

DOCKING Solutions

The solution that brings your workspace to life



Docking 101



What is a dock?

Docks allow you to connect your laptop to your displays and access power, network, and your accessories through a single cable.

Docks also extend your device's capabilities by providing extra ports (like USB, VGA, HDMI, etc) that are limited on thinner and lighter laptops.

Why do you need one?

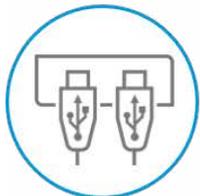
Desk docks and docking monitors enable productivity and save you time and hassle when transitioning in and out of your workspace by keeping all of your peripherals plugged in and ready to go.

Portable docks help you stay connected and productive on-the-go.



Through a single cable, connect your display to your notebook and get

IMMEDIATE EXPANSION



USB DEVICES



KEYBOARD
& MOUSE



HEADSET



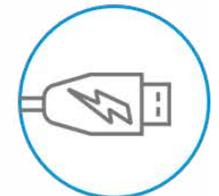
NETWORK



DUAL DISPLAYS



HDMI,
DISPLAYPORT™ &
VGA DEVICES



USB-C™ AND
THUNDERBOLT™
DEVICES

Why Docking is Critical Now



Enable flexibility with the modern mobile workforce

Docking enables easy connectivity for workers needing to stay productive cross locations such as the office, small meeting rooms, home and on-the-go.



56%

of enterprise companies listed **productivity** as a top priority.¹

1. HP Commercial Displays & ITDM's: Understanding display purchase preference with ITDM's, May 2015.



36% of enterprises are seeing an increase in open workspaces²

With personal workspaces shrinking, minimalistic docking is critical. Cable and docking monitors fit better on a small desk.

2. Wainhouse Research, 2015 (Online survey to decision makers at approximately 200 mid-to-large enterprises >250 employees)

What Makes HP Docks Unique



UNIVERSAL

Thunderbolt™ & USB-C™ (Alt mode)

- System network manageability in any power state of the notebook (HP on HP)
- eTag electronic inventory tool (USB-C Dock G5 & USB-C/A Universal Dock G2)
- Disconnected firmware updates (USB-C Dock G5 & USB-C/A Universal Dock G2)
- USB-C™ and legacy USB-A connectivity (USB-C/A Universal Dock G2)
- Power button (HP on HP)



DOCKING MONITORS

USB-C™ & USB-A (Alt mode)

- USB-C™ and legacy USB-A connectivity
- Daisy-chain a second display
- Pop-up webcam
- RJ-45 network connectivity



ON THE GO

USB-C™ (Alt mode)

- System network manageability in any power state of the notebook (HP on HP)
- Power pass through up to 90W

Who uses docks?



Mobile Trailblazer

Users always on-the-move, seamlessly moving from location to location, demanding uncompromised productivity.



Creative Pro

High-performance and enhanced reliability requirements for complex creative workflows and specialized apps.



Office Navigator

Users who thrive in office environments processing, creating, and collaborating across teams.



Power User

Ultimate performance and reliability for professionals in software development, data analysis and engineering.



Cloud Native

Users that embrace constant connectivity to access their cloud and browser-based workflows.



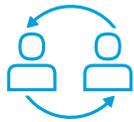
Frontline Hero

Users that serve as the face of an organization making first impressions from sales, service, and support roles.

Transitioning to USB-C™ Docking



Notebook design is moving away from mechanical side docks to USB-C™ docking.



Universal solutions

HP USB-C™ and Thunderbolt™ docks are **designed to USB-C™ industry specs and support charging and port replication** (video, USB, audio, ethernet) for HP and non-HP notebooks that meet USB-C™/Thunderbolt™ industry specs.



Manageability & security

Advanced system network manageability features¹ allow IT managers to **remotely manage the notebook when docked in any power state**. Easily manage dock firmware updates through the one-click installer (OCI) tool for **disconnected firmware updates. Electronic Tag (eTag)** for asset management and improved network security through the dock.



Small footprint & clean desk

Reduce desk clutter with a single USB-C™ cable that charges and connects to all your peripherals, providing power, video and data.



Increased visual performance

USB-C™ docking enables you to increase your video resolution and connect multiple monitors.³



Ease of deployment

USB-C™ docking enables easy deployment with solutions ranging from plug-and-play to automated driver download.²



Quality testing & global support

Backed by HP's extensive testing, high quality standards and global support for your diverse workforce.

1. Internet connection required and sold separately. Managed PC must be running Windows 10.

2. Internet connection required. Automated driver download on DisplayLink USB-C/A Universal Dock G2.

3. Number of monitors supported varies by dock technology.

Top Considerations

When choosing a docking solution



Workspace type

Are the workspaces dedicated or shared/flex?



Notebook technology

What USB-C™ technology do the notebooks support? Thunderbolt™, USB-C™, or legacy (USB-A)?



Power & Performance

Are super fast data transfer speeds and video resolutions important for your employees?



Display setup

Do employees have existing monitors or do they need a new display and a dock? Do they require single or multiple displays in various screen sizes?

GUIDE TO CHOOSING

Desk Dock vs Docking Monitor

NEEDS	DESK DOCK	DOCKING MONITOR
Small workspace		✓
Needs monitors and dock		✓
Quick, single USB-C™ connectivity	✓	✓
Multi-monitor setup	✓	✓
High-performance or specialty screen sizes	✓	
Has monitors but needs a dock	✓	
Network manageability	✓	

Modern Workspaces



DEDICATED SPACES

For the cubicle or office

- Employee has DEDICATED equipment and peripherals are set up per THEIR preference
- Setup controlled by user
- Power, ethernet typically provided at workspace



SHARED SPACES

For the open, address-free spaces

- WORKSPACES compatible FOR MANY USERS WITH VARYING PC's
- Need for a seamless transition in and out of workspace



SMALL SPACES

For huddle and small workspaces

- For many users with varying PC's
- Limited desk space
- Equipment provided by company
- Power typically provided at workspace



HOME OFFICE

For your personal space

- USER has DEDICATED equipment and peripherals are set up per THEIR preference (could be a smaller scale setup than their dedicated work office)
- Setup controlled by user



ON-THE-GO & TRAVEL

For the hotel, airport, customer site, etc.

- Equipment is provided by company and may vary based on user preference/requirements
- User travels with fewer peripherals than when in the office. Lightweight and easy-to-use required.

HP Docking Portfolio

WORKSPACE	ENVIRONMENT	DOCK TYPE	HP DOCKING SOLUTION			
<p>High Performance</p> <p>For the Creative Pro and Power Users with notebooks and workstations, who needs high performance, super fast data transfer speeds</p> <p>▶ LEARN MORE</p>	<ul style="list-style-type: none"> Dedicated Shared Home office 	Thunderbolt™ 3	<p>HP Thunderbolt Dock 120W or 230W G2</p> 	<p>HP Thunderbolt Dock G2 with Audio Module</p> 		
<p>Essential</p> <p>For Office Navigators and Mobile Trailblazers who need mainstream, cost-effective docking</p> <p>▶ LEARN MORE</p>	<ul style="list-style-type: none"> Dedicated Small spaces Home office 	USB-C™	<p>HP USB-C Dock G5</p> 	<p>HP E223d 21.5" FHD</p> 		
<p>Legacy Compatibility</p> <p>For IT managers who need universal, multi-generational, backwards compatible docking solutions for a mixed fleet of NBs and DTs, supporting Office Navigators, Mobile Trailblazers and Cloud Natives</p> <p>▶ LEARN MORE</p>	<ul style="list-style-type: none"> Shared Focus room Small spaces 	USB-C™ and USB-A (DisplayLink)	<p>HP USB-C/A Universal Dock G2</p> 	<p>HP E243d 23.8"</p> 	<p>HP E273d 27"</p> 	
<p>Portable Docks and Hubs</p> <p>For Mobile Trailblazers and Cloud Natives who value small but versatile docks for on-the-go</p> <p>▶ LEARN MORE</p>	<ul style="list-style-type: none"> On-the-go Travel 	USB-C™ and USB-A (DisplayLink)	<p>HP USB-C Mini Dock</p> 	<p>HP Elite USB-C Hub</p> 	<p>HP USB Travel Dock</p> 	<p>HP USB-C Travel Hub G2</p> 

Thunderbolt™ power

HP Thunderbolt Dock G2



One universal dock for all of your Thunderbolt™ 3 and USB-C™ devices.¹



Command your workspace from just one USB-C™ connection

Connect the included cable to your HP or non-HP Thunderbolt™ 3 and USB-C™ notebook¹ to access a wired network, data, video, and charging⁴ with our most versatile Thunderbolt™ dock.



