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HP THUNDERBOLT DOCK G2

FEATURES AND TROUBLESHOOTING

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DOCKING REINVENTED FOR THE MODERN WORKSPACE

The HP Thunderbolt Dock G2 is your solution to the ultimate, future-proof docking experience. With just a single cable connection, you can expand your notebook with up to 200 W of charging, fast transfer speeds, support for dual 4K displays, connectivity to your accessories and wired network, plus advanced network manageability. Your augmented PC experience is streamlined into a sleek, space-saving centerpiece that boasts an award-winning design for its friendly form that maximizes your workspace real estate.

The high-performance HP Thunderbolt Dock G2 supports a wide range of notebooks from the HP 400 G5 series to HP x2s and the HP ZBook Mobile Workstations and also supports non-HP notebooks that are designed to Thunderbolt™ and USB Type-C™ standards providing workspace flexibility and a scalable experience for you and your fleet.

HP THUNDERBOLT DOCK G2 SPECIFICATIONS

SKUs	HP Thunderbolt Dock 120 W G2 (2UK37AA) HP Thunderbolt Dock 230 W G2 (2UK38AA) HP Thunderbolt Dock G2 w/ combo cable (3TR87AA) HP Thunderbolt Dock 120 W G2 w/ Audio (3YE87AA)
Design	Cube Modular Design with optional Audio Module for huddle rooms, closed or home offices
Power Button on dock and Audio Module[1]	LED in top case that powers system by pressing it
Cable length and AMO options	Default 0.7 meter cable 0.7 meter for mobile workstations (requires 230 W AC Adapter) 0.7 meter for notebooks and detachables (requires 120 W AC Adapter) 0.7 meter combo cable (requires 230 W AC Adapter) Cables are end user accessible
USB Type-C™ ports USB 3.1 Gen2	1x Thunderbolt™ port (back) 1x Alt Mode & Data port (back) 1x data port (front)
USB-A ports USB 3.0 Gen1	3x USB-A ports (1 powered)
Video Ports	5 x video ports 2 DisplayPort™, 1 VGA, 1 USB-C™ Thunderbolt™, 1 USB Type-C™ Alt Mode
Number of Monitors supported	Up to 4 external (+notebook* display) Dependent on notebook video capability
Video Resolutions	Up to DP 1.4 support Dual 4K @ 60 Hz (DP 1.2 systems) Triple 4K @ 60 Hz (DP 1.4 DSC[2] systems)
System compatibility[3]	Compatible with Thunderbolt™ systems and USB Type-C™ systems with power and video
Operating Systems[3]	Windows 7, Windows 10, Chrome, macOS
Power to system thru USB Type-C™	Up to 100 W (USB Type-C™)
Power to system thru barrel	Up to 200 W (4.5 mm barrel)
AC adapter	120 W / 230 W 7.4 mm
Power Profiles	5V/5A, 9V/5A, 12V/5A, 15V/5A, 20V/5A PD 3.0

*Note: Unless specifically stated the term 'notebook' refers to both business notebooks and mobile workstations

MINIMUM SOFTWARE/FIRMWARE REQUIREMENTS

HP always recommends that customers download the latest software and firmware for the best user experience.

Platform/Component	OS/Deliverable	Version
Intel® Thunderbolt™ 3 Secure Connect Software	Windows 7	16.3.71.300 or later
	Windows 10	17.4.75.250 or later
Thunderbolt™ system using Native hot plug mode	Windows 10	OS build 16299.125 or later
HP Pro x2 612 G2 Tablet	BIOS	1.11 or later
	Intel® Graphics driver	15.60.4849 or later

Table 1: Software/firmware requirements

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FIRST-TIME CONNECTION

1. Power Button
2. 1 USB Type-C™ with data and power out (15 W)
3. Headphone/microphone combo jack
4. 1 powered USB 3.0 port
5. Kensington lock slot
6. 2 USB 3.0 ports
7. 1 VGA port
8. 2 DisplayPort™ ports
9. 1 USB Type-C™ DisplayPort™, data and power out (15 W) port
10. Ethernet port
11. AC Adapter connector
12. 1 Thunderbolt™ port

Figure A: HP Thunderbolt Dock G2 Left Angle and Back Side for 120 W, Combo, and 230 W versions.

1. When connecting a new HP Thunderbolt Dock G2 to your notebook for the first time you may need to authorize the Thunderbolt™ device. When the dialog appears, click on the pop up. A dialog will appear each time a new Thunderbolt™ dock/device is attached. See Figure B.

NOTE: You must be logged on as an administrator of the local computer. In some Thunderbolt™ security level settings the dialog may not appear (see **Thunderbolt™ Security level section**).

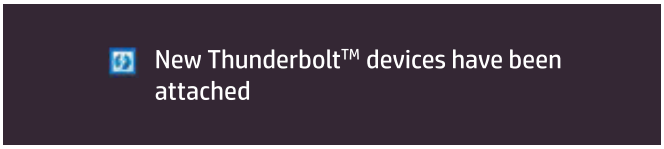

Figure B. Dialog box requesting administrative approval of a new Thunderbolt™ device.

2. A second dialog opens. See Figure C. Select one of the following options:

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

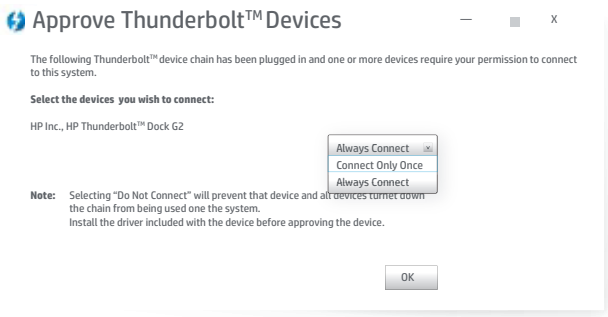

Figure C. Dialog box to configure connection settings of a new Thunderbolt™ device.

3. Select *OK*. **See Figure C above.**

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If the *New Thunderbolt™ Devices* dialog box (Figure C) is missed or does not pop up from Step 1 above, go to the system tray to relaunch *Approved Thunderbolt™ Devices*.

