Surface Hub 2S A/V Integration Guide

Contents

With Surface Hub 2S you can connect external devices such as a PC; mirror the display on Surface Hub 2S to another device; and connect a wide variety of third-party peripherals including video conference cameras, conference phones, and room system devices. This document describes the ports, physical buttons, and configuration information essential for connecting to Surface Hub 2S whether via wired, Wi-Fi, or Bluetooth methods. It also includes best practice recommendations for key connectivity scenarios.

Ports and keypad overview

Figure 1 shows the location ports and physical buttons located on a keypad attached to the underside of the device. Table 1 includes detailed descriptions of each element.
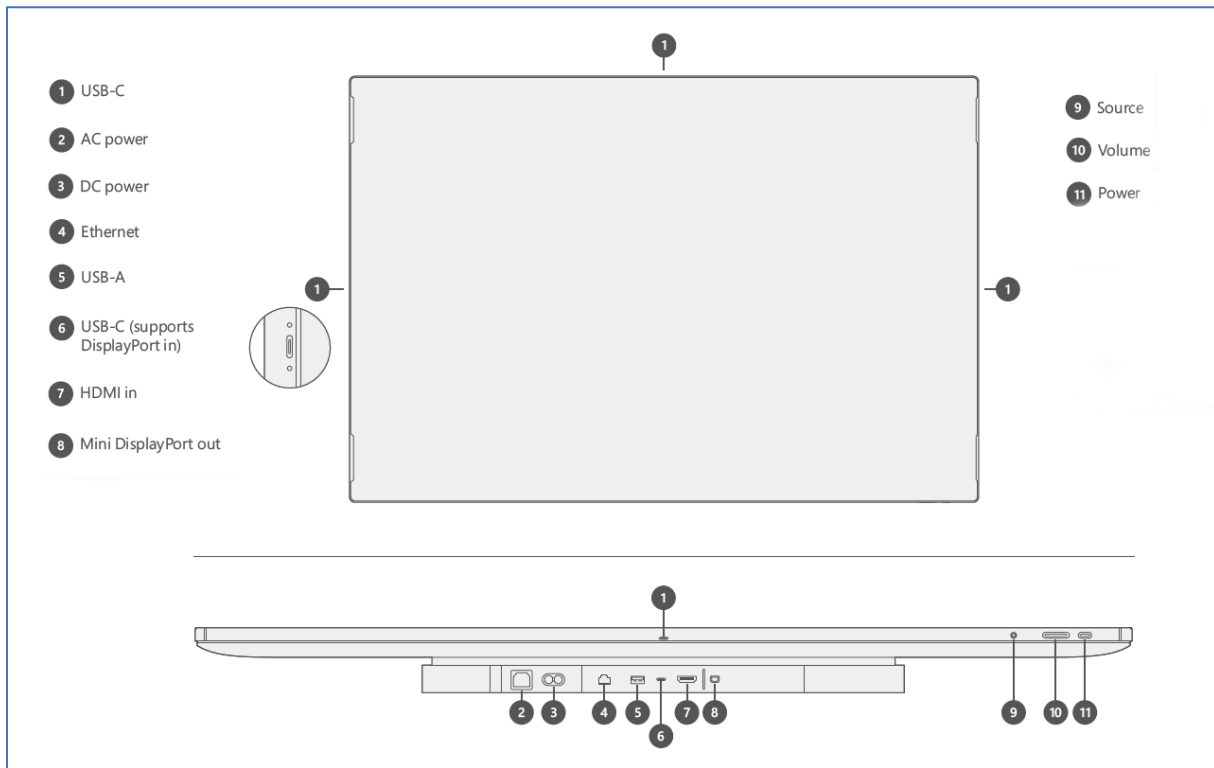
Figure 1. Front facing and underside view of I/O connections and physical buttons

Table 1. Surface Hub 2S port and keypad component reference

Key	Component	Description	Key parameters
①	USB C	**USB 3.0 Port** Use as a walk-up port for plugging in peripherals such as thumb-drives. Guest ports are located on each side of the device (4). **NOTE:** This is the recommended port for connecting an external camera. Additional camera mount features are	Type C 15 W Port (5V/3A)