Maximize your multi-tasking

Supports dual external 4K displays⁶ with 40GB/sec bandwidth connection via Thunderbolt™ 3



Scales across multiple devices & OSs¹

Single dock that scales from 400 G5 series to mobile workstation + competitor notebooks⁷



Simple remote management

Remotely manage⁵ a wide range of notebooks and the dock with HP's most advanced network manageability features²



Conference calls with the touch of a button

Add conferencing capability and Bang & Olufsen stereo sound with the optional HP Thunderbolt Dock Audio Module³

1. Host must support Thunderbolt™ 3 or DisplayPort™ Alt mode protocol through its USB-C™ port. The HP Thunderbolt™ Dock G2 is designed to USB-C™/Thunderbolt™ industry specifications and will support charging and port replication for notebooks that have implemented USB-C™ and Thunderbolt™ 3 industry specifications. Thunderbolt™ 3 host systems require Thunderbolt™ 3 software (minimum SW17.x). Ethernet and audio drivers need to be installed separately on non-HP Windows systems for headset auto switching functionality. Drivers available on HP website. For MacOS, HP does not provide ethernet and audio drivers. Firmware updates on Windows-based host systems only. The following features are not functional on non-HP supported or non-HP notebooks: Power button to turn on or wake the system; Wake on LAN from warm and cold dock; Wake on LAN from S4/S5; MAC Address Pass-Through S0, S3, S4, S5 warm and cold dock. Systems that require more than 100 watts of power must plug in a separate notebook AC adapter, sold separately.

2. Advanced manageability features such as WoL and MAC Address Pass-Through in all power states supported only on HP Elite x2 1012 G2, HP Pro x2 612 G2, HP EliteBook 1040 G4 and G5, HP EliteBook 1050 G1, HP EliteBook x360 1020 G2, 1030 G2, 800 G5, 700 G5, 600 G4, 400 G5, and G4 HP 15, 17 and Studio x2 Mobile Workstations, and G5 HP Mobile Workstations as of November 6, 2018.

3. HP Thunderbolt Dock Audio Module sold separately and required for audio.

4. USB-C™ notebook charging up to 100 watts supported through single USB-C™ cable. Combo cable, included on select models or sold separately, required to support both notebooks up to 100 watts and mobile workstations up to 200 watts.

5. Internet access required and sold separately.

6. Displays sold separately.

7. HP Thunderbolt™ 0.7 m combo cable is required (with Thunderbolt Dock G2) to connect across BNB, x2 and HP mobile workstations. Compatible with competitor notebooks if they are designed to USB-C™ standards.

HP Thunderbolt Dock G2

Performance docking for your Thunderbolt™ and USB-C™ enabled devices

Power pass-through up to 120w with included power supply



HP Thunderbolt Dock 120W G2
2UK37AA



HP Thunderbolt Dock 120W G2 + Audio Module
3YE87AA

Workstation Docking

230w power supply required



HP Thunderbolt Dock 230W G2
2UK38AA

Mixed-fleet Docking

Supports 120w charging through USB-C™ cable + 110w charging through 4.5mm barrel



HP Thunderbolt Dock G2 w/Combo Cable
3TR87AA

Conferencing Solution

Attaches vertically to the HP Thunderbolt Dock G2 with no additional cabling.



HP Thunderbolt Dock G2 Audio Module
3AQ21AA

Designed for small team rooms, closed and home offices, the HP Thunderbolt Dock Audio Module allows you to take calls without a headset.

Advantages

- Designed to USB-C™ industry specs to allow compatibility with HP and non-HP devices that support Thunderbolt™ and USB-C™ power and video
- Maximum performance dock for the future with ultrafast speeds (data, video and charging through single USB-C™ cable)
- Delivers advanced enterprise network manageability (PXE, WoL, MAC Address Pass Through in all power states), Preboot KB/Display, LAN/WLAN Switching
- Supports dual 4K displays



Front and side view



Audio Module Top View



HP USB-C Dock G5

5TW10AA



Universal docking for today's notebooks



Plug in and get to work.

Get to work with a single cable from your USB-C™-enabled notebook¹ to your displays, devices, and wired network with the versatile, elegant, and space-saving HP USB-C Dock G5. **The dock is compatible with HP notebooks, MacBook® computers, and other notebooks.²**



Compatible with your mixed PC environment

Designed with universal compatibility in mind, this dock works with both HP and non-HP USB-C™- and Thunderbolt™-enabled notebooks.¹



Single-cable solution

Add your accessories and up to three displays³ to the dock. Then simply connect it to your notebook¹ through a single USB-C™ cable to access your devices and charge your PC.



Easily manage your commercial HP fleet

Help IT secure and remotely manage your deployed commercial HP notebooks¹ and the dock with advanced network manageability features.



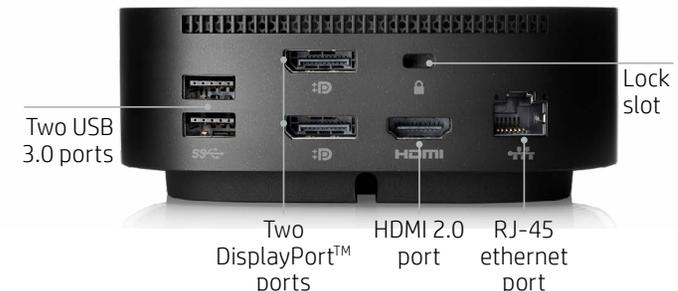
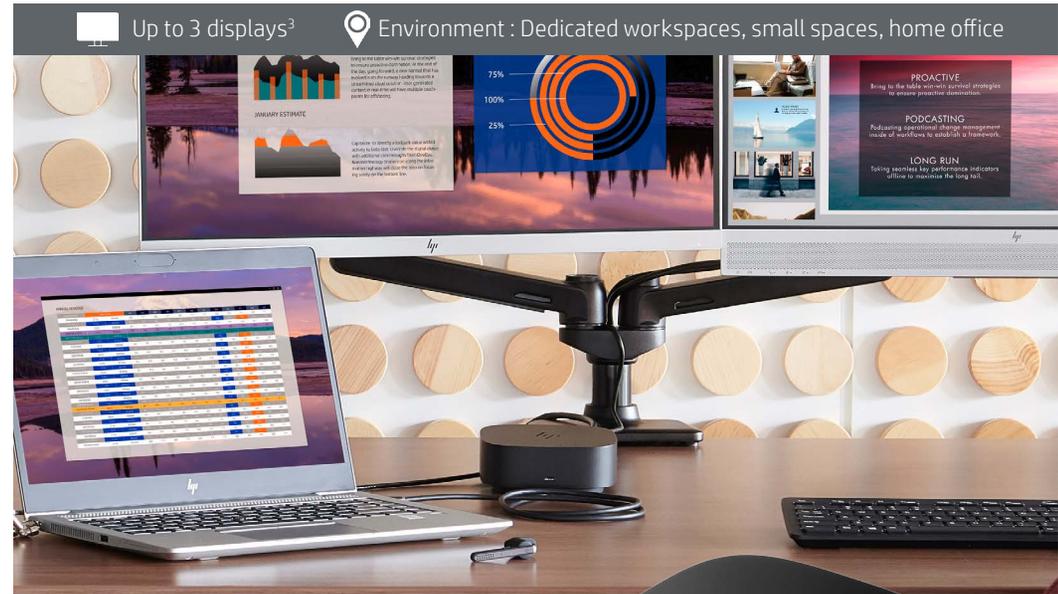
Electronic asset management for your docks.

Empower your IT to manage and track your docks by product name, serial number, and MAC Address from anywhere with the Electronic Tag (eTag) asset management tool.⁴



Efficient firmware updates.

Save time for IT with dock firmware updates pushed to managed notebooks, even when they're disconnected from each other.⁵



1. For USB-C™ functionality, host PC must support the DisplayPort™ Alt mode protocol through its USB-C™ port. Thunderbolt™-enabled notebooks will function at USB-C™ speeds. Charging and port replication is supported on notebooks that have implemented USB-C™ industry specifications. Power button to turn on or wake the system, Wake-on LAN from warm and cold dock, Wake-on LAN from S4/S5, and MAC Address Pass-Through S0, S3, S4, S5 warm and cold dock features only function on HP or HP-supported notebooks. HP does not provide Ethernet and audio drivers on Mac PCs.

2. Based on HP internal testing on select non-HP notebook models compatible with USB-C™ industry standards. Certain Alt mode features are not

supported, such as power button, MAC Address Pass-Through, Wake-on LAN, and OOB Wake on LAN. Visit the HP Support page to determine your notebook's wattage and port specifications. Visit the support page of your non-HP notebook to determine its wattage and port specifications.