1. Right click the Thunderbolt™ icon on the system tray.
2. Select *Approve Attached Devices*.

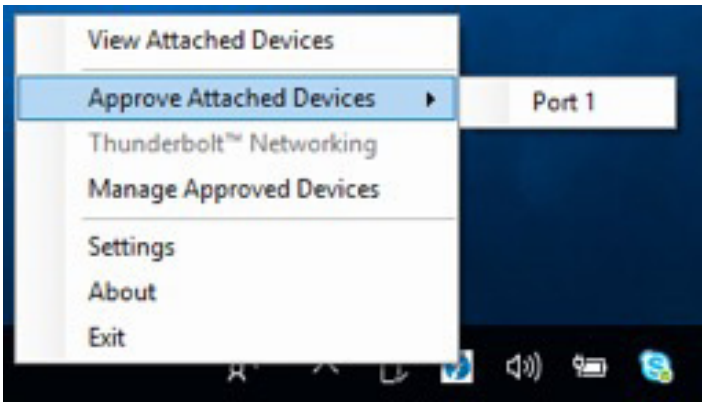

Figure D: Approved Thunderbolt™ device dialog box.

3. Click on the port in which the Thunderbolt™ device is connected. See Figure D above.
4. The *Approve Thunderbolt™ Devices* dialog box should now appear and you will be able to approve your Thunderbolt™ dock. See Figure D above.
5. If you miss this dialog box you may reopen it by clicking on the message icon in your system tray. See Figure E.

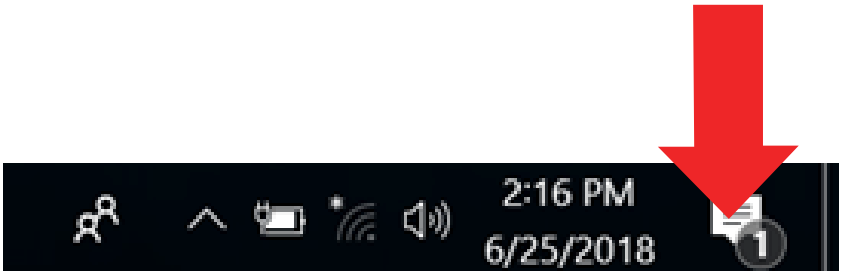

Figure E: Message icon in system tray.

BEST PRACTICE – DOCKING/UNDOCKING FOR WINDOWS 7

Recommended practice:
It is recommended that the HP Thunderbolt Dock G2 be plugged into the HP Notebook or HP ZBook Mobile Workstation while it is fully on or fully off (not in a standby or hibernate state). When detected, a Thunderbolt™ icon, shown in Figure F, will appear in the system tray. At this point, the HP Notebook or HP ZBook Mobile Workstation will start initializing all the devices connected to the dock, so there might be a slight delay before the devices are ready to use.

Figure F. Thunderbolt™ Software Icon in system tray.

Updating to the latest software and firmware for optimal performance:
It is always recommended that end users are running the latest drivers and firmware for optimal performance.
The HP Thunderbolt Dock G2 may require updates to your host platform software or firmware to support the new technologies.

To ensure the best experience on a Windows 7 Operating system, please make sure to install the latest software and firmware to support the HP Thunderbolt Dock G2. Please refer to the chart in Table 1.

After firmware and software is updated, please do the following:
1. Ensure you install the WinUSB driver through Windows Update. You can do this by right clicking the *WinUSB device* in Device Manager and selecting *Update Driver*. Then select the option *Search automatically for updated driver software.*
2. Installing the required USB drivers may require a certain installation process or you may encounter an error. Required steps below.

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Installing the USB drivers for HP Thunderbolt Dock G2 on Windows 7:

HP installed Image:

1. Uninstall the Intel® USB 3.1 Device Driver version 15.x.x.x in the HP image.
2. Install the Intel® USB 3.0/3.1 eXtensible Host Controller Driver version 5.0.3.42 or later.
3. Install the Intel® USB 3.1 Device Driver 17.2.70.100 or later.

Clean install:

1. Install the Intel® USB 3.0/3.1 eXtensible Host Controller Driver version 5.0.3.42.
2. Install the Intel® USB 3.1 Device Driver 17.2.70.100 or later.

MULTI-FUNCTION MODE

The HP Thunderbolt Dock G2 can connect to systems without Thunderbolt™ through multi-function mode.
There are three main differences between Thunderbolt™ mode of the HP Thunderbolt Dock G2 and multi-function mode.

- The Thunderbolt™ port on the back of the unit will degrade to USB2 only.
- The Thunderbolt™ port is only fully functional with a Thunderbolt™ host connected.
- The number of independent video streams is decreased from two DP x4 to one DP x2.

PRE-BOOT SUPPORT

The HP Thunderbolt Dock G2 supports pre-OS environment only in Thunderbolt™ Security Level 0 and Security Level 1 (please reference the **Security Levels – Available Functions and Ports** section of this document for more details about the Thunderbolt™ Security level settings).

Supported features:

- USB peripherals such as keyboards, mouse, and flash drives connected to the docking station
- Pre-boot Execution Environment (PXE)
- External displays (the internal panel must be closed for external panels to function at pre-boot)

For any pre-boot support with the HP Thunderbolt Dock G2 you will be required to disable FastBoot in F10 BIOS settings.

Disabling FastBoot in F10 BIOS:

1. Press the power button to turn on the unit.
2. At the HP logo screen press **F10** to enter the BIOS settings menu.
3. Click the *Advanced* tab and select *Boot Options*.
4. Unselect the *FastBoot* Option.
5. Save and exit.

***Note:** Please ensure you are running the latest drivers, BIOS, and firmware to enable full functionality of all features

LED/POWER BUTTON

On HP Commercial notebook systems, the power button on the dock will simulate the power button on the host system. Additionally, the LED on the dock power button will reflect the state of the host and will behave similarly to the power LED of the host.

On non-HP notebooks, Chrome, or non-supported HP notebooks the dock power button and power LED do not control or reflect the status of the host.

