



## Microsoft Product Guide

Read this guide for important safety and health information and the terms of the Warranty that apply to the Microsoft® device that you have purchased.

- ⚠ Warning** Failure to properly set up, use, and care for this product can increase the risk of serious injury or death, or damage to the device or devices. Read this guide and keep all printed guides for future reference. For replacement guides, go to [www.microsoft.com/hardware](http://www.microsoft.com/hardware) or refer to the Customer Support Options section for contact information.

This document includes important information about many Microsoft products. Refer to sections that apply to the features of your device:

- ⚠ Important Safety Information**
- AC-Powered Devices
  - Battery-Powered Devices
  - Headset Devices
  - Wireless Devices
  - Keyboard and Mouse Devices
  - Devices with Laser Pointers
  - All Devices
- Laser and LED Specifications  
Regulatory Information  
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Radio and TV Interference Regulations  
Disposal of Waste Electrical and Electronic Equipment  
Patent Information  
Customer Support Options

- ⚠ This symbol identifies safety and health messages in this Product Guide and other product manuals.**

### ⚠ Important Safety Information

#### AC-Powered Devices

These precautions apply to all products that plug into a standard wall power outlet.

Failure to take the following precautions can result in serious injury or death from electric shock or fire or in damage to the device.



- Remove the batteries if they are worn out or before storing your device for an extended period of time.
- Always remove old, weak, or worn-out batteries promptly and recycle or dispose of them in accordance with Local and National Disposal Regulations.
- If a battery leaks, remove all batteries, taking care to keep the leaked fluid from touching your skin or clothes. If fluid from the battery comes into contact with skin or clothes, flush skin with water immediately. Before inserting new batteries, thoroughly clean the battery compartment with a damp paper towel, or follow the battery manufacturer's recommendations for cleanup.

**Disposable (non-rechargeable) batteries only:**

- **Caution** Risk of explosion if battery is replaced by an incorrect type. Use and replace only with the correct size and type (alkaline, zinc-carbon, or zinc-chloride) of batteries.

**Rechargeable batteries only:**

- **Caution** Risk of explosion if battery is replaced by an incorrect type. Use and replace only with the same type and rating as the batteries provided.
- Charge only with the recharger provided with the product.

**Headset Devices**

Extended exposure to high volumes when using a headset may result in temporary or permanent hearing loss.

**Wireless Devices**

Before boarding any aircraft or packing a wireless device in luggage that will be checked, remove the batteries from the wireless device or turn the wireless device off (if it has an on/off switch). Wireless devices can transmit radio frequency (RF) energy, much like a cellular telephone, whenever batteries are installed and the wireless device is turned on (if it has an on/off switch).

**Keyboard and Mouse Devices**

**Health Warning**

Use of a keyboard or mouse may be linked to serious injuries or disorders.

When using a computer, as with many activities, you may experience occasional discomfort in your hands, arms, shoulders, neck, or other parts of your body. However, if you experience symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensation, or stiffness, **DO NOT IGNORE THESE WARNING SIGNS. PROMPTLY SEE A QUALIFIED HEALTH PROFESSIONAL**, even if symptoms occur when you are not working at your computer. Symptoms like these can be associated with painful and sometimes permanently disabling injuries or disorders of the nerves, muscles, tendons, or other parts of the body. These musculoskeletal disorders (MSDs) include carpal tunnel syndrome, tendonitis, tenosynovitis, and other conditions.

While researchers are not yet able to answer many questions about MSDs, there is general agreement that many factors may be linked to their occurrence, including: overall health, stress and how one copes with it, medical and physical conditions, and how a person positions and uses his or her body during work and other activities (including use of a keyboard or mouse). The amount of time a person performs an activity may also be a factor.





**To select an appropriate power source for your device:**

- Use only the power supply unit and AC power cord that came with your device or that you received from an authorized repair center.
- Confirm that your electrical outlet provides the type of power indicated on the power supply unit (in terms of voltage [V] and frequency [Hz]). If you are not sure of the type of power supplied to your home, consult a qualified electrician.
- Do not use non-standard power sources, such as generators or inverters, even if the voltage and frequency appear acceptable. Only use AC power provided by a standard wall outlet.
- Do not overload your wall outlet, extension cord, power strip, or other electrical receptacle. Confirm that they are rated to handle the total current (in amps [A]) drawn by the device (indicated on the power supply unit) and any other devices that are on the same circuit.

**To avoid damaging the power cords and power supply:**

- Protect the power cords from being walked on.
- Protect cords from being pinched or sharply bent, particularly where they connect to the power outlet, the power supply unit, and the device.
- Do not jerk, knot, sharply bend, or otherwise abuse the power cords.
- Do not expose the power cords to sources of heat.
- Keep children and pets away from the power cords. Do not allow them to bite or chew on them.
- When disconnecting the power cords, pull on the plug—do not pull on the cord.