3. Supports three displays including the notebook screen.

4. WMI installation required. Requires Windows 10.

5. Internet connection required and sold separately. Managed PC must be running Windows 10.

HP E223d 21.5" Docking Monitor

5WN63AA

Streamline your workspace with a display and built-in dock



Single-cable connectivity

Connect a single USB-C™¹ cable for video, data, and up to 65W of power, and get immediate peripheral expansion with the RJ-45 and 4 USB ports.



Multi-monitor support

Experience a virtually seamless dual-display setup with 3-sided micro-edge bezels when you daisy chain a second display from a single USB-C™ connection on your PC.²



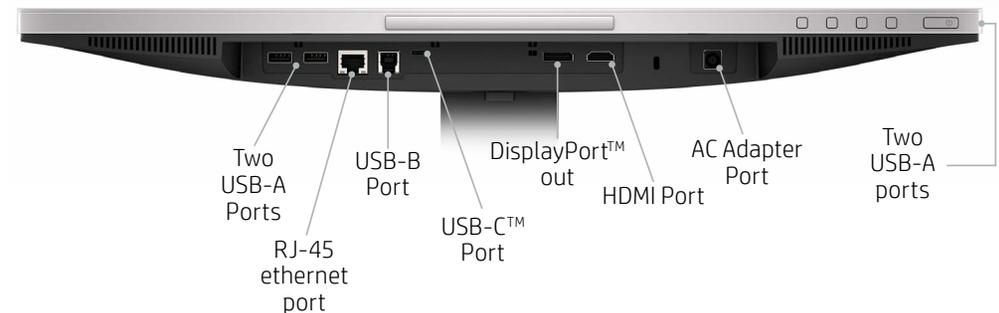
Smaller footprint

Maximize space in desktop PC environments by mounting your HP EliteDesk Mini Desktop PC directly behind the display³ and powering it through USB-C™.¹



Flexible ergonomics

Find your sweet spot with adjustable tilt, 150mm height adjustment, swivel, and pivot to portrait settings.



1. Video over USB-C™ requires a PC with USB-C™ DisplayPort™ Alt mode or Thunderbolt™. Power delivery over USB-C™ up to 65 Watts. Refer to Power Output in product QuickSpecs for exact specifications, PC must be compatible with the display's power output.

2. Additional display sold separately. Source PC must have a USB-C™ or USB-A connector. PC connection to the display through USB-C™ is only supported up to 65 Watts power delivery. USB-A connection requires source PC to support DisplayLink. Not compatible over DisplayPort™, VGA or HDMI connections.

3. HP EliteDesk Mini Desktop PC sold separately. Display mounting requires HP B300 PC Mounting Bracket for Monitors, sold separately.

HP USB-C/A Universal Dock G2

5TW13AA



Universal docking for legacy and current notebooks



Plug in and get to work

Get to work fast with one cable from your USB-A- and USB-C™-enabled notebooks¹ to your displays, devices, and wired network with the flexible, compact HP USB-C/A Universal Dock G2. **The dock is compatible with HP notebooks, MacBook® computers, and other notebooks.²**



Future-proof your fleet

Designed with universal compatibility in mind, this dock works with both HP and non-HP USB-C™- and Thunderbolt™-enabled notebooks.¹



Single-cable solution

Add your accessories and up to three displays³ to the dock. Then simply connect it to your notebook¹ through a single USB-C™ cable to access your devices and charge your PC.



Backward compatibility

Use the included USB-A Adapter to connect your USB notebook and access accessories and up to two 4K displays.³ Use the optional HP 4.5 mm and USB-C Dock Adapter G2⁵ for barrel charging.



Easily manage your commercial HP fleet

Help IT secure and remotely manage your deployed commercial HP notebooks¹ and the dock with advanced network manageability features.



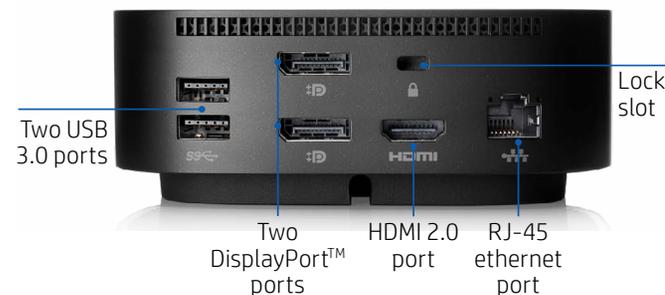
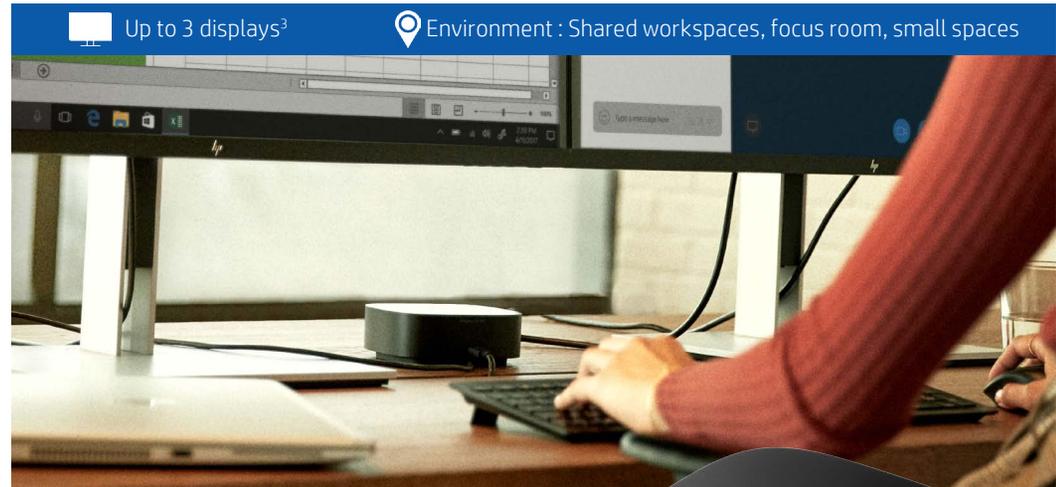
Electronic asset management for your docks

Empower your IT to manage and track your docks by product name, serial number, and MAC Address from anywhere with the Electronic Tag (eTag) asset management tool.⁶



Efficient firmware updates

Save time for IT with dock firmware updates pushed to managed notebooks, even when they're disconnected from each other.⁷



1. For USB-C™ functionality, host PC must support the DisplayPort™ Alt mode protocol through its USB-C™ port. Thunderbolt™-enabled notebooks will function at USB-C™ speeds. Charging and port replication is supported on notebooks that have implemented USB-C™ industry specifications. Power button to turn on or wake the system, Wake-on LAN from warm and cold dock, Wake-on LAN from S4/S5, and MAC Address Pass-Through S0, S3, S4, S5 warm and cold dock features only function on HP or HP-supported notebooks. HP does not provide Ethernet and audio drivers on Mac PCs.

2. Based on HP internal testing on select non-HP notebook models compatible with USB-C™ industry standards. Certain Alt mode features are not supported, such as power button, MAC Address Pass-Through, Wake-

on LAN, and OOB Wake on LAN. Visit the HP Support page to determine your HP notebook's wattage and port specifications. Visit the support page of your non-HP notebook to determine its wattage and port specifications.

3. Three 4K displays supported only on Thunderbolt™- or USB-C™-with-video-enabled notebooks. Supports three displays including the notebook screen.

4. Support for two displays includes one notebook screen and one external display or two external displays.

5. Sold separately.

6. WMI installation required. Requires Windows 10.

7. Internet connection required and sold separately. Managed PC must be running Windows 10.

HP E243d 23.8" Docking Monitor

5VT82AA

Create a command center from a display and built-in dock



USB-C™ and legacy USB-A connectivity

Connect a single USB-C™¹ cable for video, data, and up to 65W of power, or attach to your legacy notebooks with USB-B to USB-A connectivity and DisplayLink support.



Powerful collaboration display

Quickly videoconference and join web calls with an Integrated pop-up webcam that delivers high-quality video and retracts for additional security; conveniently connect your headset at the display.



