**Videobar VB1** all-in-one USB conferencing device

ARCHITECTS’ & ENGINEERS’ SPECIFICATIONS

November 2023

The USB conferencing device shall be designed for small to medium Bring Your Own Meeting (BYOM) spaces: huddle spaces, conference rooms, or any rooms up to 6 × 6 meters (20 × 20 feet). The USB conferencing device shall consist of a 4K ultra-HD camera, beam-steering microphone array, powered loudspeakers, plug-and-play USB connectivity, and onboard wired Ethernet and Wi-Fi connectivity. The USB conferencing device shall operate in a room depth up to 6 meters or 20 feet without extension microphones. It shall function as a USB peripheral providing microphone, speakerphone, and camera functions for a BYOM device, host computer, or integrated room kit running a Unified Communication (UC) client service such as Microsoft Teams, Zoom, and Google Meet.

The ultra-HD camera shall support a field of view of 123° diagonal × 115° horizontal × 81° vertical with a 5x digital zoom. Digital pan-tilt-zoom (DPTZ) shall be supported with three configurable presets. Group autoframing shall be supported with configurability for headroom, zoom speed, pan/tilt speed, and border size. Autoframing mode shall be user-selectable (enabled or disabled) and automatically disabled when manual camera controls are invoked from the IR remote. Camera image processing shall have automatic white balance, automatic brightness, and digital noise reduction. The camera resolution shall support 2160p (4K), 1080p, 720p, 960×480, 848×480, 640×480, 640×360, and 432×240.

The beam-steering microphone array shall consist of six individual elements that digitally form into four discrete beams with a pickup range of 6 meters or 20 feet without extension microphone(s). Their frequency range shall be 20 Hz to 15 kHz (-3 dB). The microphone array shall support static and adaptive dynamic beam-steering, three exclusion zones, stereo acoustic echo cancellation (AEC), automatic gain control (AGC), automatic microphone mixing (AMM), adaptive equalization, and digital noise suppression.

The integrated loudspeaker system shall be self-powered and support true stereo capability. Its performance shall include dynamic equalization and processing over an ultra-wide frequency range to support multimedia presentations, Bluetooth audio sources, and conferencing applications. It shall consist of two transducers with a frequency response of 85 Hz to 20 kHz (-10 dB). The integrated amplifier shall consist of two dedicated output channels with 20W for each loudspeaker transducer.

The USB conferencing device shall have a USB-C port enabling a single-cable connection to a host computer for bidirectional communication. The USB connection shall support USB 3.0, UAC, UVC, and HID with backwards compatibility to USB 2.0. The single-cable connection shall provide transmission of the USB conferencing device’s microphone and camera streams to the host computer. The same single-cable connection shall also receive the host PC’s audio for playback to the USB conferencing device’s loudspeaker system.

The USB conferencing device shall have an HDMI output to connect to an external video display. The video signal shall be sent from the host PC (with integrated DisplayLink support) over the single-cable USB connection to the HDMI output to mirror or extend the host computer’s display to the external video display.

The USB conferencing device shall support Bluetooth connectivity with 4.2 HSP, A2DP, AVRCP, and BLE profiles. A 3.5 mm stereo audio input shall be provided. The loudspeakers shall have a mute circuit that is triggered by a two-pin Euroblock general-purpose input with configuration for normally open (active high) or normally closed (active low) operation.

The USB conferencing device shall be Ethernet-enabled with independently addressable wired and wireless network interfaces. The wired connection shall be 1 Gbps Ethernet (IEEE 802.3-compliant) via an RJ-45 network port. The wireless connection shall support IEEE 802.11ac-compliant Wi-Fi. The device shall support configuration via an integrated web browser accessible through both network interfaces. Alternatively, configuration shall be supported over USB using a configuration software application that runs on Windows or macOS and can also support SNMP, REST, or WebSocket API. The device shall also incorporate remote management, configuration, and real-time control/status and allow for easy single-unit or system-wide changes through a management software application that can also support SNMP, REST or WebSocket API.

The USB conferencing device shall be controllable by the end-user via an included infrared remote control or a free mobile app downloadable from Google Play or the App Store. The end-user shall be able to control the camera position, zoom ratio, and presets as well as activate or deactivate autoframing. The end-user shall be able to adjust the loudspeaker volume level, mute or unmute the microphones, and connect or disconnect Bluetooth devices. The system administrator shall be able to supersede end-user control of the USB conferencing device via a supplied software application that enables them to activate, deactivate, or limit end-user control of the camera, loudspeakers, or microphones. The USB conferencing device shall also include buttons for Bluetooth connection and mute control on its side panel.

The USB conferencing device shall provide visual indications of the status of its camera, loudspeaker volume, and connectivity via a light bar, Bluetooth indicator, and mute indicator below the camera lens. The USB conferencing device shall be installable on standard drywall, on a table using an included tabletop stand, or above or below the room's video display using a VESA-compatible display mounting kit or pre-installed mud ring (compatible with North American electrical devices).

The USB conferencing device shall be the Bose Professional Videobar VB1.

The configuration software application shall be the Bose Professional Videobar Configuration app.

The management software application shall be the Bose Professional Videobar Management app.

The display mounting kit shall be the Bose Professional Videobar Display Mounting Kit.

The mud ring shall be the Bose Professional Videobar Mud Ring.