



User Guide

© Copyright 2019 HP Development Company, L.P.

DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. Windows is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

First Edition: May 2019

Document Part Number: L63477-001

Table of contents

1 Getting started	1
Components	1
Top	1
Front	2
Left	3
Rear	4
Bottom	5
Setting up the docking station	6
Step 1: Connecting to AC power	6
Step 2: Connecting to a computer	7
Step 3: Turning on the docking station	8
Step 4: Preventing Sleep or Hibernation	8
Setting up the software	8
Updating the docking station	9
Downloading HP Firmware Installer	9
Installing updates	9
Configuring an external monitor	10
Using Windows	10
Sleep, Hibernation, shutdown, and restart	11
2 Using the docking station	12
Docking station guidelines	12
Connecting to a network	13
Connecting USB devices	14
Connecting to a DisplayPort device	15
Connecting to an HDMI device	16
Connecting audio	17
Connecting analog audio devices	17
Connecting an optional security cable	17
3 Disconnecting the docking station	18
4 Troubleshooting	19
Solving common problems	19
General use and connection problems	19
Audio problems	19

Video problems	20
Getting more information	20
5 Specifications	21
Input power	21
Operating environment	21
6 Electrostatic discharge	22
7 Accessibility	23
Accessibility	23
Finding the technology tools you need	23
Our commitment	23
International Association of Accessibility Professionals (IAAP)	23
Finding the best assistive technology	24
Assessing your needs	24
Accessibility for HP products	24
Standards and legislation	25
Standards	25
Mandate 376 – EN 301 549	25
Web Content Accessibility Guidelines (WCAG)	25
Legislation and regulations	25
United States	26
21st Century Communications and Video Accessibility Act (CVAA)	26
Canada	26
Europe	27
United Kingdom	27
Australia	27
Worldwide	27
Useful accessibility resources and links	28
Organizations	28
Educational institutions	28
Other disability resources	28
HP links	28
Contacting support	29
Index	30

1 Getting started

Components

This chapter identifies the visible hardware features of the docking station and provides setup instructions.



NOTE: Some features of the docking station may not be supported by your computer.

Top



Table 1-1 Top component and its description

Component	Description
Power button and light	<p>Button:</p> <ul style="list-style-type: none">• When the computer is off, press the button to turn on the computer.• When the computer is on, press the button briefly to initiate Sleep.• When the computer is in the Sleep state, press the button briefly to exit Sleep (select products only).• When the computer is in Hibernation, press the button briefly to exit Hibernation. <p>CAUTION: Pressing and holding down the power button results in the loss of unsaved information.</p> <p>If the computer has stopped responding and shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer.</p> <p>Light:</p> <ul style="list-style-type: none">• On: The docking station is on.

Front

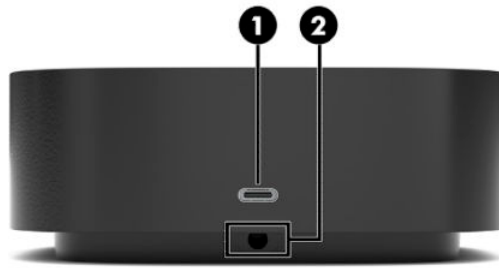




Table 1-2 Front components and their descriptions

Component	Description
(1) USB Type-C SuperSpeed port with HP Sleep and Charge	Connects a USB device that has a Type-C connector, provides data transfer, and even when the computer is off, charges most products such as a cell phone, camera, activity tracker, or smartwatch. NOTE: Cables and/or adapters (purchased separately) may be required.
(2) USB Type-C cable	Connects the docking station to a notebook or tablet computer. NOTE: If a computer does not support power over USB Type-C connections or requires more than 100 W of power, you must use the AC adapter included with the computer to power or charge the computer.

Left



Table 1-3 Left components and their descriptions

Component	Description
(1) 	<p>Audio-out (headphone)/Audio-in (microphone) combo jack</p> <p>Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional standalone microphones.</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the <i>Regulatory, Safety, and Environmental Notices</i>.</p> <p>To access this guide:</p> <ul style="list-style-type: none">▲ On your computer, select the Start button, select HP Help and Support, and then select HP Documentation. <p>NOTE: When a device is connected to the jack, the computer speakers are disabled.</p>
(2) 	<p>USB SuperSpeed ports with HP Sleep and Charge (2)</p> <p>Connect a USB device, provides data transfer, and even when the computer is off, charges most products such as a cell phone, camera, activity tracker, or smartwatch.</p>