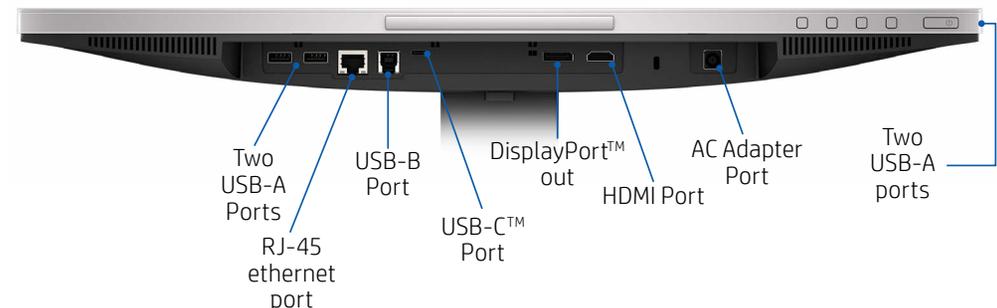
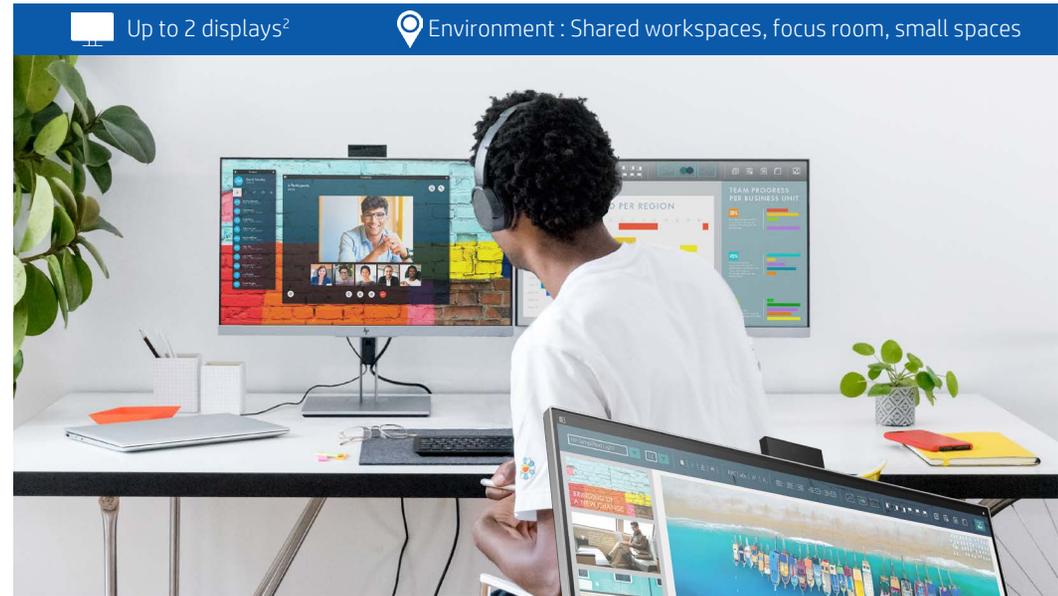
Immediate expansion

Connect USB devices to one of the 4 USB 3.0 ports, and access your network through the RJ-45.



Multi-monitor support

Experience a virtually seamless dual-display setup with 3-sided micro-edge bezels when you daisy chain a second display from a single USB-C™ connection on your PC.²



1. Video over USB-C™ requires a PC with USB-C™ DisplayPort™ Alt mode or Thunderbolt™. Power delivery over USB-C™ up to 65 Watts. Refer to Power Output in product QuickSpecs for exact specifications, PC must be compatible with the display's power output.

2. Additional display sold separately. Source PC must have a USB-C™ or USB-A connector. PC connection to the display through USB-C™ is only supported up to 65 Watts power delivery. USB-A connection requires source PC to support DisplayLink. Not compatible over DisplayPort™, VGA or HDMI connections.

HP E273d 27" Docking Monitor

1TJ76AA

Instant docking solution



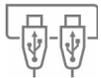
USB-C™ and legacy USB-A connectivity

Connect a single USB-C™¹ cable for video, data, and up to 65W of power, or attach to your legacy notebooks with USB-B to USB-A connectivity and DisplayLink support.



Powerful collaboration display

Quickly videoconference and join web calls with an integrated pop-up webcam that delivers high-quality video and retracts for additional security; conveniently connect your headset at the display.



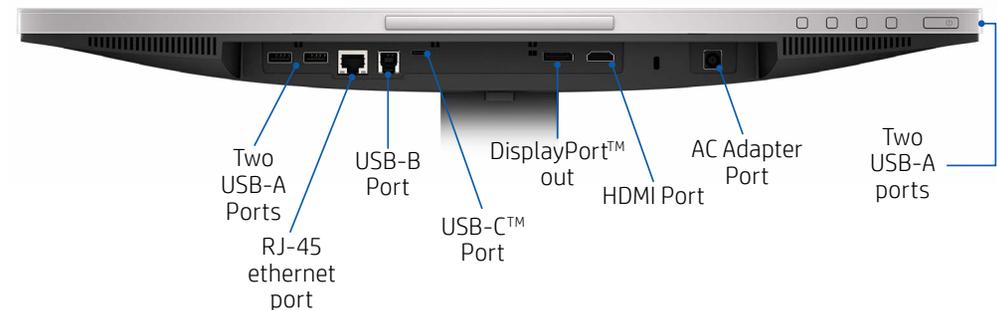
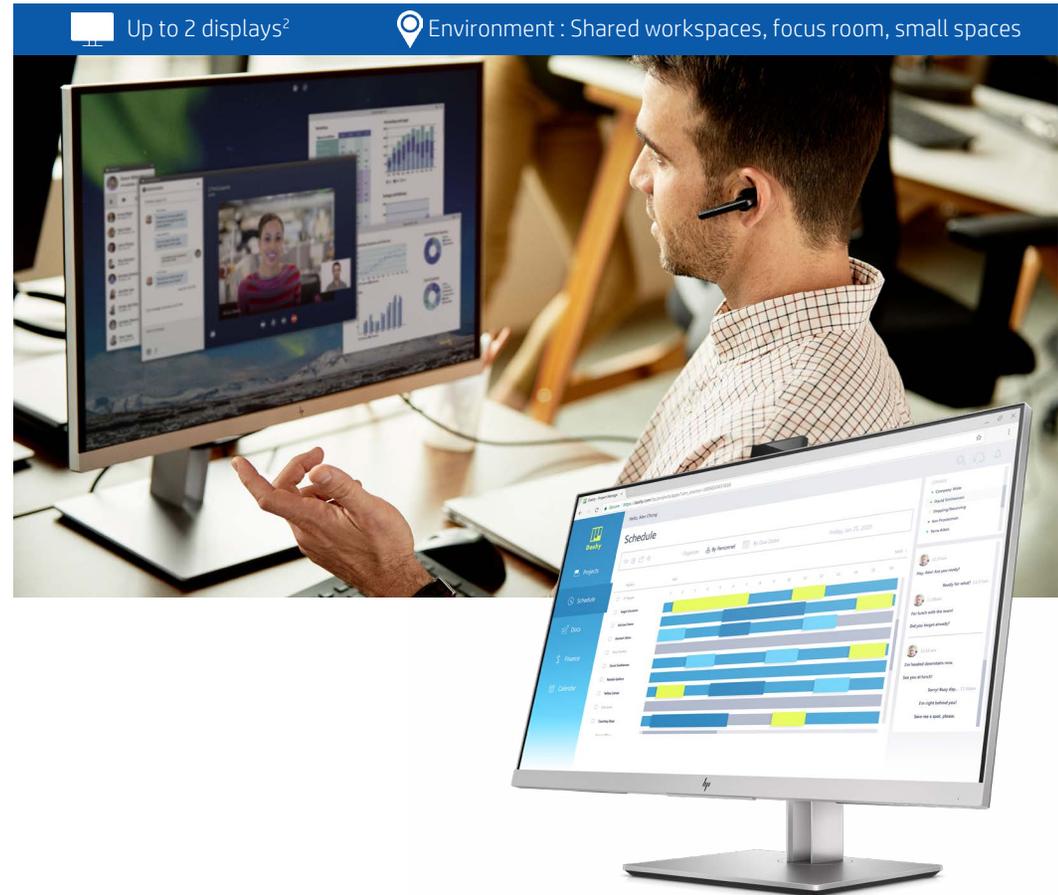
Flexible by design

Experience a virtually seamless dual-display setup when you daisy-chain a second display,² get immediate expansion with one of the 4 USB 3.0 ports, and access network through the RJ-45.



Environmental impact

HP's first display manufactured with ocean-bound plastics³ to help reduce waterway pollution. We go one step further with 100% fiber recyclable packaging.



1. Video over USB-C™ requires a PC with USB-C™ DisplayPort™ Alt mode or Thunderbolt™. Power delivery over USB-C™ up to 65 Watts. Refer to Power Output in product QuickSpecs for exact specifications, PC must be compatible with the display's power output.

2. Additional display sold separately. Source PC must have a USB-C™ or USB-A connector. PC connection to the display through USB-C™ is only supported up to 65 Watts power delivery. USB-A connection requires source PC to support DisplayLink. Not compatible over DisplayPort™, VGA or HDMI connections.