CHARGING SUPPORT FROM HP DOCK

a. **LED in back – indicates valid adapter**
If an HP adaptor of 19.5 V and 120 W or larger is connected to the dock the white LED will light.
When an HP adapter of 19.5 V and 120 W or larger is connected to the dock the white LED will light.
All other adaptors will be rejected and the LED will be off and the dock will not function.

b. **Power to Host**
i. Type-C power to host: 5 V / 5 A, 9 V / 5 A, 12 V / 5 A, 15 V / 5 A, 20 V / 5 A.
ii. Power over AC pass-through cable (barrel connection): 200 W.

c. **USB ports. See Table 2**

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	USB Port
USB Type-C™ Port 2 (front)	USB 3.1 Gen 2 USB PD; 0.9 A, 1.5 A, 3 A @ 5 V (max 15 W)
USB Type-C™ Port 9 (back)	USB 3.1 Gen 2 USB PD; 0.9 A, 1.5 A, 3 A @ 5 V (max 15 W)
USB Type-C™ Port 12 (back)	Thunderbolt™ pass-through USB PD; 0.9 A, 1.5 A, 3 A @ 5 V (max 15 W)
USB Type-A	(port 4)-USB Type-A port 3.0 or 3.1 Gen 1 BCS1.2 (1.5 A @ 5 V) - CHARGING
	(port 6)-USB Type-A port 3.0 or 3.1 Gen 1
	(port 6)-USB Type-A port 3.0 or 3.1 Gen 1

Table 2: USB Port Capabilities

HP Thunderbolt Dock G2 power/charging

The HP Thunderbolt Dock G2 has two different configurations and provides power to the host through two different cables. The only difference is the AC adaptor and cable assembly. The USB Type-C™ cable is configured and electronically marked to support 40 Gbps Thunderbolt™ speeds and 5 ampere capabilities. The capability of the cable can be read by both the HP host and the dock. If the cable must be replaced it is highly recommended to use the HP cable designed for this dock. Failure to use the HP Thunderbolt dock cable may result in decreased Thunderbolt™ performance and capabilities. Other 3rd party USB Type-C™ cables may not support 40 Gbps Thunderbolt™ speeds or currents over 3 amperes.

Non-workstation versions

An HP 120 W AC adaptor and an attached USB Type-C™ Thunderbolt™ cable that supports up to 20 volts 5 amperes (100 W) is provided. The HP 19.5 V 120 W AC adaptor is the minimum required supply and anything less than this will be rejected. An HP adaptor that supports 19.5 V and is larger than 120 W is acceptable and usable.

Mobile workstation versions

An HP 19.5 V 230 W AC adaptor and an attached USB-C/Barrel Thunderbolt™ cable is provided. An optional cable that can split the USB Type-C™ and Barrel connection may be provided. These cables provide connections to the USB Type-C™ port and the barrel connector on the mobile workstation. The USB Type-C™ connection still supports up to 100 W (20 volts 5 amperes) but is not used by the host when the barrel connector is used. The barrel connector only works when a 230 W or above adaptor is attached. If a smaller adaptor is used, only the USB Type-C™ connection is used for charging.

DISPLAY CAPABILITIES

- **Multiple monitors support**
  - Notebooks and mobile workstations using only an Intel® HD graphics solution can support up to three displays, including the notebook display
  - NVIDIA® graphics can support up to four displays, including the notebook display
  - AMD graphics can support up to six displays, including the notebook display
  - Hybrid graphics:
    - When used together the HP Thunderbolt Dock G2 and HP ZBook 15/17 configured with hybrid graphics support a maximum of 6 independent displays
    - When used together the HP Thunderbolt Dock G2 and HP ZBook Studio or Studio x360 configured with hybrid graphics support a maximum of 5 independent displays

- For more information on multiple displays, refer to the following HP Technical White Paper:
  - Multiple displays on HP ZBook Mobile Workstations

- HP Thunderbolt Dock G2 port limitation
  - VGA and USB Type-C™ DP port [9]. See Figure A.
  - When used with USB Type-C™ multifunction host, port 1 (USB Type-C™ Thunderbolt™ port) has only USB 2.0 functionality with no video. See Figure A.

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Please see table below for system video capabilities including the notebook or mobile workstation display:

Segment	Platform	UMA	Discrete
HP x2s	HP 1012 G1 & G2	Up to 3 displays	N/A
HP 1000 series	HP Folio G1 HP x360 1020 & 1030 G3 HP 1040 G4	Up to 3 displays	N/A
HP 800 Series	HP 800 G5	Up to 3 displays	Up to 3 displays
HP ZBook	HP 14u/15u G5	Up to 3 displays	Up to 3 displays
HP ZBook	HP ZBook 17/15/15v/Studio/Studio x360/ x2 G3, G4, G5		Up to 6 displays (AMD)* Up to 4 displays (NVIDIA®)**

** AMD graphics are not offered on the HP ZBook or Studio x360 Studio. The number of displays will depend on the graphics mode setting in F10 mode (UMA, Hybrid, Discrete).** HP ZBooks with NVIDIA® graphics on hybrid mode can support up to 4 displays. HP ZBooks with NVIDIA® discrete graphics can only support up to 4 displays.*

Table 3: Multi-display capabilities

Number of Displays connected to the dock:

- Dual 4K @ 60 Hz when connected to DP 1.2 systems: currently Intel® Skylake, Kaby Lake & KBL-R processor-based systems
- Triple 4K @ 60 Hz when connected to DP 1.4 systems with DSC (display stream compression) - future

Host Specification	# of displays	Resolution	Supported configuration
DP 1.2 Thunderbolt™ host *HP x2 1012 G1, G2* *HP EliteBook Folio G1* *HP x360 1020 & 1030 G2* *HP 1040 G4* *HP 800 G5* *HP ZBook 14u, 15u G5* *HP ZBook x2 G4*	1	(1) 4096 x 2160 @ 60 Hz	1 DP or 1 TB or 1 USB Type-C™ Alt mode
	2	(2) 4096 x 2160 @ 60 Hz	1 DP + 1 TB port or 1 USB Type-C™ Alt mode port + 1 TB port
	3	(1) 4096 x 2160 @ 60 Hz + (2) 2560 x 1440 @ 60 Hz	(1) 4096 x 2160 @ 60 Hz from TB port (2) 2560 x 1440 @ 60 Hz from DP ports or DP + USB Type-C™ Alt mode
HP ZBooks 17, 15, Studio G3, G4	4	(1) 4096 x 2160 @ 60 Hz + (2) 2560 x 1440 @ 60 Hz + (1) 1920 x 1080 @ 60 Hz	(1) 4096 x 2160 @ 60 Hz from TB port (2) 2560 x 1440 @ 60 Hz from DP ports or DP + USB Type-C™C Alt mode (1) 1920 x 1080 @ 60 Hz from DP or USB Type-C™ Alt mode