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Key	Component	Description	Key parameters
		incorporated into the design to help support retention of attached cameras. NOTE: TouchBack and video ingest are not supported on these ports.	
②	AC power	**100-240V input** Connect to standard AC power and Surface Hub 2S will auto switch to the local power standard such as110 volts in the US and Canada or 220 volts in the UK or other countries. NOTE: When the AC cord is plugged in, the system remains in an off state in which only the system management controller (SMC), real time clock (RTC), and keypad are running.	IEC 60320 C14
③	DC power	**24V DC input port** Use for connecting to mobile battery.	Xbox1 Dual barrel to Anderson connector
④	Ethernet	**1000/100/10 BaseT** Use for providing a continuous connection in a corporate environment and related scenarios requiring maximum stability or capacity.	RJ45
⑤	USB-A	**USB 3.0 Port** Use as a walk-up port for plugging in peripherals such as thumb-drives.	Type A 7.5 W Port (5V/1.5A)
⑥	USB-C	**USB 3.0 Port** Use as a walk-up port for connecting external PCs and related devices or plugging in peripherals such as thumb-drives. **NOTE: This is the recommended video input port, supporting both TouchBack and InkBack.**	Type C 18 W Port (5V/3A, 9V/2A)
⑦	HDMI in	**HDMI 2.0, HDCP 2.2 /1.4** Use for multiple scenarios including HDMI-to-HDMI guest input.	Standard HDMI
⑧	Mini DisplayPort out	**DisplayPort 1.2 output** Use for video-out scenarios such as mirroring the Surface Hub 2S display to a larger projector.	Mini DisplayPort

| Key	Component	Description	Key parameters
⑨	**Source**	Use to toggle among connected ingest sources — external PC, HDMI, and DisplayPort modes.	n/a
⑩	**Volume**	Use +/- to adjust audio locally on the device. **NOTE:** When navigating to the brightness control, use +/- on the volume slider to control display brightness.	n/a
⑪	**Power**	Power device on/off. Use also to navigate display menus and select items.	n/a
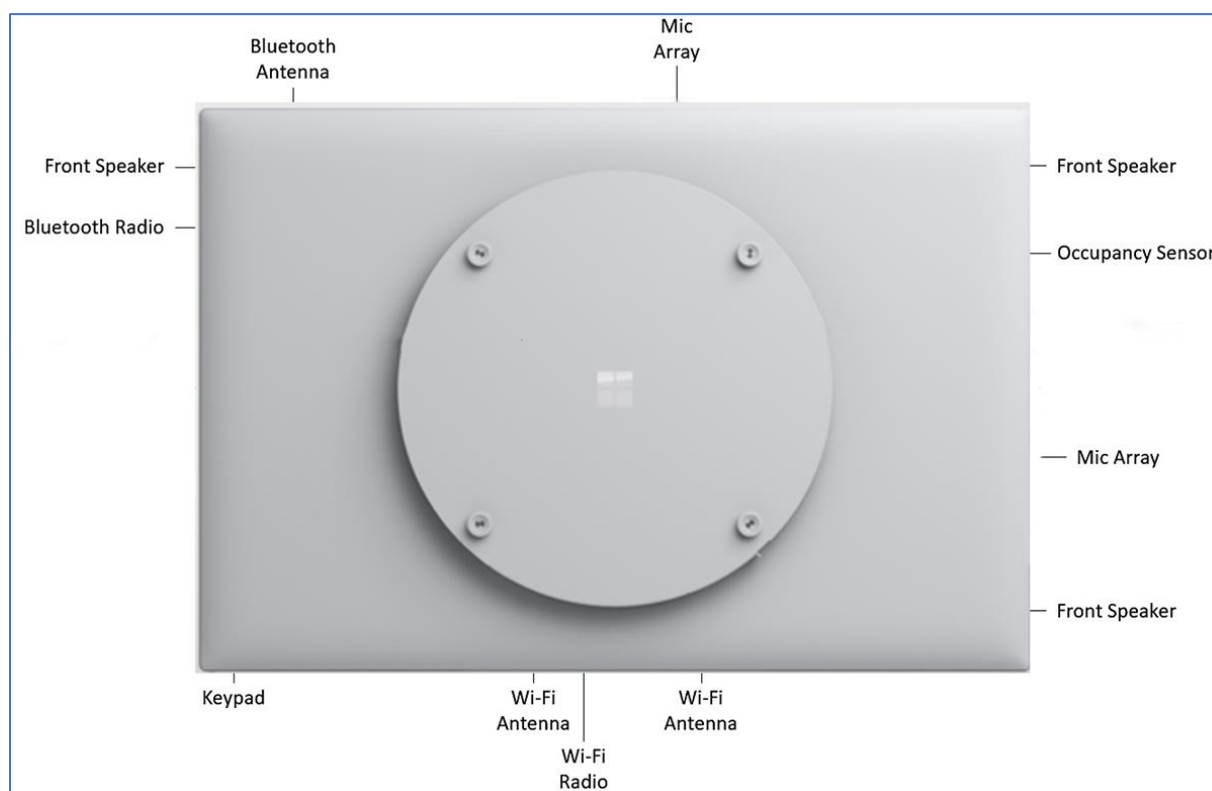
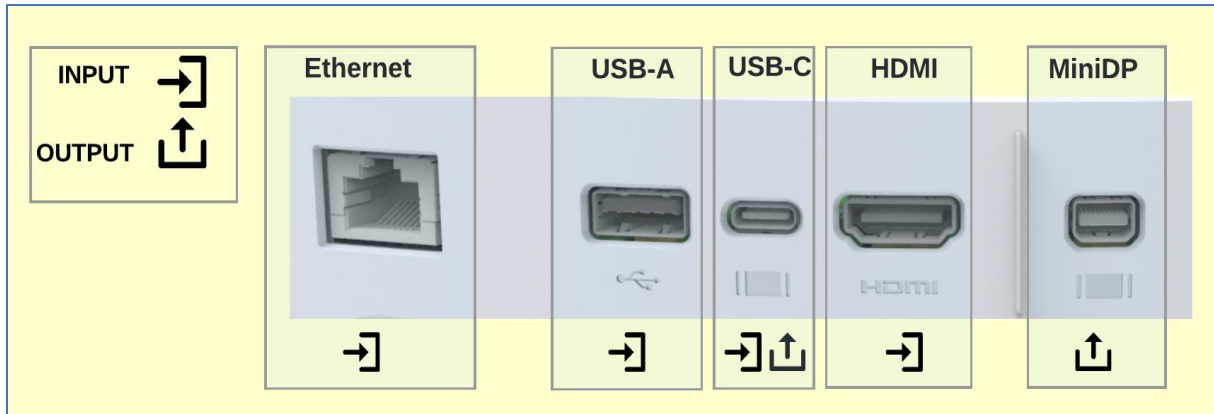Figure 2. Rear facing view of wireless, audio, & related components