3. Display contains 5% ocean bound plastics, the equivalent of more than three 16 oz. recycled plastic water bottles.

HP UltraSlim Dock

D9Y32AA

Create a professional desktop experience for your HP EliteBook



View your way

Supports a single 4K display @60Hz or dual 2.5K displays @ 60Hz



Dual asset security

One locking mechanism for notebook and dock (works with HP Docking Station Cable Lock - P/N: AU656AA)



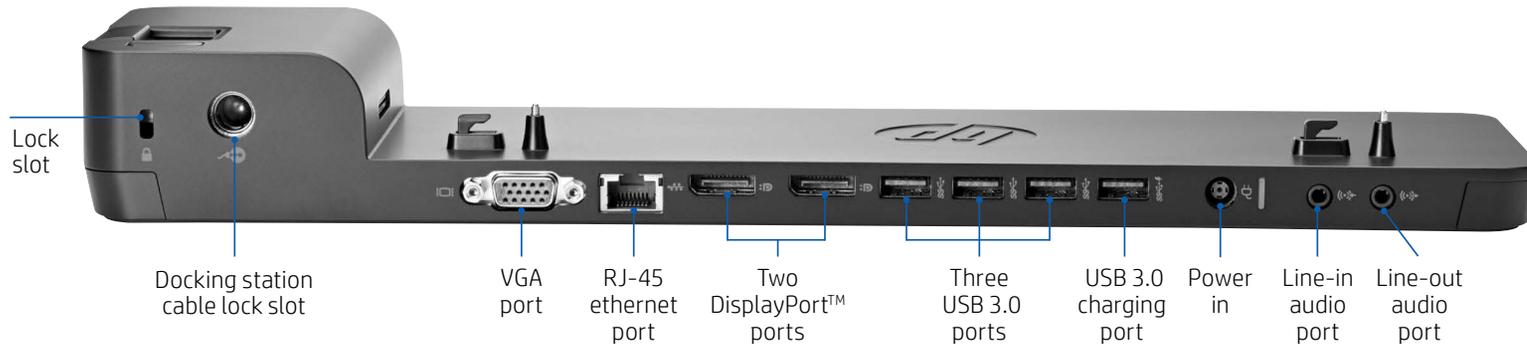
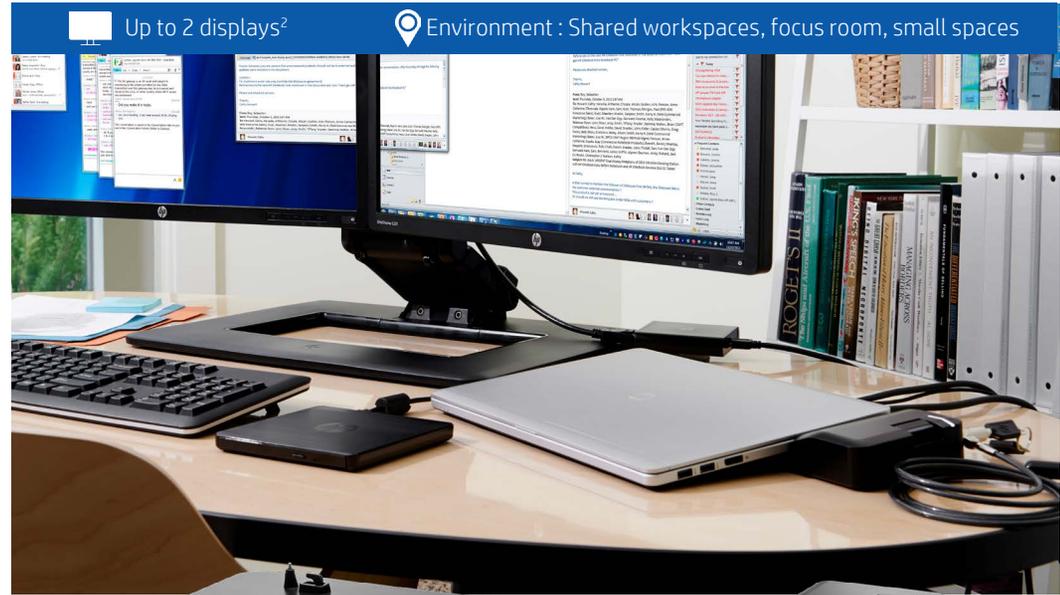
Network manageability

PXE, WoL, Preboot KB/Display, iAMT



Power at your fingertips

Conveniently located power button to power notebook via dock



HP USB-C Mini Dock

1PM64AA

Stylish palm-sized power, ports, and portability



Charge your device while you work

Deliver pass-through charging¹ to your notebook PC or tablet when you connect its USB-C™ AC adapter to the dock's USB-C™ port.

UHD 4K

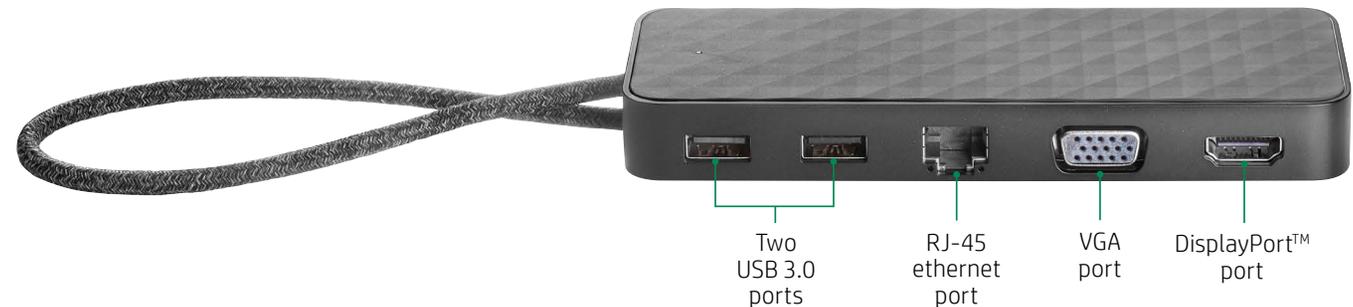
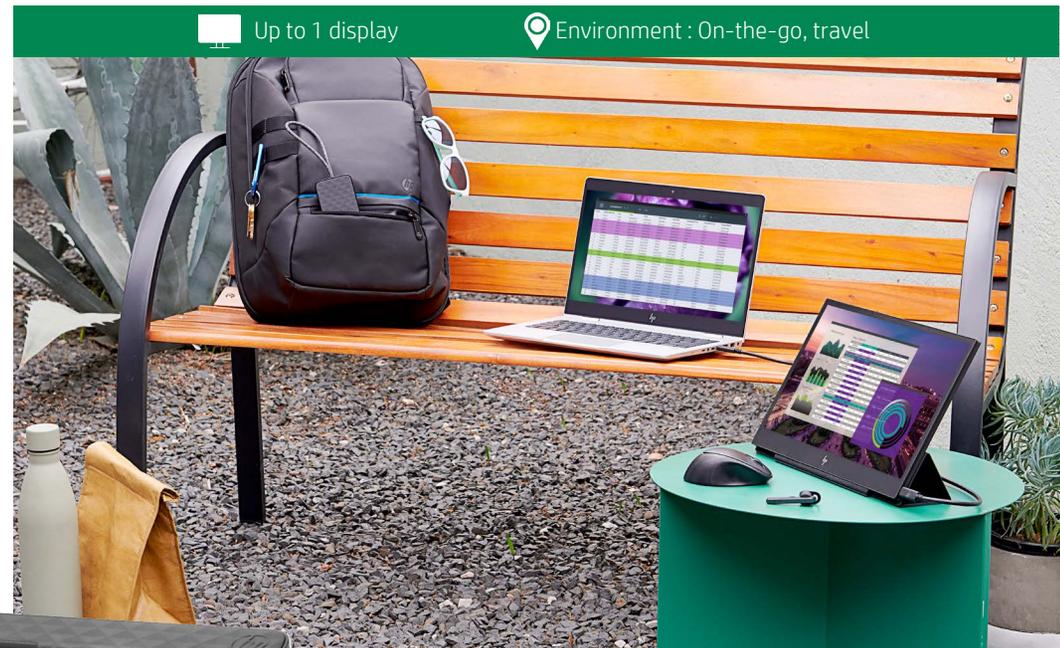
Expand your workspace on-the-go

Drive an external display with HDMI support up to 4K or VGA support up to 1080p. Connect to your Gigabit Ethernet through the RJ-45 port and your accessories through a USB-C™² or USB port.



Enterprise-class network manageability

Support network manageability³ of your device and dock with PXE boot support, Wake-on LAN, MAC Address Pass-Through, and LAN/WLAN switching.⁴



1. Pass-through charging requires a notebook or tablet USB-C™ AC adapter. The dock does not include an AC Adapter.

2. Supports DisplayPort™ Alt Mode (video, charging, and USB 3.1) over the USB-C™ connector. Also compatible with USB Type-C™ Thunderbolt-enabled ports.

