HP Innovation Explained



HP Device Switch: KVM notebook docking for the HP EliteStudio 8 AiO G1i

Perfect for shared workspaces, hot desks, and home offices, HP Device Switch[1] lets you turn your premium all-in-one workspace into a notebook docking station where anyone on the team can plug and play for an immediate boost to conferencing and productivity.

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Target Experience

Dock and power your notebook via single cable Thunderbolt™ 4 connection with 100W power delivery and gain access to the camera, microphones, speakers, touchscreen display, external monitor and any USB-connected devices.

IT managers can cost-effectively resource their hybrid workforce with shared workspaces that can accommodate workers and visitors with or without their own dedicated notebooks. The PC will work as a standalone all-in-one workspace for sers without a dedicated notebook PC, or it can provide an immediate conferencing and productivity boost for users who want to dock their own notebook PC. This new solution provides easy and efficient deployment with everything the user needs in just one box (PC, display, power cord, keyboard, mouse, Thunderbolt™ 4 cable), so there is no need to mix and match separate devices.

Hybrid workers can elevate their home office setup with a premium desktop experience that can be shared for various work and family use as a PC or docking station. Family members can dock their personal notebooks and harness the premium conferencing experience for family calls. Young children can use the standalone PC to do school projects. Mom or dad return home from work and dock their notebook PC to finalize a presentation and present to the team.

What is a KVM docking station?

A KVM docking station (keyboard, video, audio, touch screen, mouse) is a device that allows users to control multiple computers or laptops with a single set of peripherals—keyboard, mouse, and monitors.

What is HP Device Switch[1]?

A seamless Thunderbolt™ 4 connectivity solution that enables effortless transitions between workspaces across notebooks and qn AiO. With just a single cable connection you can charge your notebook with up to 100W of power, connect to your peripherals, and expand your productivity with up to two external display monitors.

AiO KVM Feature	User Experience (When user connects notebook to KVM AiO)
AV Connection	User can extend or duplicate display to AiO and switch between notebook PC speakers and AiO speakers
USB Device Connectivity	User gains access on notebook PC to integrated and external USB devices including: • Built-in AiO camera and microphone • External keyboard, mouse, storage devices, cameras, headsets.
Multi-Monitor	User can extend notebook PC display to AiO and 1 additional external display connected to AiO
Power Delivery	User can charge notebook PC with up to 100W
HW KVM "Plug and Play"	User can simply connect notebook PC to AiO via Thunderbolt™ 4 cable without need for downloading SW and gain access to connected display(s) and device(s)
Touch Compatibility	User can use touch screen with their finger on All-in-One display from connected notebook PC

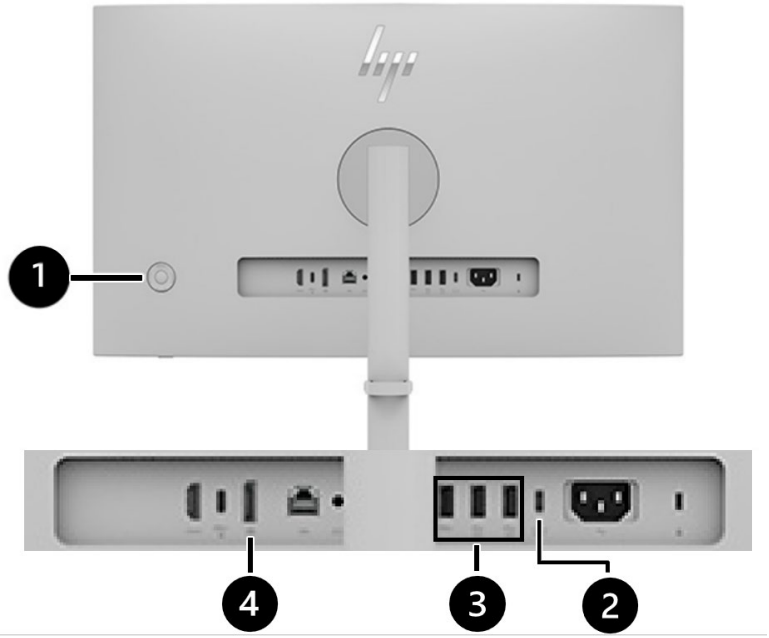
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How it works

