avoid exposing the USB ports to shock or impact.
 - Do not put your VAIO computer in a bag or carrying case with USB devices connected.

Hint

- The USB ports on your VAIO computer are compliant with the USB 2.0 standard and USB 3.0 standard. USB ports that are compliant with the USB 3.0 standard are identifiable by their blue color.
- In addition to the USB 2.0 standard transfer modes, the USB 3.0 standard specifies the following transfer mode:
 - SuperSpeed: Transfer rate of 5 Gbps.

Related Topic[Connecting an External Drive](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About BLUETOOTH(R) Security

The BLUETOOTH wireless technology has an authentication function, which allows you to control communication with other devices.

The authentication function helps you prevent unwanted anonymous BLUETOOTH devices from accessing your VAIO computer. The first time two BLUETOOTH devices communicate, a common passcode (a password required for authentication) should be identified to register both devices. Once a device is registered, there is no need to re-enter the passcode.

For details, open Windows Help and Support [\[Details\]](#), and enter "BLUETOOTH" in the search box.

Related Topic

[About the BLUETOOTH\(R\) Function](#)[Communicating with Another BLUETOOTH\(R\) Device such as a Mouse](#)[Stopping BLUETOOTH\(R\) Communications](#)[Notes on Using the BLUETOOTH\(R\) Function](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

About the BLUETOOTH(R) Function

You can establish wireless communications between your VAIO computer and other BLUETOOTH devices, such as another computer, a smartphone, a mobile phone, a headset, or a mouse.

You can transfer data between these devices without cables at a range of up to 33 feet / 10 meters in an open area.



One BLUETOOTH device can connect with up to seven devices via wireless network to exchange data.

When a device requires connection to another device, it sends out an inquiry to neighboring BLUETOOTH devices. If any device responds to the inquiry, the two devices can connect with each other.

Related Topic

[Communicating with Another BLUETOOTH\(R\) Device such as a Mouse](#)[Stopping BLUETOOTH\(R\) Communications](#)[Notes on Using the BLUETOOTH\(R\) Function](#)[About BLUETOOTH\(R\) Security](#)


[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Communicating with Another BLUETOOTH(R) Device such as a Mouse

You can connect BLUETOOTH devices to your VAIO computer.

For details on BLUETOOTH communication, see [About the BLUETOOTH Function](#).

[\[Details\]](#)

1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select Change PC settings in the lower right corner.
3. Select Wireless in the left pane of the PC settings screen.
4. Change Airplane mode to Off and the Bluetooth setting to On.

Hint

- If your VAIO computer is compliant with BLUETOOTH high speed technology and you intend to use it for high-speed communications, change the Wi-Fi setting under Wireless devices to On, too.

5. Select Devices in the left pane of the PC settings screen.
6. When connecting a BLUETOOTH mouse, turn it on and press the button to connect the mouse.

Hint

- Refer to the manual that came with your BLUETOOTH device for the procedure to ready the device for connection.

7. Select Add a device.

Your VAIO computer searches for devices and displays a device list. Follow the on-screen instructions to register your device.

Note

- Depending on the BLUETOOTH device, it may take some time for your VAIO computer to find the device. If your device does not appear in the list, repeat the procedure to ready the device for connection (for example, pressing the button for connection).
- Depending on the BLUETOOTH device, the procedure to establish connection may vary. Refer to the manual that came with the device for the procedure.

Hint

- For details on the operations, open Windows Help and Support [\[Details\]](#), and enter "BLUETOOTH" in the search box.
- A window appears for passcode input if a BLUETOOTH device is requesting authentication to establish connection. Follow the on-screen instructions to share the passcode between the BLUETOOTH device and your VAIO computer. If you do not wish to connect, select the Cancel button in the window.
 - A passcode is a secret number that is entered by a user to use for the authentication process to allow two BLUETOOTH devices to communicate with each other. Enter the same alphanumeric string (case-sensitive) for both devices to allow them to communicate with each other. You can change the passcode every time you perform authentication, providing you enter the same passcode for both devices during the authentication process. For details on the passcode of a BLUETOOTH device, refer to the manual that came with the device. If no BLUETOOTH passcode is entered for a certain time, the connection process will be terminated for security. In this case, try again.

Related Topic

[About the BLUETOOTH\(R\) Function](#)

[Stopping BLUETOOTH\(R\) Communications](#)

[Notes on Using the BLUETOOTH\(R\) Function](#)

[About BLUETOOTH\(R\) Security](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Notes on Using the BLUETOOTH(R) Function

Before using the BLUETOOTH function, read the following precautions for correct use.

- In some countries or regions, using the BLUETOOTH function may be restricted by the local regulations.
- The BLUETOOTH function may not work with some devices, depending on the manufacturer or the app version employed by the manufacturer. Check the system requirements of the BLUETOOTH device before purchasing.
For information on BLUETOOTH devices, visit the VAIO Support website.
Some BLUETOOTH devices require authentication (pairing) before establishing connection with another device. Perform the authentication process before connecting to such devices.
- BLUETOOTH devices work on the 2.4 GHz band, which is used by a variety of devices. BLUETOOTH devices use the technology to minimize radio interference from other devices that use the same band; however, radio interference may still cause slower communication speeds, reduce communication range, or in some cases, cause communication failure.
- Communication speed and range may vary depending on the following conditions:
 - Distance between communication devices
 - Existence of obstacles between devices
 - Ambient environment that includes existence of walls and materials of such walls
 - Device configuration
 - Apps in use
 - Radio conditions
 Communications may be cut off depending on radio conditions.
- If your VAIO computer is compliant with BLUETOOTH high speed technology and you intend to use it for high-speed communications, enable both the wireless LAN and BLUETOOTH functions on the computer.
- Large files may occasionally be corrupted during continuous transfer due to limitations of the BLUETOOTH standard and electromagnetic interference in the environment.
- Connecting multiple BLUETOOTH devices to your VAIO computer may cause channel congestion, resulting in poor device performance. This is normal with BLUETOOTH technology and does not indicate a malfunction.
- Video and audio may not be synchronized if you play videos on your VAIO computer with audio output from a connected BLUETOOTH device. This is a frequent occurrence with BLUETOOTH technology and does not indicate a malfunction.
- All BLUETOOTH devices must be certified through the procedure stipulated by Bluetooth SIG to ensure that they are compliant with the BLUETOOTH standard. Even if the BLUETOOTH devices are compliant with the BLUETOOTH standard, individual device performance, specifications, and operation procedures may vary. Data exchange may not be possible in all situations.
- Not all BLUETOOTH devices are guaranteed of compatibility with your VAIO computer.
- If you urgently need to disable the BLUETOOTH function, turn off your VAIO computer.

Related Topic

[About the BLUETOOTH\(R\) Function](#)[Communicating with Another BLUETOOTH\(R\) Device such as a Mouse](#)[Stopping BLUETOOTH\(R\) Communications](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)


[Security](#)

[Other Operations](#)

[Notifications](#)

Stopping BLUETOOTH(R) Communications

You can stop BLUETOOTH communications by following these steps.

1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select Change PC settings in the lower right corner.
3. Select Wireless in the left pane of the PC settings screen.
4. Change the Bluetooth setting under Wireless devices to Off.

Hint

- When Airplane mode is Off, the WIRELESS indicator light on your VAIO computer stays on.

Related Topic

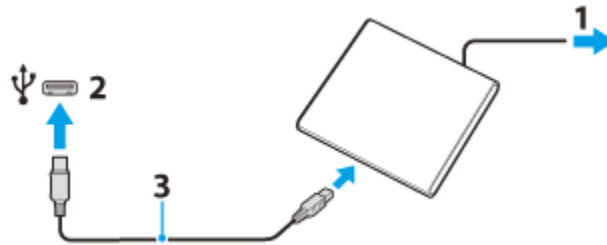
[About the BLUETOOTH\(R\) Function](#)[Communicating with Another BLUETOOTH\(R\) Device such as a Mouse](#)[Notes on Using the BLUETOOTH\(R\) Function](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Connecting an External Drive

Connect an external disc drive or hard disk drive to a USB port on your VAIO computer.

1. Plug the power cord of your external drive into an AC outlet (1).
2. Plug one end of a USB cable (3) (not supplied) into the USB port (2), and the other end to the external drive. [\[Details\]](#)

**Note**

- Be sure to connect an external drive to a power source with an AC adapter (if supplied).

Hint

- You may need to install a driver depending on the external drive you use. In addition, procedures to connect and use an external drive vary depending on the drive you use. Refer to the manual that came with your external drive for more information.

Related Topic[Connecting a USB Device](#)

[▶ Troubleshooting](#)**How to Use**

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About Region Codes <Optical disc drive equipped models>

The following is a list of DVD region codes indicating playable regions of DVD media. You can check the region codes of DVD media sold in the following countries or regions.

1. USA, Canada
2. Europe, Middle East, South Africa, Japan
3. Southeast Asia, Taiwan, South Korea, Hong Kong
4. Central America, South America, Mexico, Australia, New Zealand
5. North Africa, Asia, Russia, Ukraine, Belarus, India
6. China
7. Reserved for future use
8. International aircraft, international cruise ship, international conference hall, etc.

Region code indicators are labeled on the discs or packages to indicate in which region and on what type of player you can play the disc. If the region code indicates "all," you can play this disc in most regions of the world. If the region code for your residence area is different from the label, you cannot play the disc on your VAIO computer.

Related Topic[Supported Discs<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Handling Discs <Optical disc drive equipped models>

Read the following to protect data stored on discs and take proper care of discs.

- Be sure to hold the disc by its edges and central hole without touching the recording surface (playing surface), as shown below.
Fingerprints and dust on the surface of a disc may cause a read or write error. Be sure to keep the disc clean.



- Sony assumes no liability for any problems and damages to discs arising out of adhesive labels affixed to discs. Refer to the manual carefully that came with the label app or label paper, and use the labels under your responsibility.



To take proper care of discs

- For normal cleaning, hold the disc by its edges and use a soft cloth to wipe the surface from the center out, as shown below.



- 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. Wipe off any remaining moisture with a dry soft cloth.
- Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray which may cause damage to the disc.

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

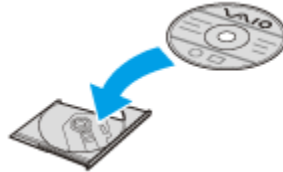
Inserting/Removing a Disc <Optical disc drive equipped models>

Insert/remove a disc to/from your VAIO computer that is turned on.

1. Press the drive eject button.
The drive tray slides out.

Hint

- The location of the drive eject button varies depending on the model you purchased. It is located on the front or side of your VAIO computer.
2. Insert/remove a disc to/from your VAIO computer.
When you insert a disc:
Hold the bottom of the drive tray with one hand, place a disc in the middle of the drive tray, and gently push it down until the disc clicks into place. If the disc is not properly placed when you close the drive tray, it may become unable to open.



Place the disc with the label side facing upward.

Note

- Do not exert pressure on the drive tray when placing a disc.
3. Close the drive tray by pushing it in gently.

Related Topic[Supported Discs<Optical disc drive equipped models>](#)[About Region Codes<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on Using Discs <Optical disc drive equipped models>

Observe the following notes when using discs on your VAIO computer.

Notes on playing discs

- Depending on system environment, you may find sound interruptions and/or dropped frames during DVD/BD/AVCHD playback. In addition, some discs may not be able to play on your VAIO computer.
- When you are playing discs:
 - The CPU load increases. Close all running apps other than the playback app you are currently using to enjoy smoother playback.
 - Do not switch the display output between the computer screen and an external display.

Notes on playing recorded discs on other players

- Some CD players may not be able to play audio CDs created with CD-R or CD-RW media.
- Some DVD players may not be able to play DVDs created with DVD+R DL, DVD-R DL, DVD+R, DVD+RW, DVD-R, DVD-RW, or DVD-RAM media.
- Blu-ray Disc recorders that support only BD-RE Ver.1.0 cannot play BD-R or BD-RE media created with your VAIO computer. (Blu-ray Disc Drive with DVD SuperMulti equipped models)

Tips for successful writing

- Do not plug or unplug cables, such as the AC adapter or the power cord while the optical disc drive is writing data to a disc.
- The writing process may take longer to complete than theoretically predicted because some apps write and verify data simultaneously.
- Sony assumes no liability for any loss or damage of any kind arising out of writing failure.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Playing Blu-ray 3D(TM) Disc Media on a 3D TV <Blu-ray Disc(TM) Drive equipped models>

If your VAIO computer or a docking station (supplied or optional) is equipped with the Blu-ray Disc Drive and the 3D graphics controller, you can play Blu-ray 3D Disc media and view 3D images on a 3D-capable display, such as a 3D TV, by connecting the display to the computer or the docking station.

Refer to the manual that came with your 3D TV for information on the 3D TV settings and operations.

1. Connect your 3D TV to your VAIO computer with an HDMI cable (not supplied) and configure the 3D TV settings. [\[Details\]](#)
2. Press the Fn+F7 keys several times to switch the display output to only an external display. [\[Details\]](#)
3. Set the HDMI output resolution settings on your VAIO computer to 1920x1080 or 1280x720.
4. Start the Blu-ray Disc playback app.
5. Insert Blu-ray 3D Disc media into the optical disc drive. [\[Details\]](#)

Note

- Be sure to follow the instructions in the manuals that came with the 3D display you use when viewing 3D images.
- Be sure to use the 3D glasses specified by the TV manufacturer while viewing 3D images.
- Refer to the manual that came with your 3D TV for detailed information on the 3D function.
- The Intel HD Graphics does not support 3D output for Blu-ray 3D Disc media.
- The Blu-ray 3D player app may not be installed on the model you purchased.

Related Topic

[Connecting a TV with an HDMI Input Port](#)[Changing the Resolution \(Size\) of the Screen Image on an HDMI-Connected Device](#)[Selecting Display Modes](#)

[> Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Supported Discs <Optical disc drive equipped models>

This topic explains media types that are playable/recordable on your VAIO computer. The installed optical disc drive varies depending on the model you purchased. Check the specifications before use.

For DVD SuperMulti Drive equipped models

The optical disc drive supports playback and/or recording of the following media.

