

Evaluation: Cisco Webex Desk Pro - Q3 2020

Hands-On Evaluation of Cisco's Latest Desktop Collaboration Display

The Cisco Webex Desk Pro brings the collaboration and ideation tools provided by the larger-form-factor Webex Board, designed for meeting rooms and classrooms, to the desktop – with an additional spin based on the differing productivity needs of executives and knowledge workers. Specific functions unique to the Desk Pro include methods of using it with a laptop connected, or as a standalone conferencing and collaboration unit.

The Desk Pro is a standalone, 27-inch, 4K desktop video conferencing and ideation device that includes an interactive touch screen. A laptop can be connected to the Desk Pro via USB-C, turning it into a complementary, companion device. The Desk Pro includes touch redirect for laptop / attached device control from the Desk Pro display, and a laptop can use the Desk Pro's audio and video capabilities outside of the Webex Meeting / Teams environment. This ability to connect to third-party, standard compute devices turns the Desk Pro into a multifunction device, useful as both display and collaboration platform. At the same time, knowledge workers can use the system without being locked into a single technology ecosystem. Users can bring the meeting client of choice (Bring-Your-Own-Meeting paradigm) and use the Desk Pro hardware to facilitate the audio and video experience. The Desk Pro also can be placed in environments other than an executive's desktop, such as huddle and telephone rooms.

Announced in November 2019, the Desk Pro became generally available (GA) in Q2 2020 and WH evaluated the Desk Pro in our Lab in June 2020. This hands-on evaluation covers key workflow options provided by the Desk Pro and highlights key differences between it and the Webex Board. WH tested video, audio, and ideation functionality with a focus on potential use cases for local and remote experiences.

WH finds a lot to like in the Desk Pro. Buyers will want to consider their needs and whether the Webex Teams and Cisco approach to ideation paradigms suit those needs.

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[WR 360 Coverage > Meeting Room Collaboration](#)

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Executive Summary

The Cisco Webex Desk Pro brings the collaboration and ideation tools provided by the larger-form-factor Webex Board, designed for meeting rooms and classrooms, to the desktop – with an additional spin based on the differing productivity needs of executives and knowledge workers. Specific functions unique to the Desk Pro include methods of using it with a connected laptop or as a standalone conferencing and collaboration unit.

The Desk Pro is a standalone, 27-inch, 4K desktop video conferencing and ideation device that includes an interactive touch screen. A laptop can be connected to the Desk Pro via USB-C, turning it into a complementary, companion device. The Desk Pro includes touch redirect for laptop control from the Desk Pro display, and a laptop can use the Desk Pro's audio and video capabilities outside of the Webex Meeting / Teams environment while also recharging via a USB-C connection. This ability to connect turns the Desk Pro into a multifunction device that is useful as both display and collaboration platform, while reducing the requirement to be in a locked down ecosystem. Users can bring the meeting client of choice (Bring-Your-Own-Meeting paradigm) and use the Desk Pro hardware to facilitate the audio and video experience. It also means the Desk Pro can be placed in environments other than an executive's desktop, such as huddle and telephone rooms.

Having said that, WH finds the Desk Pro to include quality audio / video / content functionality, spatial audio, unique background blur functionality, very strong touch redirect, and excellent camera framing technology.

Announced in November 2019, the Desk Pro became generally available (GA) in Q2 2020 and WH evaluated the Desk Pro in our lab in June 2020. This hands-on evaluation covers key workflow opportunities provided by the Desk Pro and key differences between it and the Webex Board. WH tested video, audio, and ideation functionality with a focus on local and remote experience, and potential use cases.

From a baseline experience, we like that the Desk Pro provides the following:

- Delivers an exceptional audio / video / content experience when used as a standalone video conferencing and ideation device or as an extended monitor to a laptop.
- Functions similar to those experienced on Webex Boards, such as Web Apps. These reduce the need for a primary laptop and extend the value into shared workspaces.
- Provides excellent audio such that most users will not need ancillary PC speakers.
- Offers very high quality spatial audio in multipoint calls.
- Serves up an extraordinary background blur feature, one that is leading the industry for the time being.
- Features touch redirect quality that is superior to any we have experienced in all of our testing of touchback thus far.
- Incorporates volume and mute soft keys on the front of the display that are a nice touch.
- Includes a camera framing technology that is impressive and works elegantly for a single-desk user; its automatic vertical panning function is superb.
- Supports versatile implementation that enables straightforward deployment whether placed on the desktop or in a huddle or telephone room. Cisco indicated to WH that it plans to provide support for a second monitor in Q1 2021, supporting a dedicated display for video and display for content for meetings.

WH sees some room for improvement regarding background images, camera controls, and sticky notes (as we've discussed in our [Webex Board 55S evaluation](#); it happens that Cisco delivers its sticky notes by design). Having said that, we think Cisco has a keeper in the Desk Pro. It remains at

the upper corner of the cost quadrant, but at the same time it sits in the upper corner of the value quadrant when one considers its functionality.

Introduction

The Cisco Webex Desk Pro brings the collaboration and ideation tools provided by the larger-form-factor Webex Board, designed for meeting rooms and classrooms, to the desktop.

Announced in November 2019, the Desk Pro became GA in Q2 2020.

Much (but not all) of an end user's experience of the Desk Pro functionality is similar to that of the Webex Board, which WH [evaluated in January 2020](#). This evaluation covers key and unique workflow opportunities provided by the Desk Pro and key differences between it and the Webex Board.

A laptop can be connected to the Desk Pro via USB-C, turning it into a complementary, companion device. The Desk Pro includes touch redirect (Cisco's terminology for touchback) for laptop control from the Desk Pro display, and a laptop can use the Desk Pro's audio and video capabilities outside of the Webex Meetings / Teams environment while recharging the laptop. This ability to connect turns the Desk Pro into a multifunction device, useful as both display and collaboration platform, while reducing the requirement to be in a locked down ecosystem. Users can bring the meeting client of choice (Bring-Your-Own-Meeting paradigm) and use the Desk Pro hardware to facilitate the audio and video experience.

Cisco Webex Desk Pro



Source: Cisco, 06/2020

The Desk Pro is listed on Cisco's global price list (GPL) at \$11,900 (U.S. price is \$12,925 based on Chinese tariffs); actual street price through its channel tends to be roughly 50% of GPL prices. Online retailer CDW's website listed the Desk Pro at \$6,988 in the U.S. as of June 2020. Most likely, enterprises negotiating quantity purchases can purchase at even lower prices.

In addition to the purchase price, device registration to the Cisco Webex Cloud costs \$29 per month and is required for use. That subscription fee is waived for customers that have a Webex Flex plan.