Host Specification	# of displays on dock	Resolution	Supported configuration
DP 1.3 Thunderbolt™ host *HP ZBook Studio G5* *HP ZBook Studio x360 G5* *HP ZBook 15v G5* *HP ZBook 15 G5* *HP ZBook 17 G5*	1	(1) 5120 × 2880 @ 60 Hz	1 DP or 1 TB or 1 USB Type-C™ Alt mode
	2	(2) 4096 x 2160 @ 60 Hz	1 DP + 1 TB port or 1 USB Type-C™ Alt mode + 1 TB port
	2	(2) 3840 x 2160 @ 60 Hz	2 DP ports or 1 DP + 1 USB-C Alt mode port or 1 DP + 1 TB port or 1 TB + 1 USB Type-C™ Alt mode
	3	(2) 3840 x 2160 @ 60 Hz + (1) 1920 x 12000 @ 60 Hz	(2) 3840 x 2160@ 60 Hz from DP ports or DP + USB-C Alt mode (1) 1920 x 1200 @ 60 Hz from TB port
	3	(3) 2560 x 1600 @ 60 hz	2 DP ports + USB Type-C™ Alt mode
	4	(1) 3840 x 2160 @ 60 Hz + (2) 2560 x 1440 @ 60 Hz+ (1)1920 x 1200 @ 60 Hz	(1) 3840 x 2160 @ 60 Hz from DP or USB Type-C™ Alt mode (2) 2560 x 1440 @ 60 Hz from DP ports or DP + USB Type-C™ Alt mode (1) 1920 x 1200@ 60 Hz from TB port

NOTE: with a DP 1.3 Thunderbolt™ host, when 3 or more displays are attached the Thunderbolt™ port is limited to a 1920 x 1200 @ 60 Hz DP 1.2 display or a 2560 x 1440 @ 60 Hz DP 1.3 display.

Table 4: Host specification support

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- **HP Thunderbolt Dock G2 is DSC ready**
  - In order to fully support DP 1.4 DSC customers must be using a host platform that fully supports the DP 1.4 DSC.

MANAGEABILITY

HP Firmware Installer deployment

Disconnection during a firmware update can cause damage to the dock. **Care must be taken to ensure that a user does not undock a machine during the firmware installation.**

MAC Address Pass Through

HP Thunderbolt Dock G2 supports MAC Address Pass Through with select notebooks which allows the notebook to override the dock's NIC factory MAC address with a "Host Based" unique MAC address (HBMA). With MAC Address Pass Through the notebook can be uniquely identified on the network when it is using the HP Thunderbolt Dock G2 dock's NIC to connect to the network using just the HBMA address.

There is also a user defined "Custom" MAC address that could be used as the MAC Address Pass Through address instead of the System HBMA address. Optionally systems that have an embedded LAN the user can choose to "Reuse the embedded LAN Address" instead of the System and Custom HBMA addresses which allows the same MAC address to be used if either the embedded LAN or the HP Thunderbolt Dock G2 is connected to the network. The MAC Address Pass Through address is stored in BIOS at the factory and is configurable in F10.

MAC Address Pass Through feature supports UEFI PXE boot, Legacy PXE boot, Windows PE, Windows 7, Windows 8.1 and Windows 10.

MAC Address Pass Through is supported when the notebook is On and the dock is attached and transitions to Sleep, Hibernate or Off states and when the dock is attached after the notebook is already in the Sleep, Hibernate, or Off state.

The MAC Address Pass Through technical white paper can be found in the following location:

http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA7-0690ENW

Wake on LAN

HP Thunderbolt Dock G2 supports Wake on LAN (WoL) with select notebooks from all the system sleep states (On, Sleep, Hibernate, and Off) with MAC Address Pass Through feature enabled or disabled.

WoL from Off when network is through a HP Thunderbolt Dock G2 is not supported on ZBooks prior to ZBook G4 with Intel Gen 7 processors.

Both the NIC network adaptor and the Wake on LAN parameter needs to be configured to enable WoL.

From Windows device manager and within the NIC network adaptor properties dialog, the Allow the device to wake the computer option must be checked under Power Management option. The BIOS Wake on LAN parameter is located under the Built in Device BIOS F10 menu. The Wake on LAN default is enabled and set to Boot to Hard Drive.

On modern standby-enabled notebooks there is no traditional Sleep state, however, WoL will continue to work when those notebooks are in Hibernate or Off states.

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HP One Click Installer

The HP One Click Installer allows for seamless firmware updates of all HP Thunderbolt G2 docking stations. The HP One Click installer dashboard displays the existing and latest firmware version of the dock firmware for user friendly experience. This generation of the installer no longer requires an external display attached to flash the display hub firmware as in previous generations. Finally there is a "Force All" options to allow installation of older firmware as needed.

Requirements:

- Windows 7 32/64 bit OS and Windows 10. Does not support Chrome/Linux®/macOS
- Remove all devices connected to the USB 3.0 ports except USB keyboard and mouse
- .Net Framework 4.5 or higher installed

Supported Installer Modes:

- Interactive mode: user action required with UI
- Silent mode (not recommended)
- Non-interactive mode: recommended for SSM support. This will allow the user to auto-advance through the user interface without user interaction. This is similar to a silent install but will have the UI to alert customer that FW is being installed

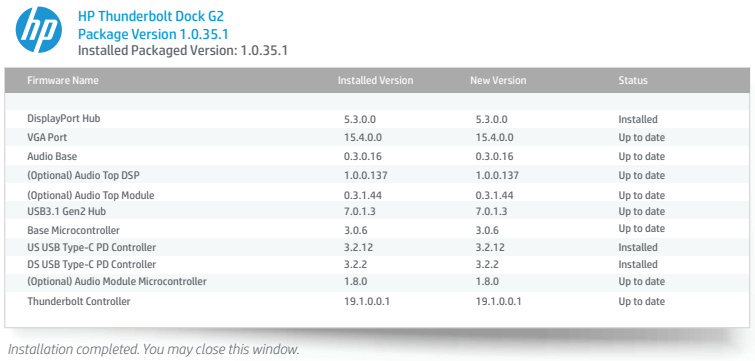

Figure G: One Click Installer.