If a power cord or power supply becomes damaged in any way, stop using it immediately. Unplug your device during lightning storms or when unused for long periods of time.

For devices with an AC power cord that connects to the power supply, always connect the power cord according to the following instructions:

- 1 Plug the AC power cord into the power supply until it stops.
- 2 Plug the other end of the AC power cord into the wall outlet.

**Battery-Powered Devices**

These precautions apply to all products that use rechargeable or disposable batteries.

Improper use of batteries may result in battery fluid leakage, overheating, or explosion. Released battery fluid is corrosive and may be toxic. It can cause skin and eye burns, and is harmful if swallowed.

**To reduce the risk of injury:**

- Keep batteries out of reach of children.
- Do not heat, open, puncture, mutilate, or dispose of batteries in fire.
- Do not mix new and old batteries or batteries of different types (for example, carbon-zinc and alkaline batteries).
- Do not allow metal objects to touch the battery terminals on the device; they can become hot and cause burns.





### Class 1 Laser Devices

Beam description: Collimated (parallel) beam of infrared light (invisible to the user)

Laser power output: < 716 microwatts (at 832 nanometers) to 834 microwatts (at 865 nanometers)

Emitted laser wavelength: nominal: 850 nanometers, range: (832 – 865 nanometers)

A Class 1 laser product is safe under reasonably foreseeable conditions of operation as described by IEC 60825-1 and 21 CFR 1040.10. However, it is recommended that you not direct the laser beam (which is emitted from the bottom of the device) at anyone's eyes.



### Class 2 Laser Devices

Beam description: Collimated (parallel) beam of light

Laser power output: < 1 milliwatt

Emitted laser wavelength: 630 – 670 nanometers

This optical device has no serviceable parts. The Class 2 laser beam is emitted from the front of the device.



### Optical (LED) Devices

This product has been evaluated to comply with International Standard IEC 60825-1:1993/A2:2001.

This product uses LEDs that are inherently Class 1.



### Regulatory Information

Tested to comply with FCC (U.S. Federal Communications Commission) Standards. For home or office use. Not intended for use in machinery, medical, or industrial applications. Any changes or modifications not expressly approved by Microsoft could void the user's authority to operate this device. This product is for use with NRTL-Listed (UL, CSA, ETL, etc.), and/or IEC/EN 60950 compliant (CE marked) Information Technology equipment. No serviceable parts included.

This device is rated as a commercial product for operation at +41°F (+5°C) to +95°F (+35°C).

This Class B digital apparatus complies with Part 15 of the U.S. Federal Communications Commission (FCC) rules, Canadian ICES-003, RSS-Gen, RSS-210, and RSS-310. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

Cet appareil numérique de la classe B est conforme aux normes NMB-003, CNR-Gen, CNR-210 et CNR-310 du Canada. Son fonctionnement est assujéti aux deux conditions suivantes : (1) Cet appareil ne peut pas provoquer d'interférences nuisibles et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant entraîner un fonctionnement non désiré.

L'expression « IC : » avant le numéro d'homologation/enregistrement signifie seulement que les spécifications techniques édictées par Industrie Canada ont été respectées.

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Some guidelines that may help you work more comfortably with your computer and possibly reduce your risk of experiencing an MSD can be found in the “Healthy Computing Guide” installed with this device’s software. If this device did not come with software, you can access the “Healthy Computing Guide” at [www.microsoft.com/hardware](http://www.microsoft.com/hardware) or (in the United States only) by calling (800) 360-7561 to request a CD at no charge.

If you have questions about how your own lifestyle, activities, or medical, or physical condition may be related to MSDs, see a qualified health professional.

### **Devices with Laser Pointers**

**Caution** Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

- Do not stare into beam.
- Do not shine a laser pointer at anyone. Laser pointers are designed to illuminate inanimate objects.
- Do not allow minors to use a pointer unsupervised. Laser pointers are not toys.
- Do not point a laser pointer at a mirror-like (reflective) surface. A reflected beam can act like a direct beam on the eye.
- Do not disassemble the device.
- Do not use the device outside of its specified operating temperature range +41°F (+5°C) to +95°F (+35°C). If the device is exposed to an environment outside of its prescribed operation, turn off the device and allow the temperature to stabilize within the specified operating range before using the device.

