

E5-WP-BT • Wallplate Encoder w/Bluetooth®

Powerful AV Encoding in a convenient, Wallplate form-factor

Overview

Introducing Visionary Solutions' next-generation E5-WP-BT 4K60 4:4:4 AV over IP wallplate encoder with Bluetooth®. Based on the proven performance and flexibility of our previous generation PoE 4K UHD over IP encoders and decoders, the E5-WP-BT is designed to meet the growing demand for 4K video distribution in converged AV/IT environments.

The E5-WP-BT wallplate encoder delivers cinema-quality 4K60 4:4:4 video with ultra-low latency (sub-frame), ensuring visually lossless performance for applications that require high-resolution and real-time video playback.

The E5-WP-BT is equipped with Bluetooth® technology, enabling wireless audio streaming from compatible devices, simplifying audio integration and enhancing user experience in meeting rooms, classrooms, and other collaborative spaces.

The PacketAV® AV over IP products, including the E5-WP-BT, can be deployed on any industry-standard IP network, whether on existing enterprise networks or physically separate parallel networks, providing the flexibility to offload video traffic without intermingling with data or voice.

The E5-WP-BT wallplate encoder supports Power over Ethernet (PoE), reducing the need for additional power supplies and simplifying installation.

The E5-WP-BT harnesses the power of converged IP networks to bypass



the constraints of traditional switch matrix distribution systems. This approach ensures a scalable and future-proof solution for professional AV designers and IT directors seeking an alternative to conventional distribution systems.

With the ability to operate on existing enterprise IP networks or private networks, the E5-WP-BT wallplate encoder offers seamless integration, delivering reliable and high-quality AV over IP distribution while minimizing network impact.

Embrace the future of AV distribution with Visionary Solutions' E5-WP-BT 4K60 4:4:4 AV over IP wallplate encoder with Bluetooth®. Designed for easy installation and compatibility with industry-standard IP networks, the E5-WP-BT is the perfect solution for professionals looking to leverage the power of converged AV/IT environments to meet the growing demand for 4K video distribution.

Features

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.

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.

Bluetooth® Audio Connectivity

- Bluetooth® 5.0 for extended range, faster data throughput, and more reliable connections
- Supports both A2DP profile for media streaming and Hands Free Profile (HFP) for bi-directional smartphone bridging
- Connect easily and share audio from your Mac, Laptop, Tablet, Mobile, and Other Bluetooth® enabled devices

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Features cont.

Native AES67 Audio Support

- Seamlessly integrates with AES67 audio networks, enabling high-quality, low-latency audio transmission over IP. Ensures full interoperability with other AES67-compliant devices for professional audio applications.

One Gigabit LAN Port for 4K UHD 4:4:4 Video and Control

- A single Ethernet port for AV over IP and POE Power Input

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])

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

QoS Support

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

Seamless Fast Switching

- Tearing free, no black screen, no frame lock

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

Independent Routing

- Independently route all signals with the ability to separately matrix video & audio

Control

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

HDMI 2.0 and HDCP 2.2, 2.3 Compliant

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Benefits

- A single Gigabit LAN Port for PoE Power, 4K60 4:4:4: Video, and Control
- Secure Network Isolation - VLAN Tagging separates AV traffic on the corporate network
- Easy installation in a wall, floor, or lectern
- Mounts into standard Decora style wallplates
- Easy Control Integration
- Ultra-low Latency [Sub-frame ~2ms visually lossless]
- Low bitrates
- No fiber or 10 Gigabit switch required
- Low-Cost network switches are used
- Scalable / Unlimited Distribution
- Any number and combination of inputs/outputs [in increments of one]
- Standard network cabling [CAT5e/6]
- Utilize existing network resources
- Rapid deployment
- Single network for AV and IT
- Reduced operating costs

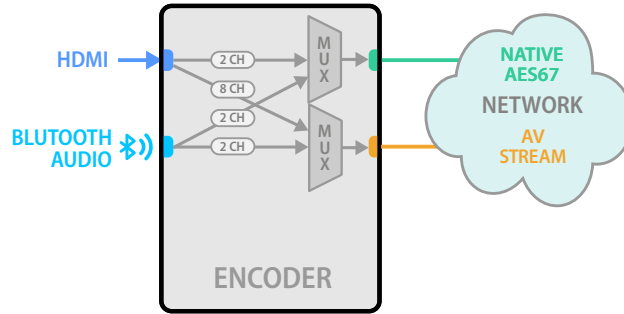
Fits conveniently into a 2-gang US or UK back box with no modification

- Low Heat / Power: Natural convection via vent openings on front, sides, and top
- 45 Degree Ethernet connector allows easy access from any side of electrical boxes while providing bend radius relief for category cable.



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Audio Workflow



Specifications

Encoding/Decoding	
Video Codec	JPEG2000 based visually lossless video compression algorithm
Audio Codec	LPCM, Native 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 (Encoder)	1x HDMI capable of receiving source input video formats up to 4K60 4:4:4
Audio	
Input Signal Types	HDMI Audio and Bluetooth® Stereo Audio • 1 digital input de-embedded from HDMI • 1 Bluetooth® Stereo Audio input (A2DP)
Output Signal Types	HDMI Digital Audio (NLPCM pass-through), Native AES67 Network Audio • 1 digital audio output via HDMI • 1 Native AES67 digital audio output (up to 2 channels)
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio, DTS:X, LPCM up to 8 channels.
Analog Formats	Stereo 2-channel
Analog-To-Digital Conversion	24-bit 48 kHz
Digital-To-Analog Conversion	24-bit 48 kHz
Native AES67	24-bit 48 kHz
Analog Output Volume Adjustment	-80 to +20 dB

Communication & Control of External Devices	
Bluetooth® Profiles	A2DP - Stereo Audio is streamed from a Bluetooth® device and embedded into the AV (HDMI) stream and/or simultaneously onto the AES67 network
	HFP (Hands Free Prole) - bi-directional pairing to a cell phone for call bridging
Bluetooth® Pairing Button	Blue LED: Pairing Status
Bluetooth® Range	10m (30ft) minimum. Typical Range is 14 - 23m (46 - 75ft)
HDMI	HDCP 2.2, 2.3, EDID
Connectors	
LAN	8-pin RJ-45 connector, female; 100BASE-TX / 1000BASE-T Ethernet port / PD port POE (IEEE 802.3af)
HDMI INPUT	(1) HDMI Type A connector, female; HDMI digital video/audio input
Power	
Power Consumption	12 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	25 BTU/hr
Acoustic Noise	0 dBA
Form Factor	
Dimensions	Height: 4.07 in. (103.4 mm) Width: 3.61 in. (91.8 mm) Depth: 2.25 in. (57.2 mm)
Weight	1.0 lb (0.45 kg)
Compliance	
	CE, FCC, C-tick, RoHS, WEEE, TAA

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Dimensions • (in mm)