HP Firmware Installer deployment reminder

Most importantly, disconnection during a firmware update can cause damage to the dock. Care must be taken to ensure that a user does not undock a machine during the firmware installation.

The following two installation options are available, each with the option of further customization:

Immediate installation of firmware onto the device

This solution requires the dock to be connected to the notebook when the installer is executed.
HP Firmware Installer will determine which firmware on the dock is out of date and flash to the latest. This method can be run non-interactively, which shows UI to the user but does not require action.

Staging of firmware onto the host platform

This solution is used to deploy to machines that may or may not be connected to the dock at time of installation of the package. HP Firmware Installer will be installed onto the notebook via Windows Installer in the same manner as any other software deliverable. The software installed will also contain the latest firmware. When a compatible device is connected, the software will determine if a firmware update is needed. When the firmware update is run, a UI is displayed to the active user inform them of what to expect from the firmware update, as well as give them the option to postpone. A user must be aware and consent to a firmware update so that they can prevent disconnection of the dock during the update.

The HP Firmware Installer Deployment User Guide is available for more information.

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AUDIO

Audio capabilities:
HP Thunderbolt Dock G2 provides for two audio options:

- Echo cancelling speakerphone (an add-on module)
- Headset jack on the base dock (3.5 mm audio jack)

Audio module (add-on module): The echo cancelling speakerphone is ideally used in a small conference room or team/huddle rooms. The conferencing module is optional and can be added or removed after purchase of the dock. It's a USB Audio Class 1.0 compliant device and supports HID telephony usage. The Realtek USB Audio driver is recommended for the best user experience.

Functional Characteristics
Audio module button and LED behaviors: In this state LEDs grow from front to rear symmetrically on either side of the dock indicating that the audio module is powered up and initialized.

- Idle (no active call):
  - LED ring state: The entire ring is off
  - LED button state:
    - Power: reflects the state of the host system
    - Accept: white, dimmed down
    - Mic Mute: white, dimmed down
    - Volume Up: white, dimmed down
    - Volume Down: white, dimmed down
    - Reject: white, dimmed down

- Active call:
  - Incoming call
    - LED ring state: The entire ring blinks green
    - LED button state:
      - Power: reflects the state of the host system
      - Accept: blinks green indicating that its available for a user action
      - Reject: blinks red indicating that its available for a user action
      - Mic Mute: bright white
      - Volume Up: bright white
      - Volume Down : bright white

- Call on hold
  - LED ring state: The entire ring blinks green
  - LED button state:
    - Power: reflects the state of the host system
    - Accept: blinks green indicating that its available for a user action
    - Reject: stays solid red indicating that user cannot hang up a call that's on hold
    - Mic Mute: bright white
    - Volume Up: bright white
    - Volume Down: bright white

- Call unmuted
  - LED ring state: The entire ring stays solid green
  - LED button state:
    - Power: reflects the state of the host system
      - Accept: stays solid green
      - Reject: stays solid red
      - Mic Mute: bright white
      - Volume Up: bright white
      - Volume Down: bright white

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- Call muted
  - LED ring state: The entire ring stays solid red
  - LED button state
    - Power: reflects the state of the host system
    - Accept: stays solid green
    - Reject: stays solid red
    - Mic Mute: "Amber" in color
    - Volume Up: bright white
    - Volume Down: bright white

- Volume changes: At any given state, pressing Volume buttons makes the LED ring behave as follows:
  - Volume Up: Depending on the current volume level of the device, the LED ring grows towards the back of the dock
  - Volume Down: Depending on the current volume level of the device, the LED ring shrinks towards the front of the dock

Microphone Mute behaviors:

- If the Mute button is pressed when there is no active call, microphone gets muted and no audio input from the dock gets transmitted to the notebook

THUNDERBOLT™ SECURITY LEVELS – HOST SYSTEM NOTEBOOK INFORMATION

The Thunderbolt™ interface supports Direct Memory Access (DMA), which some customers consider a security risk. The HP BIOS-based settings described here for the Thunderbolt™ connection policy allow the customer to select the appropriate tradeoff between convenience and security for the Thunderbolt™ capable USB Type-C™ interface port on the notebook.

The Thunderbolt™ security level that controls the Thunderbolt™ connection policy of any USB Type-C™ connectors on the notebook can be changed in the BIOS setup. The BIOS setup can be accessed by pressing the F10 key when booting the notebook. The policies are also remotely manageable via Public WMI interfaces.

- **Security level 0: PCIe and DisplayPort™ – No security**
  - No security level. Any Thunderbolt™ device attached to the notebook USB Type-C™ port or the HP Thunderbolt Dock G2 USB Type-C™ port will automatically be enabled without local user approval.
  - External displays will function when attached directly to the notebook USB Type-C™ port or the dock through display or USB Type-C™ ports.

- **Security level 1: PCIe and DisplayPort™ – User authorization**
  - This is the default BIOS policy.
  - Same functionality as Security level 0, but the local user is prompted to approve the connection via a dialog box in windows before the HP Thunderbolt Dock G2 is connected to the system. The local user also has the option of suppressing the prompt for subsequent connections of the same device.
  - Each Thunderbolt™ peripheral, including the HP Thunderbolt Dock G2, includes a unique GUID which is saved on the notebook and used to determine if the device has been previously connected. In the event the user has chosen to suppress future prompts for that particular GUID device, the Thunderbolt™ device will automatically be enabled when attached.
  - This policy also applies to any Thunderbolt™ peripherals attached to the HP Thunderbolt Dock G2 via the USB Type-C™ connector on the dock.

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- **Security level 2: PCIe and DisplayPort™ – secure connect**
  - Same options as Security level 1 if the device contains a security certificate/chip.
  - This option offers enhanced protection for authenticating a previously connected Thunderbolt™ device beyond relying on a GUID provided by the attached Thunderbolt™ peripheral.
  - When this policy is enabled and the user chooses to suppress future prompts for connection approval the Thunderbolt™ driver stack software on the notebook will generate a password that is sent to that Thunderbolt™ device and stored securely in non-volatile memory. Each time that peripheral is subsequently connected the PC will not only verify that the GUID has been approved for auto-connect, it will also use a challenge-response to the peripheral device to verify that the device is in possession of the previously defined password. The Thunderbolt™ interface will only be enabled if it can prove that it possesses the password.