Playback and recording

- CD-R/RW *1
- DVD-R/RW
- DVD+R/RW
- DVD+R DL (Double Layer)
- DVD-R DL (Dual Layer)
- DVD-RAM *2*3

Playback only

- CD-ROM
- DVD-ROM

For Blu-ray Disc(TM) Drive with DVD SuperMulti equipped models

The optical disc drive supports playback and/or recording of the following media.

Playback and recording

- CD-R/RW *1
- DVD-R/RW
- DVD+R/RW
- DVD+R DL (Double Layer)
- DVD-R DL (Dual Layer)
- DVD-RAM *2*3
- BD-R/RE *4*5*6

Playback only

- CD-ROM
- DVD-ROM
- BD-ROM

For Blu-ray Disc(TM) ROM Drive with DVD SuperMulti equipped models

The optical disc drive supports playback and/or recording of the following media.

Playback and recording

- CD-R/RW *1

- DVD-R/RW
- DVD+R/RW
- DVD+R DL (Double Layer)
- DVD-R DL (Dual Layer)
- DVD-RAM *2*3

Playback only

- CD-ROM
- DVD-ROM
- BD-ROM

*1 Writing data to Ultra Speed CD-RW media is not supported.

*2 The optical disc drive does not support the DVD-RAM cartridge. Use non-cartridge discs or discs with a removable cartridge.

*3 Writing data to single-sided DVD-RAM media (2.6 GB) compliant with DVD-RAM Version 1.0 is not supported.

DVD-RAM Version 2.2/12X-SPEED DVD-RAM Revision 5.0 media are not supported.

*4 BD-RE Disc media in Version 1.0 format and Blu-ray Disc media with a cartridge are not supported.

*5 Writing data to BD-R Part1 Version 1.1/1.2/1.3 media (single-layer media with the capacity of 25 GB, dual-layer media with the capacity of 50 GB) and BD-RE Part1 Version 2.1 media (single-layer media with the capacity of 25 GB, dual-layer media with the capacity of 50 GB) is supported.

*6 BDXL(TM) media are not supported.

Note

- Your optical disc drive may not support writing or playback of some types of media.
- Your optical disc drive does not support 8 cm disc writing.
- Your optical disc drive supports only circular discs. Do not use discs in any other shape (star, heart, card, etc.) or damaged discs, as it may cause your VAIO computer to malfunction.
- DVD-Video format data can be written to DVD+R (single layer or dual layer), DVD+RW/DVD-R (single layer or dual layer), and DVD-RW media. DVD-Video Recording format data can be written to DVD-R (single layer or dual layer), DVD-RW, and DVD-RAM media. Writable media differ depending on the disc burning app you use. Refer to the help file included with the app for more information.
- It is recommended that you use Sony branded media: DVD+R, DVD+RW, DVD-R, DVD-RW, CD-R, CD-RW, BD-R, or BD-RE.
- You cannot write data to DVD-RW media (6x writing) unless your optical disc drive supports at least 6x writing for DVD-RW media.
- You cannot write data to DVD+RW media (8x writing) unless your optical disc drive supports at least 8x writing for DVD+RW media.
- Your VAIO computer is designed to playback discs that conform to the Compact Disc (CD) standard. DualDiscs and some music discs encoded with copyright protection technologies do not conform to the CD standard. Therefore, these discs may not be compatible with the computer.
- When you buy pre-recorded or blank discs for use with your VAIO computer, be sure to read the notices on the disc package carefully to check both playback and recording compatibility with your computer's optical disc drives. Sony does NOT guarantee the compatibility of VAIO optical disc drives with discs that are not compliant with the official "CD," "DVD," or "Blu-ray Disc" standard. **USING NON-COMPLIANT DISCS CAN CAUSE FATAL DAMAGE TO YOUR VAIO COMPUTER OR CREATE APP CONFLICTS AND CAUSE SYSTEM HANGING.**
For inquiries about disc formats, contact the individual publisher of the pre-recorded disc or the manufacturer of the recordable disc.
- Your VAIO computer needs to be connected to the Internet to play DVD-RW, DVD-

RAM, and DVD-R (single layer or dual layer) media that are compliant with the Content Protection for Recordable Media (CPRM) standard.

- To record, edit, or play copyright protected content, Blu-ray Disc media employs the Advanced Access Content System (AACs) technology. To use Blu-ray Disc media continually, you need to update the AACs key.
- You can update the AACs key through the Internet. Follow a message displayed on a recording, editing, or playback app you are using. Without updating the AACs key, you may become unable to record, edit, or play copyright protected content.
To record, edit, or play content without copyright protection, you do not need to update the AACs key. You can update the AACs key for the Blu-ray Disc recording or playback app installed on your VAIO computer for five years after purchase. After that, we will inform you about the update on the support website.
- Region settings are required for some contents of DVD and BD-ROM Disc media. If the region setting on the optical disc drive does not match the region code on the disc, playback is not possible.
- Unless your external display is compliant with the High-bandwidth Digital Content Protection (HDCP) standard, you cannot play or view the contents of copyright protected Blu-ray Disc media through an HDMI connection.
- Some Blu-ray Disc content may restrict video output to standard definition or prohibit analog video output.

Related Topic

[About Region Codes<Optical disc drive equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Changing the Button Assignment (VAIO Button)

You can change the current task assigned to the VAIO button. [\[Details\]](#)

1. Press and hold down the VAIO button.
The settings window appears.
 2. Change the current task to your desired one.
You can select a task from the list.
 3. Select OK.
-

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Changing the Keyboard Backlight Settings <Keyboard backlight equipped models>

You can turn on and off the keyboard backlight by changing the keyboard backlight settings.

1. Start VAIO Control Center [\[Details\]](#) and select Mouse and Keyboard.
2. Change the keyboard backlight settings in Keyboard Backlight.
The settings window appears. Follow the on-screen instructions to change the settings.

Related Topic

[Parts and Controls on the Front](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Combinations and Functions with the Fn Key

Press and hold down the Fn key and another key simultaneously to perform a keyboard shortcut action.

For example, to turn off the sound: Fn+F2 → Press and hold down the Fn key, then press the F2 key.

Some keyboard functions can only be used while Windows is running.

Fn +  (F1)

Disables and enables the touch pad. [\[Details\]](#)

Fn +  (F2)



Turns on and off the built-in speakers or the headphones.

Fn +  /  (F3/F4)

Press the button repeatedly to adjust the volume level of the built-in speakers and the headphones. [\[Details\]](#)

To decrease the volume, press the Fn+F3 keys.

To increase the volume, press the Fn+F4 keys.

Fn +  /  (F5/F6)

Press the button repeatedly to adjust the LCD brightness of your computer screen. [\[Details\]](#)

To decrease lighting intensity, press the Fn+F5 keys.

To increase lighting intensity, press the Fn+F6 keys.


Fn +  (F7)

Switches the display output to an external display.

Press the Fn+F7 keys several times to select the desired display output destination, and then press the Enter key to confirm. [\[Details\]](#)

Fn +  (F12)

Cuts off power to most of your VAIO computer, including LCD and CPU (Hibernate mode).

- For information on shortcut keys combined with the  (Window) key, etc., refer to Windows Help and Support. [\[Details\]](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

About Recovery

Recovery is the process of restoring the built-in storage device back to its original factory condition. Refresh is the process of reinstalling the operating system with the main settings and personal data retained.

Refresh your VAIO computer first if the computer becomes unstable. If the problem persists, recover the computer.

There are two ways to recover the computer:

- From Recovery Media
- From the recovery area

When do I have to perform recovery or refresh?

- If your VAIO computer has become unstable
- If your VAIO computer has been infected with a computer virus
- If your VAIO computer is experiencing problems which cannot be solved through troubleshooting
- If you have formatted the C: drive by mistake

Which apps should I use to recover or refresh my VAIO computer or create Recovery Media?

Use the following apps.

VAIO Care

- Creating Recovery Media
- Checking your computer hardware

VAIO Care (Rescue Mode) : Recover or maintain your system

- Recovering your VAIO computer
- Rescuing (backing up) your data
- Erasing all the data on your built-in storage device

Windows Recovery Environment (Windows RE)

- Refresh

Hint

- Refer to the help file included with VAIO Care and VAIO Care (Rescue Mode) : Recover or maintain your system for more information.
- You can also recover your VAIO computer from Windows Recovery Environment (Windows RE).

What is a recovery area?

The recovery area on the built-in storage device contains data for system and app recovery. Typically, you cannot modify or delete data in this area, however, there are commercially available apps designed for this purpose.

Why do I have to create Recovery Media?

Recovery Media are used to restore your VAIO computer back to its original factory condition. If Windows does not start and you have deleted the recovery area, you will need the Recovery Media to perform recovery.

Create the Recovery Media immediately after the computer is ready for use.

Related Topic

[Creating Recovery Media](#)

[Refreshing Your VAIO Computer](#)

[Recovering from the Recovery Area](#)

[Recovering from Recovery Media](#)

[Notes on Recovery](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)


[Other Operations](#)

[Notifications](#)

Checking the Volume of the Recovery Area

Your built-in storage device contains the recovery area where the data for the system recovery is stored.

To check the volume of the recovery area, follow these steps:

1. Open the charms [\[Details\]](#) and select the  Search charm.
 2. Select Apps and enter "Computer" in the Search box.
 3. Select Computer.
 4. Select Computer on the menu bar and Manage.
 5. Select Disk Management under Storage in the left pane.
The volume of the recovery area and the total volume of the C: drive are displayed in the Disk 0 row in the center pane.
-

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Creating Recovery Media

Follow the instructions below to create Recovery Media.

To create Recovery Media

Hint

- You can use DVDs, Blu-ray Disc, and a USB flash drive as Recovery Media. However, it is recommended that you use DVD-R media, since you may accidentally delete the data on the USB flash drive. You can also use BD-R/BD-R DL/DVD-R DL/DVD+R/DVD+R DL media; however, the types of media your VAIO computer supports and the number of discs you need vary depending on the model you purchased. You will be notified of such information during the creation process.
 - USB ports that are compliant with the USB 3.0 standard do not support recovery with a USB flash drive that is compliant with the USB 3.0 standard. On models without the USB ports that are compliant with only the USB 2.0 standard, be sure to create Recovery Media using the USB flash drive that is not compliant with the USB 3.0 standard.
- Connect your VAIO computer to the Internet and download and install the latest updates using VAIO Update.
 - Press the ASSIST button while your VAIO computer is on to start VAIO Care (Desktop).
If the User Account Control window appears, select Yes.
The VAIO Care window appears.
Hint
 - If you are signed in to your VAIO computer as a standard user, you may be prompted to enter an administrator name and a password.
 - Select Advanced Tools, Restore and recovery, and Create Recovery Media.
 - Read the on-screen instructions carefully and select Next.
 - Follow the on-screen instructions.

Note

- It may take some time to display the current status of the procedure.
- Do not eject or disconnect the media while creating Recovery Media, as doing so may result in a failure of the process.
- Keep Recovery Media in a secure place.

Notes on creating Recovery Media

- Recovery Media is specific to your VAIO computer on which it was created.
- Refreshing your VAIO computer with Recovery Media is not possible.
- Create Recovery Media immediately after your VAIO computer is ready for use. In the following cases, you may not be able to recover the computer from the recovery area and the Recovery Media will be necessary:
 - You have modified the recovery area with apps designed for data modification.
 - You have installed an operating system different from the preinstalled operating system on the computer.

- You have formatted your built-in storage device without using VAIO Care (Rescue Mode) : Recover or maintain your system.
- Do not touch or soil the surface of the discs. Fingerprints or dust on the surface may cause read/write errors.
- To create Recovery Media, you may need the free space on the C: drive more than double capacity of media you use. Depending on the model you purchased, you cannot create the Recovery Media at the time of delivery due to the shortage of the free space even if the optical disc drive supports Blu-ray disc or Double/Dual Layer DVD media.
- Refer to the help file included with VAIO Care beforehand when you use a USB flash drive as Recovery Media.

Related Topic

[About Recovery](#)

[Recovering from the Recovery Area](#)

[Recovering from Recovery Media](#)

[Notes on Recovery](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on Recovery

Read the following notes thoroughly before recovering your VAIO computer.

Important notes on recovery

- Recovering your VAIO computer will delete all the data on the built-in storage device and restore all the settings to the original factory settings. Make sure you have a backup copy of your valuable data.
If you want to retain the main settings and personal data, refresh the computer. [\[Details\]](#)
- Disconnect all peripherals from your VAIO computer except the power cord, the AC adapter, or devices required for recovery before recovering the computer.
- Keep the power cord or the AC adapter connected to your VAIO computer during the recovery process.
- Do not stop the recovery process until the process is complete.
- If you have forgotten the password and cannot start the recovery process, contact an authorized Sony service/support center to reset it. A reset fee will be charged.

Notes on apps

- Recovering your VAIO computer can restore only the preinstalled apps. The app(s) that has been installed on your own or the data you have created since purchase cannot be restored. In addition, you cannot restore only Windows.
- Certain preinstalled apps include options that allow the apps to uninstall or install themselves. However, the apps may not work properly on your VAIO computer if such options are used.
- Installing apps to modify partition sizes may disable recovery or Recovery Media creation. To avoid this, create the Recovery Media immediately after your VAIO computer is ready for use. [\[Details\]](#)

Related Topic

[About Recovery](#)[Creating Recovery Media](#)[Recovering from the Recovery Area](#)[Recovering from Recovery Media](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Recovering from Recovery Media

If the recovery area data has been corrupted or erased, you can use Recovery Media to recover your VAIO computer. However, recovering the computer using the Recovery Media will take longer than using the recovery area.

1. Insert Recovery Media (optical discs) into the optical disc drive or connect a USB flash drive to the USB port on your VAIO computer while the computer is in Normal mode.
2. Turn off your VAIO computer.
3. Press the ASSIST button to display the VAIO Care Rescue Mode screen and select Start from media (USB device/optical disc).
Follow the on-screen instructions until the Choose an option screen appears.
4. Select Troubleshoot, then Recovery and maintenance.
Follow the on-screen instructions until the VAIO Care (Rescue Mode) : Recover or maintain your system screen appears.
Hint
 - If the display language selection window appears, select your desired language, then OK.
5. Select Start recovery wizard.
6. Follow the on-screen instructions.