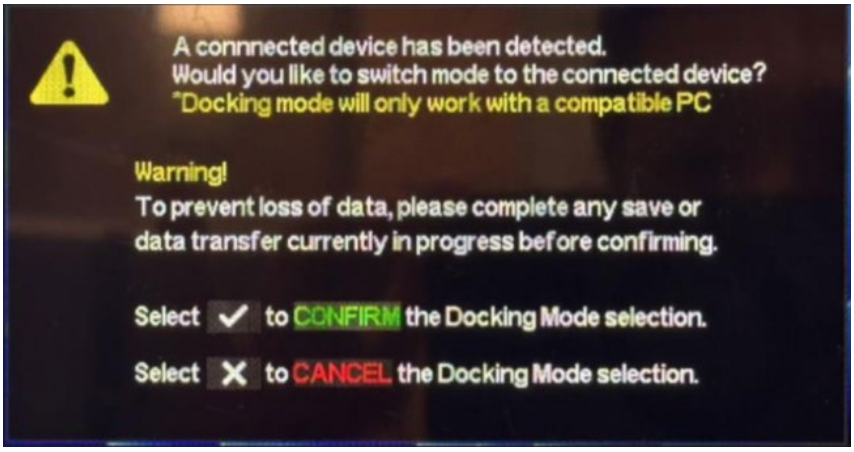
Plug and Play

HP Device Switch[1] is designed to be an easy “plug and play” solution. Once the supported notebook PC is connected to the HP AiO system, the AiO enters docking mode and reconfigures itself to become a docking device. No preinstalled software, application, or driver is required in the notebook PC.

Step 1: Connect a Thunderbolt™ 4 cable into port 2.



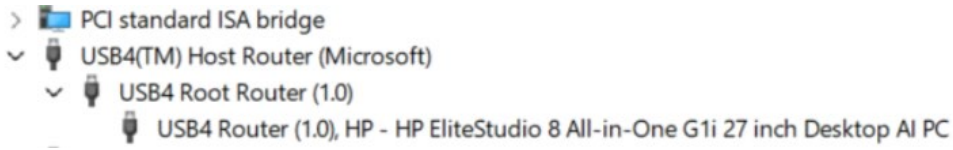
Step 2: The AiO will pop up an OSD message to get user permission to enable docking mode.



*Note: This feature is not designed to support any tablet or phone devices.

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Step 3: Once “Docking Mode” is selected, “USB4® Router(1.0), HP- HP EliteStudio 8 All-in-One G1i Desktop AI PC” will show in the host notebook PC’s device manager.



The host notebook PC will identify all peripheral devices as bundled and ready for use.



Figure: Multi-Display

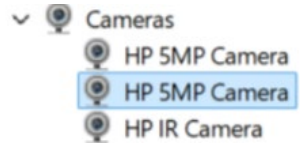


Figure: KVM Camera

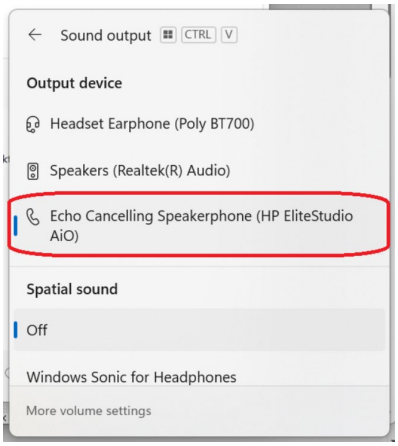


Figure: KVM Speakerphone

Audio & video smart redirection

Once the host notebook PC is connected to the AiO system through Thunderbolt™ 4 and docking mode is selected, the AiO display will be identified as the secondary display to the host notebook PC. The AiO speakers will also start functioning as a main output device for the host notebook PC.