Specifications

- 27" 4K LCD display
- In-Plane Switching (IPS) LED panel
- Viewing angle: 89 degrees
- Brightness: 300 cd/m²
- Multi-touch
- 12MP 4K Ultra HD camera
- 71-degree Horizontal Field-of-View (HFOV)
- Automatic tilt adjustment
- Automatic focus, brightness and white balance
- H.263, H.264 AVC video standards
- Automatic gain control
- Automatic noise reduction
- Active lip synchronization
- Keyclick suppression
- Internal eight-element microphone array
- Speakers with left, center and right channels enabling directional audio, plus dual woofers in balanced configuration
- Touch forward capabilities (referred to elsewhere as touch redirect in Cisco nomenclature, touchback in the industry); besides working with connected laptops, the touch redirect also works with Samsung Galaxy smartphones using Samsung's Desktop Experience (DeX) feature. Apple products require a third-party driver download.
- Laptop charging through the USB-C cable
- Sensors for ambient light, presence, temperature, and humidity
- Passive cooling (no fans involved) to prevent background noise

Available Ports

The following ports are available on the rear of the Desk Pro, hidden behind a hinged plastic trap door attached to the mount:

- Two USB-A
- Micro USB (for maintenance)
- HDMI Output (intended for future use)
- Network PC input. (The Desk Pro has an internal two-port switch for direct connection to a network by a PC.)
- Ethernet network
- HDMI input for content sharing (audio/video)
- USB-C input for content sharing (audio/video), laptop charging, touch redirect, USB camera input (audio/video)
- Power
- Factory reset pinhole

Cisco Webex Desk Pro Ports



Source: Wainhouse, 06/2020

Two additional ports are available on the lower right side of the Desk Pro:

- USB-A for a headset
- 3.5mm analog headphone output

What's in the Box

The system contains the following, shipped in a single box measuring 30" (W) x 28 (H) x 9" (D):

- Desk Pro
- Stand
- One passive stylus
- Power brick and cable
- USB-C cable
- HDMI cable
- Ethernet cable
- Installation Guide

Software version used in our evaluation: RoomOS 2020-05-06 cf2befca38d

Installation and Setup

Physical installation of the unit is quick and easy thanks to the included guide. The only required steps are to attach the included stand, and to connect the Ethernet cable and power to the device.

After plugging in power, on first boot up the system launches a welcome screen for setup. Selecting the *Start* icon begin the setup process. Next, the installer is presented with network parameters. If an Ethernet cable is plugged into the Desk Pro, this is the default option. If no Ethernet cable is connected, Wi-Fi may be selected.

The next option is for choosing call services: Cisco Webex or Other Services. The system then presents the registration screen, requiring a 16-digit code attained from the Webex Control Hub. This is the same registration process utilized when setting up other Cisco Webex devices, such as the Room Kit or Board.

Via the cloud-based Cisco Webex Control Hub, an administrator with the necessary privileges performs the following steps to add the Desk Pro as a device:

- Navigates to *Devices*.
- Selects Add Device.
- Assigns the Desk Pro to an existing user or Workspace (we chose Workspace) A workspace represents a location not owned by a specific user, like a meeting room or public space.
- Selects existing or new Workspace (we chose new)
- Selects setup as Webex Room device or Cisco IP phone (we chose Room device)
- Selects Calendaring option yes / no

A 16-digit activation code is then presented in the Control Hub for input into the Desk Pro interface, and the administrator types the code onto the Desk Pro to finish registration.

After the code is entered, the Desk Pro immediately presents a software update page. Updates can be performed immediately, or they may be postponed for (specifically) six hours.

The installation process, both physical and registration, minus the software update takes less than 15 minutes for those familiar with the Webex registration process.

Physical Characteristics

The Desk Pro's overall form factor is 24.8" (W) x 20.1" (H) x 3" (D). Actual unit footprint occupies an area of approximately 25" in width by 8" in depth due to the stand. The Desk Pro weighs in at 24.4 pounds.

A sliding privacy cover switch sits above the camera, enabling the ability to physically cover the camera lens. When the privacy cover is open and the camera is engaged in a call or self-view outside of a call, the privacy switch glows green as a visual indicator that the camera is on. When closed, the light turns off and the following message is displayed on the user interface (UI): *The privacy cover is closed You can open the privacy cover by sliding it to the right.*

Desk Pro Privacy Cover Switch – Camera Enabled



Source: Wainhouse, 06/2020

The right side of the Desk Pro contains a magnetic divot molded into the plastic frame to hold the included stylus. Along the right side, an audio jack and a USB input also are available for connecting headsets. A power button is located on the rear of the Desk Pro on the lower right side.

Desk Pro Minimum and Maximum Tilt



Source: Wainhouse, 06/2020

The Desk Pro stand allows for tilting the display to adjust for user preference. The adjustment is performed by pushing the top of Desk Pro back to increase the tilt or by pulling the top forward to reduce the tilt. The tilting mechanism is friction-based so locking the stand down by any means is not required. On-the-fly tilt adjustments are therefore easily performed. We note, however, that the

unit cannot be adjusted at a 90-degree angle based on safety requirements (to avoid tipping over). An optional wall mount is available to mount the unit to a wall or a VESA mount stand.

The Desk Pro has front firing speakers at the bottom of the display that are hidden by a removable, cloth-covered speaker grille. An optional metal grille is available for clinical medical applications. Additionally, a future software release will support a *kiosk mode* for installation in telephone rooms or public areas; a feature that will be supported in that release will be the ability to deactivate the volume / mute buttons.

Webex Desk Pro User Interface

The Desk Pro's UI differs only slightly from that of the Webex Board. The UI is clean and elegant, with the *Place name* (device assignment) situated at the screen's upper left for accessing the device settings. In the upper right corner is an icon that when selected enables or disables the camera's self-view. In the lower right is an optional welcome message that can be set in the device's browser interface. Lastly, only slightly different from the Webex Board, four icons are available to choose from: *Call*, *Whiteboard*, *Sharing Options* (*Share Screen* on the Webex Board) and *Join Webex*.

Cisco Webex Desk Pro UI

WH Lab Desk >



07:50

Hello World!



Call



Whiteboard



Sharing
options



Join Webex

Source: Wainhouse, 06/2020

The four primary icons available for launching collaborative sessions work as follows:

- The *Call* icon presents a screen for calling other meeting participants, via name (contacts, in or out of organization), SIP / H.323 address, Webex meeting ID, or a phone number if phone dialing is enabled for the organization. An onscreen keyboard is presented for input. As names or addresses are entered, the system populates contacts and updates the list of previously dialed addresses.
- The *Whiteboard* icon presents a blank whiteboard canvas. If a user is connected to the Desk Pro with the Webex Teams app on a laptop or a mobile device and opens a Space in the app, whiteboards within the space are available for selection by selecting the *Whiteboard* icon. Selecting the *X* icon on the top right corner of the whiteboard reverts to the main UI.
- The *Sharing Options* icon presents two options: Wireless screen sharing or direct connection via HDMI.
- The *Join Webex* icon presents a screen for entering a Webex Meeting ID from a calendar invitation or a Personal Room ID.

Collaborative Features of the Desk Pro

Touch Redirect

For brevity, while referring to the Touch Redirect capabilities, the word “*laptop*” is interchangeable with PC and Mac.

The primary use case for *Touch Redirect* on the Desk Pro differs from that of the Webex Board. For the Desk Pro we feel the primary use case for touch redirect is to be connected to a laptop and be used as a secondary monitor on an executive’s desk. The Webex Board’s top use case is that conference room participants may choose to connect their laptop to the system for content sharing or presenting laptop content on a large in-room display.