Hint

- To perform custom recovery, select Tools and Start advanced recovery wizard.
- If you cannot recover your VAIO computer using the USB flash drive, connect the drive to another USB port on the computer, and then try recovering the computer again.

Related Topic

[About Recovery](#)[Creating Recovery Media](#)[Recovering from the Recovery Area](#)[Notes on Recovery](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Recovering from the Recovery Area

You can recover your VAIO computer from the recovery area on the built-in storage device. This recovery method is faster than using Recovery Media.

See Notes on Recovery [\[Details\]](#) before recovering the computer.

1. Press the ASSIST button while your VAIO computer is off.
The VAIO Care Rescue Mode screen appears.
2. Select Recover or maintain your system.
Follow the on-screen instructions until the Choose an option screen appears.
3. Select Troubleshoot, then Recovery and maintenance.
Follow the on-screen instructions until the VAIO Care (Rescue Mode) : Recover or maintain your system screen appears.

Hint

- If the display language selection window appears, select your desired language, then OK.
4. Select Start recovery wizard.
 5. Follow the on-screen instructions.
Hint
 - To perform custom recovery, select Tools and Start advanced recovery wizard.

Related Topic

[About Recovery](#)

[Creating Recovery Media](#)

[Recovering from Recovery Media](#)

[Notes on Recovery](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Refreshing Your VAIO Computer

If your VAIO computer has become unstable, it is recommended that you use the refresh function provided by Windows. Refresh the computer by following these steps.

1. Press the ASSIST button while your VAIO computer is off.
The VAIO Care Rescue Mode screen appears.
2. Select Recover or maintain your system.
Follow the on-screen instructions until the Choose an option screen appears.
3. Select Troubleshoot and Refresh your PC.

Most user data saved on your built-in storage device, some Windows settings and all apps downloaded from Windows Store will be retained even after you refresh your VAIO computer. However, some app settings or files in the specific folders may not be retained. Confirm the following list for details of which settings are retained, and which data is erased after you refresh the computer.

Settings retained after you refresh your VAIO computer

The following settings will be retained after you refresh your VAIO computer.

- Library settings
- User accounts (local, domain, Microsoft account), and group memberships
- Domain settings
- Windows Update settings
- Start screen and lock screen background
- Desktop themes
- International settings
- Wireless network profiles
- Settings configured in Windows Welcome

Data erased after you refresh your VAIO computer

The data in the folders specified below will be erased after you refresh your VAIO computer.

- Windows
- \Program Files
- \Program Files(x86)
- \ProgramData
- \Users\\AppData

Note

- Save important data in advance.
- Copyright protected data, such as digital broadcast data or music files organized by digital media playback apps may not be available, even if the data is retained in the same location after you refresh your VAIO computer.
Refer to the help file included with the app you are using for instructions.

Hint

- The apps installed at the time of delivery and installed from Windows Store are retained, whereas all Desktop apps that you installed after the purchase will be erased.

Related Topic

[About Recovery](#)
[Recovering from the Recovery Area](#)
[Recovering from Recovery Media](#)
[Notes on Recovery](#)

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[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Removing Recovery Content to Free up Disk Space

Your built-in storage device contains the recovery area where the data for system recovery is stored. If your VAIO computer includes a solid state drive (SSD), you might want to minimize the recovery area by removing such data to free up disk space on the C: drive (or the last drive in your drive list, for example D: drive).

You need Recovery Media to remove the data for system recovery or to recover the computer after you remove the data.

Note that removing recovery content makes it impossible to use the refresh function.

1. Create Recovery Media if you have not yet created it. [\[Details\]](#)
2. Insert the Recovery Media into the optical disc drive or connect a USB flash drive (not supplied) to the USB port on your VAIO computer while the computer is in Normal mode.
3. Turn off your VAIO computer.
4. Press the ASSIST button to display the VAIO Care Rescue Mode screen and select Start from media (USB device/optical disc).
Follow the on-screen instructions until the Choose an option screen appears.
5. Select Troubleshoot and Recovery and maintenance.
Follow the on-screen instructions until the VAIO Care (Rescue Mode) : Recover or maintain your system screen appears.
6. Select Tools and Remove recovery partition.
7. Follow the on-screen instructions.

Related Topic

[Creating Other Drives \(Modifying Partitions\)](#)[Creating Partitions](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Solving Common Problems with Your VAIO Computer

If you have any problem operating your VAIO computer, try these suggestions before contacting an authorized Sony service/support center or your local Sony dealer directly.

1. See other sections in this on-screen manual.
2. Start VAIO Care (Desktop) [\[Details\]](#) and perform necessary operations.
3. Visit the VAIO online support website and find necessary information.

Related Topic

[Keeping Your VAIO Computer in Optimum Condition \(VAIO Care\)](#)

[Read This First](#)

[About Online Support Website](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Disabling the Tapping Function on the Touch Pad

You can disable the tapping function to avoid unintentional clicks caused by a light touch on the touch pad during the keyboard operations.

1. Start VAIO Control Center [\[Details\]](#) and select Mouse and Keyboard.
2. Select Details under Touchpad Operations.
3. Clear the Enable tap functions check box.
4. Select OK.

Related Topic

[Using the Touch Pad](#)[Enabling/Disabling the Touch Pad](#)[Enabling/Disabling the Gesture Function](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Enabling/Disabling the Gesture Function

You can enable/disable the gesture function of the touch pad on your VAIO computer.

With the gesture function, you can perform the following operations.

- Scroll
- Back/Forward
- Zoom in/Zoom out
- Open the app menu
- Open the charms
- Switch apps

Follow these steps to enable/disable the gesture function.

1. Start VAIO Control Center [\[Details\]](#) and select Mouse and Keyboard.
2. Select Details under Touchpad Operations.
3. Select or clear the Enable multi-touch functions check box.
Select the check box to enable the function or clear it to disable the function.

Related Topic

[Using the Touch Pad](#)[Enabling/Disabling the Touch Pad](#)[Disabling the Tapping Function on the Touch Pad](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Enabling/Disabling the Touch Pad

You can enable/disable the touch pad on your VAIO computer.

1. Press and hold down the Fn key and press the F1 key.
Each time you press the keys, the touch pad is enabled/disabled.

Hint

- Be sure to connect a mouse before disabling the touch pad. If you disable the touch pad before connecting a mouse, you will be able to use only the keyboard for pointing operations.

Related Topic

[Using the Touch Pad](#)[Disabling the Tapping Function on the Touch Pad](#)[Enabling/Disabling the Gesture Function](#)

» Troubleshooting

How to Use

Windows 8: The Basics

Parts Description

Setup

Network / Internet

Connections

Settings

Playback

Backup / Recovery

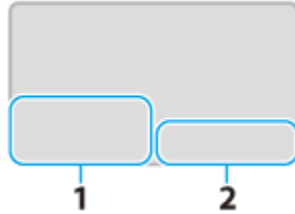
Security

Other Operations

Notifications

Using the Touch Pad

By sliding your finger on the touch pad, you can move the pointer on the computer screen. With the pointer on your desired item or object, press the left button zone or the right button zone to execute various commands or display menus.



1. Left button zone
2. Right button zone

Hint

- The shape of the touch pad varies depending on the model you purchased.

To click

With the pointer on your desired item or object, press the left button zone once. Alternatively, tap on the touch pad once.

To double-click

With the pointer on your desired item or object, press the left button zone twice quickly. Alternatively, tap on the touch pad twice quickly.

To right-click

With the pointer on your desired item or object, press the right button zone once. Alternatively, tap on the touch pad with two fingers. Depending on the location of the pointer, you can display various shortcut menus.

To drag

With the pointer on your desired item or object, press the left button zone once, and while holding down the zone, slide your finger on the touch pad. Alternatively, tap on the touch pad twice quickly, and on the second tap, slide your finger.

To drag and drop

Drag an icon, such as a file, to your desired location and release your finger from the left button zone. Alternatively, tap the icon twice quickly, and on the second tap, slide your finger to your desired location and lift the finger off the touch pad.

To scroll

Slide two fingers up and down on the touch pad to scroll vertically on the screen. Slide two fingers from side to side on the touch pad to scroll horizontally on the screen.

To back or forward without moving the pointer

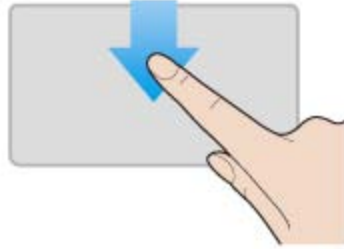
While viewing websites, pictures, etc., put three fingers on the touch pad and slide them

from side to side to perform the back/forward operation without moving the pointer.

To zoom in or out

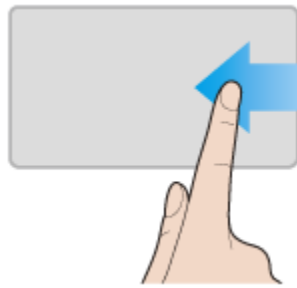
While viewing websites, pictures, etc., pinch on the touch pad with two fingers for zooming. Pinch open to zoom in or pinch close to zoom out.

To open the app menu



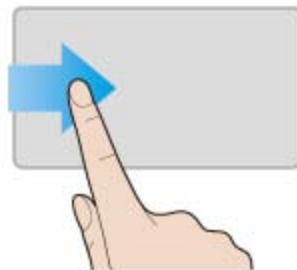
Put your finger on the top edge of the touch pad and slide the finger down. The app menu does not appear if an app does not support the app menu.

To open the charms



Put your finger on the right edge of the touch pad and slide the finger left. [\[Details\]](#)

To switch apps



Put your finger on the left edge of the touch pad and slide the finger right to switch to the running app. When more than one app is running, repeat this action to switch apps in descending order from the last-used app.

Note

- The gesture function (scroll, back/forward, zoom in/zoom out, open the app menu, open the charms, switch apps) may not work depending on the operating condition of your VAIO computer or the touch pad settings.

Hint

- For detailed information on how to use the touch pad, start VAIO Control Center [\[Details\]](#), click Mouse and Keyboard, and follow the instruction movies.

Related Topic

Enabling/Disabling the Touch Pad
Disabling the Tapping Function on the Touch Pad
Enabling/Disabling the Gesture Function

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[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Removing the Power-on Password

If power-on password input for booting up your VAIO computer is no longer necessary, follow these steps to remove the machine password and user password.

1. Press the ASSIST button while your VAIO computer is off.
The VAIO Care Rescue Mode screen appears.
2. Select Start BIOS setup.
Enter a password if it has already been set.
The BIOS setup screen appears.
3. Press the **←** or **→** key to select the Security tab, select Set Machine Password or Set User Password, and then press the Enter key.
The password entry screen appears.
4. Leave the Enter New Password and Confirm New Password fields blank and press the Enter key.
5. Press the **←** or **→** key to select the Exit tab, select Exit Setup, and then press the Enter key.
At the confirmation prompt, press the Enter key.

Related Topic

[Setting/Changing the Power-on Password](#)[What should I do if I forget the power-on password to start my VAIO computer?](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Setting/Changing the Power-on Password

You can set a password (power-on password) for booting up your VAIO computer, using the BIOS function. Entry of the power-on password will be prompted after the VAIO logo appears to start the computer.

There are two types of passwords. Set the machine password first.

- **Machine password (for administrators):**
Allows users with administrative rights to change all the setup options in the BIOS setup screen, as well as to start your VAIO computer.
 - **User password (for users without administrative rights):**
Allows standard users to change some of the BIOS setup options, as well as to start your VAIO computer. To set the user password, you must first set the machine password.
1. Press the ASSIST button while your VAIO computer is off.
The VAIO Care Rescue Mode screen appears.
 2. Select Start BIOS setup.
Enter a password if it has already been set.
The BIOS setup screen appears.
 3. Press the **←** or **→** key to select the Security tab, select Set Machine Password or Set User Password, and then press the Enter key.
The password entry screen appears.
 4. Enter the password and press the Enter key.
To change the password, enter the current password and a new password. The password can be set up to 32 alphanumeric characters long (including spaces) and it is case-sensitive.
 5. Press the **↑** or **↓** key to select Password when Power On, press the Enter key, and select Enabled.
 6. Press the **←** or **→** key to select the Exit tab, select Exit Setup, and then press the Enter key.
 7. At the confirmation prompt, press the Enter key.

Note

- Be sure to write down the password to avoid forgetting it.
- If you forget the password, you cannot boot up your VAIO computer.
- You can reset the user password at the BIOS setup screen by entering the machine password.
- If you forget the machine password, the password must be reset by authorized Sony service/support center. (The reset fee will be charged.)

Related Topic[Removing the Power-on Password](#)[Creating/Changing/Removing Your Windows Password](#)[What should I do if I forget the power-on password to start my VAIO computer?](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Using the Built-in Camera <Built-in camera equipped models>

You can make a video call through the Internet using the built-in camera and communication apps.

The built-in camera indicator light is on while the built-in camera is in use.

Hint

- The apps installed on your VAIO computer vary depending on the computer's configurations.

Related Topic

[Notes on the Built-in Camera<Built-in camera equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Notes on the Built-in Camera <Built-in camera equipped models>

- Do not scratch or soil the area on and around the built-in camera, as it may cause poor-quality images.
- Do not let direct sunlight enter the lens of the built-in camera regardless of your VAIO computer's power state, as it may cause the camera to malfunction.

Care and cleaning of the built-in camera

If the area on and around the built-in camera is soiled, gently wipe it with a soft cloth, such as a lens cleaning cloth. Do not rub the area too hard, as it can be easily scratched.

Related Topic

[Using the Built-in Camera<Built-in camera equipped models>](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)


[Notifications](#)

Creating/Changing/Removing Your Windows Password

Setting a Windows password allows you to protect your VAIO computer from unauthorized access by requiring password entry when the computer is turned on or returns from power saving mode to Normal mode.

Refer to Windows Help and Support for more information on the Windows password.

[\[Details\]](#)

1. Open the charms [\[Details\]](#) and select the  Settings charm.
2. Select Change PC settings in the lower right corner.
3. Select Users in the left pane of the PC settings screen.
4. Select Create a password or Change your password.
5. Follow the on-screen instructions to enter your password.

Note

- Do not forget your password. Write down the password and keep it in a secure place.

