



User Guide

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Table of contents

1 Getting started	1
Identifying components	1
Front components	1
Rear components	2
Setting up the dock	3
Step 1: Connecting to AC power	3
Step 2: Updating your computer	3
Step 3: Connecting to a computer	5
Step 4: Preventing Sleep or Hibernation	6
Updating the software	6
Using an external monitor	7
Configuring the monitor	7
Sleep, Hibernation, shutdown, and restart	7
2 Using the dock	8
Dock guidelines	8
Setting the security level	8
Connecting to a network	10
Connecting USB devices	11
Connecting a VGA device	11
Connecting a DisplayPort device	12
Connecting a Thunderbolt 3 device	13
Connecting audio	14
Connecting analog audio devices	14
Connecting an optional security cable	15
3 Disconnecting the dock	16
4 Troubleshooting	17
Solving common problems	17
General use and connection problems	17
Audio problems	18
Video problems	18
Getting more information	20
Contacting support	20

5 Specifications	22
Input power	22
Operating environment	22
Index	23

1 Getting started

Identifying components

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



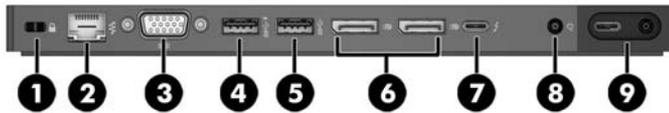
NOTE: Your computer may not be equipped to take advantage of all the features available on the dock.

Front components



Component	Description
(1) Power button	<ul style="list-style-type: none">When a computer is connected to the dock, press to turn on the computer.
(2)  Power light	<ul style="list-style-type: none">On: A connected computer is on.Breathing: A connected computer is in standby mode.
(3)  USB 3.0 ports (2)	Connect an optional USB device, such as a keyboard, mouse, external drive, printer, scanner, or USB hub.
(4)  Audio-out (headphone)/Audio-in (microphone) combo jack	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. 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> . To access this guide: Select the Start button, select All apps , select HP Help and Support , and then select HP Documentation .

Rear components



Component	Description
(1)  Security cable slot	Attaches an optional security cable to the computer. NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(2)  RJ-45 (network) jack	Connects a network cable.
(3)  External monitor port	Connects an external VGA monitor or projector.
(4)  USB 3.0 charging (powered) port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub. Standard USB ports will not charge all USB devices or will charge using a low current. Some USB devices require power and require you to use a powered port. NOTE: USB charging ports can also charge select models of cell phones and MP3 players, even when the computer is off.
(5)  USB 3.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(6)  DisplayPorts (2)	Connect an optional digital display device, such as a high-performance monitor or projector.
(7)  Thunderbolt™ 3 port	Connects an optional high-resolution display device or a high-performance data device. NOTE: Thunderbolt 3 is new technology. Install all the latest drivers for your Thunderbolt 3 device before connecting the device to the Thunderbolt 3 port. The Thunderbolt 3 cable and Thunderbolt 3 device (both sold separately) must be compatible with Windows. To determine whether your device is Thunderbolt Certified for Windows, go to https://thunderbolttechnology.net/products .
(8)  Power-in connector	Connects an AC adapter.
(9) Thunderbolt 3 port and power-out connector	Connects a computer to the dock. NOTE: Thunderbolt 3 is new technology. Install all the latest drivers for your Thunderbolt 3 device before connecting the device to the Thunderbolt 3 port and power-out connector. The Thunderbolt 3 device (sold separately) must be compatible with Windows. To determine whether your device is Thunderbolt Certified for Windows, go to https://thunderbolttechnology.net/products .

Setting up the dock

Step 1: Connecting to AC power

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

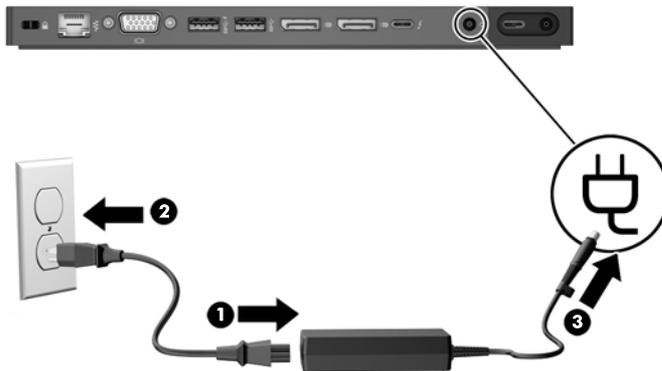
Plug the power cord into an AC outlet that is easily accessible at all times.

