XB5 • AV-over-IP Conferencing Bridge

Seamless BYOD collaboration with a single USB-C connection

Overview

The Visionary XB5 AV-over-IP Conferencing Bridge is a next-generation USB-C to AV-over-IP bridge engineered for Unified Communications and Collaboration (UCC) environments. Designed to simplify BYOD conferencing and hybrid collaboration, the XB5 connects a user's laptop to an enterprise network-based AV system with a single USB-C cable — carrying video, audio, Ethernet, and power through one plug-and-play connection.

Built for modern conference rooms, classrooms, and huddle spaces, the XB5 seamlessly integrates BYOD USB-C devices into Visionary's PacketAV® network ecosystem, transforming personal laptops into fully functional endpoints within a professional UCC workflow. With 4K60 4:4:4 video, high-definition audio, and up to 100 W of USB-C charging, the XB5 provides a direct, wired link that eliminates reliance on Wi-Fi, ensuring consistent connectivity and predictable performance for critical conferencing and collaboration sessions.

The XB5 supports UVC (USB Video Class) and UAC (USB Audio Class) standards for native compatibility with Windows®, macOS®, and ChromeOS™ — no drivers or software required. It enables immediate interoperability with leading UCC platforms such as Microsoft Teams®, Zoom®, Google Meet®, Webex®, and others, allowing users to join meetings instantly while leveraging the room's networked AV resources. When connected, the XB5 bridges the user's device to Dante® and AES67-enabled microphones, loudspeakers, DSPs, and displays, allowing full control and use of high-performance AV hardware during any soft-codec session.

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Engineered on Visionary's ultra-low-latency, visually lossless streaming architecture, the XB5 delivers real-time responsiveness and pristine media quality across standard Gigabit networks. Its fanless, PoE+ powered design simplifies deployment and ensures silent operation in acoustically sensitive environments, while an optional external power adapter supports full 100 W USB-C charging when higher device power delivery is needed.

By combining single-cable simplicity, AV-over-IP performance, and UCC platform interoperability, the Visionary XB5 redefines how organizations enable unified communications in high-value meeting spaces. The XB5 brings together the convenience of USB-C connectivity, the reliability of wired networking, and the scalability of IP-based AV - empowering effortless, high-quality collaboration across today's enterprise environments.

Features

Single-Cable Connection

- Simplifies connectivity at the conference table by combining video, audio, Ethernet, and power into a single USB-C cable. Users can plug in once to instantly connect their laptop to the room's networked displays, cameras, microphones, and speakers — no adapters or extra cables required.

USB-C Interface with Power Delivery

- Supports 4K60 4:4:4 video, high-fidelity audio, data, and up to **100 W of USB-C charging power** through one cable. Keeps BYOD laptops powered during meetings while simultaneously routing AV and data across the network.

Note: Source devices must support DisplayPort Alt Mode for USB Type-C or Thunderbolt.

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Features cont.

Universal Platform Compatibility

- Operates natively with Windows®, macOS®, and ChromeOS™ devices using standard UVC (USB Video Class) and UAC (USB Audio Class) protocols. No drivers or software installation are required, ensuring plug-and-play operation for virtually any user device.

Soft-Codec Integration

- Enables seamless conferencing with **Microsoft Teams®, Zoom®, Google Meet®, and other USB-based collaboration platforms**, allowing users to leverage the same professional-grade room AV infrastructure for familiar soft-codec applications.

Professional AV Network Integration

- Bridges personal devices directly to Visionary's PacketAV® ecosystem, connecting laptops to networked displays, cameras, Dante® microphones, loudspeakers, and DSPs. Users gain immediate access to the room's professional AV system for high-quality meetings and presentations.

21:9 Ultrawide Display Support

- Supports 21:9 aspect ratio video for next-generation ultrawide conferencing displays. Enables immersive meeting experiences with enhanced layouts such as Microsoft Teams Front Row and other collaboration platforms designed for panoramic viewing and inclusive participant engagement.