Hint

- You can enter a hint in order to recall your password if you forget it. You can also create a password reset disc that can be used to create a new password. Refer to Windows Help and Support for more information on the Windows password. [\[Details\]](#)

Related Topic

[Setting/Changing the Power-on Password](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Creating Other Drives (Modifying Partitions)

Partitions are divided areas on your built-in storage device. Dividing the built-in storage device into more than one partition may have various advantages, such as separating the system files from your data files.

Your VAIO computer has only one partition (C: drive) as the factory default setting.*

If you want to store data in another partition, such as D: drive, change the partition size and create a new partition.

For more information on how to create partitions, see [Creating Partitions](#). [\[Details\]](#)

* Some models may have D: drive as the factory default setting.

Related Topic

[Creating Partitions](#)[Removing Recovery Content to Free up Disk Space](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Creating Partitions

This topic describes how to create partitions.

Note

- If you reduce the volume of the C: drive partition, you may not create Recovery Media or complete the recovery process successfully because the free space on the built-in storage device is not sufficient.

1. Open Control Panel [\[Details\]](#), select System and Security, and select Create and format hard disk partitions under Administrative Tools.
If the User Account Control window appears, select Yes.

Hint

- If you are signed in to your VAIO computer as a standard user, you may be prompted to enter an administrator name and password.
2. Right-click the C: drive and select Shrink Volume.
 3. Enter the size of the partition to be created in Enter the amount of space to shrink in MB and select Shrink.
 4. Right-click Unallocated and select New Simple Volume.
 5. Follow the on-screen instructions.

Related Topic

[Creating Other Drives \(Modifying Partitions\)](#)[Removing Recovery Content to Free up Disk Space](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About Backup

The backup process creates a backup copy of your data stored on the built-in storage device and saves it to another location.

Due to unexpected events or computer viruses, you might lose various data stored on your built-in storage device. To restore the lost data, its backup copy is needed.

It is strongly recommended that you back up your data regularly.

If you can start Windows, back up and restore your data with the Windows feature.

To use the feature, open Control Panel and select System and Security and File History.

Related Topic

[About Types of Backup](#)

[Backing Up Your Data when You cannot Start Windows](#)

[Restoring Your Data with VAIO Data Restore Tool](#)

[Creating a Restore Point](#)

[Restoring System Files Using the Restore Point when You cannot Start Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

About Types of Backup

You can use the Windows Backup and Restore feature to back up your valuable data. There are several types of backup to meet your needs, as described below.

Backing up files

You can select and back up folders and files stored on your VAIO computer to an external hard disk drive. For details on how to back up data, refer to Windows Help and Support. [\[Details\]](#)

Backing up system images

You can create a backup copy of the whole system of your VAIO computer. If the built-in storage device or the computer ever stops working, you can use the system image to restore the computer as it was when backed up.

To create a system image, you need an optional hard disk drive formatted in NTFS format. You can also back up a system image to optical discs such as Blu-ray Disc or DVD disc. For details on how to create a system image, refer to Windows Help and Support. [\[Details\]](#)

Note

- We will not restore or compensate for any lost or damaged data under any circumstances including failure of your VAIO computer.
- Create Recovery Media soon after purchasing your VAIO computer. In the event that you cannot make a backup copy of your data with the Windows feature due to computer malfunctions, you can use the backup tool included in the Recovery Media to back up your data.

For information on how to create the Recovery Media, see [Creating Recovery Media](#). [\[Details\]](#)

Hint

- If your VAIO computer is equipped with no disc drive, you need to connect an external device, such as an external hard disk drive or DVD drive, to the computer before backup, or you need to resize the partition of your C: drive and create another partition before backup. [\[Details\]](#)

Related Topic

[About Backup](#)[Backing Up Your Data when You cannot Start Windows](#)[Restoring Your Data with VAIO Data Restore Tool](#)[Restoring System Files Using the Restore Point when You cannot Start Windows](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Backing Up Your Data when You cannot Start Windows

If you cannot start Windows, back up your data with VAIO Care (Rescue Mode) : Recover or maintain your system.

To rescue your data

1. Press the ASSIST button while your VAIO computer is off.
The VAIO Care Rescue Mode screen appears.
2. Select Recover or maintain your system.
Follow the on-screen instructions until the Choose an option screen appears.
3. Select Troubleshoot and Recovery and maintenance.
Follow the on-screen instructions until the VAIO Care (Rescue Mode) : Recover or maintain your system screen appears.

Hint

- If the display language selection window appears, select your desired language, then OK.
4. Select Tools and Rescue Data.
 5. Follow the on-screen instructions.

Hint

- Alternatively, you can start VAIO Care (Rescue Mode) : Recover or maintain your system with Recovery Media. [\[Details\]](#)
- It is recommended that you select an external hard disk drive as a location to save rescued files if you select Custom rescue.

Notes on using VAIO Care (Rescue Mode) : Recover or maintain your system

- Handle rescued files with care to protect from unauthorized access.
- Disable the Windows hard disk drive encryption feature before using VAIO Care (Rescue Mode) : Recover or maintain your system to back up and restore your data.
However, rescued files which are not encrypted on the built-in storage device can be easily accessed by unauthorized users using Recovery Media and this app. Therefore, after using the app, be sure to set the power-on or hard disk password, enable the Windows hard disk drive encryption feature, and keep the Recovery Media in a secure place to protect rescued files from unauthorized access.
- To restore copyright protected data, such as music files organized by digital media playback apps, use a backup tool specified by the app you used to import such data. Sony does not guarantee the playback compatibility of data which is not restored with the specified backup tool.
- Using VAIO Care (Rescue Mode) : Recover or maintain your system does not guarantee backup of all the data on your built-in storage device.
Sony assumes no liabilities for any loss of your data arising out of the backup process.
- Use the power cord or the AC adapter to power your VAIO computer while using VAIO Care (Rescue Mode) : Recover or maintain your system.

- Your VAIO computer automatically restarts 72 hours after VAIO Care (Rescue Mode) : Recover or maintain your system starts. If 72 hours have passed during the backup process, the process will be stopped and the computer will restart. There is no way to resume the process.
- Rescued files may be divided into two or more files and saved in a specified location or renamed, depending on the location you select. Use VAIO Data Restore Tool to restore the rescued files. [\[Details\]](#)
- If an external hard disk drive or optical disc drive does not support the USB connection, you need to install a driver.

Related Topic

[About Backup](#)

[About Types of Backup](#)

[Restoring Your Data with VAIO Data Restore Tool](#)

[Creating a Restore Point](#)

[Restoring System Files Using the Restore Point when You cannot Start Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Creating a Restore Point

A restore point enables you to restore your computer system files to a previous state, depending on when the restore point was created.

Typically, restore points are created automatically, for example when you install a driver.

However, we recommend that you create a new restore point manually before installing any apps or drivers on your VAIO computer.

Refer to Windows Help and Support for information on creating a restore point.

[\[Details\]](#)

Related Topic

[Restoring Your Data with VAIO Data Restore Tool](#)

[Restoring System Files Using the Restore Point when You cannot Start Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Restoring System Files Using the Restore Point when You cannot Start Windows

When you cannot start Windows, follow these steps to restore computer system files.

1. Insert Recovery Media (optical discs) into the optical disc drive or connect a USB flash drive to the USB port on your VAIO computer while the computer is in Normal mode.
2. Turn off your VAIO computer.
3. Press the ASSIST button to display the VAIO Care Rescue Mode screen and select Start from media (USB device/optical disc).
Follow the on-screen instructions until the Choose an option screen appears.
4. Select Troubleshoot, Advanced options, and System Restore.
5. Select your operating system.
The System Restore window appears.
6. Select Next.
7. Select a restore point and Next.
The confirmation window of the selected restore point appears.
8. Select Finish to confirm the restore point.
Your VAIO computer restarts after system files are restored.

Related Topic

[About Backup](#)[About Types of Backup](#)[Backing Up Your Data when You cannot Start Windows](#)[Restoring Your Data with VAIO Data Restore Tool](#)[Creating a Restore Point](#)

[▶ Troubleshooting](#)


How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Restoring Your Data with VAIO Data Restore Tool

You can use VAIO Data Restore Tool to restore files previously backed up using VAIO Care (Rescue Mode) : Recover or maintain your system.

For instructions on how to use the app, refer to the help file included with the app.

1. Open the charms [\[Details\]](#) and select the  Search charm.
2. Select Apps and enter "VAIO Data Restore Tool" in the Search box.
3. Select VAIO Data Restore Tool.
The VAIO Data Restore Tool window appears.
4. Select Next.
If the User Account Control window appears, select Yes.
Hint
 - If you are signed in to your VAIO computer as a standard user, you may be prompted to enter an administrator name and password.
5. Follow the on-screen instructions.

Note

- To restore copyright protected data, such as music files organized by digital media playback apps, use a backup tool specified by the app you used to import such data. Sony does not guarantee the playback compatibility of data which is not restored with the specified backup tool.

Hint

- If necessary, move the restored files to the original location.

Related Topic

[About Backup](#)[About Types of Backup](#)[Backing Up Your Data when You cannot Start Windows](#)[Creating a Restore Point](#)[Restoring System Files Using the Restore Point when You cannot Start Windows](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

About "Memory Stick"

"Memory Stick" is a compact, portable, and versatile IC recording media especially designed for exchanging and sharing digital data with compatible products, such as digital cameras and other devices. Because it is removable, it can be used for external data storage. For the latest information about "Memory Stick", visit <http://www.sony.net/memorycard/>.

Related Topic

[Compatible "Memory Stick"](#)[Inserting/Removing "Memory Stick"](#)[Formatting "Memory Stick"](#)[Notes on Using "Memory Stick"](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Compatible “Memory Stick”

The “Memory Stick” slot on your VAIO computer can accommodate the following sizes and types of media:

- “Memory Stick Duo”
- “Memory Stick PRO Duo”
- “Memory Stick PRO-HG Duo”*
- “Memory Stick Micro”

* The “Memory Stick Duo” slot on your VAIO computer does not support 8-bit parallel data transfer (high-speed data transfer).

Note

- Your VAIO computer supports only Duo-size “Memory Stick”, and does not support standard-size “Memory Stick”.
- Before using “Memory Stick Micro” (“M2”), be sure to insert it into an “M2” Duo adaptor. If you insert the media directly into the “Memory Stick Duo” slot without the adaptor, you may not be able to remove it from the slot.
- Your VAIO computer has been tested and found compatible with any Sony branded “Memory Stick” of up to 32 GB, available as of May 2012. However, “Memory Stick” compatibility is not guaranteed in all cases.
- The “Memory Stick” slot on your VAIO computer does not support the copyright protection feature of “Memory Stick”.
- If you use “Memory Stick” in a place subject to static electricity or electrical noise, stored data may be lost.
- The maximum possible size for a file on “Memory Stick PRO Duo” or “Memory Stick PRO-HG Duo” is less than 4 GB, as defined in the file system specification.

Related Topic

[About “Memory Stick”](#)[Inserting/Removing “Memory Stick”](#)[Formatting “Memory Stick”](#)[Notes on Using “Memory Stick”](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Formatting “Memory Stick”

“Memory Stick” is formatted in the specific FAT format by default and is ready for use. Be sure to use the device that is designed to format the media and supports “Memory Stick” when formatting the media.

If you want to reformat the media with your VAIO computer, follow these steps.

Note

- Formatting “Memory Stick” erases the entire data stored on the media. Be sure to make a backup copy of important data to avoid erasing it.
- Do not remove “Memory Stick” from the slot while formatting. This could cause a malfunction.

1. Locate the “Memory Stick” slot.
2. Carefully slide “Memory Stick” into the slot until it clicks into place. [\[Details\]](#)
3. Open Computer. [\[Details\]](#)
4. Right-click the “Memory Stick” icon and select Format. The Format Memory Stick window appears.
5. Select Restore device defaults. The size of the allocation unit and file system will change to default settings.

Note

- Do not select NTFS from the File system drop-down list as it may cause a malfunction.

Hint

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

6. Select Start. Follow the on-screen instructions.

Note

- It may take time to format “Memory Stick” depending on the media type.

Related Topic

[About “Memory Stick”](#)[Compatible “Memory Stick”](#)[Inserting/Removing “Memory Stick”](#)[Notes on Using “Memory Stick”](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Inserting/Removing SD Memory Cards

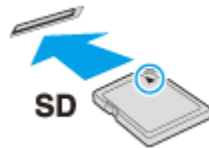
Your VAIO computer is equipped with an SD memory card slot. You can use this slot to transfer data among digital cameras, camcorders, music players, and other audio/video devices.

The SD memory card slot on the computer can accommodate the following memory cards:

- SD memory card
- SDHC memory card
- SDXC memory card

To insert an SD memory card

1. Locate the SD memory card slot.
2. Hold the SD memory card with the arrow pointing toward the slot, and carefully slide it into the slot until it clicks into place.



The SD memory card icon will appear in the Computer window [\[Details\]](#) after you insert the card into the slot.

Note

- Be careful not to insert an SD memory card in the wrong orientation. If you force it into the slot upside down, the slot may be damaged. Refer to the manual that came with the SD memory card for more information.
- The SD memory card icon will not appear in the Computer window [\[Details\]](#) until you insert the card into the slot.

Hint

- When you insert the SD memory card into the slot for the first time, you may be prompted to install a driver. If prompted, follow the on-screen instructions to install the driver.
- While data is being read from or written to the SD memory card, the media access indicator light is on.

To remove an SD memory card

1. Locate the SD memory card slot.
2. Check that the media access indicator light is off.
3. Push in the SD memory card toward your VAIO computer and release.
4. Pull the SD memory card out of the slot.

Related Topic[Notes on Using SD Memory Cards](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Inserting/Removing “Memory Stick”

You can use “Memory Stick” to save data or transfer images between a digital camera and your VAIO computer. To insert/remove “Memory Stick”, follow these steps.

To Insert “Memory Stick”

1. Locate the “Memory Stick” slot.
2. Hold “Memory Stick” [\[Details\]](#) with the arrow pointing toward the slot, and carefully slide it into the slot until it clicks into place.