Rear

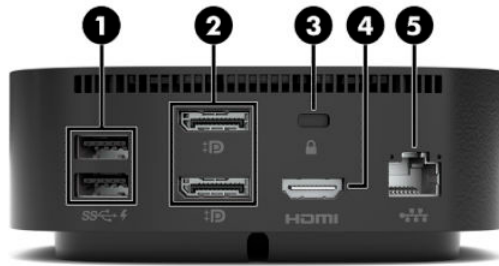







Table 1-4 Rear components and their descriptions

Component	Description
(1)  USB SuperSpeed ports with HP Sleep and Charge (2)	Connect a USB device, provides data transfer, and even when the computer is off, charges most products such as a cell phone, camera, activity tracker, or smartwatch.
(2)  Dual-Mode DisplayPort™ connectors (2)	Connect an optional digital display device, such as a high-performance monitor or projector.
(3)  Security cable slot	Attaches an optional security cable to the docking station. NOTE: The security cable is designed to act as a deterrent, but it may not prevent the docking station from being mishandled or stolen.
(4)  HDMI port	Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed High Definition Multimedia Interface (HDMI) device.
(5)  RJ-45 (network) jack/status lights	Connects a network cable. <ul style="list-style-type: none">• Green (right): The network is connected.• Amber (left): Activity is occurring on the network.

Bottom



Table 1-5 Bottom components and their descriptions

Components	Description
AC adapter light	<ul style="list-style-type: none">On: AC power is connected to the docking station.

Setting up the docking station

Step 1: Connecting to AC power

⚠ WARNING! To reduce the risk of electric shock or damage to your equipment:

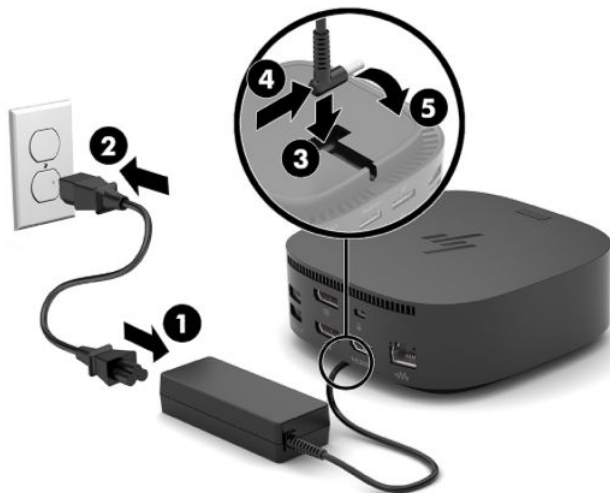
Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.

Disconnect power from the equipment by unplugging the power cord from the electrical outlet.

Do not disable the power cord grounding plug. The grounding plug is an important safety feature.


To ensure the correct performance of all docking station features, connect the docking station to an AC power source using the docking station power cord.

1. Connect one end of the power cord to the AC adapter **(1)**, and connect the other end of the power cord to an AC outlet **(2)**.
2. Lower the AC adapter connector into the power-in connector slot on the docking station **(3)**, press the connector to the side until it is firmly seated **(4)**, and then rotate the connector so that the cable is routed through the channel on the side of the docking station chassis **(5)**.



Step 2: Connecting to a computer

- ▲ Connect the USB Type-C cable to a USB Type-C port on your computer.

 **NOTE:** If the computer does not support power over USB Type-C connections or requires more than 100 W of power, you must use the AC adapter included with the computer to power or charge the computer.



Step 3: Turning on the docking station

- ▲ Press the power button.



Step 4: Preventing Sleep or Hibernation

When using an external monitor, you might want to close the computer. For more information about configuring an external monitor, see [Configuring an external monitor on page 10](#).

To ensure that the computer does not initiate Sleep or Hibernation when it is closed:

1. Type `control panel` in the taskbar search box, and then select **Control Panel**.
2. Select **Power Options**.
3. Select **Choose what closing the lid does**.
4. Next to **When I close the lid**, under **On battery**, select **Do nothing**.
5. Next to **When I close the lid**, under **Plugged in**, select **Do nothing**.
6. Select **Save changes**.

Setting up the software

This section describes how to install the docking station software on a computer running the Windows® 10 operating system.

1. With the computer on, Windows running, and the Internet connected, connect the docking station to the computer.
2. Go to <http://www.hp.com/support>.
3. Select **Get software and drivers**, and follow the on-screen instructions to find your docking station.
4. Follow the on-screen instructions to select and download the latest firmware update and each driver.
5. Complete the installation wizard.
6. Choose to restart now or later. The docking station might not work until the next restart. If you choose to restart the computer, first remove any discs from the computer drives. Click **Finish**.

Updating the docking station


Downloading HP Firmware Installer

1. Go to <http://www.hp.com/support>.
2. Select **Get software and drivers**, and follow the on-screen instructions to find your docking station.
3. Follow the on-screen instructions to select and download **HP Firmware Installer**.
4. Complete the installation wizard.
5. Choose to restart now or later. The docking station might not work until the next restart. If you choose to restart the computer, first remove any discs from the computer drives. Click **Finish**.