Touch Redirect is enabled by first connecting a USB-C cable from the rear of the Desk Pro to the USB-C or Thunderbolt port of a laptop. Depending on the laptop connected, the system may automatically mirror or extend the laptop display. Next, touching the display of the Desk Pro presents two icons: *Annotation* and *Touch Redirect*. Selecting the *Touch Redirect* icon enables the function, and the laptop is now controllable from the Desk Pro’s display.

While the laptop is connected to the Desk Pro via USB-C, the Desk Pro provides up to 60 Watts of charging capabilities. *This is a big deal*: there is no need to use the laptop’s power supply. In our testing with an HP Spectre X360 laptop, we found that connecting to the Desk Pro charges the laptop effectively.

If a laptop is connected to the Desk Pro, the laptop’s audio device defaults to *CS-DESKPRO* (Cisco’s default setting) and audio is broadcast from the speakers of the Desk Pro. If a whiteboard session is initiated, audio played from the laptop through the Desk Pro’s speakers is not broadcast. The audio device must be set to the laptop’s primary speaker system to playback audio while using the whiteboard.

Webex Assistant

The Webex Assistant enables participants to use their voice in lieu of touching the screen of the Desk Pro to control the system by saying: “OK Webex” followed by a command. WH was especially impressed by Webex Assistant when we reviewed the Webex Board 55S, and the functionality is consistent with our experience on the Board.

For now, Webex Assistant supports approximately 20 commands. The feature can be individually enabled or disabled locally on the Desk Pro or globally from the Control Hub. When in a sleep state, the Webex Assistant is still listening. Saying “OK Webex” awakens the system.

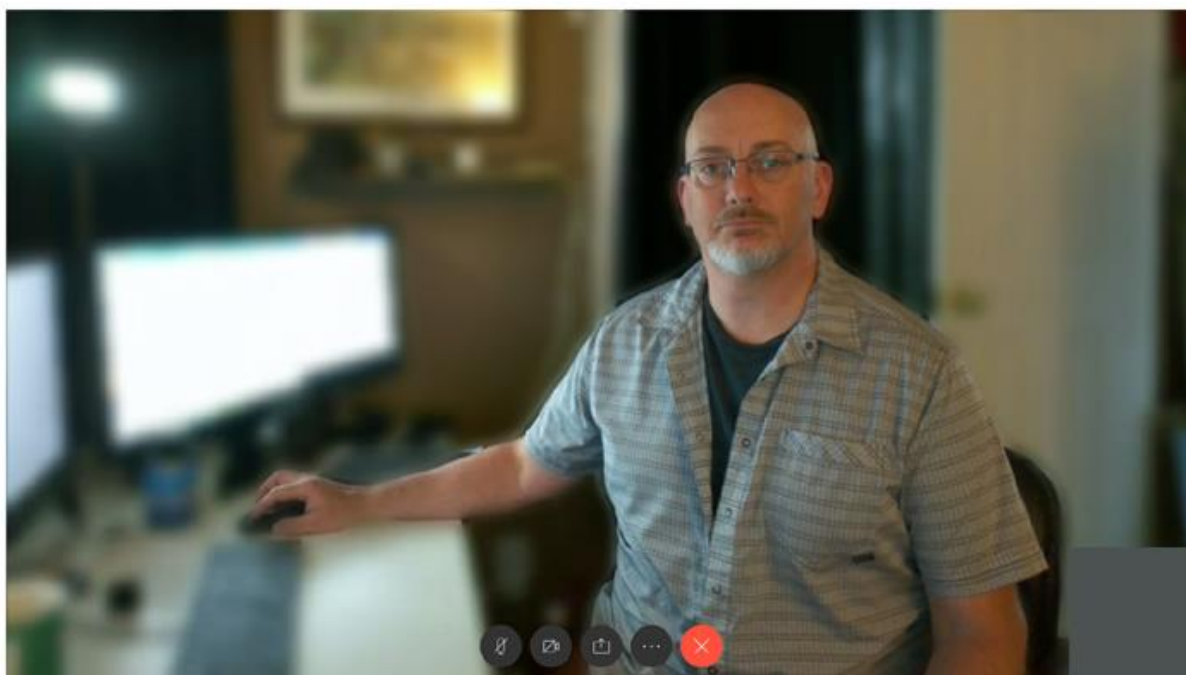
Cisco has engineered the Webex Assistant to avoid inappropriate activation over distance between devices. In other words, if a call includes participants who each have devices with the Webex Assistant enabled, the commands are not recognized by the far site.

One important feature to consider: the Webex Assistant can be used for Desk Pro commands while connected to a laptop and using the Desk Pro as a computer monitor. In other words, even if not using the Desk Pro as anything more than a display – one is focused on laptop content – Webex Assistant remains available as a tool.

Virtual Backgrounds

The ability to add virtual backgrounds or a background blur while in a video call is another feature available on the Desk Pro. The background blur adds a slight halo around the subject but based on our experience thus far, does not blur the background as aggressively as solutions from most other vendors, which is a good thing. Note in the image below, the right arm is not blurred yet it is farther away from the camera than the rest of the evaluator’s body. The beauty of how the Desk Pro blurs the background is that the feature does not cause distraction by inappropriately blurring (or not blurring) the wrong visual element.