“Memory Stick” is automatically detected by your system and the contents of “Memory Stick” are displayed*. If nothing appears on the desktop, open Computer [\[Details\]](#) and double-click the “Memory Stick” icon*.

* The drive letter for the “Memory Stick” slot, such as “E:”, may vary depending on the system configuration of your VAIO computer.

Note

- The “Memory Stick” icon will appear in the Computer window [\[Details\]](#) after you insert “Memory Stick” into the slot.
- If “Memory Stick” cannot be inserted easily, remove it gently, and verify you are inserting it in the proper direction. Be sure to hold “Memory Stick” with the arrow pointing in the correct direction as you insert it into the slot. To avoid damaging your VAIO computer or the media, do not force “Memory Stick” into the slot if you cannot insert it smoothly.

Hint

- When you insert “Memory Stick” into the slot for the first time, you may be prompted to install a driver. If prompted, follow the on-screen instructions to install the driver.

To remove “Memory Stick”

1. Locate the “Memory Stick” slot.
2. Check that the Media Access indicator light is off.
3. Push in “Memory Stick” toward your VAIO computer and release.
4. Pull “Memory Stick” out of the slot.

Note

- Do not remove “Memory Stick” while the Media Access indicator light is on. If you do, you may lose data. Large volumes of data may take time to load, so make sure the indicator light is off before removing “Memory Stick”.
- Be sure to remove “Memory Stick” gently, or it may pop out unexpectedly.

Related Topic

[About "Memory Stick"](#)

[Compatible "Memory Stick"](#)

[Formatting "Memory Stick"](#)

[Notes on Using "Memory Stick"](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Notes on Using SD Memory Cards

Before using SD memory cards, read the following precautions for correct use.

- Keep an SD memory card out of reach of children. There is a risk of swallowing it.
- Do not touch the SD memory card connector with your finger or metal objects.
- An SD memory card contains delicate electronic components. Do not impact, bend or drop it.
- Do not disassemble or modify an SD memory card.
- Do not wet an SD memory card.
- Do not use or store in a location subject to:
 - Extremely high temperature, such as in a car parked in the sun
 - Direct sunlight
 - High humidity or corrosive substances
 - Excessive dust
- Be sure to use SD memory cards and adaptors that are compliant with the standards supported by your VAIO computer. Incompatible cards and adaptors may get stuck in the slot, causing damage to the computer.
- You cannot write data to an SD memory card that is write-protected.
- It is recommended that you make a backup copy of important data.
- Stored data may be lost or corrupted if:
 - You remove an SD memory card or turn off your VAIO computer while the media access indicator light is on.
 - You use an SD memory card at a place where static electricity or electrical noise may disturb the card.
- When carrying an SD memory card, be sure to put it in its case to avoid static electricity.
- Before using an SD memory card with a device other than a computer, such as a digital camera or a portable audio, format (initialize) the SD memory card using the device. Some devices may not support the file format for computers and show you a message that recommends you to format the SD memory card. In this case, copy data from the card to your VAIO computer and format the card using the device. All data in the SD memory card will be deleted when you format it. Refer to the manual that came with the device for more information.
- Do not insert foreign objects into the SD memory card slot.
- The SD memory card slot can be used for reading/writing supported memory cards only, and cannot be used for other purposes.
- SD memory cards (up to 2 GB), SDHC memory cards (up to 32 GB) and SDXC memory cards (up to 64 GB) available as of May 2012 have been tested and found compatible with your VAIO computer. However, it is not guaranteed that all SD memory cards, SDHC memory cards or SDXC memory cards will be compatible with the computer.
- The SD memory card slot on your VAIO computer does not support the copyright protection feature of the SD memory card, the SDHC memory card, and the SDXC memory card.
- Do not attempt to insert a memory card or memory card adaptor of a different type into the memory card slot. An incompatible memory card or memory card adaptor may get stuck in the slot, causing damage to your VAIO computer.
- Some types of SD memory cards, for example ones with the UHS (Ultra High Speed data transfer feature), may become extremely hot due to continuous access to the memory cards. In such a case, wait for a while before removing the memory card until it cools down.

Related Topic

[Inserting/Removing SD Memory Cards](#)

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

Notes on Using "Memory Stick"

Before using "Memory Stick", read the following precautions for correct use.

- Keep "Memory Stick" out of reach of children. There is a risk of swallowing it.
- Do not touch the "Memory Stick" connector with your finger or metal objects.



- "Memory Stick" contains delicate electronic components. Do not impact, bend or drop it.
- Do not disassemble or modify "Memory Stick".
- Do not wet "Memory Stick".
- Do not use or store in a location subject to:
 - Extremely high temperature, such as in a car parked in the sun
 - Direct sunlight
 - High humidity or corrosive substances
 - Excessive dust
- Be sure to use "Memory Stick" and adaptors that are compliant with the standards supported by your VAIO computer. Incompatible cards and adaptors may get stuck in the slot, causing damage to the computer.
- You cannot write data to "Memory Stick" that is write-protected.
- It is recommended that you make a backup copy of important data.
- Stored data may be lost or corrupted if:
 - You remove "Memory Stick" or turn off your VAIO computer while the media access indicator light is on.
 - You use "Memory Stick" at a place where static electricity or electrical noise may disturb the card.
- When carrying "Memory Stick", be sure to put it in its case to avoid static electricity.
- Before using "Memory Stick" with a device other than a computer, such as a digital camera or a portable audio, format (initialize) "Memory Stick" using the device. Some devices may not support the file format for computers and show you a message that recommends you to format "Memory Stick". In this case, copy data from "Memory Stick" to your VAIO computer and format "Memory Stick" using the device. All data in "Memory Stick" will be deleted when you format it. Refer to the manual that came with the device for more information.
- Do not insert foreign objects into the "Memory Stick" slot.
- The "Memory Stick" slot can be used for reading/writing supported "Memory Stick" only, and cannot be used for other purposes.

Notes on Using "Memory Stick Duo"

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

Notes on Using "Memory Stick Micro"

- Before using "Memory Stick Micro" ("M2"), be sure to insert it into an "M2" Duo adaptor.

If you insert the media directly into the “Memory Stick Duo” slot without the adaptor, you may not be able to remove it from the slot.

- Keep “Memory Stick Micro” and “M2” Duo adaptors away from children. They are harmful if swallowed.

Related Topic

[About “Memory Stick”](#)

[Compatible “Memory Stick”](#)

[Inserting/Removing “Memory Stick”](#)

[Formatting “Memory Stick”](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)

About the International ENERGY STAR(R) Program



The following information is applicable to ENERGY STAR qualified products only.

As an ENERGY STAR Partner, Sony confirmed that this product meets the ENERGY STAR standards for energy efficiency.


The International ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption.

For detailed information on the ENERGY STAR Program, visit the following websites:

- <http://www.energystar.gov> (USA)
- <http://www.eu-energystar.org> (Europe)

This computer is designed in compliance with the ENERGY STAR standards and delivered with the following power saving settings that apply to the computer running on AC power:

- The LCD backlight is turned off automatically after no more than 15 minutes of inactivity.
- The computer enters Sleep mode automatically after no more than 30 minutes of inactivity.

Press the  (Power) button to bring the computer back into Normal mode.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

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Related Topic

[Read This First](#)

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Handling the Built-in Storage Device

The built-in storage device (hard disk drive or solid state drive) has a high storage density and reads or writes data in a short time. However, it can be easily damaged if improperly used.

If the built-in storage device is damaged, the data cannot be restored. To prevent losing data, you should be careful when handling your VAIO computer.

To avoid damaging your built-in storage device

- Do not subject your VAIO computer to sudden movements.
 - Keep your VAIO computer away from magnets.
 - Do not place your VAIO computer in a location subject to mechanical vibration or in an unstable position.
 - Do not turn off the power or restart your VAIO computer while reading or writing data to the storage device.
 - Do not use your VAIO computer in a place subject to extreme changes in temperature.
 - Do not remove the storage device from your VAIO computer.
-

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Safety Information

Refer to the supplied safety manual for detailed safety information.

Computer

- If you drop a solid object or any liquid onto your VAIO computer, shut down the computer, unplug it, and remove the battery pack if it is removable. You may want to have the computer checked by qualified personnel before operating it again.
- Use only specified peripheral equipment and interface cables.
- Keep small parts such as “Memory Stick” and “Memory Stick” adaptors out of reach of children. There is a risk of swallowing them.
- The temperature of the surface and the bottom of your VAIO computer, the AC adapter, and the battery may rise due to the CPU load or an electric current generated while the battery is being charged. This is normal and does not indicate a malfunction. The amount of heat generation varies depending on external devices or apps in use.
- If your VAIO computer or the AC adapter becomes extraordinarily hot, turn off the computer, unplug the AC adapter, remove the battery pack if it is removable, and then contact an authorized Sony service/support center.




Power source

- Do not place heavy objects on the power cord, or this could cause a fire.
- To disconnect the power cord, pull it out by holding the plug. Never pull the cord itself.
- Do not use cut or damaged connection cables.
- Unplug your VAIO computer from the AC outlet if you are not planning to use the computer for an extended period of time.
- If you are not using your VAIO computer for an extended period of time, remove the battery pack from the computer to prevent damage to the battery pack.

Headphones

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

[▶ Troubleshooting](#)**How to Use**[Windows 8: The Basics](#)[Parts Description](#)[Setup](#)[Network / Internet](#)[Connections](#)[Settings](#)[Playback](#)[Backup / Recovery](#)[Security](#)[Other Operations](#)[Notifications](#)**Trademarks**

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Not all the software listed above may be delivered with your model.

[▶ Troubleshooting](#)

How to Use

[Windows 8: The Basics](#)

[Parts Description](#)

[Setup](#)

[Network / Internet](#)

[Connections](#)

[Settings](#)

[Playback](#)

[Backup / Recovery](#)

[Security](#)

[Other Operations](#)

[Notifications](#)

Cleaning Your VAIO computer/LCD screen

Before cleaning your VAIO computer, read the following precautions for the correct cleaning procedure.

When cleaning your VAIO computer

- Turn off your VAIO computer, unplug the AC adapter, and remove the battery pack before cleaning the computer.
- Use a soft, dry cloth to wipe debris and dust off your VAIO computer.
- Be sure to use a soft, dry cloth when cleaning your VAIO computer. If the computer is badly soiled, fog the surface of the computer with your breath and wipe off the dirt, or clean off with a lightly wet cloth and then wipe remaining moisture away with a dry cloth.
- Do not use solvents such as benzine, acetone, alcohol, thinner, or commercially available cleaners, as these may cause damage to the surface or coating of your VAIO computer.
- Use a blower to blow off debris and dust underneath the keys (keycaps). Do not remove any keycap from the keyboard.
Do not use a vacuum cleaner, as it may cause a malfunction.

When cleaning your LCD screen

- Be sure to use a soft, dry cloth when cleaning your VAIO computer. If the LCD screen is badly soiled, fog the surface of the LCD screen with your breath and wipe off the dirt, or clean off with a lightly wet cloth and then wipe remaining moisture away with a dry cloth.
- Do not use solvents such as benzine, acetone, alcohol, thinner, or commercially available cleaners, as these may cause damage to the LCD screen.

[▶ How to Use](#)**Troubleshooting****Hardware**

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Audio

[What should I do if I do not hear sound from a digital audio device connected to the digital output port, such as the HDMI output port?](#)

[What should I do if I do not hear sound from speakers or headphones?](#)

[What should I do if I hear microphone feedback from speakers when using my microphone?](#)

[What should I do if my microphone does not work?](#)

[What should I do if sound interruptions occur during video or audio playback?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

BLUETOOTH

[What should I do if I cannot find the BLUETOOTH\(R\) device I want to communicate with?](#)

[What should I do if I cannot use the BLUETOOTH\(R\) function?](#)

[What should I do if other BLUETOOTH\(R\) devices cannot connect to my VAIO computer?](#)

[What should I do if the BLUETOOTH\(R\) icon is not displayed in the desktop notification area?](#)

[Why can't I use BLUETOOTH\(R\) devices when I switch users?](#)

[Why can't I use the BLUETOOTH\(R\) function when I sign in to my VAIO computer as a user with a standard user account?](#)

[Why is my BLUETOOTH\(R\) connection slow?](#)

[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)**CD/DVD/BD**

[What should I do if I cannot play a disc, or dropped frames and/or sound interruptions occur during playback?](#)

[What should I do if I cannot remove the disc from the optical disc drive?](#)

[Why can't I write data to a disc?](#)

[Why does it take time to write data to DVD writable media?](#)



[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Computer

[Why is my VAIO computer running slowly and the CPU clock frequency low while the computer is running on battery power?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)**HDMI**

[What should I do if 3D images are not displayed on my 3D TV connected to the HDMI output port when I play Blu-ray 3D\(TM\) media?](#)

[What should I do if no image is displayed on my TV screen or external display connected to the HDMI output port?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

LAN

[How can I find the physical address \(MAC address\) of the built-in wireless network interface of my VAIO computer?](#)

[What should I do if I cannot connect my VAIO computer to an access point \(or the Internet\)?](#)

[What should I do if I cannot play back movies or audio tracks received via Wi-Fi\(R\) \(Wireless LAN\), or their playback is interrupted? Why is the data transfer speed slow?](#)

[What should I do if I cannot use the Wi-Fi\(R\) \(Wireless LAN\) function?](#)

[What should I do if I do not know the SSID or security key for the access point?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)

Microphone

[What should I do if I hear microphone feedback from speakers when using my microphone?](#)[What should I do if my microphone does not work?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Power

What should I do if I cannot turn off my VAIO computer?

What should I do if VAIO Care Rescue Mode starts when I turn on my VAIO computer?

What should I do if my VAIO computer does not enter Hibernate mode?

What should I do if my VAIO computer does not turn on (the power indicator light does not turn on in green)?

What should I do if my VAIO computer does not turn on or the power button does not work (the power indicator light blinks fast)?

What should I do if the power indicator light turns on in green when I press the power button but the screen remains blank?

Why does a message appear and Windows fail to start when I turn on my VAIO computer?

Why does my VAIO computer automatically turn off?