Installing updates

You can update the docking station while connected to your computer or, for better performance, schedule the docking station to update when you disconnect your computer from the docking station.

1. Open **Windows Explorer** and navigate to where you saved HP Firmware Installer.
2. Double-click **HPFirmwareInstaller.exe**.
3. Verify that updates are available, and then select which updates to install.

 **TIP:** You must be connected to the Internet for new updates to download to HP Firmware Installer.

4. Select one of the following:

- **Update now:** Installs the update immediately.

 **NOTE:** You cannot disconnect your computer from the docking station during an update.

Your might see your monitor flicker and hear some audio clicks, your Internet connection might be intermittent, and your mouse and keyboard could become unresponsive until installation is complete.

- **Update on dock disconnect:** Installs the update after you disconnect your computer from the docking station.

 **NOTE:** You cannot connect your computer to the docking station during an update.

The dock power light might blink while the update is being installed.

5. Select **Install**.

Configuring an external monitor

Using Windows

Use Windows to configure the display of a monitor attached to the docking station.

1. Type `control panel` in the taskbar search box, and then select **Control Panel**. Select **Appearance and Personalization**.
2. To set the external monitor as the primary monitor, select **Second screen only**.
– or –
To set the external monitor as an extension of the primary monitor on computers, select **Extend**.
– or –
To set the external monitor as a copy of the primary monitor, select **Duplicate**.

You can also access the display settings by pressing the [Windows](#) key +p.

Sleep, Hibernation, shutdown, and restart

If the computer initiates Sleep or Hibernation, the monitor turns off. When the computer exits Sleep or Hibernation, the connected monitor returns to the previous monitor settings.

If you restart or shut down the computer and then turn it back on, the connected monitor returns to the previous monitor settings.

2 Using the docking station


Docking station guidelines

- **Operating systems:** For optimal performance, use the docking station with a computer running a Windows 10, version 1809 or higher operating system.
- **Power:** To use docking station features, AC power must be connected to the docking station.
- **Connecting and disconnecting:** The docking station can be connected to or disconnected from the computer whether the computer is on or off. (See [Step 2: Connecting to a computer on page 7](#) and [Disconnecting the docking station on page 18](#).)
- **External devices:** When the docking station is connected to the computer, external devices can be connected to the ports on the docking station or to the ports on the computer.


Connecting to a network

You can connect the computer to a network through the docking station. This requires a network cable (purchased separately).

The docking station supports the following computer functions over the network connection:


 **NOTE:** Before using these functions, verify that your computer has the latest BIOS, network controller driver, and USB LAN driver installed. For instructions on updating these drivers, see your computer documentation.

- PXE boot
- MAC Address Pass Through

 **TIP:** Your computer might support MAC Address Pass Through from the On, Off, Sleep, or Hibernation states, or only when the computer is on or in Sleep.

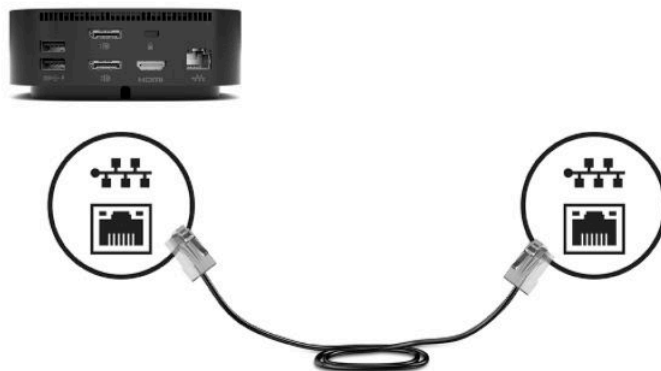
MAC Address Pass Through is supported for UEFI PXE boot.

- Wake on LAN (WOL)

 **TIP:** Your computer might support WOL from the Off, Sleep, or Hibernation states, or only when the computer is on or in Sleep.


WLAN-LAN switching is supported only on select computers running the Windows 10 operating system.

1. Connect the docking station to the computer.
2. Connect one end of the network cable to the RJ-45 (network) jack on the docking station and connect the other end to an RJ-45 wall jack or router.



Connecting USB devices

The docking station has five USB ports: one USB Type-C port with HP Sleep and Charge on the front panel, two USB SuperSpeed ports with HP Sleep and Charge on the middle panel, and two USB SuperSpeed ports with HP Sleep and Charge on the rear panel. Use the USB ports to connect optional external USB devices, such as a keyboard or mouse.