Reliable Wired Networking

- Provides a dedicated Ethernet connection, removing dependence on shared or unreliable Wi-Fi networks. Ensures stable bandwidth, consistent performance, and superior quality for BYOD conferencing sessions in high-density environments.
- Fast Ethernet (10/100 Mbps)

Fanless, Silent Design

- Features a solid-state, fanless architecture for silent operation and improved reliability. Ideal for boardrooms, classrooms, and other acoustically sensitive environments where noise is undesirable.

Optional External Power Adapter

- When full 100 W USB-C laptop charging is required, the XB5 supports an external power supply for maximum device compatibility and flexibility in higher-power BYOD applications.

AES67 and Dante® Audio Support

- Provides embedded and de-embedded network audio integration for professional AV environments. Allows easy routing of room microphones, loudspeakers, and DSP-processed signals over standard IP infrastructure.

Dynamically Optimized (Adaptive) bit-rate compression CODEC w/ built-in AI

- Visionary's highly efficient video compression codec is a modified full frame encoding that dynamically optimizes for fine lines (computer generated graphics) or motion video by using sophisticated AI to analyze the input source content. Actively matching the level of compression to a scene by leveraging periods of low motion video content reduces the stream's size and enhances performance - enabling, without compromising image quality, Visually Lossless transmission of computer generated graphics or full-motion video sources.
- Adjustable Video Bitrate: (50 – 200 Mbps or Auto [800Mbps max])

Single Main Gigabit LAN Port for 4K60 4:4:4 Video, Dante®/AES67, Control, and Powered Device (PD)

- A single Ethernet port for Video over IP and Dante®/ AES67 audio embedding and de-embedding, with VLAN tagging capability to separate Audio & Video network traffic as needed.

Auto Video Scaler

- No need to worry about configuring the source resolution
- 4K in/1080P out, 1080P in/4K out

Independent Routing

- Independently route all signals with the ability to separately matrix video, audio (including Dante®/AES67), USB.

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Features cont.

Enterprise Level Security –AES Encryption, 802.1x, HTTPS, SSHHTTPS, SSH

Enterprise applications demand a secure Network AV solution

- AES Stream Encryption - The Advanced Encryption Standard, or AES, is a worldwide standard and was adopted as the standard encryption algorithm by the U.S. government for encrypting classified information
- HTTPS Secure API - Using secure SSL/TLS communications HTTPS provides integrity that a client is communicating with the real API and receiving back authentic data. It also ensures privacy for applications and users using the API
- 802.1x Authentication for Network access control - 802.1X provides a secure authentication mechanism for any device trying to access a network
- SSH Network Protocol - SSH is a network protocol used to remotely access and manage a device through command line communications. The key difference between Telnet (used by other AV over IP manufacturers) and SSH is that SSH uses encryption, which means that all data transmitted over a network is secure

Full Motion MJPEG Substream

- Maximize bandwidth efficiency and enhance video quality with a full motion MJPEG substream, delivering smooth, high-quality video feeds for preview or monitoring purposes without impacting the primary 4K60 4:4:4 video stream.

LLDP Support

- Link Layer Discovery Protocol (LLDP) is a protocol used by network devices for advertising their identity, capabilities, and neighbors on a local area network based on IEEE 802 technology
- Allows for dynamic control of endpoints based on automatic discovery of physical location

4K60 4:4:4 Video Support

- Experience ultra-high-definition video with 4K resolution at 60 frames per second and full 4:4:4 color sampling for unparalleled image quality, suitable for professional applications where every detail matters.

Seamless Fast Switching

- Tearing free, no black screen, no frame lock

Control

- Vision Lite Control Software
- 3rd Party Control Drivers [Crestron, QSC, Symetrix, etc.]
- *API providing access to the full range of features offered to qualified System Integrators

Isochronous USB 2.0 over IP

- Enables real-time data transfer for USB devices, such as webcams and microphones, over the network from any decoder to the XB5. This feature simplifies the deployment of video conferencing solutions and offers greater flexibility in AV system design. By leveraging the AV over IP infrastructure, it allows seamless integration and extension of USB peripherals. *** Supports Data Limits up to 200Mb

QoS Support

- Quality of Service (QoS) is an advanced feature that prioritizes network traffic resulting in performance improvement for critical network traffic