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

If provided with a 3-pin attachment plug on the power cord, plug the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

To ensure the correct performance of all dock features, connect the dock to an AC power source using the dock 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. Connect the AC adapter to the power-in connector **(3)** on the dock.



Step 2: Updating your computer

Before connecting the dock to your computer, update the BIOS, software, and drivers on your computer.

If you purchased your computer before May 2016, these updates are required. If you are unsure of when your computer was purchased, HP recommends following this procedure. Otherwise, continue to [Step 3: Connecting to a computer on page 5](#).

📝 NOTE: HP recommends updating the BIOS and software and drivers before connecting to the dock; otherwise, the dock might not work. For optimal performance, be sure to keep all software and drivers on your computer updated.

To update the BIOS and the software and drivers:

📝 NOTE: If you have already connected the dock to your computer, disconnect it before following this procedure.

1. Go to <http://www.hp.com/support>. Select **Get software and drivers**, enter your computer model number (located on the computer service label), and then select **Find my product**.
2. Click the link for your specific computer and then select your operating system.

3. Download and install the latest BIOS.
4. Restart the computer.
5. Repeat steps 1 and 2.
6. Download and install the latest Intel® Thunderbolt Secure Connect Driver.
7. Restart the computer.
8. Repeat steps 1 and 2.
9. Download and install the latest Intel Thunderbolt Firmware Update Utility
10. Restart the computer.
11. Repeat steps 1 and 2.
12. Download and install the following updates in any order:
 - Graphics drivers
 - ASMedia eXtensible Host Controller Driver
 - Broadcom Ethernet Controller Driver
 - Conexant USB Driver
13. Restart the computer.

Now, you can connect the dock to your computer.

Step 3: Connecting to a computer

To connect a computer to the dock:

1. Connect the included cable to the Thunderbolt 3 port and power-out connector on the back of the dock.
2. Connect the other end of the cable to the Thunderbolt 3 port and power-in connector or USB Type-C power connector and Thunderbolt port on your computer.

 **NOTE:** Be sure that your computer is either on or off. HP does not recommend connecting to a computer that is in Sleep or Hibernation.

Figure 1-1 HP ZBook Dock with Thunderbolt 3 (150 W/200 W)



Figure 1-2 HP Elite Dock with Thunderbolt 3 (65 W)



3. In the dialog box that appears, select **OK**.

 **NOTE:** You must be logged on as an administrator on the computer connected to the dock.

To enable a non-administrator user to select OK, enter the non-administrator registry key. Contact your HP Technical Consultant for this key.

4. A second dialog box opens. Select one of the following options:

- **Do Not Connect**—Prevents the dock from connecting to the computer.
- **Connect Only Once**—Allows the dock to connect to the computer. Each time the dock is connected and disconnected, you must log on as an administrator to allow access to the dock.
- **Always Connect**—Allows the dock to connect to the computer. The dock can connect to the computer automatically after it is disconnected and reconnected, even if you are not logged on as an administrator.

5. Select **OK**.

While the dock is connected to the computer, a Thunderbolt icon  is displayed in the notification area, at the far right of the taskbar.

 **TIP:** There might be a slight delay before devices connected to the dock are ready to be used.

Step 4: Preventing Sleep or Hibernation

Sleep and Hibernation are power-saving states that your computer automatically initiates under either of the following conditions:

- After a period of computer inactivity
- When the computer lid is closed while the computer is in use

HP does not recommend disconnecting the dock from a computer that is in Sleep or Hibernation, so disable these power states using the following procedure.

1. Open **Control Panel** and select the **Power Options** page.

 **NOTE:** For instructions on accessing the Power Options page, see Help and Support on the computer.

2. Click **Choose what closing the lid does**. Click **Do nothing**, and then click **OK**.

3. Under **Plugged in**, select **Do nothing**, and then click **Save changes**.

Updating the software

This section describes how to update the dock software on a computer running the Windows® 10 operating system.

 **NOTE:** Make sure that you have updated the computer software first. See [Step 2: Updating your computer on page 3](#).