- **Security level 3: DisplayPort™ and USB**
  - All Thunderbolt™ functionality of the USB Type-C™ connectors on the notebook is disabled.
  - The HP Thunderbolt Dock G2 provides all peripheral device functionality via a Thunderbolt™ interface. Thus, none of the ports on the HP Thunderbolt Dock G2 will function in this mode.
  - The only USB Type-C™ peripherals that will be functional when connected to the notebook USB Type-C™ port are those that use a Native USB Type-C™ mode or DisplayPort™ alternate mode that uses DisplayPort™ interfaces (and in some cases USB).

- **Security level 4: daisy chaining disabled (only applies select notebooks)**
  - Same functionality as Security level 1, the local user is prompted to approve the connection via a dialog box in Windows before the Thunderbolt™ device it is connected to the system. The local user also has the option of suppressing the prompt for subsequent connections of the same device.
  - Each Thunderbolt™ peripheral, including the HP Thunderbolt Dock G2, includes a unique GUID which is saved on the notebook and used to determine if the device has been previously connected. In the event the user has chosen to suppress future prompts for that particular GUID device, the Thunderbolt™ device will automatically be enabled when attached.
  - When this policy is enabled the user will not be able to daisy chain Thunderbolt™ devices from the USB Type-C™ port B.

TROUBLESHOOTING ISSUES:

Each topic may have more than one recovery method. Please walk through each step until issue is resolved.

The dock or peripherals connected to the dock do not appear in the OS:

Users should do the following:

1. Ensure the dock is authenticated properly (Check First Time Connection section)
2. Unplug and re-plug the dock
3. Restart your notebook or mobile workstation
4. Hardware reset (see description below for more details)

Thunderbolt™ Controller and/or Intel® USB 3.1 Host controller has error code in Device Manager:

This could be the result of reinserting the dock too quickly without full de-enumeration of the dock

1. To work around this issue you can simply unplug the HP Thunderbolt Dock G2 from the system; wait 20 seconds and re-dock the system
2. In some rare cases, if the first recover method doesn't recover you can undock and reboot the system

In some cases you may notice that the HP Thunderbolt Dock G2 power LED may not be in sync with the system power button LED after resume from standby state:

Functionally there is no impact but the LEDs maybe out of sync. The LEDs on the system and the dock are working as expected, just out of sync.

When system is rebooted with the HP Thunderbolt Dock G2 attached the user may notice the Windows key may not function:

This will be fixed in a later revision of Windows 10 build 17068 or later.

How to recover:

1. Unplug the dock from the host system
2. Force the system to shut down by holding the power button
3. Power the system

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Customers using Windows 10 build 10586 or earlier may experience a Blue Screen of Death (BSOD) when resume from standby or hibernation with the HP Thunderbolt Dock G2 attached:

Windows 10 revision 10586 or earlier does not have full support of the USB Type-C™ Connector System Software Interface. You must disable the USB Type-C™ Connector System Software Interface in the HP BIOS.

How to recover:

1. Go to F10 BIOS setup
2. Go to the Advanced tab → System Options
3. Disable the USB Type-C™ Connector System Software Interface
4. Save and exit

Internal display corruption when cold boot with VGA monitor attached via USB-C to VGA dongle:

This known issue may occur on HP Thunderbolt™ platforms with Intel® graphics running Windows 10 in legacy boot mode. To avoid this issue you can change the boot mode to UEFI in the F10 BIOS.

1. Go to F10 BIOS setup
2. Go to the Advanced tab→ Option ROM Launch Policy
3. Change to All UEFI
4. Save and exit

Thunderbolt™ 3 storage device disappears from "My computer" after restart with device attached:

To work around this issue users can enable Fast Boot in the BIOS.

1. Go to F10 BIOS setup
2. Go to the Advanced tab→Boot Options
3. Unselect Fast Boot
4. Save and exit

Intermittently USB displays may not appear after restart:

To work around this issue customers may do either of the following:

1. Re-plug the display
2. Toggle the display modes from duplicate to extended

System cannot be woken by USB mouse click from standby or hibernation on Windows 7:

This is a limitation by the XHCI driver and is currently not supported in Windows 7.

USB Type-C™ Connector System driver may have error code in Windows 10 build 16299:

To work around this issue end user may do either of the following:

1. Unplug the HP Thunderbolt Dock G2 and restart
2. Reload the USB Type-C™ Connector System driver in device manager

HP ZBook G3/G4 platforms with AMD graphics cannot support DP 4K resolution at 60 Hz and a VGA display at the same time:

This requires a feature change in the AMD graphics driver that will be made available in future release. This is not a limitation in the HP ZBook G5 platforms that support DP 1.3.

Intel® Collage mode may not persist after resume from standby or hibernation:

This is due to a latency issue after resuming from a sleep state. The issue can be recovered by re-enabling Intel® Collage mode from Intel® display control panel.

HP ProBook 455 G5 Notebook cannot flash VGA port firmware on HP Thunderbolt Dock G2 without a VGA display attached:

No solution available yet. User will be required to connect a VGA display in order to flash the VGA port on HP Thunderbolt Dock G2.

HP Thunderbolt notebooks that have Native PCIe hot plug enabled may encounter an issue where the HP Thunderbolt Dock G2 may not fully enumerate when resume from a warm dock state:

To work around this issue users may do the following:

1. Unplug and re-plug the HP Thunderbolt Dock G2
2. Wait for a fix as this will be addressed in a future Microsoft OS release

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HP ZBook G3/G4 systems with AMD graphics cannot support 5K display (2xDP) on HP Thunderbolt Dock G2:
This is the limitation of the graphics driver and will be addressed in a future release.