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USB device connectivity

Once the host notebook PC is connected to the AiO system through Thunderbolt™ 4 and docking mode is selected, the AiO system will start functioning as a dock. The following USB devices connected to the AiO system will have ownership redirected from the AiO system to the host notebook PC. The USB ports on the AiO system will also become an extension of the host notebook PC.

- Built-in camera and microphone and speaker
- External keyboard, mouse, storage device, headset, and camera connected to the AiO system's USB ports

Multi-display capability

HP Device Switch[1] supports up to two external displays including the AiO display itself. Once the host notebook PC is connected to the AiO system through Thunderbolt™ 4 and docking mode is selected, both the AiO display and the external display connected to the AiO become external displays for the host notebook PC. The diagram below shows how the solution works.

Power delivery

Thunderbolt™ 4 connectivity allows HP Device Switch to function as a power source, delivering up to 100W. Once the connection is established, it can power a connected notebook PC, eliminating the need for the notebook's AC adapter while maintaining performance and charging its battery.

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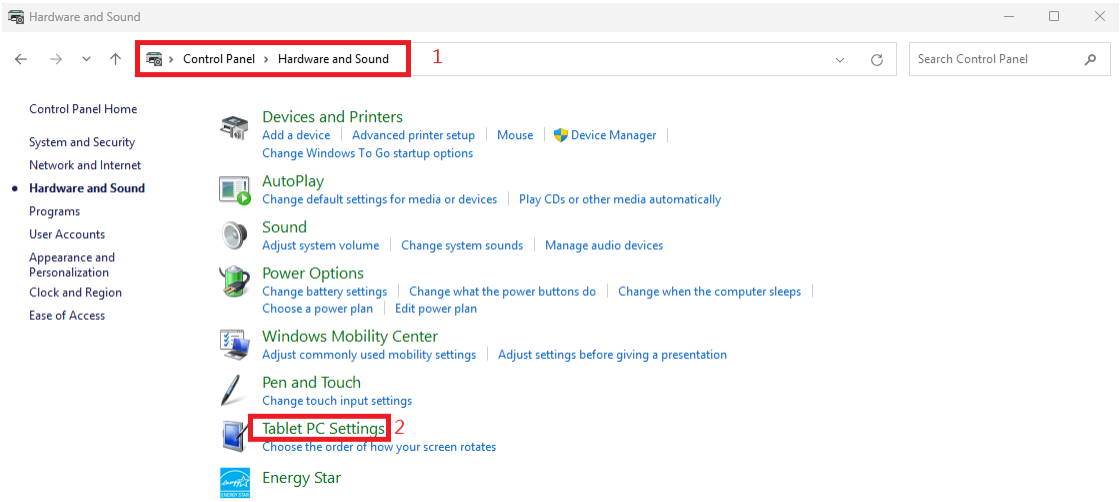
Touchscreen redirection

HP Device Switch[1] supports touchscreen and can redirect this functionality to a connected notebook PC, even if the notebook PC itself does not support touch input. Once connected, the AiO display's touchscreen functions as the notebook's touchscreen.