1. With the computer on, Windows running, and the Internet connected, connect the dock to the computer.

2. Go to www.hp.com/support.

a. Select **Get software and drivers**, enter the dock model number (located on the bottom of the dock), and then select **Find my product**.

b. Click the link for your specific dock, and then download the latest software.

Using an external monitor

Configuring the monitor

Use Windows to configure the display of a monitor attached to the dock.

1. Type `control panel` in the taskbar search box, and then select **Control Panel**. Select **Appearance and Personalization**.
2. To view the screen image on the monitor only, select **Second screen only**.
– or –
To view the screen image extended across both the computer and the monitor, select **Extend**.
– or –
To view the screen image simultaneously on both the computer and the monitor, select **Duplicate**.

You can also access the display settings by pressing the **Windows** key+p.

A computer using Intel HD graphics can support up to three monitors, including the computer monitor. A computer using NVIDIA® graphics can support up to four monitors, including the computer monitor. A computer using AMD graphics can support up to six monitors, including the computer monitor. A computer using hybrid graphics can support up to six external monitors. Display limitations vary depending on your computer. For more information about using multiple displays, go to <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA5-2657ENW>.

If a monitor is connected to your computer HDMI or USB Type-C port, the number of monitors you can connect to the dock might be fewer than three.

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 dock

Dock guidelines

- **Operating systems**—For optimal performance, use the dock with a computer running the Windows 10 operating system. Only computers with Thunderbolt 3 ports are supported.

 **NOTE:** The dock does not support preboot environments such as PXE boot.

- **Power**—To use dock features, AC power must be connected to the dock.
- **Connecting and disconnecting**—The dock can be connected to or disconnected from the computer whether the computer is on or off. (See [Step 3: Connecting to a computer on page 5](#) and [Disconnecting the dock on page 16](#).)

 **NOTE:** HP does not recommend connecting or disconnecting from a computer that is in either Sleep or Hibernation.

- **External devices**—When the dock is connected to the computer, external devices can be connected to the ports on the dock or to the ports on the computer.
- **Advanced speed and features**—To use all dock features, your computer and monitor must support Thunderbolt 3, USB 3.0, and DisplayPort 1.2. If your devices do not support these technologies, you can still use the USB 2.0 and DisplayPort 1.1 functions.

Setting the security level

The dock supports Direct Memory Access (DMA), a feature that requires a specific Thunderbolt Security Level.

 **NOTE:** Check with your IT administrator before you attempt the following procedure.

To configure this setting:

1. On computers or tablets with keyboards, turn on or restart the computer, and when the HP logo appears, press **f10** to enter Computer Setup.

– or –

On tablets without keyboards, turn off the tablet. Press the power button in combination with the volume down button until the Startup menu is displayed, and then tap **F10** to enter Computer Setup.

2. Select **Advanced**, select **Port Options**, and then select **Thunderbolt Security Level**.
3. Select a security level.

The following security levels are available:

- **Security level 0: PCIe and DisplayPort – No Security**—Any devices can be connected to the computer or dock without user permission.
- **Security level 1: PCIe and DisplayPort – User Authorization**—Any devices can be connected to the computer or dock with user permission.

- **Security level 2: PCIe and DisplayPort – Secure Connect**—Any devices can be connected to the computer or dock with user permission, if the device contains either a security certificate or chip.
- **Security level 3: DisplayPort and USB**—Devices cannot be connected to the dock. Only the USB ports and DisplayPorts on the computer function.

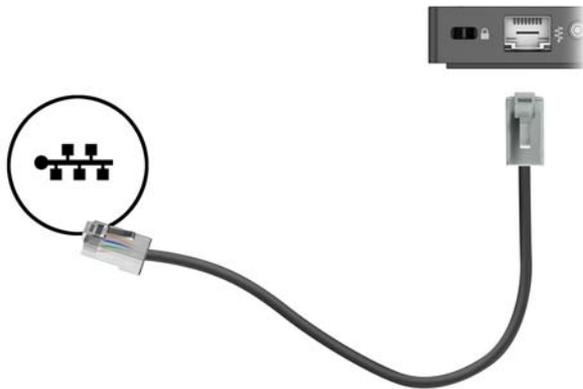
Connecting to a network

You can connect the computer to a network through the dock. This requires an Ethernet cable (purchased separately).