### **All Devices**

#### **Do Not Attempt Repairs**

Do not attempt to take apart, open, service, or modify the hardware device or power supply. Doing so could present the risk of electric shock or other hazard. Any evidence of any attempt to open and/or modify the device, including any peeling, puncturing, or removal of any of the labels, will void the Limited Warranty.

### **Laser and LED Specifications**

**Caution** Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

#### **Laser Devices**

This device complies with International Standard IEC 60825-1:2001-08 for a Class 1 and Class 2 laser product. This device also complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.



- If necessary, ask your computer dealer or an experienced radio-TV technician for more suggestions. For more information about interference issues, go to the FCC Web site at: <http://www.fcc.gov/cgb/consumerfacts/interference.html>. You can also call the FCC at 888-CALL FCC to request Interference and Telephone Interference fact sheets.

**For Bluetooth and 2.4 GHz devices only:** To comply with FCC RF exposure requirements, the following operating configurations must be satisfied: the antenna has been installed by the manufacturer and no changes can be made. The wireless devices must not be co-located or operating in conjunction with any other antenna or transmitter. Except for headset and handheld devices, wireless devices must be at least 20 cm between the antenna of the wireless device and all persons.

Microsoft Corporation; One Microsoft Way; Redmond, WA 98052-6399; U.S.A.  
United States: (800) 426-9400; Canada: (800) 933-4750

## Disposal of Waste Electrical and Electronic Equipment in the European Union and Other Countries/Regions with Separate Collection Systems



This symbol on the product or its packaging means that this product must not be disposed of with your household waste. Instead, it is your responsibility to hand this over to an applicable collection point for the recycling of electrical and electronic equipment. This separate collection and recycling will help to conserve natural resources and prevent potential negative consequences for human health and the environment, which inappropriate disposal could cause due to the possible presence of hazardous substances in electrical and electronic equipment. For more information about where to drop off your electrical and electronic waste, please contact your local city/municipality office, your household waste disposal service, or the shop where you purchased this product. Contact [weee@microsoft.com](mailto:weee@microsoft.com) for additional information on disposal of waste electrical and electronic equipment (WEEE).

## Patent Information

United States and/or international patents pending.

## Customer Support Options

If you have a question about your Microsoft hardware product, do the following:

- Check the system requirements for your product (located on the packaging) to ensure that your system is compatible.
- For complete product information, see the on-screen Help file installed with the device software.
- For the latest product information and software updates, go to the Microsoft Hardware Web site at [www.microsoft.com/hardware](http://www.microsoft.com/hardware).
- For up-to-date help about using or troubleshooting your device, go to the Microsoft Help and Support Web site at <http://support.microsoft.com>.





## Radio Frequency Technical Specifications

### 27 MHz Devices

Radio frequency (RF) output power: < 54 dB $\mu$ V/m at 3 m  
Keyboard with two channels – RF frequencies: 27.095 MHz (channel 1), 27.195 MHz (channel 2)  
Keyboard with a single channel – RF frequency: 27.195 MHz or 27.095 MHz  
Mouse with two channels – RF frequencies: 27.045 MHz (channel 1), 27.145 MHz (channel 2)  
Mouse with a single channel – RF frequency: 27.145 MHz or 27.045 MHz

### Bluetooth Devices

RF output power: meets Bluetooth® requirements  
Frequency: 2,400 MHz to 2483.5 MHz

### 2.4 GHz Devices

Non-specific short range device  
RF output power: Meets all SRD requirements  
Frequency: within the range of 2,400 MHz to 2,483.5 MHz

## Radio and TV Interference Regulations

The Microsoft hardware device(s) can radiate RF energy. If not installed and used in strict accordance with the instructions given in the printed documentation and/or on-screen Help files, the device may cause harmful interference with other radio-communications devices (for example AM/FM radios, televisions, baby monitors, cordless phones, etc). There is, however, no guarantee that RF interference will not occur in a particular installation.

To determine if your hardware device is causing interference to other radio-communications devices, disconnect the device from your computer or remove the device's batteries (for a battery operated device). If the interference stops, it was probably caused by the device. If the interference continues after you disconnect the hardware device or remove the batteries, turn the computer off and then on again. If the interference stopped when the computer was off, check to see if one of the input/output (I/O) devices or one of the computer's internal accessory boards is causing the problem. Disconnect the I/O devices one at a time and see if the interference stops.

If this hardware device does cause interference, try the following measures to correct it:

- Relocate the antenna of the other radio-communications device (for example AM/FM radios, televisions, baby monitors, cordless phones, etc.) until the interference stops.
- Move the hardware device farther away from the radio or TV, or move it to one side or the other of the radio or TV.
- Plug the computer into a different power outlet so that the hardware device and radio or TV are on different circuits controlled by different circuit breakers or fuses.



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