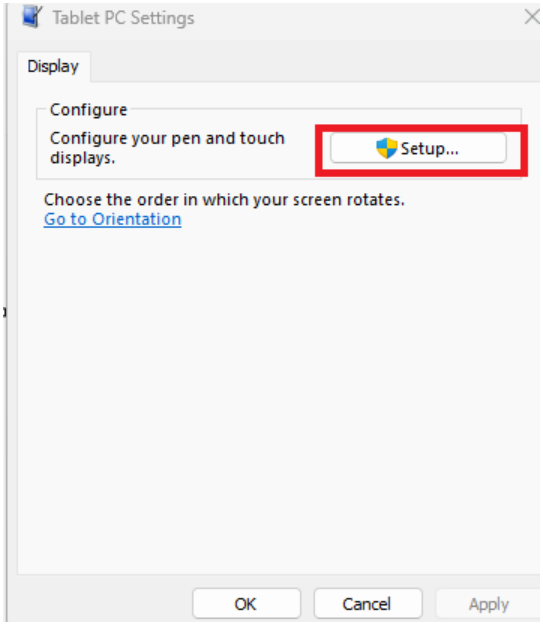
In clone mode, to prevent touch misalignment between the AiO and host PC (notebook PC), the host PC's screen resolution must synchronize with AIO. The blank screen region isn't valid for touch vector mapping. Execute Microsoft "Tablet PC Settings" to start touch screen calibration process.

Step 1: Go to Control Panel > Hardware and Sound

Step 2: Choose Tablet PC Settings

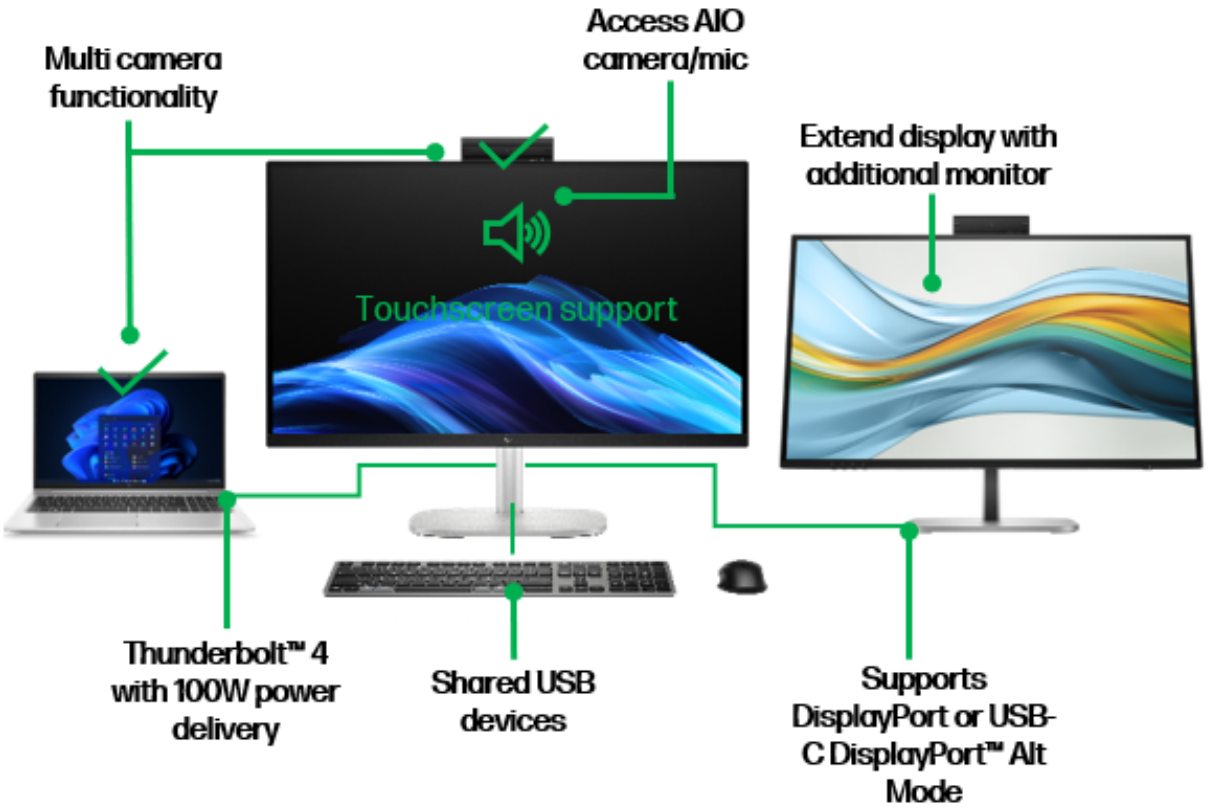


Step 3: Choose "Setup"



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Overall, HP Device Switch[1] is a cutting-edge solution that enhances productivity, flexibility, and user experience, making it an excellent choice for modern hybrid work environments.