⚠ WARNING! To reduce the risk of electric shock, fire, or damage to the equipment, do not plug a modem cable or telephone cable into an RJ-45 (network) jack.

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

📝 NOTE: If the network cable contains noise suppression circuitry, which prevents interference from TV and radio reception, orient the circuitry end of the cable toward the computer.



The RJ-45 port on the dock does not support Intel vPro™ Technology. To use Intel vPro Technology, connect to a wireless network or use an RJ-45 port on your computer.

Connecting USB devices

The dock has four USB ports: two USB 3.0 ports on the front panel, one USB 3.0 port on the rear panel, and one USB 3.0 charging port on the rear panel. Use the USB ports to connect optional external USB devices, such as a keyboard and mouse.

 **NOTE:** Be sure that the external device is compliant with the dock power specifications. Using a noncompliant device might disable the port to which the device is attached. To reset the port, see [Troubleshooting on page 17](#).

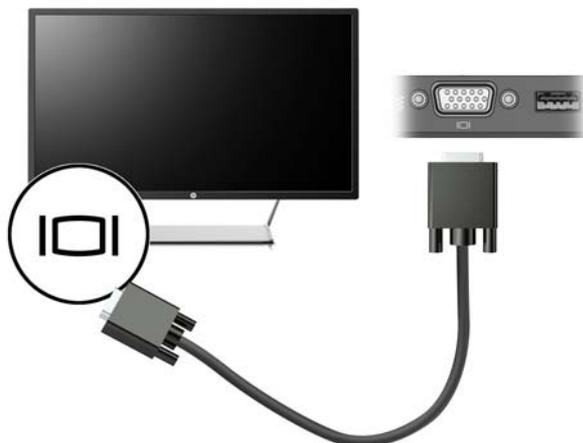


Connecting a VGA device

 **NOTE:** To connect a VGA video device to your dock, you need a VGA cable, purchased separately.

To see the computer screen image on an external VGA monitor or projected for a presentation, connect a monitor or projector to the dock's VGA port.

- ▲ Connect the VGA cable from the monitor or projector to the VGA port on the dock as shown.



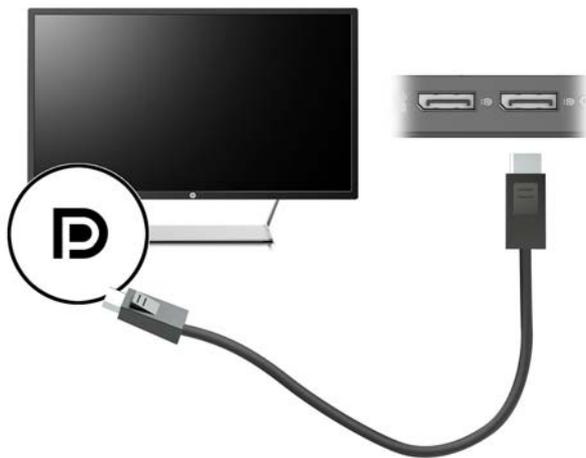
Connecting a DisplayPort device

 **NOTE:** To connect a DisplayPort video device to your dock, you need a DisplayPort cable, purchased separately.

The dock can also be connected to an external device, such as a monitor or a projector, through the DisplayPort.

The dock DisplayPort supports external monitors up to a 4096 × 2160 resolution. If you connect a 4096 × 2160 external monitor to each of the dock DisplayPorts, you must reduce the frequency to 30 Hz. If you connect a 4096 × 2160 external monitor to a dock DisplayPort and a 4096 × 2160 external monitor to the dock USB Type-C port using a USB-Type-C-to-DisplayPort adapter, you can leave the frequency at 60 Hz.

The dock supports a 5120 × 2880 monitor when it is connected to both DisplayPorts.



Connecting a Thunderbolt 3 device

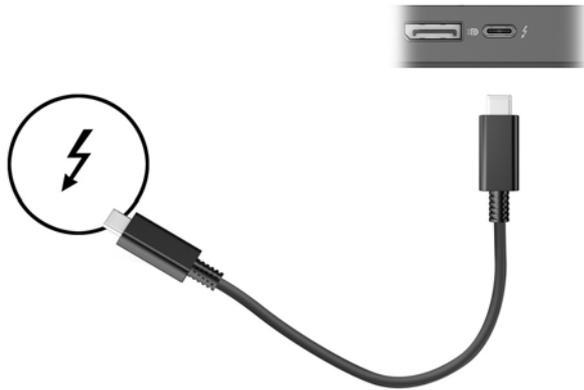
The Thunderbolt 3 port connects an optional high-resolution display device or a high-performance data device. This port delivers higher performance than the VGA external monitor port and improves digital connectivity.