Figure 3. Wired port connections on Surface Hub-2S

Connecting devices to Surface Hub 2S

- Connecting external PCs and related devices
- Mirroring Surface Hub 2S display on another device
- Connecting peripherals

Connecting external PCs and related devices

You can display content from your devices to Surface Hub 2S. If the source device is Windows-based, that device can also provide TouchBack and InkBack, which takes video and audio from the connected device and presents them on Surface Hub 2S. If Surface Hub 2S encounters a High-Bandwidth Digital Content Protection (HDCP) signal, the source will be displayed as a black image. To display your content without violating HDCP requirements, use the keypad of Surface Hub 2S to directly choose the external source via a wired connection such as USB-C or HDMI.

NOTE: Surface Hub-2S will use the video input that you select until a new connection is made, the existing connection is disrupted, or the Connect App is closed.

Recommended configurations for connecting to Surface Hub 2S

In general, it's recommended to use native connections whenever possible such as USB-C to USB-C or HDMI to HDMI. Other combinations such as MiniDP to HDMI or MiniDP to USB-C will also work.

Table 2. Connecting external devices

Mode	Connection	Functionality	Comments
Wired "Connect" Application	USB-C (via underside compute module)	Video, audio, TouchBack	Provides display port video, audio, and TouchBack/InkBack on a single cable.

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Mode	Connection	Functionality	Comments
	HDMI + USB-C	HDMI for Audio/Video USB-C for TouchBack	USB-C supports TouchBack for HDMI A/V connection Use USB-C to USB-A to connect to legacy computers NOTE: For best results, connect HDMI before connecting USB-C cable. If the computer you are using for HDMI is not compatible with TouchBack and InkBack, you won't need a USB-C cable.
"Source" selection experience (bypasses the OS, no windows, requires source selection with keypad button)	USB-C (port in compute module)	Video, Audio	• Single cable needed for A/V • Touchback not supported • HDCP enabled
	HDMI (in port)	Video, Audio	• Single cable needed for A/V • TouchBack not supported • HDCP enabled

When you connect a guest computer to Surface Hub 2S via the wired connect USB-C port, several USB devices are discovered and configured. These peripheral devices are created for TouchBack and InkBack. As shown in Table 3, the peripheral devices can be viewed in Device Manager, which will show duplicate names for some devices.