[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)**Touch pad**[How do I avoid unintentional clicks caused by a light touch on the touch pad?](#)[How do I disable the touch pad?](#)[What should I do if my VAIO computer screen freezes?](#)[What should I do if the pointer does not move?](#)[Why can't I use the touch pad?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Wi-Fi

[How can I find the physical address \(MAC address\) of the built-in wireless network interface of my VAIO computer?](#)

[What should I do if I cannot connect my VAIO computer to an access point \(or the Internet\)?](#)

[What should I do if I cannot play back movies or audio tracks received via Wi-Fi\(R\) \(Wireless LAN\), or their playback is interrupted? Why is the data transfer speed slow?](#)

[What should I do if I cannot use the Wi-Fi\(R\) \(Wireless LAN\) function?](#)

[What should I do if I do not know the SSID or security key for the access point?](#)



[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

BIOS

[What should I do if I forget the power-on password to start my VAIO computer?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Battery

[What should I do if a message appears indicating that the battery pack is incompatible or has been incorrectly installed, after which my VAIO computer enters Hibernate mode?](#)

[Why can't I fully charge my battery pack?](#)

[Why is my VAIO computer running slowly and the CPU clock frequency low while the computer is running on battery power?](#)

[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)**Camera**[What should I do if captured images contain dropped frames and audio interruptions?](#)[What should I do if captured images flicker?](#)[Why are captured images poor in quality?](#)[Why does the viewfinder show no images or poor-quality images?](#)[Why is the video input from the built-in camera suspended momentarily?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Display

[How do I change the LCD brightness?](#)

[What should I do if 3D images are not displayed on my 3D TV connected to the HDMI output port when I play Blu-ray 3D\(TM\) media?](#)

[What should I do if captured images contain dropped frames and audio interruptions?](#)

[What should I do if captured images flicker?](#)

[What should I do if my computer screen goes blank?](#)

[What should I do if no image is displayed on my TV screen or external display connected to the HDMI output port?](#)

[What should I do if no image is displayed on my external display or TV screen?](#)

[What should I do if some items do not fit on the computer screen?](#)

[What should I do if videos are not displayed on the computer screen?](#)

[What should I do if videos are not displayed smoothly?](#)

[Why do sound interruptions and/or dropped frames occur when I play high-definition videos, such as those recorded with the AVCHD digital video camcorder?](#)

[Why does the viewfinder show no images or poor-quality images?](#)

[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)

Keyboard

[What should I do if I cannot enter certain characters with my keyboard?](#)[What should I do if my VAIO computer screen freezes?](#)[What should I do if my keyboard configuration is wrong?](#)[What should I do if the pointer does not move?](#)

[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Memory card

[Why can't I write data to a memory card?](#)

[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)

Password

[What should I do if I forget the Windows password?](#)[What should I do if I forget the power-on password to start my VAIO computer?](#)[What should I do if the Enter Onetime Password message appears and Windows does not start after I enter a wrong power-on password three times consecutively?](#)

[▶ How to Use](#)**Troubleshooting****Hardware**[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)**Software**

[Why do sound interruptions and/or dropped frames occur when I play high-definition videos, such as those recorded with the AVCHD digital video camcorder?](#)

You might be looking for the following topics:

[What should I do if my game software does not work or it keeps crashing?](#)

[▶ How to Use](#)

Troubleshooting

Hardware

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

USB

[What should I do if I cannot charge the device connected to the USB port that supports USB charging?](#)

You might be looking for the following topics:

[What should I do if I cannot print a document?](#)

[What should I do if my VAIO computer does not recognize the USB device?](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)[Apps](#)[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Display

[Why do sound interruptions and/or dropped frames occur when I play high-definition videos, such as those recorded with the AVCHD digital video camcorder?](#)

You might be looking for the following topics:

[How do I change the LCD brightness?](#)

[What should I do if 3D images are not displayed on my 3D TV connected to the HDMI output port when I play Blu-ray 3D\(TM\) media?](#)

[What should I do if captured images contain dropped frames and audio interruptions?](#)

[What should I do if captured images flicker?](#)

[What should I do if my computer screen goes blank?](#)

[What should I do if no image is displayed on my TV screen or external display connected to the HDMI output port?](#)

[What should I do if no image is displayed on my external display or TV screen?](#)

[What should I do if some items do not fit on the computer screen?](#)

[What should I do if videos are not displayed on the computer screen?](#)

[What should I do if videos are not displayed smoothly?](#)

[Why does the viewfinder show no images or poor-quality images?](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)[Apps](#)[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Software

[What should I do if my game software does not work or it keeps crashing?](#)

[Why do sound interruptions and/or dropped frames occur when I play high-definition videos, such as those recorded with the AVCHD digital video camcorder?](#)

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)[Network / Internet](#)[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

BLUETOOTH

[What should I do if I cannot find the BLUETOOTH\(R\) device I want to communicate with?](#)

[What should I do if I cannot use the BLUETOOTH\(R\) function?](#)

[What should I do if other BLUETOOTH\(R\) devices cannot connect to my VAIO computer?](#)

[What should I do if the BLUETOOTH\(R\) icon is not displayed in the desktop notification area?](#)

[Why can't I use BLUETOOTH\(R\) devices when I switch users?](#)

[Why can't I use the BLUETOOTH\(R\) function when I sign in to my VAIO computer as a user with a standard user account?](#)

[Why is my BLUETOOTH\(R\) connection slow?](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)[Network / Internet](#)[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Wi-Fi

[How can I find the physical address \(MAC address\) of the built-in wireless network interface of my VAIO computer?](#)

[What should I do if I cannot connect my VAIO computer to an access point \(or the Internet\)?](#)

[What should I do if I cannot play back movies or audio tracks received via Wi-Fi\(R\) \(Wireless LAN\), or their playback is interrupted? Why is the data transfer speed slow?](#)

[What should I do if I cannot use the Wi-Fi\(R\) \(Wireless LAN\) function?](#)

[What should I do if I do not know the SSID or security key for the access point?](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)[Network / Internet](#)[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

LAN

[How can I find the physical address \(MAC address\) of the built-in wireless network interface of my VAIO computer?](#)

[What should I do if I cannot connect my VAIO computer to an access point \(or the Internet\)?](#)

[What should I do if I cannot play back movies or audio tracks received via Wi-Fi\(R\) \(Wireless LAN\), or their playback is interrupted? Why is the data transfer speed slow?](#)

[What should I do if I cannot use the Wi-Fi\(R\) \(Wireless LAN\) function?](#)

[What should I do if I do not know the SSID or security key for the access point?](#)

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Recovery[How can I reinstall the original apps and drivers?](#)[How can I restore my VAIO computer system to its factory default settings?](#)[How do I create Recovery Media?](#)[What should I do if I cannot create Recovery Media?](#)[What should I do if I cannot recover my VAIO computer from the recovery area?](#)[What should I do if I cannot start/complete the recovery process?](#)[What should I do if my VAIO computer becomes unstable \(Windows does not start\)?](#)[What should I do if my VAIO computer becomes unstable \(Windows starts\)?](#)

[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

BIOS

[What should I do if I forget the power-on password to start my VAIO computer?](#)

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Password[What should I do if I forget the Windows password?](#)[What should I do if I forget the power-on password to start my VAIO computer?](#)[What should I do if the Enter Onetime Password message appears and Windows does not start after I enter a wrong power-on password three times consecutively?](#)



[▶ How to Use](#)

Troubleshooting

Hardware

Apps

Network / Internet

Backup / Recovery

Security

Peripheral Devices

Printer

[What should I do if I cannot print a document?](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

USB

[What should I do if I cannot print a document?](#)[What should I do if my VAIO computer does not recognize the USB device?](#)

You might be looking for the following topics:

[What should I do if I cannot charge the device connected to the USB port that supports USB charging?](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I forget the power-on password to start my VAIO computer?

- If you forget the password [\[Details\]](#), you cannot start your VAIO computer.
 - When you forget your user password:
Enter the machine password to reset the user password at the BIOS setup screen.
 - When you forget your machine password:
The password needs to be reset and a fee will be charged. To reset the password, contact an authorized Sony service/support center.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I do not hear sound from a digital audio device connected to the digital output port, such as the HDMI output port?

- To output sound from a digital audio device connected to the digital output port on your VAIO computer, you need to change the sound output to the digital audio device.

[\[Details\]](#)

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)




[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I do not hear sound from speakers or headphones?

- Check if the volume from speakers or headphones is not minimized.
 - Keep pressing the Fn+F4 keys to turn up the volume loud enough to hear sound. [\[Details\]](#)
 - Check if the volume in Windows is not turned off or minimized. [\[Details\]](#)
When the volume is turned off () , select  (Deactivate muting) to turn on the volume (). When the volume is minimized, turn up the volume.
 - When connecting external speakers or headphones, check the following:
 - Make sure external speakers or headphones are properly connected to your VAIO computer. [\[Details\]](#)
 - If external speakers require external power, make sure the speakers are securely connected to an AC outlet.
 - Make sure external speakers are turned on.
 - Make sure the volume from external speakers is not minimized.
 - Make sure the sound output device is correctly selected. [\[Details\]](#)
 - Check the volume on the playback app you are using.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I hear microphone feedback from speakers when using my microphone?

- Microphone feedback may occur when your microphone receives the sound from a sound output device, such as speakers.
 - Keep the microphone away from a sound output device.
 - Turn down the volume of the speakers and the microphone.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my microphone does not work?

- Check if your microphone is selected as a recording device.
Open Control Panel [\[Details\]](#) and select Hardware and Sound.
Select Sound and check if there is a check mark on your desired microphone icon on the Recording tab.
If not, select the icon and Set Default.
If the icon is not displayed, make sure the microphone is properly connected to your VAIO computer.
 - If you are using an external microphone, use a plug-in power microphone.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if sound interruptions occur during video or audio playback?

- Sound interruptions may occur when the CPU load is high. In this case, reduce the CPU load by exiting all running apps other than a playback app, or by disabling unnecessary audio effects applied to playback.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot find the BLUETOOTH(R) device I want to communicate with?

- Shorten the distance between your VAIO computer and the BLUETOOTH device within 33 feet/10 meters.
If the computer is more than 33 feet/10 meters away from the BLUETOOTH device, communication will not be possible.
The computer may not be able to communicate with the BLUETOOTH device even within 33 feet/10 meters due to obstacles between the devices, radio wave quality, ambient environment that includes existence of walls and materials of such walls, or apps in use. In such a case, move the computer away from obstructions or closer to the device.
- Check that the BLUETOOTH function of the device you want to communicate with is on, and the device is not in the power saving mode.
- Check that the BLUETOOTH function of the device you want to communicate with is enabled.
Refer to the manual that came with the device for more information.
- If the device you want to communicate with is already communicating with another BLUETOOTH device, it may not be found or it may not be able to communicate with your VAIO computer.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)


[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot use the BLUETOOTH(R) function?

- Make sure the WIRELESS indicator light on your VAIO computer is on.
When the WIRELESS indicator light is off, you cannot use the BLUETOOTH function.
 - Make sure the BLUETOOTH function is enabled.
Open the charms [\[Details\]](#) and select the  Settings charm.
Select Change PC settings in the lower right corner, then select Wireless in the left pane.
Turn off Airplane mode and change the Bluetooth setting under Wireless devices to On.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)



[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if other BLUETOOTH(R) devices cannot connect to my VAIO computer?

- See [What should I do if I cannot find the BLUETOOTH device I want to communicate with?](#). [\[Details\]](#)
- Make sure that the authentication (pairing) between the device and your VAIO computer has been properly performed.
Some BLUETOOTH devices require authentication (pairing) before establishing connection with another device. Perform the authentication process before connecting to such devices.
- Make sure that your VAIO computer allows BLUETOOTH devices to find the computer. Select  (arrow) in the desktop notification area [\[Details\]](#), right-click  (the BLUETOOTH icon), and select [Open Settings](#) to open the settings window. Select the [Options](#) tab and make sure that the [Allow Bluetooth devices to find this computer](#) check box is selected.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)


[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if the BLUETOOTH(R) icon is not displayed in the desktop notification area?

- Make sure the BLUETOOTH function is enabled.
Open the charms [\[Details\]](#) and select the  Settings charm.
Select Change PC settings in the lower right corner, then select Wireless in the left pane.
Turn off Airplane mode and change the Bluetooth setting under Wireless devices to On.
 - Check the BLUETOOTH settings.
Open Control Panel [\[Details\]](#) and select Hardware and Sound and Devices and Printers.
Right-click the computer icon and select Bluetooth settings and the Show the Bluetooth icon in the notification area check box.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why can't I use BLUETOOTH(R) devices when I switch users?

- If you switch users without signing out from your system, BLUETOOTH devices will not work.

Be sure to sign out before switching users.

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why can't I use the BLUETOOTH(R) function when I sign in to my VAIO computer as a user with a standard user account?

- The BLUETOOTH function may not be available to a user with a standard user account on your VAIO computer.
Sign in to the computer as a user with administrative rights.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why is my BLUETOOTH(R) connection slow?

- Data transfer speed depends on obstructions and/or the distance between the two devices, radio wave quality, and the device configuration or apps in use. Move your VAIO computer and BLUETOOTH device closer to each other.
 - If a version of a BLUETOOTH standard employed on the BLUETOOTH device with which you want to communicate is not the same version as the one employed on your VAIO computer, the communication speed may become slower.
 - If your VAIO computer is compliant with BLUETOOTH high speed technology and the following two conditions are met, high-speed communications are available. However, some BLUETOOTH profiles do not support high-speed communications.
 - The BLUETOOTH device with which you want to communicate supports BLUETOOTH high speed technology.
 - Both the Wi-Fi(R) (Wireless LAN) and BLUETOOTH functions on the computer are enabled.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot play a disc, or dropped frames and/or sound interruptions occur during playback?

- Exit all running apps other than the playback app.
 - Try using other playback apps, such as a DVD playback app.
 - To play DVD media with Content Protection for Recordable Media (CPRM), you need to install a CPRM pack for the playback app on your VAIO computer.
 - To play copyright protected Blu-ray Disc media continually, you need to update the AACS key.
Follow a message displayed on the computer screen to update the AACS key. You can update it through the Internet.
 - Uninstall the playback or writing app installed on your VAIO computer after purchase. For instructions on how to uninstall the app, refer to the help file included with the app or Windows Help and Support. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot remove the disc from the optical disc drive?