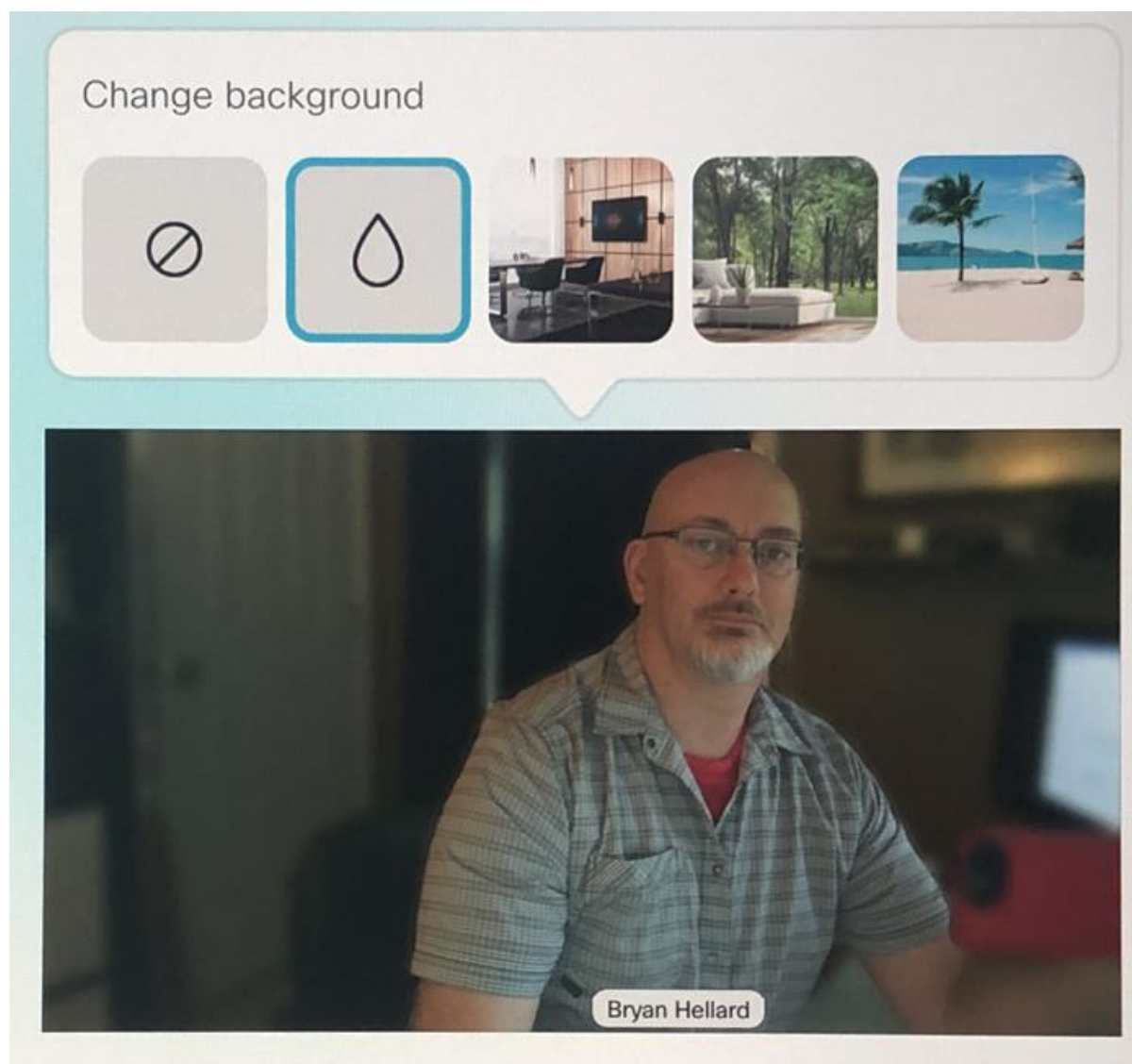
Desk Pro Blur



Source: Wainhouse, 06/2020

Within the device settings, virtual backgrounds can be enabled or disabled. Once enabled, touching the self-view image on the display shows three options: 1) blur; 2) three different background images; and 3) the ability to disable the feature. Note that if the self-view is not appearing on the display, users can touch the “Person” icon at the top right corner of the display or ask Webex Assistant to turn it on.

Desk Pro Background Options



Source: Wainhouse, 06/2020

The three stock images available for selection of the background image are “starter” images. The ability to add custom background images is on Cisco’s roadmap for the Desk Pro. When the feature is enabled eventually, custom images will be able to be added in the Desk Pro’s web portal. At the time of our evaluation, background images and blur were considered experimental features by Cisco – a status even less than beta. Cisco also indicates a USB-C or HDMI connected laptop can be the source for any image (or even looped video clip) from the laptop.

Bluetooth

The Desk Pro allows for connecting Bluetooth headsets. Once Bluetooth is enabled, headsets can be paired from the settings on the Desk Pro. For our test, we paired a Poly Focus headset and tested with both Webex Meetings and Webex Teams. The headset paired quickly and reconnected without fail, even when we repeatedly turned the headset on and off. There was no need to re-pair the devices to each other.

Digital Signage

Like the Webex Boards, the Desk Pro can be used for digital signage when the system is idle. An administrator can activate this feature from the Control Hub by selecting *Devices* and selecting the appropriate device. After device selection, a menu appears with options for that device. Selecting *Digital Signage* presents options for use including source website location and degree of interactivity.

Enabling digital signage presents content from a website onscreen. Any changes made to the digital signage configuration are immediately reflected on the Desk Pro. The use case typically will be for messaging employees with individual Desk Pros or messaging to shared units placed in telephone and huddle rooms.

If *Interactivity* is enabled, website content becomes interactive, scrollable, and navigable. If interactivity is disabled, any touch on the screen of the Desk Pro presents the main UI, halting the display of the digital signage content.

By default, audio for digital signage is disabled. This setting can be modified in the device's web portal or in the Control Hub's advanced configurations menu.

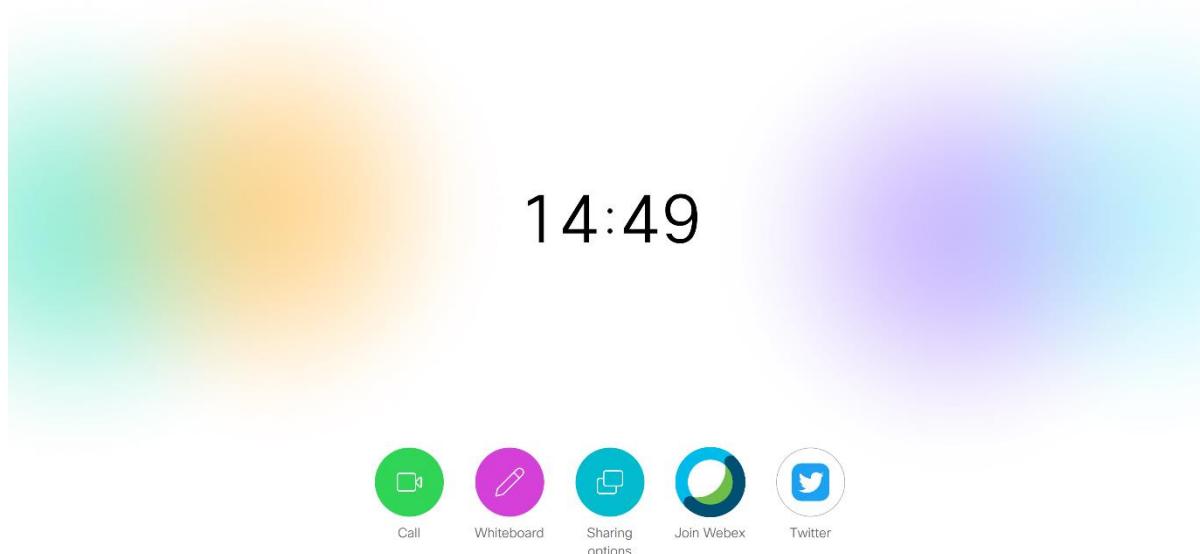
Web Apps

As on the Webex Board, Web Apps can be added to the UI of the Desk Pro using the *UI Extensions Configuration* control in the web portal of the device. From the web portal, an administrator selects *Integration*, then selects the *UI Extensions Editor*.

With so many possible options to choose from, we opted to test the social media service *Twitter* as a Web App to gauge the experience. Setup is quick and straightforward; the steps include naming the Web App and providing a URL. Selecting the export button in the Editor completes the process and the icon is immediately presented on the UI of the Desk Pro.

Desk Pro Web App

WH Lab Desk >



Source: Wainhouse, 06/2020

A specific Web App icon can consist of a custom graphic or be automatically added by the Web App. This is pulled from the browser tab icon associated with the website.

When selected, the web-based application displays full-screen on the Desk Pro with full touch capability. If the Web App requires logging into an account or other text entries, an onscreen keyboard launches for entering credentials or input information.