3. Internet access required and sold separately.

4. LAN/WLAN switching is only supported on Windows 10 with select platforms. Before using these functions, please verify your computer has the latest BIOS and network controller driver installed.

HP USB Travel Dock

TOK30AA

Affordable, pocket-sized docking



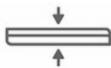
Dongle-free environment

Connect to your devices and network with the HP USB Travel Dock. Connect the attached USB cable to your notebook's powered USB port¹ for quick, easy network and device connectivity.



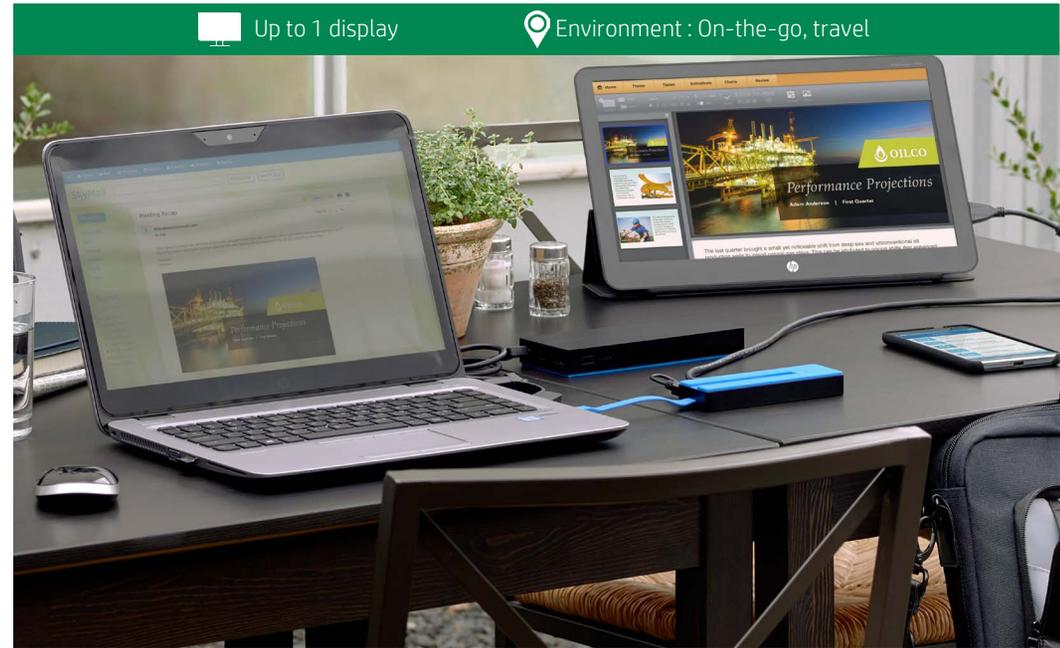
Charge from your notebook

HP USB Travel Dock draws power from the notebook PC, eliminating the need for an extra power adapter.



Compact design

Pack the compact dock in your bag alongside your notebook. The attached USB cable wraps around for neat, easy storage.



¹.USB port needs to provide 3 amps output for optimum dock performance.

HP Elite USB-C Hub

TOK30AA

Maximize and extend your notebook's ports



Practical, efficient, and boldly designed

Behold a sleek, slim, all-aluminum hub that matches the aesthetic of your HP EliteBook and slides easily into your bag next to your device.



Port expansion and charging

Get connectivity and charging for up to two USB-A accessories² and the productivity boost of a second HDMI display² from one USB-C™ port on your device.



Power through

Charge your notebook while you work without adjusting your device or hub connections with power pass-through charging up to 90W.¹

Did you know...



What's the difference between a dock and a hub?

While both docks and hubs offer port expansion and power pass-through, only docks include RJ-45 ports and network manageability features.



90W power
pass-through
USB-C™ port

USB-C™
connection to
host

HDMI
port

Two
USB 3.0
charging ports

1. Pass-through charging requires a notebook or tablet USB-C™ AC adapter. The hub does not include an AC Adapter.
2. Sold separately.

HP USB-C Travel Hub G2

7PJ38AA

Affordable port expansion



On-the-go port expansion and charging

Add an extra screen² and your everyday accessories, charge your device when you need a boost, and power and charge your phone—all with one USB-C™ cable connection to the HP USB-C Travel Hub G2.¹



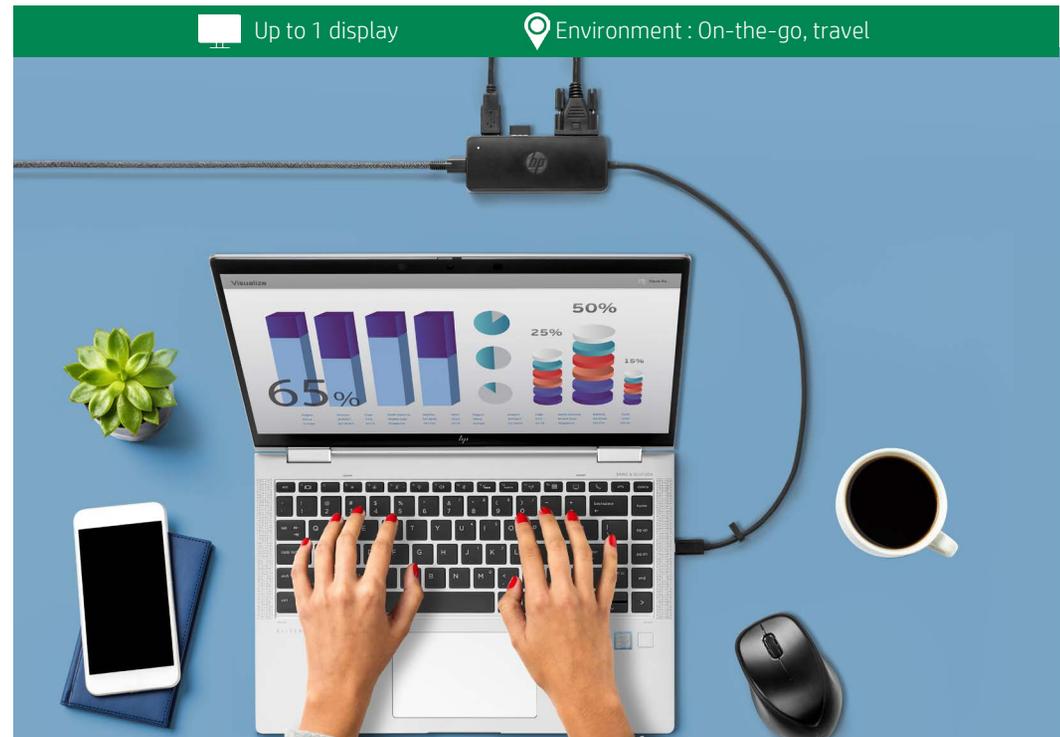
Lighten your load with one multi-purpose hub

Carry one hub for pass-through connectivity and scalable power delivery to your HP laptop through its 45W, 65W or 90W adapter, or power the hub from your device's USB-C™ port.³



Small hub. Big connectivity

Expand a single laptop USB-C™ port into three versatile connections—two USB ports for your accessories and HDMI or VGA for an external display.²



Did you know...



What's the difference between a dock and a hub?

While both docks and hubs offer port expansion and power pass-through, only docks include RJ-45 ports and network manageability features.



1.Supports multi-function USB-C™ (video, charging, and USB 3.1) and USB Type-C™ Thunderbolt™-enabled ports.

2.Supports a single display up to 4960 x 2160 @30Hz (2 lane DP only via HDMI) or 1920 x 1200 @ 60Hz via VGA.