Table 3. Viewing peripherals in Device Manager

Peripheral	Listing in Device Manager
Human interface devices	HID-compliant consumer control device HID-compliant pen HID-compliant pen (duplicate item) HID-compliant pen (duplicate item) HID-compliant touch screen USB Input Device USB Input Device (duplicate item)
Keyboards	Standard PS/2 keyboard
Mice and other pointing devices	HID-compliant mouse

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Peripheral	Listing in Device Manager
USB controllers	Generic USB hub
	USB composite device

Connecting video-in to Surface Hub 2S

Your choice of video cable will be determined by what is available from your source input. Surface Hub 2S has two choices of video input: USB-C and HDMI. See the following chart for available resolutions.

Table 4. Display parameters

Signal Type	Resolution	Frame rate	HDMI	USB-C
PC	640 x 480	59.94/60	X	X
PC	720 x 480	59.94/60	X	X
PC	1024 x 768	60	X	X
PC	1920 x 1080	60	X	X
PC	3840x2560	60	X	X
HDTV	720p	59.94/60	X	X
HDTV	1080p	59.94/60	X	X
UHD	3840x2560	60	X	X

Mirroring Surface Hub 2S display on another device

Surface Hub 2S includes a Video Out port for mirroring visual content from Surface Hub 2S to another display.

Table 5. Mirroring Surface Hub 2S via video out mode

MODE	Connection	Functionality	Comments
Display out	MiniDP output port	Display and audio out (support for duplicate mode only)	• Requires external keyboard, • **Win+P** and select **Duplicate** mode • Supports audio out (configurable via settings)

Selecting cables

DisplayPort cables are certified for to 3 meters in length. If a long cable is necessary, HDMI is recommended due to the wide availability of cost-effective, long-haul cables with the added benefit of installing repeaters if needed.

NOTE: Most DisplayPort sources will automatically switch to HDMI signaling if HDMI is detected.

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Connecting peripherals to Surface Hub 2S

Bluetooth accessories

You can connect the following accessories to Surface Hub-2S using Bluetooth:

- Mice
- Keyboards
- Headsets
- Speakers

NOTE: After you connect a Bluetooth headset or speaker, you might need to change the default microphone and speaker settings. For more information, refer to Local management for Surface Hub settings

Tested devices

The following third-party peripherals have been tested to connect to Surface Hub 2S as indicated below. Some manual configuration of settings may be required; for example, you may need to go to Calling and Audio settings and select the speaker for media playback.

NOTE: In general, any device that connects via standard Windows USB-A drives should also work on Hub 2S.

Conference cameras

Device	Connect: Device – Surface Hub 2S	Room use	More information
PanaCast 2 Camera System	USB-A to USB-C	Huddle (1-3) Small (4-6)	Product site
Logitech Meetup Camera/Microphone	USB C to USB-C	Huddle (1-3) Small (4-6) Medium (7-10)	Product site
Aver CAM 340 – Video and Mic	USB-C to USB-C	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	Product site
Eagle Eye Director II	HMDI to USB-A to USB-C	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	Product site

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Device	Connect: Device – Surface Hub 2S	Room use	More information
Logitech C920	USB A to USB A	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	[Product site](#)
Logitech C930	USB A to USB A	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	[Product site](#)

Conference phone

Device	Connect: Device – Surface Hub 2S	Room use	More info
Jabra Speak 710	Bluetooth or USB A to Surface Hub USB A	Huddle (1-3) Small (4-6) Medium (7-10)	[Product site](#)
Biamp Devio – Audio	USB A to USB A	Huddle (1-3) Small (4-6)	[Product site](#)
Biamp Tesira Forte	Cat –6 connection from Tesira AVB Bus to USB/POE extension USB-B output to USB-A input Typically installed in a rack	Huddle (1-3) Small (4-6) Medium (7-10)	[Product site](#)
Plantronics P620	Bluetooth	Huddle (1-3) Small (4-6) Medium (7-10)	[Product site](#)
Polycom Trio 8800	USB mini to USB A	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	[Product site](#)

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Room systems

NOTE: You may need to manually adjust media playback settings to obtain volume control.

Device	Connect: Device – Surface Hub 2S	Room use	More info
Shure P310/300 - audio	USB-A to USB-A	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	Product site
Solstice Pods	USB-A to USB-A	Huddle (1-3) Small (4-6) Medium (7-10) Large (10+)	Product site

Learn more

For more information about Surface Hub, visit the Microsoft Docs site.