Overall, Web App installation process is easy, and we were able to set up, configure, and start using the Web App on the Desk Pro in less than two minutes.

We find Web Apps and digital signage capabilities primarily useful when the Desk Pro is installed in a common area. When installed on an individual user's desk, digital signage is a less significant feature and normal web browsing behavior from a connected laptop / PC will take the place of Web Apps.

Whiteboarding

The Desk Pro has a lightweight set of ideation tools, the same as those available on the Webex Board. The toolbar for selecting whiteboarding functions is located along the bottom of the whiteboard screen.

Cisco Webex Desk Pro Tools



Source: Wainhouse 06/2020

Local-Only Whiteboard Workflow

The Desk Pro uses its sensors to recognize when a user enters the room and chimes as it wakes. The system awakens from sleep mode and turns on the display. The Desk Pro also can be awakened by touching the display or, with Webex Assistant enabled, saying “OK Webex.”

In addition, the Desk Pro can recognize an individual user under the following conditions:

- The user has the Webex Teams app on a mobile device / laptop in the room.
- The Teams app on the mobile device / laptop is set to automatically connect to the Desk Pro when the user enters the room.

Selecting the Whiteboard icon from the UI launches a blank canvas and a user can begin to draw or work with ideation tools immediately.

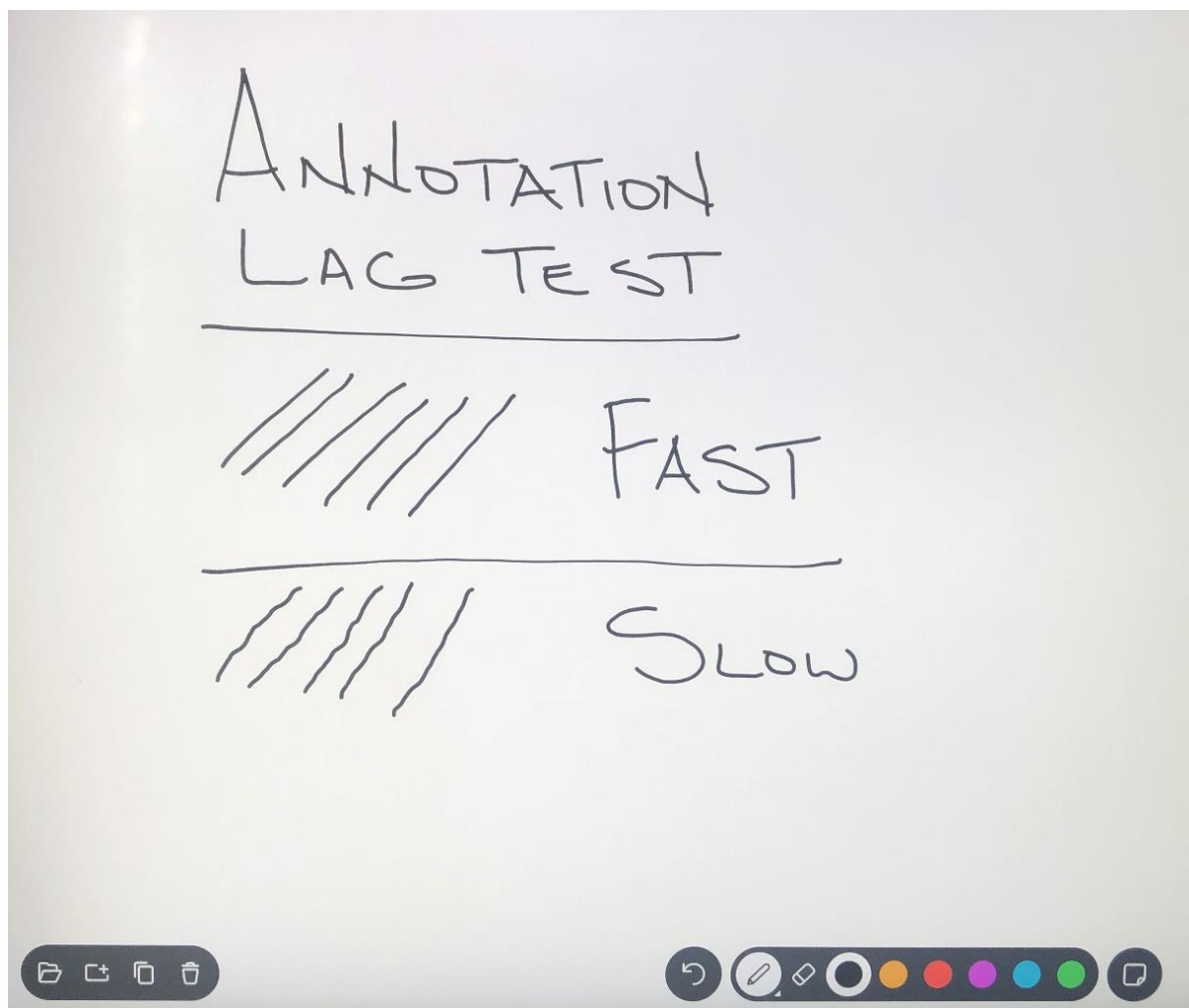
The whiteboard function cannot be started with the Webex Assistant. Of course, if one desires to use the whiteboard, they are most likely going to be close enough to the display to select the *Whiteboard* icon.

Annotating and Erasing

Three pen sizes and six colors are available for annotation. We experience next to no latency when annotating on the Desk Pro, with similar results attained using either finger or stylus, even when drawing quickly. We find this makes for accurate drawing or writing. The erase function works equally as well as the annotation function, with a single eraser size available. No discernible latency appears while erasing. When using the erasing function, the *Eraser* icon can be selected to present an option to clear the screen.

Our testing found higher accuracy the faster we annotate, as shown in our lag jitter test. Typically, the opposite is true on competing systems. Our lag jitter test is performed by drawing angled lines both fast and slow with the included stylus. The primary means for testing lag jitter is to determine how accurate users can annotate. We look for jagged lines as a measure of annotation accuracy, with the straighter the lines, the better. As the image below shows, fast annotation is very accurate. Slow drawing, however, suffers from some lag jitter. Another factor affecting accuracy is the stylus. The included passive stylus has a soft tip. Soft tip styluses suffer from users not knowing exactly where the annotation will begin or end. When we print letters, we find that it’s better to erase the whole letter and rewrite when we make mistakes, versus attempting to “fix” a given letter by erasing over only part of it and adding a fix.

Desk Pro Lag Jitter



Source: Wainhouse, 06/2020

Sticky Notes

The Sticky Note icon, located on the far right of the tool bar, presents a blank note and an onscreen keyboard for text entry to the note. Five note colors are available.

As on the Webex Boards, sticky notes only allow for text; they are not meant to support free-form annotation. Once created, text can be edited by selecting an individual note and selecting the pen icon or by double tapping a note. The color of the sticky note is editable as well.

Sticky notes can be moved by touching them with one finger or stylus and dragging them to a new location. Notes can be grouped by dragging one over the top of another and having them touch. This group then can be moved by selecting the bottom note and dragging it to the desired location. Ungrouping is performed by dragging the top note away from the note below it.