This connector supports only Thunderbolt 3 devices.



NOTE: Install all the latest drivers for your Thunderbolt 3 device before connecting the device to the Thunderbolt 3 port. The Thunderbolt 3 cable and Thunderbolt 3 device (both sold separately) must be compatible with Windows. To determine whether your device is Thunderbolt Certified for Windows, go to <https://thunderbolttechnology.net/products>.

1. Connect one end of the Thunderbolt 3 cable to the Thunderbolt port on the dock.



2. Connect the other end of the cable to a high-resolution display device or a high-performance data device.

Connecting audio

⚠ WARNING! To reduce the risk of personal injury, lower the volume setting before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety and Environmental Notices*.

To access this document:

- ▲ Select the **Start** button, select **All apps**, select **HP Help and Support**, and then select **HP Documentation**.

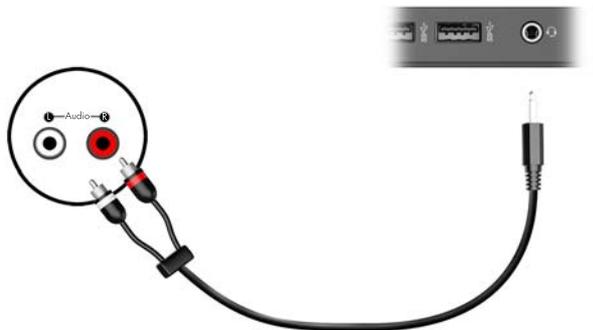
You can connect headphones or speakers directly into the audio-in (headphone)/audio-out (microphone) combo jack on the dock. You can also connect analog audio devices.

Headphones combined with a microphone are called headsets. You can connect wired headsets to the audio-out (headphone)/audio-in (microphone) combo jack on your dock.

Connecting analog audio devices

To connect analog audio:

1. Connect one end of an audio Y-cable (purchased separately) to the headphone jack on the dock.
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.

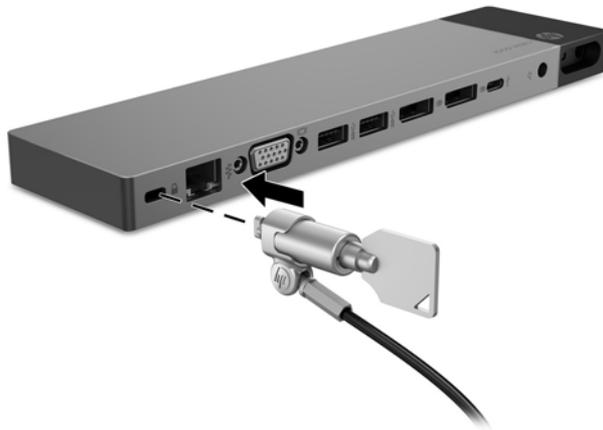


Connecting an optional security cable

 **NOTE:** The security cable is designed to act as a deterrent, but it may not prevent the dock from being mishandled or stolen.

To install a security cable:

1. Loop the security cable around a secured object.
2. Insert the key into the cable lock **(1)**.
3. Insert the cable lock into the security cable slot on the dock **(2)**, and then turn the key.



4. Remove the key.

3 Disconnecting the dock

To disconnect the dock from the computer, follow these steps:

- ▲ Disconnect the included cable from the computer.



When the dock has successfully disconnected from the computer, the Thunderbolt icon  no longer appears in the notification area.

 **NOTE:** Do not restart or shut down your computer, or initiate Sleep or Hibernation, until the Thunderbolt icon disappears from the notification area.

4 Troubleshooting

Solving common problems

The following tables list possible problems and the recommended solutions.