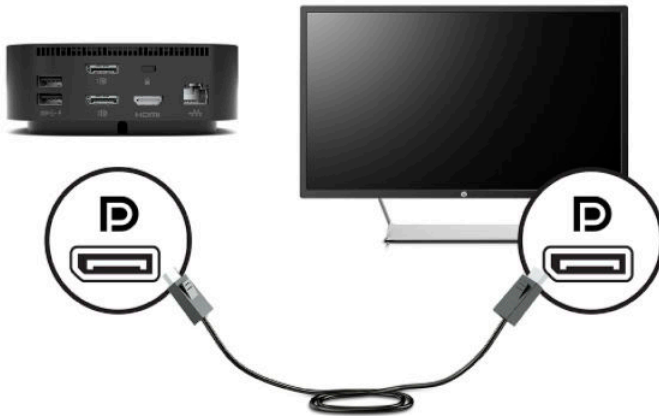
 **NOTE:** Be sure that the external device is compliant with the docking station power specifications. Using a noncompliant device might disable the port to which the device is attached. To reset the port, see [Troubleshooting on page 19](#).



Connecting to a DisplayPort device

The docking station can also be connected to an external video device, such as a monitor or a projector, through the DisplayPort connectors. The docking station supports video connections to both DisplayPort connectors at the same time. A single DisplayPort can support a screen resolution up to 5120 × 2880 @ 60 Hz, depending on your computer, cable, and monitor capabilities.

 **NOTE:** To transmit video signals through the DisplayPort connection, you need a DisplayPort cable (purchased separately).

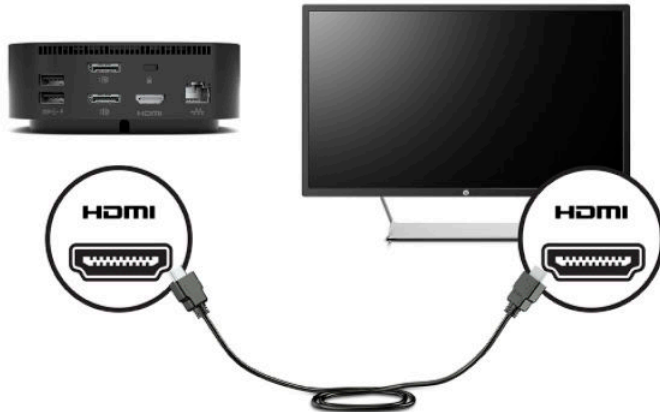


Connecting to an HDMI device

You can connect the docking station to an external video or audio device, such as a high-definition television, or to any digital audio components, through the HDMI port.


The docking station supports simultaneous video connections to the HDMI port and a DisplayPort connector.

 **NOTE:** To transmit video signals through the HDMI port, you need an HDMI cable (purchased separately).



Connecting audio

You can connect headphones or speakers directly into the audio-out (headphone)/audio-in (microphone) combo jack on the docking station. You can also connect analog audio devices.

 **NOTE:** If the audio does not automatically switch to the docking station, set the docking station as the default audio device in your computer settings.

Connecting analog audio devices

To connect analog audio:

1. Connect one end of an audio Y-cable (purchased separately) to the audio-out (headphone)/audio-in (microphone) combo jack on the docking station.
2. Connect the other end to the red and white audio-in jacks on your television or stereo equipment. See your television or stereo equipment user guide for the jack names and locations.

Connecting an optional security cable

A security cable (purchased separately) is designed to act as a deterrent, but it may not prevent the docking station from being mishandled or stolen. To connect a security cable to your docking station, follow the device manufacturer's instructions.



3 Disconnecting the docking station

To disconnect the docking station from the computer, follow these steps:

1. Click the **Safely Remove Hardware** icon in the notification area, at the far right of the taskbar.
2. Click **Safely Remove USB Docking Station**. The **Safe to Remove Hardware** message is displayed.
3. Disconnect the attached USB Type-C cable from the computer.

4 Troubleshooting

Solving common problems

The following tables list possible problems and the recommended solutions.

General use and connection problems

Table 4-1 General use and connection problems, causes, and solutions

Problem	Possible cause	Solution
The power light is off.	The docking station is not connected to AC power.	Connect the power cord to the docking station and to an electrical outlet.
The ports or jacks on the docking station are not working.	The docking station is not connected to AC power.	Connect the power cord to the docking station and to an electrical outlet.
	The docking station is not connected to the computer correctly.	Disconnect the USB cable from the computer, and then reconnect it.
A USB port on the docking station is disabled.	The USB device attached to the port may not be compliant with the docking station power specifications and is using too much power.	Reset the port: <ol style="list-style-type: none">1. Disconnect the device that disabled the port.2. Disconnect the power cord from the docking station, and then reconnect it. <p>– or –</p> Disconnect the docking station from the computer, and then reconnect it.
When the docking station is connected to the computer, both the WLAN and the LAN are connected.	Switching from the WLAN connection to the LAN connection may not be supported on your computer. NOTE: WLAN-LAN switching is supported only on select computers running the Windows 10 operating system.	Disable the WLAN connection: <ol style="list-style-type: none">1. Right-click Start, and then select Network Connections.2. Right-click Wi-Fi, and then click Disable.
Data transfer speeds through USB or Ethernet are slow.	Multiple high-resolution monitors are connected to the docking station.	Either disable high-resolution mode or disconnect a monitor.