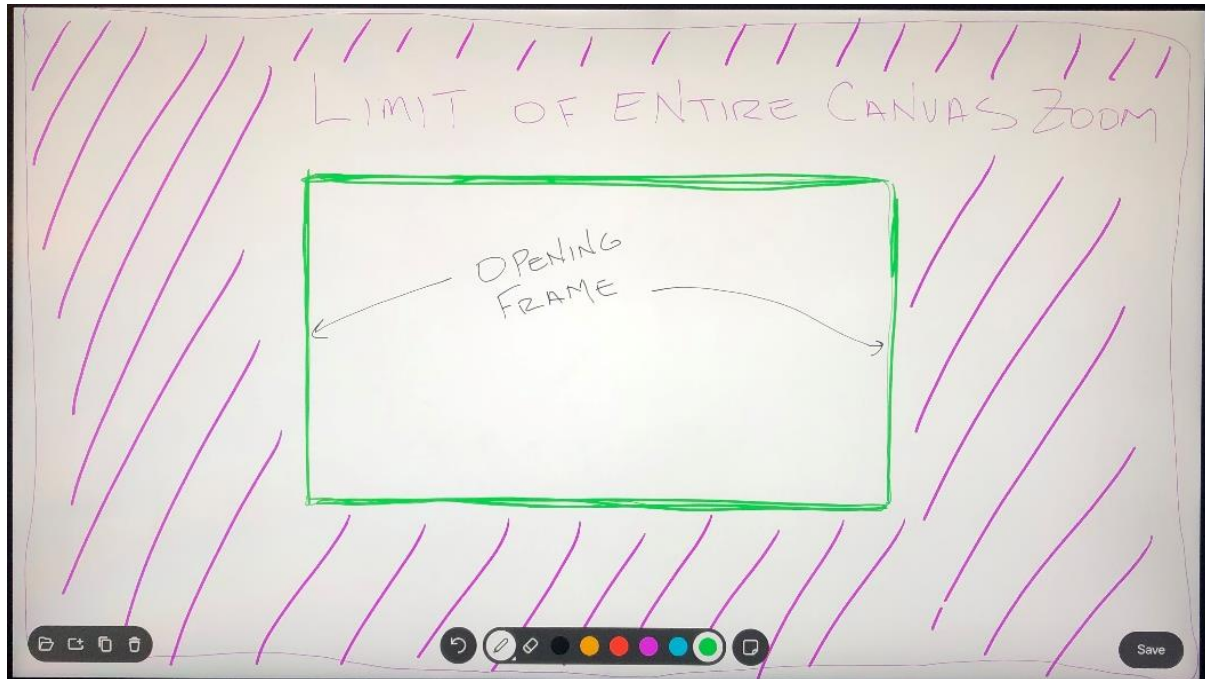
Sticky notes cannot be scaled or rotated. To view sticky notes larger or smaller on the display requires zooming the entire canvas in or out.

Canvas and Zoom

The Desk Pro utilizes a pinch-to-zoom technique. Zooming in or out can be performed with two or more fingers on one hand, two hands, or with a stylus and finger. We find the best results by simply

using two fingers on one hand. While the Board has an infinite canvas, there is a limit to the zoom capability. As shown in the image below, the green box represents the view when starting a new whiteboard. The frame can be zoomed out to approximately 200%, as represented by the purple-hashed area. Once any annotation is entered outside this limit, users are unable to see the entire canvas, but can pan up, down or side-to-side to see the whiteboard content.

Desk Pro Zoom



Source: Wainhouse, 06/2020

Exiting a Whiteboard Session

There is one minor difference between the Desk Pro and the Webex Board for exiting a whiteboarding session. When the user is done whiteboarding on the Desk Pro, they select the X icon located at the top right of the display. This exits out to the home UI of the Desk Pro. The Board utilizes a "Home Screen" button located below the display to end a whiteboarding session and return to the home UI.

Stylus

The Desk Pro ships with a passive stylus that is smaller than the one provided with the Webex Boards, and that is white to match the appearance of the Desk Pro's housing. Similar to the one provided with the Webex Board, the stylus has a soft tip. The Desk Pro ships with a single stylus and two replacement tips.

Device Management

As is typical on the other Webex devices we have evaluated, the Desk Pro can be managed from the Webex Control Hub website or through the IP address of the individual device. This is essential for enterprises wishing to manage large numbers of users and devices.

Meeting Support

Ad Hoc Meeting Workflow

The ad hoc meeting workflow is similar to that provided by the Board or Room Kit Mini, as it should be. We find a consistent user experience that is remarkably effective.

Multiple approaches are available to making calls on the Desk Pro.

From the Desk Pro:

- Select the *Call* icon.
- Begin typing the name of person to call.
- Select the name.
- Select *Call*.

Or, with the Webex Assistant enabled:

- Say “OK Webex, call (far end participant’s name).” This assumes there is a Webex Teams connection or corporate directory listing.
- Say “Yes” when the Webex Assistant audibly verifies the name asking “Call (far end participant)?”

If the remote meeting participant is using the Webex Teams app, they receive a notification dialog to answer and join the call.

Scheduled Meeting Workflow

Joining a scheduled meeting begins with a mobile device or laptop that is paired to the Desk Pro. The calendar will show the user’s meeting and include an option to join up to five minutes before the scheduled start time. The user selects the *Join* icon, then selects a secondary, confirming *Join* icon to enter the call on the Desk Pro. The transition from initiating the call on the mobile device then entering the call on the Desk Pro is seamless.

Content and Screen Sharing

Wireless Sharing

After selecting the *Sharing Options* icon from the UI, the URL *devices.webex.com* is presented on the display along with a nine-character code as shown in the image below.

Desk Pro Screen Share

Share Screen



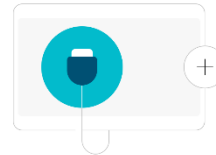
Wireless screen sharing

Use the Webex app on your device



Cable

Connect the cable to your device



Or use this code at devices.webex.com:

VZJ-E1J-LRV

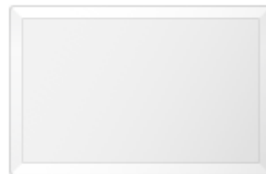
Source: Wainhouse, 06/2020

Entering the URL from a browser on a laptop intending to share takes the user to a website to enter the code. After the nine-digit code is entered, a four-digit code appears on the Desk Pro and the website requests the user to enter that code in the browser. From there, the user can perform a screen share. There is an option to optimize for motion and video, which will slightly reduce the image quality of the share, but it will be at a fluid framerate if a user intends to share video. In addition, there are options to share the entire laptop screen, an application or a Chrome browser tab.

Desk Pro Screen Share

You're connected!

You can now start sharing your screen.



WH Lab Desk

Optimize for motion and video ⓘ

 Share Screen

Disconnect

Something not working? Click the button below to upload logs.