3.Power adapter not included

Docks comparison



Product	HP USB-C Mini Dock	HP USB-C Dock G5	HP EliteDisplay E223d 21.5-inch Docking Monitor	HP USB-C/A Universal Dock G2	HP EliteDisplay E243d 23.8-inch Docking Monitor	HP E273d 27-inch Docking Monitor	HP Thunderbolt Dock G2	
Why HP?	-System network manageability in any power state of the notebook (HP on HP)	-Disconnected firmware updates -eTag (electronic SN)	-USB-C™ connectivity with 65W power delivery -Daisy-chain a second display -RJ-45 network connectivity	-Disconnected firmware updates -eTag (electronic SN)	-USB-C and legacy USB-A connectivity -Daisy-chain a second display -Pop-up webcam -RJ-45 network connectivity	-USB-C and legacy USB-A connectivity -Daisy-chain a second display -Pop-up webcam -RJ-45 network connectivity	-World First Thunderbolt Dock with an Audio Conferencing solution ² -Only solution that supports from 400 G5 to HP Mobile Workstations thru one SKU. Designed for HP & non-HP Thunderbolt & USB-C™ Notebooks. -Broadest coverage of notebooks charging – up to 100W USB-C and 200W Barrel for HP MWKS	
Part #	1PM64AA/UT#ABA	5TW10AA	5VT82AA/A8/AC/AT/AS/U9	5TW13AA	1TJ76AA/A8/AC/AT/AS/U9	5WN63AA/A8/AC/AT/AS/U9	2UK37AA/UT#ABA 120W 3TR87AA – Combo	
Global Series?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
USB Technology	USB-C™ Alt mode	USB-C™ Alt mode	USB-C™	DisplayLink (non-flash: USB-C™ Alt-Mode)	USB-C™ & USB-A (DisplayLink)	USB-C™ & USB-A (DisplayLink)	USB-C™ Alt mode / Thunderbolt™	
USB Port Transfer Speed	5Gbps	5Gbps	N/A	5Gbps	N/A	N/A	5Gbps	
USB-C™/Thunderbolt™ 3 Transfer Speed	USB-C™ max transfer speed 5 Gbps	5Gbps / TB - NA	N/A	5Gbps / TB - NA	N/A	N/A	USB-C™ only 5 Gbps / Thunderbolt™ max 40 Gbps	
Video Resolution	HDMI: Single 4K (4096 x 2160) @ 30Hz; one display supported at a time VGA: up to 2K@60Hz when 1920x1080	1 display: 4K @ 30Hz (4096x2160) 2 displays: 2.5K Displays (DP 1.4 systems) or 2 FHD 1920x1200 3 displays: 3 FHD Displays (DP 1.4 systems) 1920x1200	FHD: 1920 x 1080 @ 60 Hz	1 display: 5K using both DP ports 5120x2880 2 displays: dual 4K 3840x2160 3 displays: 2.5K 2560x1600	Maximum Resolution 1920 x1080 @60Hz Display Size (Diagonal) 23.8 in Display Panel Type IPS with LED backlight	FHD: 1920 x 1080 @ 60 Hz	1 display: 4096 x 2160 @ 60Hz 2 displays: 4096 x 2160 @ 60Hz 3 displays: 3840x1440 @ 60Hz* 4 displays: supported but is dependent on host capability	
Power Button	No	Yes	Yes	Yes	Yes	Yes	Yes	
Ports	1x USB-C™ charging/data port v3.1 gen 1 2x USB ports (1 USB v3.0, 1 USB v2.0) 1x Ethernet port (10/100/1000) 1x VGA port 1x HDMI v1.4	4x USB 3.0 charging ports 1x USB-C™ (data, power out (15W)) 2x DPs 1x HDMI 1x RJ-45 – Gb ethernet 1x Combo audio jack	1x HDMI 1x DisplayPort 1.2 OUT port 1x Audio-out (headset) jack 1x USB-C™ 1x USB-B™ 1x RJ-45 – Gb Ethernet 4x USB-A	4x USB 3.0 charging ports 1x USB-C™ (data, power out (15W)) 2x DPs 1x HDMI 2.0 1x RJ-45 – Gb ethernet 1x Combo audio jack	1x HDMI 1x DisplayPort 1.2 OUT port 1x VGA 1x Audio-in jack 1x Audio-out (headset) jack 1x USB-C™ 1x USB-B™ 1x RJ-45 – Gb Ethernet 4x USB-A (3 standard/1 fast charge 7.5W)	1x HDMI 1x DisplayPort 1.2 OUT port 1x VGA 1x Audio-in jack 1x Audio-out (headset) jack 1x USB-C™ 1x USB-B™ 1x RJ-45 – Gb Ethernet 4x USB-A (3 standard/1 fast charge 7.5W)	1x HDMI 1x DisplayPort 1.2 OUT port 1x VGA 1x Audio-in jack 1x Audio-out (headset) jack 1x USB-C™ 1x USB-B™ 1x RJ-45 – Gb Ethernet 4x USB-A (3 standard/1 fast charge 7.5W)	1x USB-C™ TBT port (back) 1x USB-C™ Alt mode & data 15W (back) (v3.1 gen 1) 1x USB-C™ data only 15W (front) (v3.1 gen 1) 2x DPs, 1x VGA 3x USB v3.0 1x RJ-45 – Gb Ethernet 1x combo audio (side) 1x K-lock (side)

Green = HP advantage based on HP internal research as of October 2019

Docks comparison continued



Product	HP USB-C Mini Dock	HP USB-C Dock G5	HP EliteDisplay E223d 21.5-inch Docking Monitor	HP USB-C/A Universal Dock G2	HP EliteDisplay E243d 23.8-inch Docking Monitor	HP E273d 27-inch Docking Monitor	HP Thunderbolt Dock G2
Network Manageability For terminology definitions see "Technology explained" on next page	<ul style="list-style-type: none"> PXE Boot: Legacy, UEFI WoL:* S0->S3, S0->S4, S0->S5, S3, S4, S5 MAC Address Pass-Through*: S0, S0->S3, S0->S4, S0->S5, S3, S4, S5; PXE Legacy, PXE UEFI, WinPE Preboot KB/Display: Y (SLO)* iAMT: N HP Lan Wireless Protection (LAN/WLAN switching): Y (KBL & Win 10 forward) 	1GbE NIC PXE, WoL, MAPT in all power states	N/A	1GbE NIC PXE, WoL, MAPT in all power states	N/A	N/A	<ul style="list-style-type: none"> PXE Boot: Legacy, UEFI WoL:* S0->S3, S0->S4, S0->S5, S3, S4, S5 MAC Address Pass-Through*: S0, S0->S3, S0->S4, S0->S5, S3, S4, S5; PXE Legacy, PXE UEFI, WinPE Preboot KB/Display: Y (SLO)* iAMT: N HP Lan Wireless Protection (LAN/WLAN switching): Y (KBL & Win 10 forward)
Key Features	<ul style="list-style-type: none"> -Pass-through charging requires a notebook or tablet USB-C™ AC adapter. The dock does not include an AC Adapter. -Supports DisplayPort™ Alt mode (video, charging, and USB 3.1) over the USB-C™ connector. Also compatible with USB Type-C™ Thunderbolt™ enabled ports. 	<ul style="list-style-type: none"> -Disconnected firmware updates -Max USB-C™ power to host: 100W -eTag (electronic SN) -120W AC adapter 	<ul style="list-style-type: none"> -USB-C™ 65W -Daisy-chain a second display -RJ-45 network connectivity -21.5" IPS, 3 sided micro edge bezel -Height adjustable, 4-way ergonomic stand 	<ul style="list-style-type: none"> -Disconnected firmware updates -Max USB-C™ power to host: 100W -eTag (electronic SN) -120W AC adapter -No flash memory (drivers) 	<ul style="list-style-type: none"> -Power delivery: DC in/out 90W, USB-C™ 65W -USB-C™ and legacy USB-A connectivity -Daisy-chain a second display -Pop-up webcam -RJ-45 network connectivity -23.8" IPS, 3 sided micro edge bezel -Height adjustable, 4-way ergonomic stand 	<ul style="list-style-type: none"> -Power delivery: DC in/out 90W, USB-C™ 65W -USB-C™ and legacy USB-A connectivity -Daisy-chain a second display -Pop-up webcam -RJ-45 network connectivity -27" IPS, 3 sided micro edge bezel -Height adjustable, 4-way ergonomic stand 	<ul style="list-style-type: none"> -Designed to USB-C™ industry specs to allow compatibility with HP and non-HP devices that support Thunderbolt™ and USB-C™ power and video -Compatibility across HP Commercial Notebook portfolio from X2 to MWS to NB with an optional combo cable (May '18) -Optional Audio module for integrated audio solution -Small footprint -Power button on dock to power the notebook -120W AC adapter, 230W AC adapter (optional combo cable for 120W/230W PCs)
Size / Weight	5.7 x 2.17 x 0.69 in / .29 lbs (0.132 kg)	4.80 x 4.80 x 1.77 in / 1.49lb (.68kg)	19.22" x 8.07" x 17.66" / 11.2lb	4.80 x 4.80 x 1.77 in / 1.53lb (.695kg)	21.21" x 8.07" x 18.23" / 13.67lbs	24.05" x 8.43" x 20.02" / 16.58lb	3.9 x 3.9 x 2.7 in / 1.76 lbs. (dock only)
Cable length	0.3 meter cable	1 meter cable	USB C-C cable (1.8m)	1 meter cable	USB C-C cable (1.8m); USB A-B Cable (1.8m); DC-DC Cable (1.8m); DC Jack Dongle (7.4mm to 4.5mm)	USB C-C cable (1.8m); USB A-B Cable (1.8m); DC-DC Cable (1.8m); DC Jack Dongle (7.4mm to 4.5mm)	0.7 meter cable
Out of Box Experience	Plug & Play	Plug & Play	Legacy USB-A connection requires DisplayLink drivers	Requires DisplayLink drivers	Legacy USB-A connection requires DisplayLink drivers	Legacy USB-A connection requires DisplayLink drivers	Requires Thunderbolt™ security authentication (first time)

Green = HP advantage based on HP internal research as of October 2019

Technology explained

USB-C™ / USB Type-C™

USB Type-C™ is a smaller, reversible USB connector that can transmit data, video, audio, data as well as provide charging power to devices (USB Power Delivery or PD) – up to 100W.