General use and connection problems

Problem	Possible cause	Solution
The power light is off.	The dock is not connected to AC power.	Connect the power cord to the dock and to an AC outlet.
No devices connected to the dock are working.	The dock is not connected to AC power.	Connect the power cord to the dock and to an AC outlet.
	The dock is not connected to the computer correctly.	Disconnect the dock cable from the computer, and then reconnect it.
When a device is connected to a USB port on the dock, the device does not work.	The USB device may not be compliant with the dock power specifications and is using too much power.	Reset the port: <ol style="list-style-type: none">1. Disconnect the device.2. Disconnect the power cord from the dock, and then reconnect it.3. Disconnect the dock from the computer, and then reconnect it.4. Reconnect the device. If the device still does not work, it cannot be used with the port.
A device connected to a USB port on the dock stops working.	The port might need to be reset.	Reset the port: <ol style="list-style-type: none">1. Disconnect the device that disabled the port.2. Disconnect the power cord from the dock, and then reconnect it.3. Disconnect the dock from the computer, and then reconnect it. <p>If this procedure does not resolve the problem, restart your computer.</p> <p>If restarting the computer does not resolve the problem, you might need to reset your computer. See your computer documentation for instructions on creating recovery media and performing a factory reset.</p>
When the dock is connected to the computer, both the WLAN and the LAN are connected.	Switching from the WLAN connection to the LAN connection is not supported.	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.

A device connected to the dock is not working on the computer.	The device is not ready to be used.	There might be a slight delay before devices connected to the dock are ready to be used.
	The port might need to be reset.	<p>Reset the port:</p> <ol style="list-style-type: none"> 1. Disconnect the device that disabled the port. 2. Disconnect the power cord from the dock, and then reconnect it. 3. Disconnect the dock from the computer, and then reconnect it. <p>If this procedure does not resolve the problem, restart your computer.</p> <p>If restarting the computer does not resolve the problem, you might need to reset your computer. See your computer documentation for instructions on creating recovery media and performing a factory reset.</p>

Audio problems

Problem	Possible cause	Solution
Audio does not play.	The drivers are not installed.	Install the drivers. See Updating the software on page 6 .
Headphones or other audio device connected to the dock do not produce sound.	An audio device is connected to the headphone jack on the dock, but the dock is not the default audio device.	Set the dock as the default audio device in the computer settings, or connect the audio device to the computer.
A microphone connected to the dock does not work.	A microphone is connected to the dock, but the dock is not the default audio device.	Set the dock 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 dock is properly connected to the home entertainment system.

Video problems

Problem	Possible cause	Solution
A video does not display.	The drivers are not installed.	Install the drivers. See Updating the software on page 6 .
Fonts and other characters on the external monitor appear large.	The screen resolution is configured higher than the maximum limit of the external monitor.	Set the screen resolution equal to or lower than the maximum limits of the external monitor.
The graphics application does not detect the external monitor.	Some graphics applications do not detect external monitors connected to the dock.	Configure the external monitor. See Using an external monitor on page 7 .
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 .

Problem	Possible cause	Solution
The computer monitor does not work.	An external monitor has been disconnected from the dock before the dock was disconnected from the computer.	Disconnect the dock from the computer, and then disconnect the external monitor from the dock.
An external monitor does not work.	There is a problem with the connection.	<ol style="list-style-type: none"> 1. Disconnect the dock from the computer, and then disconnect the external monitor from the dock. 2. Reconnect the dock to the computer, and then reconnect the external monitor to the dock. <p>If this procedure does not resolve the problem, restart your computer.</p> <p>If restarting the computer does not resolve the problem and your computer has NVIDIA graphics, see the following item and try the solution. If the external monitor still does not work, you might need to reset your computer. See your computer documentation for instructions on creating recovery media and performing a factory reset.</p>
	If your computer has NVIDIA graphics, you might need to configure the external monitors in NVIDIA Control Panel.	<p>Configure your displays in NVIDIA Control Panel:</p> <ol style="list-style-type: none"> 1. Select Start, select Control Panel, select Appearance and Personalization, and then select NVIDIA Control Panel. 2. If either Digital Display is listed or an external monitor is listed twice, disconnect the dock from the computer, and then disconnect the external monitor from the dock. 3. If an external monitor is listed but not selected, select it, and then click Apply.
A video is distorted.	The display settings might be incorrect.	<p>Change the display settings:</p> <ol style="list-style-type: none"> 1. Select Start, select Control Panel, select Appearance and Personalization, select Personalization, and then select Display Settings. 2. Under Change the size of text, apps, and other items, select 225% or lower.
A video device connected to the external monitor port displays a black screen when playing Blu-ray or other protected content.	The dock does not support viewing Blu-ray or other protected content on an external monitor connected to the external monitor port on the dock.	Use the computer's display or connect the external monitor to the computer.
The display state changed after restarting the computer, or deactivating Sleep or Hibernation.	The display state needs to be configured.	<p>Press fn+fn4 to alternate the screen image between 4 display states:</p> <ul style="list-style-type: none"> • PC screen only: View the screen image on the computer only.