Audio problems

Table 4-2 Audio problems, causes, and solutions

Problem	Possible cause	Solution
Audio does not play.	The drivers are not installed.	Install the drivers. See Setting up the software on page 8 .
Headphones or other audio device connected to the docking station do not produce sound.	An audio device is connected to the headphone jack on the docking station, but	Set the docking station as the default audio device in the computer settings, or connect the audio device to the computer.

Table 4-2 Audio problems, causes, and solutions (continued)

Problem	Possible cause	Solution
	the docking station is not the default audio device.	
A microphone connected to the docking station does not work.	A microphone is connected to the docking station, but the docking station is not the default audio device.	Set the docking station as the default audio device in the computer settings, or connect the microphone to the computer.
A connected home entertainment system does not have audio.	Audio is not connected properly.	Be sure that the docking station is properly connected to the home entertainment system.

Video problems

Table 4-3 Video problems, causes, and solutions

Problem	Possible cause	Solution
A video does not display.	The drivers are not installed.	Install the drivers. See Setting up the software on page 8 .
Fonts and other characters on the external monitor appear large.	The external monitor screen resolution is higher than the maximum limit of 5120 × 2880.	Set the screen resolution equal to or lower than the maximum limit.
The graphics application does not detect the external monitor.	Some graphics applications do not detect external monitors connected to the docking station.	Configure the external monitor. See Configuring an external monitor on page 10 .
The external monitor cannot be set as the primary monitor when using some Intel graphics applications.	Older Intel graphics applications do not support setting the external monitor as the primary monitor.	Download the latest Intel drivers from http://www.hp.com/support .
The computer monitor does not work.	The external monitor has been disconnected from the docking station before the docking station was disconnected from the computer.	Disconnect the docking station from the computer, and then disconnect the external monitor from the docking station.

Getting more information

- For comprehensive information about the docking station, as well as governmental agency and safety information about the use of the docking station, access HP Help and Support.
- The HP website (<http://www.hp.com>) provides product news and software updates.

5 Specifications

Input power


The power information in this section may be helpful if you plan to travel internationally with the docking station.


The docking station operates on DC power, which can be supplied by an AC or a DC power source. The AC power source must be rated at 100–240 V, 50–60 Hz. Although the docking station can be powered from a standalone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for use with this docking station.

The docking station can operate on DC power within the following specifications.

Table 5-1 DC power specifications

Input Power	Rating
Operating voltage and current	19.5 V dc @ 6.15 A – 120 W

 **NOTE:** This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms.

 **NOTE:** The docking station operating voltage and current can be found on the docking station’s regulatory label.

Operating environment

Table 5-2 Operating environment specifications

Factor	Metric	U.S.
Temperature		
Operating	0°C to 35°C	32°F to 95°F
Nonoperating	-40°C to 70°C	-40°F to 158°F
Relative humidity (noncondensing)		
Operating	5% to 95%	5% to 95%
Nonoperating	5% to 90%	5% to 90%
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 9,144 m	-50 ft to 30,000 ft

6 Electrostatic discharge

Electrostatic discharge is the release of static electricity when two objects come into contact—for example, the shock you receive when you walk across the carpet and touch a metal door knob.

A discharge of static electricity from fingers or other electrostatic conductors may damage electronic components.



IMPORTANT: To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

- If removal or installation instructions direct you to unplug the computer, first be sure that it is properly grounded.
 - Keep components in their electrostatic-safe containers until you are ready to install them.
 - Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
 - Use nonmagnetic tools.
 - Before handling components, discharge static electricity by touching an unpainted metal surface.
 - If you remove a component, place it in an electrostatic-safe container.
-

7 Accessibility

Accessibility

HP is working to weave diversity, inclusion and work/life into the fabric of our company, so it is reflected in everything we do. Here are some examples of how we are putting differences to work to create an inclusive environment focused on connecting people to the power of technology throughout the world.

Finding the technology tools you need

Technology can unleash your human potential. Assistive technology removes barriers and helps you create independence at home, at work, and in the community. Assistive technology helps increase, maintain, and improve the functional capabilities of electronic and information technology. For more information, see [Finding the best assistive technology on page 24](#).

Our commitment

HP is committed to providing products and services that are accessible for people with disabilities. This commitment supports our company's diversity objectives and helps us ensure that the benefits of technology are available to all.

Our accessibility goal is to design, produce, and market products and services that can be effectively used by everyone, including people with disabilities, either on a stand-alone basis or with appropriate assistive devices.