Dynamic OSD text overlay capabilities

- The ability to overlay dynamic or fixed text on screen enables displaying of alerts, announcements, special instructions, clocks / timers, schedules, and other messaging

HDMI 2.0 and HDCP 2.2, 2.3 Compliant

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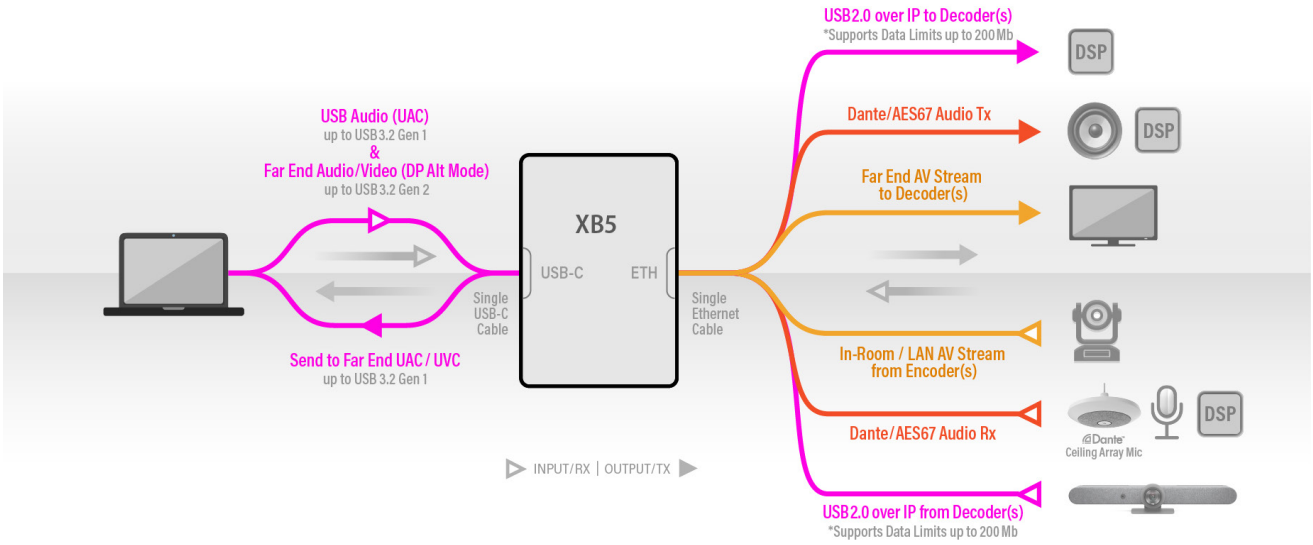
Benefits

- Effortless BYOD Connectivity
- Simplified Meeting Experience
- Professional-Grade AV Performance for Soft-Codec Platforms
- Reliable, Wired Network Connection
- Seamless Integration with Room AV Infrastructure
- Superior Audio Experience
- Clean, Uncluttered Installations
- Silent, Reliable Operation
- Cross-Platform Plug-and-Play
- Reduced System Complexity and Cost
- Consistent Experience Across Rooms and Campuses
- Scalable for Enterprise Deployment
- Eliminates need for separate AV Bridging hardware
- A single Gigabit LAN Port for PoE+ Power, 4K60 4:4:4 Video, Dante®/AES67, and Control
- Secure Network Isolation - VLAN Tagging separates AV traffic on the corporate network
- Capture, record, and stream meetings directly to PC (USB-C)
- Acts as an in-rack or Bring Your Own Device (BYOD) endpoint for presentation sharing and conferencing applications
- Easy Control Integration
- Ultra-low Latency
  [Sub-frame ~2ms visually lossless]
- Utilize existing network resources
- Rapid deployment
- Single network for AV and IT
- Reduced operating costs