Upload logs

Source: Wainhouse, 06/2020

When sharing wirelessly, audio is not delivered through the Desk Pro's speakers when sharing audio content, only through the speakers of the sharing laptop. As an example, a user might want to share a YouTube video; the video would play on the Desk Pro while the audio would be delivered from the laptop's speakers. Typically, when other products share audio and video wirelessly from laptops and smart devices, a significant latency develops between the audio and video streams. We note in the method the Desk Pro uses that Cisco has eliminated latency from occurring. The audio from the laptop matches the video presented from the Desk Pro closely, with only a slight lag that is only noticeable to a trained eye.

Connected Directly Via HDMI

Directly connecting a laptop via HDMI automatically starts a screen share. The image quality of the share is excellent. Video playback is fluid and there are no audio to video sync issues.

We note that certain features are unavailable when connected via HDMI, such as laptop charging and the Desk Pro camera, speaker and mics. Also, there are no touch redirect capabilities available when directly connecting a laptop via HDMI. If a user wants touch redirect, their laptop must be

connected via USB-C. A workaround is available: if you don't have a PC with USB-C you can make touch forwarding work by connecting a USB-A to USB-C cable to the system (USB-A on PC to the USB-C connector on Desk Pro) in addition to transmitting audio/video over HDMI.

Annotating in a Screen Share

When in a screen share, tapping the screen and selecting the annotation icon at the bottom left of the UI takes a screen shot of the share. The user can then annotate with the whiteboarding tools. The screen shot can be saved as a whiteboard to a new or existing Teams Space.

Call Quality Impressions

Our test calls between the Desk Pro and the Webex Teams client on a PC were at a resolution of 1280x720, between 25 – 30 frames per second (fps) and using between 1,000 – 1,600 kbps bandwidth, depending on how much motion we put into the scene.

Our test calls between the Desk Pro and Webex Board achieved 1920x1080 resolution using between 4,500 – 5,000 kbps bandwidth.

We find that using either background blur or a background image on the Desk Pro reduces the outgoing video rate to a consistent 25 fps. With the background blur / image feature disabled, we transmitted at a consistent rate of 30 fps. This reduction in framerate was experienced both with calls to the Teams PC client and to the Webex Board. We did not, however, see any change in bandwidth usage while toggling the background blur on or off, nor did we notice any degradation in call quality with this slight reduction in framerate.

Overall call quality is high on the Desk Pro. We did not experience any video lag or audio to video sync issues.

Video Quality

The image quality from the 4K camera with its 71-degree lens is excellent. There is minimal distortion to the image and the automatic gain control allows the Desk Pro to be used in a variety of differently lit rooms. The only video issue we notice is that, when introducing fast motion into the camera view, the image can become slightly blocky. This resolves itself quickly when the motion ceases.

Camera Framing Technology

Two settings are available for SpeakerTrack mode: *auto* and *off*. Enabling or disabling SpeakerTrack mode is performed in the device's browser interface. When enabled, the camera's region of interest digitally pans up or down to frame the local meeting participant. Sitting three feet away from the Desk Pro, there is approximately 10 inches of vertical panning ability, which we feel is more than enough to accommodate people of varying height. The pan is smooth and works quickly, leaving us always in frame during our testing. We note that at the service level Cisco enables use of facial recognition and name labeling during a meeting if an organization has opted in and the user has enrolled themselves to use this service.

There is no capability to horizontally pan or to zoom the image at the time of our evaluation. In the device's web interface, however, a non-enabled camera control UI resides. We expect to see this used for future zooming and bi-directional panning, and Cisco indicates 2x zoom is coming in Q3 2020.

Audio Quality

Our audio evaluation consists of several tests to determine not only the capabilities of the onboard microphones and speakers but also the experience for remote participants. Included in our evaluation are tests to determine how the system handles various noises, including computer-generated white / brown noise, ambient voices, and impact of distance from the Desk Pro.

The Desk Pro has an optional *Keyclick Detector* feature that cancels keyboard noises if no one in the room is speaking. We find that the feature works effectively, though it takes around five to six seconds to begin the keyboard noise cancelation process. When someone in the room begins to speak, their audio level increases immediately. Cisco has confirmed our speculation: an intelligent mute turns itself off when someone starts to speak, hence the quick audio volume increase. This feature can be enabled in the browser interface of the Desk Pro.

Similar to the results achieved by the Webex Board, white and brown noises are suppressed when no one in the room is speaking. When participants speak, some of the noise bleeds through but the voice quality remains high.

Ambient coffee shop noise is only slightly suppressed, but again voice quality remains high with no negative suppression effects on voices.

Microphone Capture

In our distance test, we determine how far we can be from the Desk Pro and still have the far participant be able to hear audio comfortably. We find that the audio level drops significantly beyond approximately seven to eight feet away from the system and the audio level is significantly diminished when standing and speaking behind the Desk Pro.

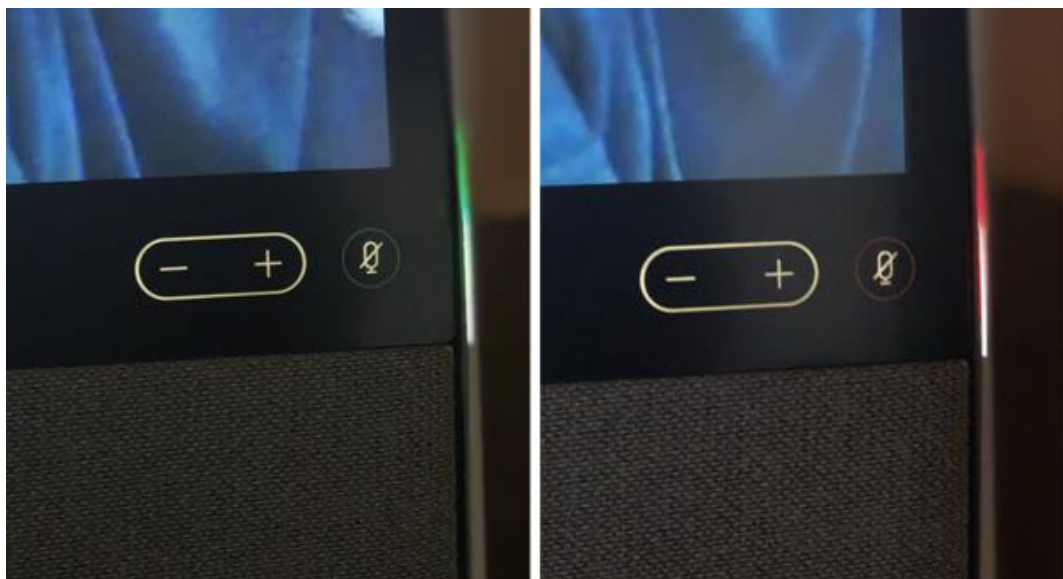
These results are expected as the use case is not to have the system in a large conference room with participants sitting around it from all angles.

Mute

Muting the microphone during a Teams call can be performed in several ways: by selecting the mute icon on the bezel of the Desk Pro, using the mute icon in the Teams app on a connected mobile device or laptop, and finally, by asking Webex Assistant.

When in a call, the mute icon displays green on the Desk Pro when the system's microphones are capturing audio. When muted, the icon displays red, giving a clear indication that the system is muted.