To achieve our goal, this Accessibility Policy establishes seven key objectives to guide our actions as a company. All HP managers and employees are expected to support these objectives and their implementation in accordance with their roles and responsibilities:

- Raise the level of awareness of accessibility issues within our company, and provide our employees with the training they need to design, produce, market, and deliver accessible products and services.
- Develop accessibility guidelines for products and services, and hold product development groups accountable for implementing these guidelines where competitively, technically, and economically feasible.
- Involve people with disabilities in the development of accessibility guidelines, and in the design and testing of products and services.
- Document accessibility features and make information about our products and services publicly available in an accessible form.
- Establish relationships with leading assistive technology and solution providers.
- Support internal and external research and development that will improve assistive technology relevant to our products and services.
- Support and contribute to industry standards and guidelines for accessibility.

International Association of Accessibility Professionals (IAAP)

IAAP is a not-for-profit association focused on advancing the accessibility profession through networking, education, and certification. The objective is to help accessibility professionals develop and advance their careers and to better enable organizations to integrate accessibility into their products and infrastructure.

HP is a founding member, and we joined to participate with other organizations to advance the field of accessibility. This commitment supports our company's accessibility goal of designing, producing, and marketing products and services that can be effectively used by people with disabilities.

IAAP will make our profession strong by globally connecting individuals, students, and organizations to learn from one another. If you are interested in learning more, go to <http://www.accessibilityassociation.org> to join the online community, sign up for newsletters, and learn about membership options.

Finding the best assistive technology

Everyone, including people with disabilities or age-related limitations, should be able to communicate, express themselves, and connect with the world using technology. HP is committed to increasing accessibility awareness within HP and with our customers and partners. Whether it's large fonts that are easy on the eyes, voice recognition that lets you give your hands a rest, or any other assistive technology to help with your specific situation—a variety of assistive technologies make HP products easier to use. How do you choose?

Assessing your needs

Technology can unleash your potential. Assistive technology removes barriers and helps you create independence at home, at work, and in the community. Assistive technology (AT) helps increase, maintain, and improve the functional capabilities of electronic and information technology.

You may choose from many AT products. Your AT assessment should allow you to evaluate several products, answer your questions, and facilitate your selection of the best solution for your situation. You will find that professionals qualified to do AT assessments come from many fields, including those licensed or certified in physical therapy, occupational therapy, speech/language pathology, and other areas of expertise. Others, while not certified or licensed, may also provide evaluation information. You will want to ask about the individual's experience, expertise, and fees to determine if they are appropriate for your needs.

Accessibility for HP products

The following links provide information about accessibility features and assistive technology, if applicable, included in various HP products. These resources will help you select the specific assistive technology features and product(s) most appropriate for your situation.

- [HP Elite x3—Accessibility Options \(Windows 10 Mobile\)](#)
- [HP PCs—Windows 7 Accessibility Options](#)
- [HP PCs—Windows 8 Accessibility Options](#)
- [HP PC's—Windows 10 Accessibility Options](#)
- [HP Slate 7 Tablets—Enabling Accessibility Features on Your HP Tablet \(Android 4.1/Jelly Bean\)](#)
- [HP SlateBook PCs—Enabling Accessibility Features \(Android 4.3,4.2/Jelly Bean\)](#)
- [HP Chromebook PCs—Enabling Accessibility Features on Your HP Chromebook or Chromebox \(Chrome OS\)](#)
- [HP Shopping—peripherals for HP products](#)

If you need additional support with the accessibility features on your HP product, see [Contacting support on page 29](#).

Additional links to external partners and suppliers that may provide additional assistance:

- [Microsoft Accessibility information \(Windows 7, Windows 8, Windows 10, Microsoft Office\)](#)
- [Google Products accessibility information \(Android, Chrome, Google Apps\)](#)

- [Assistive Technologies sorted by impairment type](#)
- [Assistive Technologies sorted by product type](#)
- [Assistive Technology vendors with product descriptions](#)
- [Assistive Technology Industry Association \(ATIA\)](#)

Standards and legislation

Standards

Section 508 of the Federal Acquisition Regulation (FAR) standards was created by the US Access Board to address access to information and communication technology (ICT) for people with physical, sensory, or cognitive disabilities. The standards contain technical criteria specific to various types of technologies, as well as performance-based requirements which focus on functional capabilities of covered products. Specific criteria cover software applications and operating systems, web-based information and applications, computers, telecommunications products, video and multi-media, and self-contained closed products.

Mandate 376 – EN 301 549

The EN 301 549 standard was created by the European Union within Mandate 376 as the basis for an online toolkit for public procurement of ICT products. The standard specifies the functional accessibility requirements applicable to ICT products and services, together with a description of the test procedures and evaluation methodology for each accessibility requirement.