Monitors connected to the HP Thunderbolt Dock G2 don't wake from a sleep state or on a hot plug with HP display:
Some HP Displays have a known issue waking from a "Low power" state. To work around this issue you can change the option to "Always Active" on the On-Screen-Display Menu

1. Open the On-Screen-Display menu on the monitor
2. Select the menu option
3. Select "Input Control"
4. Select "DP Hot-Plug Detection"
5. Select the "Always active" option and save

USB device connected to the dock stops functioning:

1. Unplug and re-plug the USB Device
2. Unplug and re-plug the dock
3. Restart your notebook or mobile workstation
4. Hardware reset (see description below for more details)

To perform a hardware reset of your notebook or mobile workstation, follow ALL of the following steps. A hardware reset temporarily disconnects the internal battery to fully reset the system:

1. Power off the notebook or mobile workstation
2. Remove the AC power cord and all USB cables or devices from the notebook or mobile workstation
3. Press and hold the power button for 15 seconds

To perform a hardware reset of your dock, do the following:

1. Undock the HP Thunderbolt Dock G2 from your notebook
2. Unplug the power cable from your dock for 5 seconds

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SUPPORT LIST FOR THE HP THUNDERBOLT DOCK G2

The following chart details the support required for HP Notebooks and HP ZBook Mobile Workstations that support the HP Thunderbolt Dock G2.

Please note that all users should update the Audio and LAN drivers before using the HP Thunderbolt Dock G2.

HP COMMERCIAL NOTEBOOK / MOBILE WORKSTATION PLATFORM SUPPORT

Power	Segment	Platform name	BIOS	
			Version	Softpaq
120 W	HP EliteBook	HP Elite x2 1012 G1	01.30	SP87110
		HP Elite x2 1012 G2	01.16	SP87225
		HP EliteBook Folio G1	01.22	SP87111
		HP EliteBook 1040 G4	01.18	SP87429
		HP EliteBook x360 1020 G2	01.17	SP87190
		HP EliteBook x360 1030 G2	01.16	SP87208
		HP EliteBook 840 G5	01.01.01	SP87539
		HP EliteBook 850 G5	01.01.01	SP87539
		HP EliteBook 840 G5 HC	01.01.01	SP87539
		HP EliteBook 830 G5	01.01.01	SP87539
	HP ProBook	HP Pro x2 612 G2	01.16	SP87236
		HP ProBook 640 G4	01.00.01	SP85552
		HP ProBook 650 G4	01.00.01	SP85552
		HP ProBook 645 G4	01.00.02	SP87540
		HP ProBook 455 G5	01.00.00	SP84966
		HP ProBook 440 G5	010204	SP85180
		HP ProBook 430 G5	010204	SP85180
		HP ProBook 450 G5	010204	SP85180
		HP ProBook 470 G5	010204	SP85180
230 W	HP ZBook	HP ZBook 17 G3	01.25	SP87193
		HP ZBook 15 G3	01.25	SP87193
		HP ZBook Studio G3	01.26	SP87194
		HP ZBook x2 G4	01.06	SP87541
		HP ZBook 17 G4	1.21	SP87434
		HP ZBook 15 G4	1.21	SP87434
		HP ZBook Studio G4	01.18	SP87189

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Power	Segment	Platform name	Graphics					
			Intel®		AMD		NVIDIA®	
			Driver version	Softpaq	Driver version	Softpaq	Driver version	Softpaq
120 W	HP EliteBook	HP Elite x2 1012 G1	15.65.5018,S,1 P00T8Y-B2F	SP87555	N/A	N/A	N/A	N/A
		HP Elite x2 1012 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A
		HP EliteBook Folio G1	15.65.5018,S,1 P00T8Y-B2F	SP87555	N/A	N/A	N/A	N/A
		HP EliteBook 1040 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A
		HP EliteBook x360 1020 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A
		HP EliteBook x360 1030 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A
		HP EliteBook 840 G5	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A
		HP EliteBook 850 G5	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A
		HP EliteBook 840 G5 HC	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A
		HP EliteBook 830 G5	15.65.5018 P00SDJ-B2P	SP87475	N/A	N/A	N/A	N/A
	HP ProBook	HP Pro x2 612 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A
		HP ProBook 640 G4	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A
		HP ProBook 650 G4	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A
		HP ProBook 645 G4	15.65.5018 P00SDJ-B2P	SP87475	17.40.3775. 1004.A.35 (P00TEK-B2J)	ETA by 5/14	N/A	N/A
		HP ProBook 455 G5	N/A	N/A	N/A	N/A	N/A	N/A
		HP ProBook 440 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723
		HP ProBook 430 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723
		HP ProBook 450 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723
		HP ProBook 470 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723
230 W	HP ZBook	HP ZBook 17 G3	15.65.5018,S,1 P00T8Y-B2F	SP87555	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z Win7: V391.25 P00RZ5.B2K	Win10: SP87443 Win7: SP87444
		HP ZBook 15 G3	15.65.5018,S,1 P00T8Y-B2F	SP87555	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z Win7: V391.25 P00RZ5.B2K	Win10: SP87443 Win7: SP87444
		HP ZBook Studio G3	15.65.5018,S,1 P00T8Y-B2F	SP87555	N/A	N/A	Win10: V391.25 P00QS3.B2Z Win7: V391.25 P00RZ5.B2K	Win10: SP87443 Win7: SP87444
		HP ZBook x2 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: V391.25 P00QS3.B2Z	SP87443
		HP ZBook 17 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z	SP87443
		HP ZBook 15 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z	SP87443
		HP ZBook Studio G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: V391.25 P00QS3.B2Z	SP87443