- The drive eject button may not work depending on your VAIO computer status. Exit all running apps and press the drive eject button. If the problem persists, restart the computer and press the drive eject button again.
 - If the problem persists, insert a thin, straight object (such as a paper clip) into the manual eject hole on the optical disc drive.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why can't I write data to a disc?

- DVD+R DL, DVD+R, DVD-R DL, or DVD-R media are not rewritable. You can write data to such media only once and cannot delete data on the media.
 - See Supported Discs for more information. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why does it take time to write data to DVD writable media?

- In disc-at-once mode, it may take about 20 to 40 minutes to complete the writing process after the progress bar reaches 100%. This is normal and does not indicate a malfunction, so wait until the process is complete.

Because disc-at-once mode writes all the data to a disc at one time, the optical disc drive writes 1 GB of dummy data to a disc even when the actual data size is less than 1 GB to ensure playback compatibility.

Some players can play only discs that are created in disc-at-once mode. When you play the created disc on a player other than your VAIO computer, make sure if the player supports disc writing mode you selected.

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why is my VAIO computer running slowly and the CPU clock frequency low while the computer is running on battery power?

- While your VAIO computer is running on battery power, the CPU clock frequency is reduced for power conserving purposes, which causes the computer to run slowly. This is normal and does not indicate a malfunction.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if 3D images are not displayed on my 3D TV connected to the HDMI output port when I play Blu-ray 3D(TM) media?

- Check if the Blu-ray Disc playback app settings are correctly configured.
 - If your VAIO computer is connected to your 3D TV through an AV amplifier, make sure the AV amplifier supports 3D playback.
 - Check the HDMI output resolution settings on your VAIO computer. If the resolution is not set to 1920x1080 or 1280x720, images are not displayed in 3D.
 - You should also refer to the manual that came with your 3D TV for more information on 3D playback.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if no image is displayed on my TV screen or external display connected to the HDMI output port?

- Reconnect the HDMI cable (not supplied). [\[Details\]](#)
 - Make sure you are using an HDCP-compliant display. The copyright protected content is not displayed on a non-HDCP compliant display.
 - Change the screen resolution of the connected TV or external display. [\[Details\]](#) Images may appear on the screen.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How can I find the physical address (MAC address) of the built-in wireless network interface of my VAIO computer?

- If MAC address filtering of your access point is enabled, register the MAC address of your VAIO computer in the setup screen of the access point. Otherwise, the computer cannot connect to the access point.
Open Command Prompt [\[Details\]](#), enter "ipconfig /all", and then press the Enter key. You can find the physical address (MAC address) in the Physical Address field under Wireless LAN adapter Wi-Fi.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)



[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot connect my VAIO computer to an access point (or the Internet)?

- See [What should I do if I cannot use the Wi-Fi\(R\) \(Wireless LAN\) function? . \[Details\]](#)
- Make sure the access point is on.
- Check the access point settings.
In the following settings, your VAIO computer may fail to connect to an access point, or the connection may be unstable.
 - When the access point is set to refuse communication with a device whose SSID is set to "ANY," and the SSID of your VAIO computer or the access point is set to "ANY."
 - When the access point is in stealth mode.
For more information, refer to the manual that came with your access point, or consult your Wi-Fi service provider.
- Make sure your VAIO computer and access point are connected to one another. [\[Details\]](#)
- Connection capability is affected by distance, obstructions, device configuration, radio wave strength/interference, wall materials, running apps, etc.
Move your VAIO computer away from obstructions or closer to any access point you may be using.
- Open the charms [\[Details\]](#) and select the  Settings charm and  (the network icon).
Check that your access point is displayed.

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot play back movies or audio tracks received via Wi-Fi(R) (Wireless LAN), or their playback is interrupted? Why is the data transfer speed slow?

- Move your VAIO computer away from obstructions, or closer to any access point you may be using.
Connection capability is affected by distance, obstructions, device configuration, radio wave strength/interference, wall materials, running apps, etc.
- If you are using an access point, the device may be temporarily overloaded depending on how many other devices are communicating via the access point.
Wait for a while and try again.
- Change the channel setting of your access point. By changing the channel, interference on your wireless network may be reduced and data transfer speed may improve.
If access point channel interference occurs, data transfer speed may be reduced.
- If your access point interferes with other access points, change the access point channel.
Refer to the manual that came with your access point for more information.
- Make sure that a microwave oven is not operating near your Wi-Fi devices.
The 2.4 GHz frequency band, on which Wi-Fi operates, is used by various devices and apparatus. If you use a microwave oven while communicating via Wi-Fi, data transfer rate may slow down, communication range may narrow, or communication may be interrupted.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)


[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot use the Wi-Fi(R) (Wireless LAN) function?

- Enable the Wi-Fi function.
Open the charms [\[Details\]](#) and select the  Settings charm.
Select Change PC settings in the lower right corner, and select Wireless in the left pane.
Turn off Airplane mode and change the Wi-Fi setting under Wireless devices to On.
 - To use the Wi-Fi function on your VAIO computer, you need to configure the Wi-Fi settings.
Check the Wi-Fi settings of the computer. [\[Details\]](#)
 - If a connection utility app supplied with a third-party Wi-Fi product is installed, uninstall it.
If a connection utility app is installed, Windows may fail to configure the Wi-Fi settings. Be sure to take a note of your settings, (such as security keys) before uninstalling.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)


What should I do if I do not know the SSID or security key for the access point?

- You can find the key in the setting screen of your access point.
Refer to the manual that came with your access point for more information.
-



[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)

What should I do if I cannot turn off my VAIO computer?

- Follow any of these procedures to exit all running apps and then turn off your VAIO computer again.
 - Drag the app from the top center of the screen to the bottom center. [\[Details\]](#)
 - Press the Alt+F4 keys.
 - If there is unsaved data, save it at the confirmation prompt.
 - Press the Alt+F4 keys until the Shut Down Windows window appears and select Shut down from the drop-down list and OK.
- If you have installed a new app on your VAIO computer, check if the app is working properly, its data is normal, and you have operated it correctly.
- Contact the app publisher or designated provider for technical support.
- If you connect peripheral devices, such as a printer or a USB device, to your VAIO computer or connect the computer to your network, disconnect all peripheral devices or the computer's network connection and then turn off the computer.

While the computer is communicating with a peripheral device or the network, Windows does not allow you to turn off the computer. In addition, some peripheral device drivers for the peripheral devices do not support the feature to force the computer to shut down.
- If the computer screen freezes, press the Ctrl+Alt+Delete keys, select  (Shut down) in the lower right corner of the computer screen, and then select Shut down.
- If your VAIO computer freezes with a message indicating the settings are being saved or the computer is shutting down displayed, follow these procedures in order.
 - Press the Enter key.
 - Wait for a while.
 - If the problem persists, press the Ctrl+Alt+Delete keys.
 - Wait for a while.
- If you still cannot turn off your VAIO computer even after you follow all the above procedures in this topic, perform the following operations.

Note that performing these operations may cause working data to become corrupted. Be sure to disconnect the computer from the network before performing the following operations.

 - Press the Ctrl+Alt+Delete keys, select  (Shut down) in the lower right corner of the computer screen, and then select Shut down.
 - Press and hold down the  (Power) button for more than four seconds.
 - Unplug the AC adapter and remove the battery pack from your VAIO computer.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)



[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if VAIO Care Rescue Mode starts when I turn on my VAIO computer?

- You may have accidentally pressed the ASSIST button rather than the  (Power) button. Exit VAIO Care Rescue Mode and locate the  (Power) button on your VAIO computer.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer does not enter Hibernate mode?

- Select Choose what the power button does in the Power Options window. [\[Details\]](#) Select Change settings that are currently unavailable, the Hibernate check box, and Save changes.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)



[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer does not turn on (the power indicator light does not turn on in green)?

- Make sure all cables are securely connected to devices, such as between your VAIO computer and the AC adapter; the AC adapter and the power cord; and the power cord and an AC outlet. [\[Details\]](#)
- If you plug the power cord of your VAIO computer into a power strip with a switch, make sure the switch is turned on and the power cord of the power strip is securely plugged into an AC outlet.
- If you do not turn off your VAIO computer through the normal procedure, the power controller may be suspended due to a program error. Disconnect all cables and peripheral devices, such as the power cord and the USB device, remove the battery pack, and wait about five minutes. Then, put them back in place and turn on the computer again.
- Before using your VAIO computer for the first time, you need to connect the computer to a power source with the AC adapter.
- Check that you are using the supplied Sony AC adapter. For your safety, use only the genuine Sony rechargeable battery pack and AC adapter, which are supplied by Sony for your VAIO computer.
- Make sure the battery pack is installed properly.
- The battery pack may have run out of power.
- Make sure your VAIO computer is not in Hibernate mode by pressing the  (Power) button on the computer. Note that if you press and hold down the  (Power) button for more than four seconds, the computer will turn off.
- If you bring your VAIO computer directly from a cold location to a warm one, or use it in a high humidity location, moisture may condense inside the computer. In such a case, allow at least one hour before turning on the computer. Do not use the computer in a high humidity location (a relative humidity of more than 80 %), as it may cause the computer to malfunction.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer does not turn on or the power button does not work (the power indicator light blinks fast)?

- The battery pack may not be installed properly.
Remove the battery pack and reinstall it properly. [\[Details\]](#)
 - If the problem persists, it means the installed battery is not compatible with your VAIO computer.
Remove the battery pack.
-

[▶ How to Use](#)**Troubleshooting**[Hardware](#)[Apps](#)[Network / Internet](#)[Backup / Recovery](#)[Security](#)[Peripheral Devices](#)

What should I do if the power indicator light turns on in green when I press the power button but the screen remains blank?

- Make sure the brightness and contrast controls are adjusted correctly.
- An external display may be selected as the display output. Press the Fn+F7 keys several times to select your desired display output, and then press the Enter key.
- If you are using an external display, make sure it is plugged into an AC outlet and is on. Make sure the brightness and contrast controls are adjusted correctly. Refer to the manual that came with your display for information on how to change the settings.
- Press the Alt+F4 keys several times to close the app window. An app error may have occurred.
- If you wait for a while and the computer screen remains blank, restart your VAIO computer by following the procedures below in order. Note that following these procedures may cause working data to become corrupted.
 - Disconnect all peripheral devices, such as a printer or a USB device, and your VAIO computer from the network, if any.
 - Press and hold down the (Power) button for more than four seconds and make sure the power indicator light is off. Then, turn on your VAIO computer again.
- If the problem persists, press and hold down the (Power) button for more than four seconds and make sure the power indicator light is off. Disconnect all cables connected to your VAIO computer, such as the AC adapter, remove the battery pack, and wait about five minutes. Then, put all cables, peripheral devices, and the battery pack back in place and turn on the computer again.
- If an extra memory module is not installed properly, your VAIO computer may not turn on. Use of memory modules not specified by Sony or improper installation of memory modules may cause the computer to fail to boot or to become unstable. In such a case, reinstall the memory module. If you use a memory module other than the Sony branded memory module, contact the sales dealer or the manufacturer of the memory module.
- If you bring your VAIO computer directly from a cold location to a warm one, or use it in a high humidity location, moisture may condense inside the computer. In such a case, allow at least one hour before turning on the computer. Do not use the computer in a high humidity location (a relative humidity of more than 80 %), as it may cause the computer to malfunction.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why does a message appear and Windows fail to start when I turn on my VAIO computer?

- The BIOS boot options may have been incorrectly configured.
Press the ASSIST button while your VAIO computer is off to display the VAIO Care Rescue Mode screen, select Start BIOS setup, and change the Boot Mode setting, then restart the computer.
- If a message such as “Secure Boot Fail” appears, check the following:
 - Your VAIO computer may be booting from an external device that the computer does not support. When an external drive or a USB device is connected to the computer, disconnect it and restart the computer.
 - The BIOS boot options may have been changed from the factory default settings. Press the ASSIST button while your VAIO computer is off to display the VAIO Care Rescue Mode screen, then select Start BIOS setup. Press the ◀ or ▶ key to select the Security tab, select Factory Default, and then press the Enter key.
When the confirmation prompt appears, press the Enter key and restart the computer.
 - If a message appears even after you restart your VAIO computer, recover the computer using the recovery data on the built-in hard disk drive or SSD, or using the Recovery Media you have created. [\[Details\]](#)
 - The BIOS boot options may have been incorrectly configured.
If the operating system on your VAIO computer is other than the preinstalled system, press the ASSIST button while the computer is off to display the VAIO Care Rescue Mode screen, then select Start BIOS setup. Press the ◀ or ▶ key to select the Security tab, change the Secure Boot setting to Disabled, and then restart the computer.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why does my VAIO computer automatically turn off?

- When the battery pack is running out of power, your VAIO computer automatically enters Hibernate mode and eventually turns off.
Connect the AC adapter to the computer or charge the battery pack.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How do I avoid unintentional clicks caused by a light touch on the touch pad?

- To avoid unintentional operation, disable the tapping function. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How do I disable the touch pad?

- Press the Fn+F1 keys to disable the touch pad. [\[Details\]](#)
Alternatively, start VAIO Control Center [\[Details\]](#), then disable the touch pad.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)




[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer screen freezes?

- Restart your VAIO computer.
Press the Ctrl+Alt+Delete keys, select  (Shut down) in the lower right corner of the computer screen, and then select Restart.
If the problem persists, press and hold down the  (Power) button for more than four seconds, or slide the  (Power) switch to the right for more than four seconds.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)






[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if the pointer does not move?

- If your finger reaches an edge of the touch pad, the pointer will not move. You will need to lift your finger, and then place it back on the center of the touch pad.
 - The pointer may not move temporarily as expected depending on the condition of your VAIO computer.
In such a case, wait for a while before moving the pointer again.
If the pointer still does not move, press the Ctrl+Alt+Delete keys, select  (Shut down) in the lower right corner of the computer screen, and then select Shut down.
If the problem persists, press and hold down the  (Power) button or slide the  (Power) switch to the right for more than four seconds.
Turning off the computer with the Ctrl+Alt+Delete keys, the  (Power) button, or the  (Power) switch may cause loss of unsaved data.
 - The touch pad may be disabled. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why can't I use the touch pad?