Web Content Accessibility Guidelines (WCAG)

Web Content Accessibility Guidelines (WCAG) from the W3C's Web Accessibility Initiative (WAI) helps web designers and developers create sites that better meet the needs of people with disabilities or age-related limitations. WCAG advances accessibility across the full range of web content (text, images, audio, and video) and web applications. WCAG can be precisely tested, is easy to understand and use, and allows web developers flexibility for innovation. WCAG 2.0 has also been approved as [ISO/IEC 40500:2012](#).

WCAG specifically addresses barriers to accessing the web experienced by people with visual, auditory, physical, cognitive, and neurological disabilities, and by older web users with accessibility needs. WCAG 2.0 provides characteristics of accessible content:

- **Perceivable** (for instance, by addressing text alternatives for images, captions for audio, adaptability of presentation, and color contrast)
- **Operable** (by addressing keyboard access, color contrast, timing of input, seizure avoidance, and navigability)
- **Understandable** (by addressing readability, predictability, and input assistance)
- **Robust** (for instance, by addressing compatibility with assistive technologies)

Legislation and regulations

Accessibility of IT and information has become an area of increasing legislative importance. This section provides links to information about key legislation, regulations, and standards.

- [United States](#)
- [Canada](#)
- [Europe](#)

- [United Kingdom](#)
- [Australia](#)
- [Worldwide](#)

United States

Section 508 of the Rehabilitation Act specifies that agencies must identify which standards apply to the procurement of ICT, perform market research to determine the availability of accessible products and services, and document the results of their market research. The following resources provide assistance in meeting Section 508 requirements:

- www.section508.gov
- [Buy Accessible](#)

The U.S. Access Board is currently updating the Section 508 standards. This effort will address new technologies and other areas where the standards need to be modified. For more information, go to [Section 508 Refresh](#).

Section 255 of the Telecommunications Act requires telecommunications products and services to be accessible to people with disabilities. FCC rules cover all hardware and software telephone network equipment and telecommunications equipment used in the home or office. Such equipment includes telephones, wireless handsets, fax machines, answering machines, and pagers. FCC rules also cover basic and special telecommunications services, including regular telephone calls, call waiting, speed dialing, call forwarding, computer-provided directory assistance, call monitoring, caller identification, call tracing, and repeat dialing, as well as voice mail and interactive voice response systems that provide callers with menus of choices. For more information, go to [Federal Communication Commission Section 255 information](#).

21st Century Communications and Video Accessibility Act (CVAA)

The CVAA updates federal communications law to increase the access of persons with disabilities to modern communications, updating accessibility laws enacted in the 1980s and 1990s to include new digital, broadband, and mobile innovations. Regulations are enforced by the FCC and documented as 47 CFR Part 14 and Part 79.

- [FCC Guide on the CVAA](#)

Other U.S. legislation and initiatives

- [Americans with Disabilities Act \(ADA\), Telecommunications Act, the Rehabilitation Act and others](#)

Canada

The Accessibility for Ontarians with Disabilities Act was established to develop and implement accessibility standards to make goods, services, and facilities accessible to Ontarians with disabilities and to provide for the involvement of persons with disabilities in the development of the accessibility standards. The first standard of the AODA is the customer service standard; however, standards for transportation, employment, and information and communication are also being developed. The AODA applies to the Government of Ontario, the Legislative Assembly, every designated public sector organization, and to every other person or organization that provides goods, services, or facilities to the public or other third parties and that has at least one employee in Ontario; and accessibility measures must be implemented on or before January 1, 2025. For more information, go to [Accessibility for Ontarians with Disability Act \(AODA\)](#).

Europe

EU Mandate 376 ETSI Technical Report ETSI DTR 102 612: "Human Factors (HF); European accessibility requirements for public procurement of products and services in the ICT domain (European Commission Mandate M 376, Phase 1)" has been released.

Background: The three European Standardization Organizations have set up two parallel project teams to carry out the work specified in the European Commission "Mandate 376 to CEN, CENELEC and ETSI, in Support of Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain."

ETSI TC Human Factors Specialist Task Force 333 has developed ETSI DTR 102 612. Further details about the work performed by STF333 (e.g., Terms of Reference, specification of the detailed work tasks, time plan for the work, previous drafts, listing of comments received and means to contact the task force) can be found at the [Special Task Force 333](#).

The parts relating to the assessment of suitable testing and conformity schemes were carried out by a parallel project, detailed in CEN BT/WG185/PT. For further information, go to the CEN project team website. The two projects are closely coordinated.

- [CEN project team](#)
- [European Commission mandate for e-accessibility \(PDF 46KB\)](#)

United Kingdom

The Disability Discrimination Act of 1995 (DDA) was enacted to ensure that websites are accessible to blind and disabled users in the United Kingdom.

- [W3C UK Policies](#)

Australia

The Australian government has announced their plan to implement [Web Content Accessibility Guidelines 2.0](#).