Problem	Possible cause	Solution
		<ul style="list-style-type: none"> • Duplicate: View the screen image simultaneously on both the computer and the external monitor. • Extend: View the screen image extended across both the computer and the external monitor. • Second screen only: View the screen image on the external monitor only. <p>Each time you press fn+f4, the display state changes.</p> <p>NOTE: For best results, especially if you choose the "Extend" option, increase the screen resolution of the external device as follows. Type <code>control panel</code> in the taskbar search box, select Control Panel, and then select Appearance and Personalization. Under Display, select Adjust resolution.</p>

Getting more information

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

Contacting support

If you cannot solve a problem using the troubleshooting tips in this chapter, you might need to contact support.

For the fastest possible resolution of your problem, have the following information available when you contact support:



NOTE: The serial number and other information for the dock can be found on the service label located on the bottom of the dock.

- Model name and number for the computer and for the dock
- Serial numbers for the computer and dock
- Dates the computer and dock were purchased
- Conditions under which the problem occurred
- Error messages that have been displayed
- Hardware and software you are using
- The manufacturer and model of components connected to the computer and dock

To contact support using your HP computer, select **Start** and then select **Help and Support**. Click **Contact support** to start a chat session with a support specialist.

For U.S. support, go to <http://www.hp.com/go/contactHP>. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.

Choose from the following types of support:

- Chat online with an HP technician.



NOTE: When chat is not available in a particular language, it is available in English.

- Find HP support worldwide telephone numbers.
- Locate an HP service center.

5 Specifications

Input power

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

The dock 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 dock 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 dock.

The dock can operate on DC power within the following specifications.

Input Power	Rating
Operating voltage and current	19.7 V dc @ 2.31 A – 65 W
	19.7 V dc @ 2.31 A – 150 W
	19.7 V dc @ 3.33 A – 200 W

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

 **NOTE:** The dock operating voltage and current can be found on the system regulatory label.

Operating environment

Factor	Metric	U.S.
Temperature		
Operating	0°C to 35°C	32°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	10% to 90%	10% to 90%
Nonoperating	5% to 95%	5% to 95%
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 12,192 m	-50 ft to 40,000 ft

Index

A

analog audio 14
audio connection, analog 14
audio, connecting 14
audio-out (headphone) jack 14
audio-out (headphone)/audio-in
(microphone) combo jack,
identifying 1

B

buttons
power 1

C

computer
connecting 5
sleeping 6
updating 3
connector, power 2
connectors
power 3

D

DisplayPort
identifying 2
DisplayPort device, connecting 12

E

external devices 8
external monitor port 2, 11

H

headphone (audio-out) jack 14
Help and Support 20

I

input power 22

J

jacks
audio-out (headphone) 14
audio-out (headphone)/audio-in
(microphone) combo 1
network 2
RJ-45 (network) 2, 10

L

lights, power 1
lock, security cable 15

N

network (RJ-45) jack 10
network jack, identifying 2

O

operating environment 22
operating systems supported 8

P

ports
DisplayPort 2
external monitor 2, 11
Thunderbolt 3 2
USB 11
USB 3.0 charging (powered) 2
VGA 11
power
dock, connecting 3
guidelines 8
power button, identifying 1
power connector 3
power connector, identifying 2
power light, identifying 1

R

RJ-45 (network) jack 10
RJ-45 (network) jack, identifying 2
RJ-45 (network) lights, identifying
2

S

security cable slot 15
security cable slot, identifying 2
security cable, connecting 15
security level 8
slots
security cable 2, 15
support, contacting 20

T

Thunderbolt 3 port
identifying 2
Troubleshooting 17
audio problems 18
connection problems 17
general use problems 17
video problems 18

U

USB 3.0 charging (powered),
identifying 2
USB 3.0 port 1, 2
USB devices, connecting 11
USB ports, identifying 1, 2

V

VGA port, connecting 11