USB-C™ video modes (alternate mode)

USB-C™ ports that support adapters that can output different types of video such as HDMI, VGA, and DisplayPort™, all from one USB Type-C™ port on your computer or device.

USB-C™ power delivery (USB PD)

USB-C™ power delivery is bi-directional. A device can either send or receive power. This power can be transferred at the same time the device is transmitting data across the connection.

DisplayLink

DisplayLink technology (Hardware module chip) allows users to connect computers and displays using USB. It allows universal docking by enabling displays, audio, Ethernet and other USB peripherals to be connected to notebooks thru USB-A or USB-C™ ports.

System network manageability

Extends the notebook embedded LAN network manageability capabilities when connected to the dock's LAN. Provides the ability to identify, monitor and update the notebook through the dock in any power state of the notebook. Achieved thru: Wake on Lan (WoL), MAC Address Pass Through (MAPT) and PXE boot support.

Disconnected firmware updates

Capability to perform firmware updates on dock disconnect from the notebook.

PXE boot legacy

BIOS interface and Unified Extensible Firmware Interface (UEFI) are methods for booting computers using a network interface, independent of local storage devices or installed operating systems.

WoL

Wake on LAN is a standardized method for waking up a system that is currently in a sleep state. Wake on LAN provides an IT administrator an efficient way for system to be detected and managed at any time, even when they are in a sleep state.

HP Lan Wireless Protection (LAN/WLAN switching)

Turn off WLAN radio automatically when they are connected to LAN. Only available with Kaby Lake systems and Microsoft Win10 OS.

MAC Address Pass Through (MAPT)

The ability for a system/laptop to provide the dock NIC also called it's MAC address, so the system can be uniquely identified on the network.

eTag

eTag is a docking asset management tool that enables you to electronically gather your dock serial number, mac address and dock name, as well as see the firmware version on your dock.

Hot dock

System is running (S0) with dock attached, then placed into the Standby (S3), Hibernate (S4), or Off (S5) state.

Warm dock

System is sleeping in Standby (S3), then connect dock.

Cold dock

System in Hibernate (S4) or Off (S5), then connect dock.

iAMT

Intel Active Management Technology (AMT) is hardware and firmware technology for remote out-of-band management of personal computers, in order to monitor, maintain, update, upgrade, and repair them.

Titan Ridge/Alpine Ridge

Titan Ridge is the latest Intel technology that allows compatibility with any USB-C™ system that accepts power and video. The previous Thunderbolt™ generation is called Alpine Ridge and is only compatible with Thunderbolt™ systems. HP Thunderbolt Dock G2 uses Titan Ridge technology and the HP Elite TB3 Dock uses Alpine Ridge technology.

Preboot keyboard/display

At boot, you can use your display and your mouse + keyboard = before OS loads.

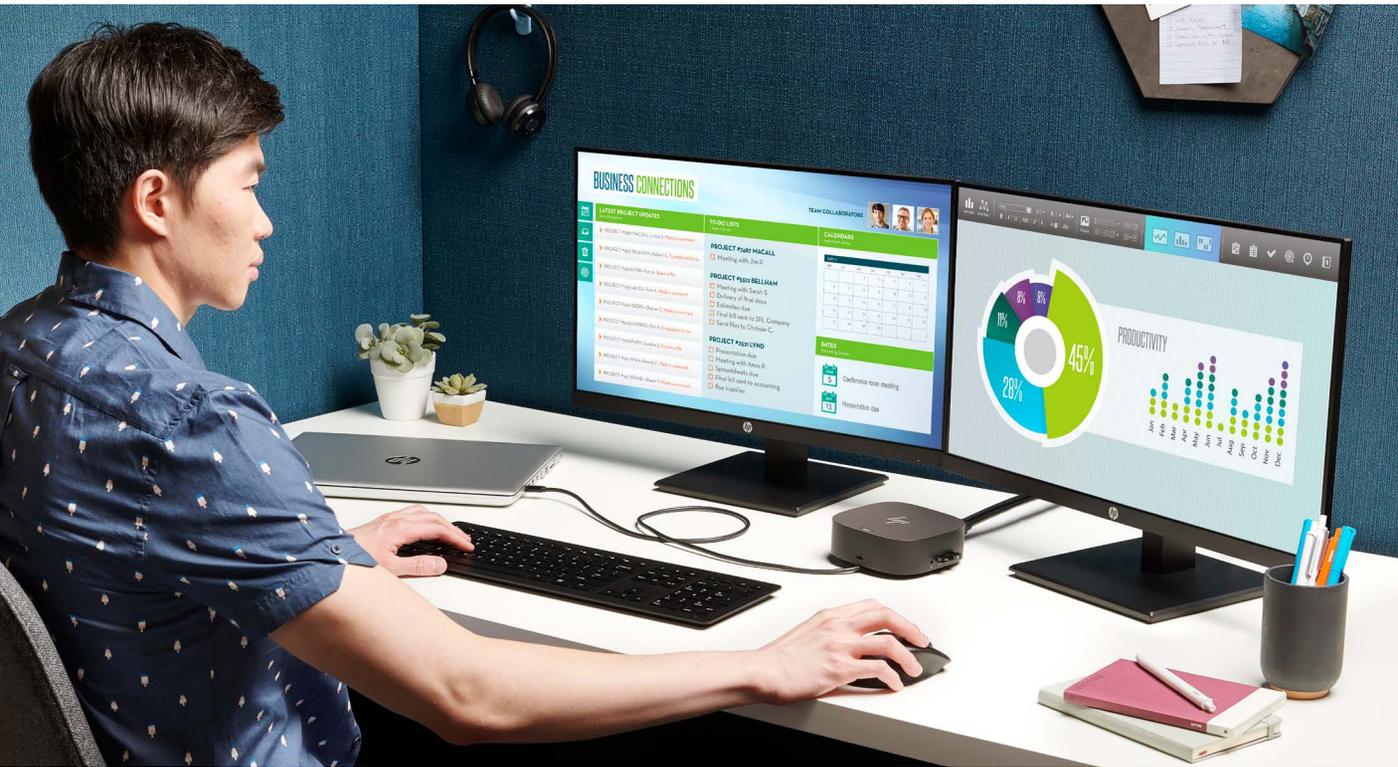
Display resolutions and what they mean

Display resolutions Display resolutions are width x height in pixels. Combinations are standardized, given a name and acronym. Higher display resolutions mean the images appear sharper and pixels appear smaller.

Display resolution definitions

WUXGA aka 2K = 1920 x 1200 HD. In the display world 2K has a Digital Cinema connotation with a discrete resolution of 2048 x 1080. We are talking strictly about this resolution as roughly half 4K; (16:10, true 24" size)

- UHD aka 4K = 4096 x 2160. 4K displays can be multiple resolutions, for consumer media 4K = 3840 x 2160 (most popular)
- WSXGA+ = 1680 x 1050
- Triple 4K = 3 displays @ 4096 x 2160
- Dual 4K = 2 displays @ 4096 x 2160
- FHD = 1920 x 1080
- QHD = 2560 x 1440 (16:9, 27" size)
- WQHD = 3840 x 1440 (21:9, 34" wide size)



HP docks bring your workspace to life while providing the ports and connectivity you need, wherever business takes you.

Go to the Accessories tab on the **HP Video Gallery** to learn more about HP Dock Solutions (search keyword: Dock)

<http://hp.brightcovegallery.com/products>

HP Confidential. For use by HP or Partner with Customers under CDA only.

© Copyright 2019 HP Development Company, L.P. 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.

Thunderbolt is a trademark of Intel Corporation or its subsidiaries in the U.S. and other countries. Microsoft and Windows are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries. USB-C™ and USB Type-C are trademarks of USB Implementers Forum. DisplayPort is a trademark owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. Apple and the Apple logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. DisplayLink, the DisplayLink logo and the DisplayLink Certified logo are trademarks or registered trademarks of DisplayLink Corp. in the United States and/or other countries.

October 2019