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How to use HP Device Switch

Power on your AiO PC and connect the supported notebook PC with a Thunderbolt™ 4 cable from the Thunderbolt™ 4 port on the host notebook PC to the Thunderbolt™ 4 port ⑩(rear) on the AiO.

Once the AiO identifies the connection, the OSD notification will pop up on the AiO display as shown in figure 3. Confirm docking mode selection by clicking the OSD button ②(rear).

Once the AiO enters docking mode, DisplayPort™ ⑤(rear), USB ports ⑧⑨(rear), ③⑤(bottom), and audio jack ④(bottom) become IO port extensions to the host notebook PC.

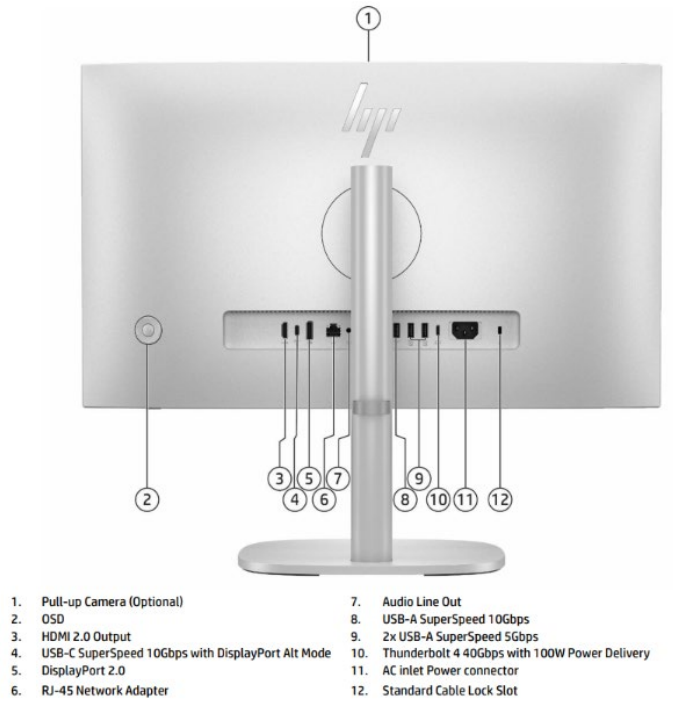


Figure 1: Back view of AiO



Figure 1: Front view of AiO

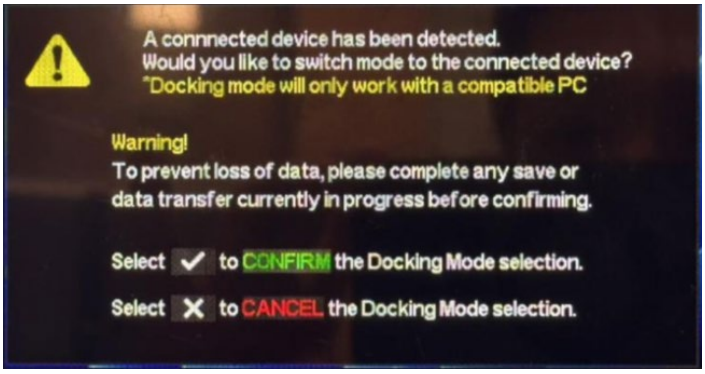


Figure 3: OSD Notification

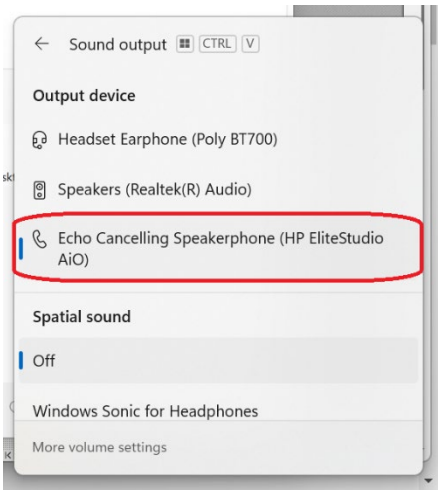
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When the host notebook PC enters sleep mode, docking mode will be disconnected automatically. The AiO system will then revert to PC mode. After the host notebook PC wakes up, the user needs to manually switch input mode in the AiO system OSD menu to reconfigure back to docking mode. To do so, the user must click the number 1 (middle) OSD button. Use the OSD cursor to move to the "Input" menu followed by a single click to enter the mode selection menu. In this menu, move the OSD cursor to select "Docking Mode" followed by a single click to confirm the selection.



On the host notebook PC, once the AiO "Docking Mode" connection is established, USB ports, Audio, Camera, and AiO display become IO extensions to the host notebook PC. Follow the steps below to check the connection status on the host notebook PC.

- Sound output menu will show a new speaker device