AV Workflow



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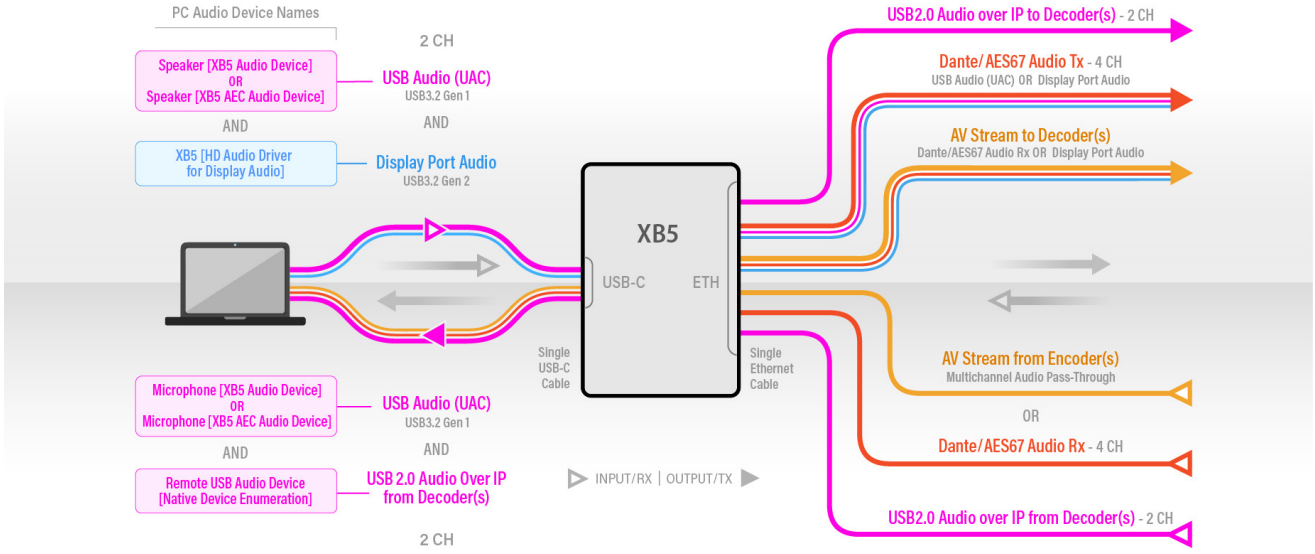
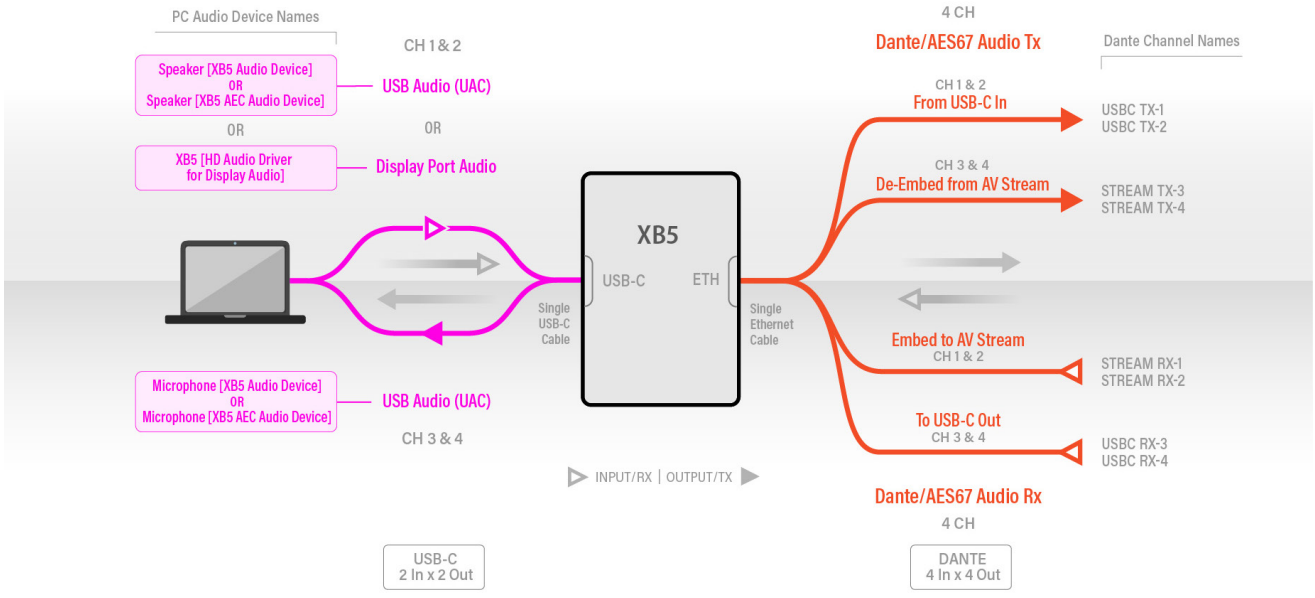
Audio Workflow