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Power	Segment	Platform name	Thunderbolt™ driver		Thunderbolt™ firmware	
			Driver version	Softpaq	FW version	Softpaq
120 W	HP EliteBook	HP Elite x2 1012 G1	17.4.75.250 P00RCK-B2P	SP87260	25.0.3.0.1 P00LYH-B2T	SP85118
		HP Elite x2 1012 G2	17.4.75.250 P00RCK-B2P	SP87260	20.2.5.5.1 P00PLE-B2M	N/A
		HP EliteBook Folio G1	17.4.75.250 P00RCK-B2P	SP87260	25.0.3.0.1 P00R4E-B2C	SP80716
		HP EliteBook 1040 G4	17.4.75.250 P00RCK-B2P	SP87260	20.2.5.5.3	N/A
		HP EliteBook x360 1020 G2	17.4.75.250 P00RCK-B2P	SP87260	20.2.5.6.1 P00Q3X-B2U	N/A
		HP EliteBook x360 1030 G2	17.4.75.250 P00RCK-B2P	SP87260	20.2.5.5.1 P00P86-B2Q	SP85067
		HP EliteBook 840 G5	17.4.75.250 P00RCK-B2P	SP87260	33.0.0.0.1	SP87024
		HP EliteBook 850 G5	17.4.75.250 P00RCK-B2P	SP87260	33.0.0.0.1	SP87024
		HP EliteBook 840 G5 HC	17.4.75.250 P00RCK-B2P	SP87260	33.0.0.0.1	SP87024
		HP EliteBook 830 G5	17.4.75.250 P00RCK-B2P	SP87260	33.0.0.0.1	SP87061
	HP ProBook	HP Pro x2 612 G2	N/A	N/A	N/A	N/A
		HP ProBook 640 G4	N/A	N/A	N/A	N/A
		HP ProBook 650 G4	N/A	N/A	N/A	N/A
		HP ProBook 645 G4	N/A	N/A	N/A	N/A
		HP ProBook 455 G5	N/A	N/A	N/A	N/A
		HP ProBook 440 G5	N/A	N/A	N/A	N/A
		HP ProBook 430 G5	N/A	N/A	N/A	N/A
		HP ProBook 450 G5	N/A	N/A	N/A	N/A
		HP ProBook 470 G5	N/A	N/A	N/A	N/A
230 W	HP ZBook	HP ZBook 17 G3	Win7: 16.3.71.300 P00S51-B2E Win10: 17.4.75.250 P00RCK-B2P	Win7: SP85610 Win10: SP87260	27.1.3.0.1 P00MYM-B2Y	SP87470
		HP ZBook 15 G3	Win7: 16.3.71.300 P00S51-B2E Win10: 17.4.75.250 P00RCK-B2P	Win7: SP85610 Win10: SP87260	27.1.3.0.1 P00MYN-B2X	SP87463
		HP ZBook Studio G3	Win7: 16.3.71.300 P00S51-B2E Win10: 17.4.75.250 P00RCK-B2P	Win7: SP85610 Win10: SP87260	27.1.3.0.1 P00MVU-B2Y	SP87460
		HP ZBook x2 G4	17.4.75.250 P00RCK-B2P	SP87260	20.2.5.8.1 P00P8A-B2R	N/A
		HP ZBook 17 G4	17.4.75.250 P00RCK-B2P	SP87260	33.2.5.5.1 P00PEN-B2S	SP87113
		HP ZBook 15 G4	17.4.75.250 P00RCK-B2P	SP87260	33.2.5.5.1 P00PEM-B2R	SP86808
		HP ZBook Studio G4	17.4.75.250 P00RCK-B2P	SP87260	33.2.5.5.1 P00PDK-B2S	SP87119

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HP COMMERCIAL NOTEBOOK / MWS PLATFORM SUPPORT (CONTINUED)

Power	Segment	Platform name	Audio		LAN	
			Driver version	Softpaq	Driver version	Softpaq
120 W	HP EliteBook	HP Elite x2 1012 G1	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP Elite x2 1012 G2	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook Folio G1	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook 1040 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook x360 1020 G2	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook x360 1030 G2	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook 840 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook 850 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook 840 G5 HC	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP EliteBook 830 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
	HP ProBook	HP Pro x2 612 G2	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 640 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 650 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 645 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 455 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 440 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 430 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 450 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ProBook 470 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
230 W	HP ZBook	HP ZBook 17 G3	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ZBook 15 G3	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ZBook Studio G3	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ZBook x2 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ZBook 17 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ZBook 15 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
		HP ZBook Studio G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851

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HP Commercial Notebook / mWS Platform Support

HP COMMERCIAL NOTEBOOK / MWS PLATFORM SUPPORT (CONTINUED)

Power	Segment	Platform name	USB 3.1 XHCI Host Controller (Windows 7 only)	
			Driver version	Softpaq
120 W	HP EliteBook	HP Elite x2 1012 G1	N/A	N/A
		HP Elite x2 1012 G2	N/A	N/A
		HP EliteBook Folio G1	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
		HP EliteBook 1040 G4	N/A	N/A
		HP EliteBook x360 1020 G2	N/A	N/A
		HP EliteBook x360 1030 G2	N/A	N/A
		HP EliteBook 840 G5	N/A	N/A
		HP EliteBook 850 G5	N/A	N/A
		HP EliteBook 840 G5 HC	N/A	N/A
		HP EliteBook 830 G5	N/A	N/A
	HP ProBook	HP Pro x2 612 G2	N/A	N/A
		HP ProBook 640 G4	N/A	N/A
		HP ProBook 650 G4	N/A	N/A
		HP ProBook 645 G4	N/A	N/A
		HP ProBook 455 G5	N/A	N/A
		HP ProBook 440 G5	N/A	N/A
		HP ProBook 430 G5	N/A	N/A
		HP ProBook 450 G5	N/A	N/A
		HP ProBook 470 G5	N/A	N/A
230 W	HP ZBook	HP ZBook 17 G3	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
		HP ZBook 15 G3	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
		HP ZBook Studio G3	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
		HP ZBook x2 G4	N/A	N/A
		HP ZBook 17 G4	N/A	N/A
		HP ZBook 15 G4	N/A	N/A
		HP ZBook Studio G4	N/A	N/A

[1] The dock power button is not functional when connected to non-HP notebooks, Chrome nor non-supported HP notebooks.
[2] DSC: display stream compression.
[3] OS and systems compatibility: The HP Thunderbolt Dock G2 is designed to USB Type-C™ / Thunderbolt™ Industry specs and will support charging and port replication for notebooks that have implemented USB-C™ and Thunderbolt™ industry specifications. Certain features of the dock are not functional when used with non-HP systems nor Chrome systems:

i. Power button to turn on or wake the system
ii. Wake on LAN from warm and cold dock
iii. Wake on LAN from S4/S5
iv. MAC Address Pass Through S0, S3, S4, S5 warm and cold dock
v. Ethernet and audio drivers need to be installed separately on non-HP Windows systems for headset auto switching functionality Drivers available on HP website
vi. For MAC PCs HP does not provide ethernet and audio drivers
vii. Firmware updates on Window-based host systems only

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