Desk Pro Mute Icon



Source: Wainhouse, 06/2020

Speakers

The Desk Pro provides a distinctly impressive feature: spatial audio. While we were testing a multipoint call, audio from each of the remote participants was broadcast from their relative position onscreen. It's a subtle stereo-like feature, but once it is experienced, you find yourself wishing spatial audio was available from more vendors.

We tested both music and voices through the speakers of the Desk Pro to test system volume. We experienced no distortion at the Desk Pro's maximum volume, attaining up to 95dBA with voices and over 100dBA with music.

Screen Quality

The physical screen of the Desk Pro has a slightly different tactile feel to that of the Webex Board. The Desk Pro has a smoother feel to it over the Board and an almost "sticky" quality to it when annotating with fingers. However, we did not experience any performance differences between the two.

The Desk Pro has significantly less glare than the screen of the Webex Board and smudges are less apparent on the Desk Pro than the Webex Board. Any smudges on the Desk Pro are only visible when the display is turned off.

Analysis

WH sees two primary use cases for the Desk Pro, in keeping with Cisco's approach to keep its collaboration technologies as multifunction as possible: 1) as a standalone meeting device for ad hoc calls and ideation; and 2) as a display and accessory for an executive's PC / laptop. For use case #2, the Desk Pro's speakers, microphone and camera can be used for other collaboration apps as they are selectable devices from a connected laptop. There's much to like about how the unit supports collaboration with a laptop as a primary device. For use case #1, users would be missing out on a premium experience: the touch redirect capability and the ability to access their laptop's productivity tools are unavailable.

The background blur feature is exceptional. It resembles a "bokeh photography" effect, creating a far less hard blurring than competing video applications. Perhaps Cisco is bringing its cloud-based AI to bear. The result is less distracting than the blurring effects and artifacts generated by other collaboration solutions, particularly around meeting participants' heads and glasses. We also note that when using a connected laptop and a third-party video platform such as Microsoft Teams or Zoom, the background blur function carries over and can be used with those clients. Unfortunately, using the Cisco-provided images in the background doesn't fare as well as the blur feature, but we expect Cisco will remedy this as the feature is still considered experimental.

In our testing, the Desk Pro creates an excellent experience while being utilized as a second display for a connected laptop. When a Webex / Webex Teams call or whiteboarding session ends, the UI reverts to the laptop screen. This was an unexpected highlight, showing Cisco's attention to workflow details.

We noticed during our evaluation that the display cannot be situated completely vertical while sitting at a desk. When the unit is placed on a standard height desk, our evaluator found that he preferred the option to orient his view to a perpendicular view of the device. Though the Desk Pro has an impressive viewing angle that doesn't fall off while looking at it from a below perpendicular angle, the lack of a vertical screen availability consistently led him to readjust his seating position to be as close to perpendicular as possible -- which created an uncomfortable distance for viewing. Cisco made a design choice here as the stand is a simple one that fits on the back of the unit, and they would have needed to create a different stand to enable a perpendicular view. This issue will vary by user preference; to some it may matter, to others it will not.

What We Like

The Cisco Desk Pro:

- Provides an exceptional audio / video / content experience when used as a standalone video conferencing and ideation device. It also provides excellent display quality when used as an extended monitor to a laptop.
- Delivers functions similar to those experienced on Webex Boards, such as Web Apps. These reduce the need for a primary laptop and extend the value into shared workspaces.
- Offers excellent audio such that users will not need ancillary PC speakers if used on an executive or knowledge worker desk.
- Provides a quality spatial audio experience in multipoint calls.
- Offers a background blur feature that is sterling, and for now above and beyond any competitor functionality in this regard.

- Includes a touch redirect quality that is superior to any we have experienced in all of our testing thus far. It's smoother and there's no lag at all, unlike comparable products with touchback we have tested from other vendors.
- Features a nice touch in its volume and mute soft keys on the front of the display.
- Includes impressive camera framing technology that works elegantly for a single-desk user. The automatic vertical panning function is superb.
- Is a highly versatile unit: it can be used on a desktop but just as easily be placed in a huddle or telephone room.

Areas for Potential Improvement

- The table mount does not permit the Desk Pro to sit completely vertical. This may result in an uncomfortable view for some users.
- The capability of using a background image could be improved.
- A deeper set of camera controls via electronic PTZ (which we believe is coming soon via software update). Having said that, our hope is that the current vertical-pan-only ability will remain an option. We would hate to see this go away based on our description of it above.
- Sticky notes cannot be scaled or rotated.

The following table represents our take on the Cisco Webex Desk Pro. Fully black Harvey ball = 4, highest rating. Empty Harvey ball = 0, lowest rating

Cisco Webex Desk Pro Rating

| Feature | Rating |
|--|--------|
| Video quality | ● |
| Screen quality | ● |
| Speaker quality | ● |
| Microphone quality | ● |
| Webex Assistant | ● |
| Wireless pairing from mobile | ● |
| Speaker tracking | ● |
| Facial recognition | ● |
| Canvases | ◐ |
| Canvas zoom | ◐ |
| Canvas size | ◐ |
| Pen widths | ◐ |
| Pen colors | ◐ |
| Sticky Notes | ◐ |
| Annotation Latency | ● |
| Writing precision / Accuracy | ◐ |
| Touchscreen finger annotation | ● |
| Touchscreen finger erase | ● |
| Palm rejection | ○ |
| Ability to use pen and eraser simultaneously | ○ |
| Touch redirect quality | ● |
| Webex Teams App | ● |
| Laptop connectivity | ● |
| Overall user-friendliness | ● |

Source: Wainhouse, 07/2020

We think Cisco has a keeper in the Desk Pro. It remains at the upper corner of the cost quadrant, but also at the same upper corner of the value quadrant. Certain features outperform anything on the market. We like the concept of taking its approach to interactive touch and how it is blending hardware functionality with software functionality. This must have been tricky, like threading a needle in a universe of UC Boards, video bars, interactive touch displays with attached PCs, and the looming (but unaccounted for) Microsoft Surface Hub 2S cartridge enhancements. For the time being, Cisco has a very strong edge in the Desk Pro.

About Us

About the Authors

Alan D. Greenberg, Senior Analyst & Partner. Located in Austin, TX, Alan is an expert in collaboration and conferencing applications for meeting rooms and classrooms. He specializes in ideation technologies, video conferencing, web conferencing, and video-centric products and services. He has consulted extensively to end user organizations, vendors, and service providers and has published white papers/research notes and conducted webinars on an array of topics. Alan is a Burke Institute-trained focus group moderator and winner of the 2010 U.S. Distance Learning Association Outstanding Leadership Award. He has held past marketing positions with VTEL, Texas Instruments, G.P. Putnam & Sons, and others. Alan holds an M.A. from the University of Texas at Austin and a B.A. from Hampshire College, Amherst MA.

Bryan Hellard is a Researcher at Wainhouse where his primary focus is product evaluation and testing. He has 20 years' experience in the industry across several roles including product engineering and management, R&D, and end user consulting. Prior to Wainhouse Research, he was President of True View Video where he developed video conferencing related products and consulted with end users on best practices for collaboration. Bryan has also been a consultant to video collaboration vendors providing product design services. He lives in the Cincinnati, Ohio area.

About Wainhouse

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