- The touch pad is disabled.
 - Press the Fn+F1 keys to enable the touch pad. [\[Details\]](#)
Alternatively, start VAIO Control Center [\[Details\]](#), then enable the touch pad.
 - If a mouse is connected to your VAIO computer, disconnect it.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if a message appears indicating that the battery pack is incompatible or has been incorrectly installed, after which my VAIO computer enters Hibernate mode?

- This problem could be due to the battery pack not being installed properly. To solve this problem, turn off your VAIO computer, remove the battery pack, and then reinstall it. [\[Details\]](#)
 - If the problem persists, it is likely that the installed battery pack is not compatible with your VAIO computer or has failed. Turn off the computer, remove the battery pack, and then replace it with a new one specified by Sony.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why can't I fully charge my battery pack?

- The battery care function is enabled. Start VAIO Control Center [\[Details\]](#) and change the settings in the Power and Battery window.
 - If ambient temperature is outside the specified range or the power consumption of your VAIO computer is high when you charge the battery pack, the charge current may be reduced.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if captured images contain dropped frames and audio interruptions?

- The effect settings on your app may cause dropped frames. Refer to the help file included with the app for more information.
 - There may be more app running than your VAIO computer can handle. Exit the apps that you are not currently using.
 - This problem may occur while your VAIO computer is running on the power saving plan, which reduces the CPU performance. Check the current power plan. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if captured images flicker?

- This problem occurs when you use the built-in camera under fluorescent lights and is due to a mismatch between the lighting output frequency and the shutter speed. To reduce flicker noise, change the direction of your VAIO computer so that you can adjust the direction of the built-in camera. Some apps offer adjustable parameters, such as brightness or power frequencies, to eliminate flicker noise.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why are captured images poor in quality?

- Images captured under fluorescent light may contain light reflections.
 - A dark portion in captured images may contain noise.
 - The area on and around the built-in camera is soiled. Clean the area. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why does the viewfinder show no images or poor-quality images?

- Some camera apps may not work correctly when another camera app is running. Exit the current app before starting another.
 - You may not be able to use another camera app that uses the built-in camera while using the gesture function.
 - The viewfinder may show some noise, for example horizontal streaks, when you are viewing a rapid-moving object. This is normal and does not indicate a malfunction.
 - If the problem persists, restart your VAIO computer.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why is the video input from the built-in camera suspended momentarily?

- The video input may be suspended momentarily if:
 - A shortcut key with the Fn key is used.
 - The CPU load increases.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How do I change the LCD brightness?

- Press the Fn+F5 or Fn+F6 keys to adjust the LCD brightness of your VAIO computer. [\[Details\]](#)
 - To adjust the LCD brightness of the connected external display, such as a computer display or a TV, use the brightness control on the external display.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)



[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my computer screen goes blank?

- Make sure your VAIO computer is on and not in a power saving mode. [\[Details\]](#)
- Make sure your VAIO computer is securely plugged into an AC outlet [\[Details\]](#) and the power indicator light is on.
- The computer screen may be off.
Press any key on the keyboard.
- The display output may be set to an external display.
Press the Fn+F7 keys several times to select your desired display output, and then press the Enter key. [\[Details\]](#)
- If your VAIO computer is running on battery power, make sure the battery pack is installed properly and is charged. [\[Details\]](#)
- If you wait for a while and the computer screen remains blank, follow the procedures below:
 - Press and hold down the  (Power) button for more than four seconds, check if the power indicator light is off, and then turn on your VAIO computer.
 - If the problem persists, press and hold down the  (Power) button for more than four seconds and check if the power indicator light is off. Disconnect all cables and peripheral devices, such as the power cord and the USB device, remove the battery pack, and wait about five minutes. Then, put them back in place and turn on your VAIO computer again.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if no image is displayed on my external display or TV screen?

- Press the Fn+F7 keys several times to select your desired display output, and then press the Enter key. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if some items do not fit on the computer screen?

- Check that the text size is set to 100%. If not, some items, for example an app menu, may not be displayed correctly, depending on the apps you are using. Refer to Windows Help and Support for more information on how to change the text size. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if videos are not displayed on the computer screen?

- Your VAIO computer may not have sufficient video memory to display high resolution videos. In such a case, lower the resolution of the LCD screen. [\[Details\]](#)
 - If you have selected to use an external display using the Fn+F7 keys and the external display is disconnected from your VAIO computer, the computer screen may be unable to display the video.
In such a case, stop video playback, press the Fn+F7 keys to select the computer screen as the display output, and then press the Enter key. Then, restart video playback.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if videos are not displayed smoothly?

- It is recommended you disable your screen saver.
If the screen saver is enabled, it may be activated during DVD playback and prevent the playback from running successfully.
 - If you have set the display output to both the computer screen and an external display, change the display output to either of them.
 - Some videos may not be displayed smoothly depending on the type or bit rate of videos. Lowering the screen resolution may improve video playback performance. [\[Details\]](#)
 - If data access to a memory card is in progress (the media access indicator light is on), wait until the data access ends and then start playback again.
 - If you are playing a video stored on the memory card, copy it to the built-in storage device and then play the copied video.
-

[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why do sound interruptions and/or dropped frames occur when I play high-definition videos, such as those recorded with the AVCHD digital video camcorder?

- Playing high-definition videos requires substantial hardware resources, such as CPU, GPU, or system memory performance on your VAIO computer. During the video playback, some operations and/or functions may become unavailable, and sound interruptions, dropped frames, and playback failure may occur depending on the configuration of the computer.
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

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

- Check if the Num lock indicator light is on or off.
When the indicator light is on, you can enter the numbers printed on the keys.
When the indicator light is off, you can enter the letters and symbols printed on the keys.
Press the Num Lk key to turn the Num Lock indicator light on or off. [\[Details\]](#)
 - Check if the Caps Lock indicator light is on or off.
When the indicator light is on, characters typed will appear in uppercase (or lowercase if you also hold down the Shift key).
When the indicator light is off, characters typed will appear in lowercase (or uppercase if you also hold down the Shift key).
Press the Shift+Caps Lock keys to turn the Caps Lock indicator light on or off.
[\[Details\]](#)
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my keyboard configuration is wrong?

- The language layout of your keyboard is labeled on the packaging box. If you choose a different regional keyboard when you complete the Windows setup, the key configuration will be mismatched. To change the keyboard configuration, refer to Windows Help and Support.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

Why can't I write data to a memory card?

- Some types of memory cards are equipped with an erasure prevention switch to protect data from unintentional erasure or overwriting. Make sure the erasure prevention switch is off.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I forget the Windows password?

- The Windows password is case-sensitive. Check your password and enter again.
 - Log on using a user account that has system administrator privileges to reset your password.
 - If you forget all passwords for system administrator accounts, you cannot reset any Windows passwords. You need to perform system recovery. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)


[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if the Enter Onetime Password message appears and Windows does not start after I enter a wrong power-on password three times consecutively?

- Press and hold down the  (Power) button for more than four seconds and check if the power indicator light is off. Then, restart your VAIO computer and enter the correct password.
The password is case-sensitive, so be sure to check letters for the current case before you enter the password.
 - If you forget the power-on password, you cannot start your VAIO computer. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

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

- Check the website of the game if there are any patches or updates to download.
 - Make sure you have installed the latest video driver software.
 - On some VAIO computer models, the graphics memory is shared with the system. The optimal graphics performance in such a case is not guaranteed.
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[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot charge the device connected to the USB port that supports USB charging?

- Make sure that the USB Charging setting is enabled. [\[Details\]](#)
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot print a document?

- Make sure the printer settings are correctly configured.
For information on the printer settings, refer to the manual that came with your printer.
- Make sure your printer is on.
Refer to the manual that came with your printer for more information.
- Make sure the connections between the printer's power cord and AC adapter and between the AC adapter and an AC outlet are securely made.
- Make sure the appropriate printer driver is installed.
When you connect a new printer, you first need to set up the printer driver.
For information on how to set up the printer driver, refer to the manual that came with your printer, or visit the website of the manufacturer.
- Make sure the status of your printer is displayed as online or ready.
Then, make sure the printer settings are correctly configured as instructed in the manual that came with the printer.
- Make sure your printer is set to Set as Default Printer.
Refer to Windows Help and Support for more information. [\[Details\]](#)
- Make sure your printer is compatible with Windows installed on your VAIO computer.
- Make sure your printer is connected to your network (LAN).
If the printer is directly connected to the network (LAN), make sure a router or a hub is on.
If the printer is connected to a printer server, make sure an error message is not displayed on the printer server.
- Make sure your app is working properly.
The app may not support your document format. In such a case, your document will not be printed properly.
Contact the app publisher or the manufacturer of your printer.
- Make sure the correct printer port for your printer is selected.
For more information on the printer port settings, refer to the manual that came with the printer, or contact the manufacturer.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer does not recognize the USB device?

- Check if the USB device is on and using its own power supply.
 - If you are using a digital camera, check if the battery is charged.
 - If you are using a printer, check if the power cable is connected properly to an AC outlet.
 - You may need to install a USB driver for the USB device before connecting the device. Refer to the manual that came with the USB device for more information.
 - Try using another USB port on your VAIO computer. The USB driver could be installed to the specific port you used the first time you connected the device.
 - USB hubs may prevent the USB device from working because of a power distribution failure. We recommend you connect the device directly to your VAIO computer without a hub.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How can I reinstall the original apps and drivers?

- You can restore the preinstalled apps and drivers using VAIO Care. To restore them, start VAIO Care [\[Details\]](#) and then select Advanced Tools, Restore and recovery, and Reinstall Applications and Drivers. Refer to the help file included with VAIO Care for more information.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How can I restore my VAIO computer system to its factory default settings?

- There are two ways to recover your VAIO computer system: from Recovery Media [\[Details\]](#) and from the recovery area [\[Details\]](#).
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[▶ How to Use](#)**Troubleshooting**

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

How do I create Recovery Media?

- You can create Recovery Media using VAIO Care. [\[Details\]](#)
-

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot create Recovery Media?

- Try the suggestions below:
 - Download and install the latest updates using VAIO Update. [\[Details\]](#)
 - Restart your VAIO computer. And then, try to create Recovery Media again.
 - If an AC adapter is supplied with an external optical disc drive, plug the AC adapter into a power source.
 - Try other reliable media.
 - If the problem persists, visit the VAIO online support website for further assistance.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot recover my VAIO computer from the recovery area?

- Recover your VAIO computer from Recovery Media if you have used apps to modify the recovery area, installed a different operating system from the preinstalled one, or formatted the built-in storage device without using VAIO Care (Rescue Mode) : Recover or maintain your system.
 - If the problem persists, visit the VAIO online support website for further assistance.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if I cannot start/complete the recovery process?

- Disconnect all unnecessary external devices from your VAIO computer.
 - Try the suggestions below:
 - Check the condition of Recovery Media. If you are using optical discs, check the discs for dirt or damage. If the discs are not clean, clean them and try recovering your VAIO computer again.
 - If you cannot recover your VAIO computer from the recovery area, restart the computer and recover the computer from the recovery area again, or use Recovery Media.
 - If you cannot recover your VAIO computer using a USB optical drive or USB flash drive, connect the drive to another USB port or to the USB port that is compliant with the USB 2.0 standard (if any). Then, turn off the computer and try recovering it again. [\[Details\]](#)
 - If the problem persists, visit the VAIO online support website for further assistance.
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[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer becomes unstable (Windows does not start)?

- Try the suggestions below:
 - Restore computer system files. [\[Details\]](#)
Use the restore point that you created before your VAIO computer becomes unstable.
 - Restore your VAIO computer from a system image backup if you have created the backup. Refer to Windows Help and Support for more information. [\[Details\]](#)
Any file you have created or changed after you created the system image backup will not be restored.
You need to back up such a file with VAIO Care (Rescue Mode) : Recover or maintain your system. [\[Details\]](#)
 - Use VAIO Hardware Diagnostics to identify problems on your VAIO computer.
 - With the app, you can check if the computer hardware (a CPU, a memory module, and a built-in storage device) needs to be replaced.
To start VAIO Hardware Diagnostics, select Tools and VAIO Hardware Diagnostics in VAIO Care (Rescue Mode) : Recover or maintain your system.
 - Follow the instructions in Recovering from the Recovery Area to recover your VAIO computer. [\[Details\]](#)
 - If you have not backed up your data, be sure to make a backup copy of your valuable data using VAIO Care (Rescue Mode) : Recover or maintain your system before recovering your VAIO computer. [\[Details\]](#)
If you have a backup created with the Windows backup feature before your VAIO computer becomes unstable, but you have created or changed the file after that, back up such a file with VAIO Care (Rescue Mode) : Recover or maintain your system.
- Note**
- Recovering your VAIO computer will delete all the data on the built-in storage device.

[▶ How to Use](#)

Troubleshooting

[Hardware](#)

[Apps](#)

[Network / Internet](#)

[Backup / Recovery](#)

[Security](#)

[Peripheral Devices](#)

What should I do if my VAIO computer becomes unstable (Windows starts)?

- Try the suggestions below:
 - Start VAIO Care to search for a solution. [\[Details\]](#)
 - Restore computer system files. [\[Details\]](#)
Use the restore point that you created before your VAIO computer becomes unstable.
 - Uninstall an app or a driver if your VAIO computer has become unstable after you installed the app or the driver.
 - Reinstall the preinstalled apps or drivers on your VAIO computer if such apps or drivers have not been working properly. [\[Details\]](#)
 - Restore your VAIO computer from a system image backup if you have created the backup. Refer to Windows Help and Support for more information. [\[Details\]](#)
 - If the problem persists, follow the instructions in Refreshing Your VAIO Computer to reinstall the operating system. [\[Details\]](#)
If the problem persists after you refresh your VAIO computer, follow the instructions in Recovering from the Recovery Area to recover the computer. [\[Details\]](#)
The computer may not support the refresh function depending on the model you purchased.
 - If you have not yet created Recovery Media, create the Recovery Media. [\[Details\]](#)
 - Be sure to make a backup copy of your valuable data before recovering your VAIO computer. Refer to Windows Help and Support for more information. [\[Details\]](#)
- Note**
- Recovering your VAIO computer will delete all the data on the built-in storage device.