- USB port, monitor and camera will show a new device in the Windows Device Manager
- System > Display menu shows two displays, one for panel, and another one for AiO display



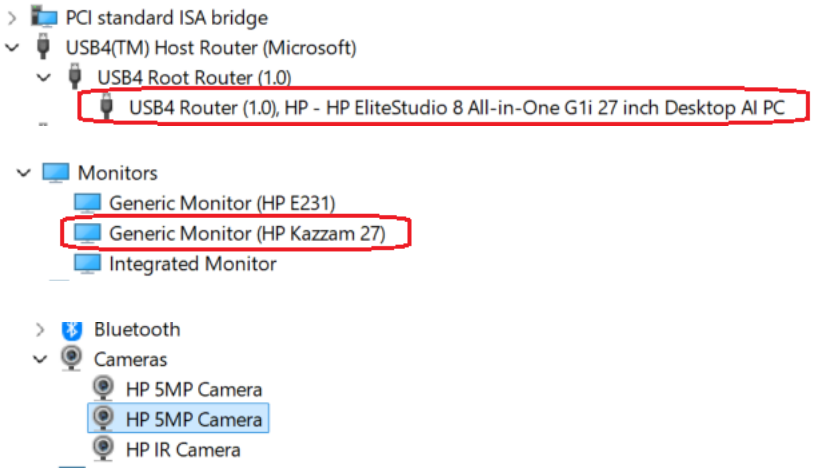


Figure 5: Sound Output Menu

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Where is KVM available?

- HP Device Switch[1] must be configured on an HP EliteStudio 8 AiO PC by selecting the “KVM” base unit configuration.
- HP Device Switch is not compatible with any tablet or phone devices.
- HP Device Switch KVM feature is tested for full compatibility (to include device switching, 100W power delivery, USB connectivity, audio/video connectivity, touchscreen, and additional monitor) with all G9, G10, G11 and G1 HP mobile workstation platforms and notebook platforms except for 2/200 series platforms, chrome-based platforms, and AMD Zen 3 platforms. HP Device Switch KVM feature is also tested for limited compatibility with 3rd party platforms using Windows and MacOS to support device switching through Thunderbolt 4 only.
- HP mobile workstations may experience a slower charging rate from HP Device Switch 100W power delivery due to higher power draw requirements on those systems. Users will need to connect the appropriate external power adapter while in KVM mode to achieve full power delivery.
- HP Device Switch is backwards compatible with Thunderbolt 3 and USB 4.0. Any other connector will result in limited USB connectivity and touchscreen functionality.
- Full compatibility testing for HP Device Switch KVM feature will not be completed for G9 and G10 notebook PC platforms until October 2025.

Disclaimers

1. Optional feature that must be configured at the time of purchase.

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