Dante®/AES67 Audio Workflow



LAN POE+ | USB-C POWER | USB-C | PWR LINK | PWR LINK

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Specifications

Encoding/Decoding	
Video Codec	JPEG2000 based visually lossless video compression algorithm
Audio Codec	Dante® / AES67
Bit Rates	50 to 800 Mbps
Latency	Ultra-Low Latency Sub-Frame (visually lossless video) ~2ms @ 1080p60 & 4K60 4:4:4 ~4ms @ 1080p30 & 4K30
Streaming Protocols	IP, UDP, TCP, ICMP, IGMP
Copy Protection	HDCP 2.2, 2.3 AES-256 Encryption
Video	
Maximum Resolutions	High Dynamic Range (HDR) 4K60 4:4:4 HDR 8 bit 4K30 4:4:4 HDR 12 bit 1080p60 4:4:4 HDR 12 bit 1080p30 4:4:4 HDR 12 bit Supports HDR10, HDR10+, HLG, Dolby Vision
Input Signal Types	1x USB-C (up to USB3.2 Gen 2) capable of receiving source input video formats up to 4K60 4:4:4 (DisplayPort Alt Mode for USB Type-C or Thunderbolt)
Output Signal Types	1x USB-C (up to USB3.2 Gen 1) capable of scaling and outputting video formats up to 4K60
Scaler	Supports a wide range of resolutions and rates, up to 4K in/1080P out, 1080P in/4K out Integrated scaling helps optimize image quality and switching performance
Audio	
Input Signal Types	USB3.2 Gen 1 DP Audio, Dante®/AES67 Network Audio • 1 Dante/AES67 Digital Input de-embedded from Display Port (up to 4 channels) • 1 Digital Audio Input via (UAC) (up to 2 channels) • 1 Display Port Digital Audio input (NLPCM pass-through)
Output Signal Types	USB3.2 Gen 1 DP Audio, Dante®/AES67 Network Audio • 1 Dante/AES67 digital audio output (up to 4 channels) • 1 Digital Audio Output via (UAC) (up to 2 channels) • 1 Display Port Digital Audio output (NLPCM pass-through)
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby True HD, Dolby Atmos, DTS ®, DTS-ES, DTS96/24, DTS-HD High Res, DTS-HD Master A udio, DTS:X, LPCM up to 8 channels.
Dante™/AES67	24-bit 48 kHz

Communication & Control of External Devices	
Ethernet	Network connectivity for control and IP traffic pass-through to remote LAN devices
USB	Up to USB3.2 Gen 2 host or device signal extension & routing
DP Alt Mode	HDCP 2.2, 2.3, EDID
Connectors	
LAN	8-pin RJ-45 connector, female; 100BASE-TX / 1000BASE-T Ethernet port / PD port POE+ (IEEE 802.3at)
USB-C 1	(1) USB Type C connector, female; with screw locking option
USB-C 2	(1) USB Type C connector, female; with screw locking option (power for charging pass-through)
Power	
Power Consumption	15 W typical
Environmental	
Cooling	Convection / no fan (no moving parts)
Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	51.2 BTU/hr
Acoustic Noise	0 dBA
Form Factor	
Dimensions	Height: 1.1 in. (28 mm) Width: 5.74 in. (146 mm) Depth: 8.86 in. (225 mm)
Weight	1.0 lb (0.45 kg)
Compliance	
	CE, FCC, C-tick, RoHS, WEEE

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Dimensions