All Australian government websites will require Level A compliance by 2012, and Double A by 2015. The new standard replaces WCAG 1.0, which was introduced as a mandated requirement for agencies in 2000.

Worldwide

- [JTC1 Special Working Group on Accessibility \(SWG-A\)](#)
- [G3ict: The Global Initiative for Inclusive ICT](#)
- [Italian accessibility legislation](#)
- [W3C Web Accessibility Initiative \(WAI\)](#)

Useful accessibility resources and links

The following organizations may be good resources for information about disabilities and age-related limitations.



NOTE: This is not an exhaustive list. These organizations are provided for informational purposes only. HP assumes no responsibility for information or contacts you may encounter on the Internet. Listing on this page does not imply endorsement by HP.

Organizations

- American Association of People with Disabilities (AAPD)
- The Association of Assistive Technology Act Programs (ATAP)
- Hearing Loss Association of America (HLAA)
- Information Technology Technical Assistance and Training Center (ITTATC)
- Lighthouse International
- National Association of the Deaf
- National Federation of the Blind
- Rehabilitation Engineering & Assistive Technology Society of North America (RESNA)
- Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)
- W3C Web Accessibility Initiative (WAI)

Educational institutions

- California State University, Northridge, Center on Disabilities (CSUN)
- University of Wisconsin - Madison, Trace Center
- University of Minnesota computer accommodations program

Other disability resources

- ADA (Americans with Disabilities Act) Technical Assistance Program
- Business & Disability network
- EnableMart
- European Disability Forum
- Job Accommodation Network
- Microsoft Enable
- U.S. Department of Justice - A Guide to disability rights Laws

HP links

[Our contact webform](#)

[HP comfort and safety guide](#)

[HP public sector sales](#)

Contacting support



NOTE: Support is in English only.

- Customers who are deaf or hard of hearing that have questions about technical support or accessibility of HP products:
 - Use TRS/VRS/WebCapTel to call (877) 656-7058 Monday through Friday, 6 a.m. to 9 p.m. Mountain Time.
- Customers with other disabilities or age-related limitations who have questions about technical support or accessibility of HP products, choose one of the following options:
 - Call (888) 259-5707 Monday through Friday, 6 a.m. to 9 p.m. Mountain Time.
 - Complete the [Contact form for people with disabilities or age-related limitations](#).

Index

- A**
 - AC adapter light 5
 - accessibility 23
 - accessibility needs assessment 24
 - analog audio 17
 - assistive technology (AT)
 - finding 24
 - purpose 23
 - AT (assistive technology)
 - finding 24
 - purpose 23
 - audio connection, analog 17
 - audio, connecting 17
 - audio-out (headphone)/audio-in (microphone) combo jack 17
 - audio-out (headphone)/audio-in (microphone) combo jack, identifying 3
- C**
 - cable, identifying 2
 - components
 - bottom 5
 - front 2
 - left 3
 - rear 4
 - top 1
 - computer
 - connecting 7
 - sleeping 8
 - connectors
 - Dual-Mode DisplayPort 4
 - power 6
 - customer support, accessibility 29
- D**
 - DisplayPort device, connecting 15
 - Dual-Mode DisplayPort connector
 - identifying 4
- E**
 - electrostatic discharge 22
 - external devices 12
- H**
 - HDMI device, connecting 16
 - HDMI port, identifying 4
 - Help and Support 20
 - HP Assistive Policy 23
- I**
 - input power 21
 - International Association of Accessibility Professionals 23
- J**
 - jacks
 - audio-out (headphone)/audio-in (microphone) combo 3
 - audio-out (headphone)/audio-in (microphone) combo jack 17
 - network 4
 - RJ-45 (network) 4, 13
- L**
 - lights
 - AC adapter 5
 - RJ-45 (network) 4
 - lights, power 1
- N**
 - network (RJ-45) jack
 - using 13
 - network jack, identifying 4
- O**
 - operating environment 21
 - operating systems supported 12
- P**
 - ports
 - HDMI 4
 - USB 14
 - USB SuperSpeed port with HP Sleep and Charge 3, 4
 - USB Type-C SuperSpeed with HP Sleep and Charge 2
 - power
 - docking station, connecting 6
 - guidelines 12
 - power connector 6
 - power light, identifying 1
- R**
 - resources, accessibility 28
 - RJ-45 (network) jack
 - using 13
 - RJ-45 (network) jack, identifying 4
 - RJ-45 (network) lights, identifying 4
- S**
 - Section 508 accessibility standards 25, 26
 - security cable slot, identifying 4
 - slots
 - security cable 4
 - standards and legislation, accessibility 25
- T**
 - Troubleshooting 19
- U**
 - USB devices, connecting 14
 - USB SuperSpeed port with HP Sleep and Charge, identifying 3, 4
 - USB Type-C SuperSpeed port with HP Sleep and Charge, identifying 2