E5-WP • Wallplate Encoder

Powerful AV Encoding in a convenient, Wallplate form-factor

Overview

Visionary Solutions introduces the next-generation E5-WP 4K60 4:4:4 AV over IP wallplate encoder, a cutting-edge solution for professional AV distribution in today's converged AV/IT environment. Building on the success of Visionary's PoE 4K UHD over IP encoders and decoders, which offer cinema-quality video and ultra-low latency, the E5-WP brings advanced capabilities and streamlined design for seamless integration in any installation.

The E5-WP wallplate encoder delivers stunning 4K60 resolution with 4:4:4 chroma subsampling, ensuring vibrant colors, crisp detail, and smooth motion handling for an unparalleled visual experience.

With an impressive sub-frame latency, the E5-WP provides visually lossless performance, making it the ideal choice for real-time applications, such as live events, video conferencing, and interactive displays.

The E5-WP can be deployed on any industry-standard IP network, whether it's an existing enterprise network or a physically separate private network. This versatility enables AV designers and IT directors to offload video traffic without intermingling it with data or voice, ensuring optimal performance and security.

The E5-WP's PoE capabilities simplify installation and cable management by providing power and data connectivity through a single Ethernet cable.

The E5-WP's sleek wallplate form factor allows for discreet installation in conference rooms, classrooms, or other professional environments, while maintaining easy accessibility for users.

Leveraging Visionary's PacketAV® AV over IP technology, the E5-WP bypasses the limitations of traditional switch matrix distribution systems, harnessing the scalability and flexibility of converged IP networks for superior performance and adaptability.

Embrace the future of AV distribution with the E5-WP 4K60 4:4:4 AV over IP wallplate encoder from Visionary Solutions. Designed for today's converged AV/IT environments, this innovative solution delivers unparalleled video quality, ultra-low latency, and unmatched versatility to meet the growing demands of 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.

Isochronous USB 2.0 over IP

- Enables real-time data transfer for USB devices, such as webcams and microphones, over the network. 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.

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.

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Features cont.

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])

Gigabit LAN Port for 4K60 4:4:4 Video, Control, and Powered Device (PD)

- A single Ethernet port for AV over IP, KVM over IP, USB over IP and RS-232 over IP, and POE Power Input

Mass Configuration

- Auto Discover all endpoints on the network, export to .CSV file (all configurable parameters included), make changes offline, upload .CSV file through embedded web page of encoder/decoder and push configuration to the network

- No external software required – mass configuration capabilities built into the endpoint embedded webpage UI

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

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

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

Independent Routing

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

Seamless Fast Switching

- Tearing free, no black screen, no frame lock

HDMI 2.0 and HDCP 2.2, 2.3 Compliant

NETWORK AUDIO VIDEO

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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 separatesAV 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
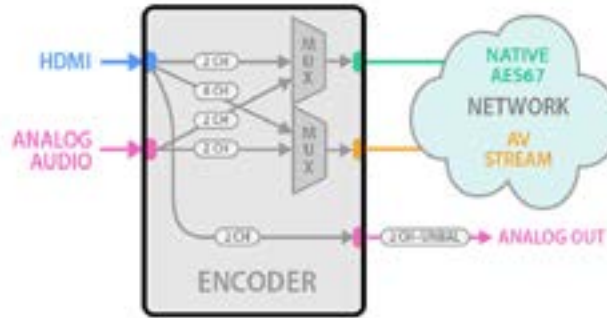
- Reduced operating costs

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, Stereo Analog • 1 digital input de-embedded from HDMI • 1 analog stereo input (unbalanced)
Output Signal Types	HDMI Digital Audio (NLPCM pass-through), Analog Stereo Audio, Native AES67 Network Audio • 1 analog stereo audio output (unbalanced) • 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	
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
3.5mm Barrel	Analog Stereo Input (unbalanced)
3.5mm Barrel	Analog Stereo Output (unbalanced)
3.5mm Barrel	IR over IP Input
3.5mm Barrel	IR over IP Output
3.5mm Barrel	RS232 over IP

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

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Dimensions • (in mm)

Top

84

15.2

91.8

32.8

103.4

23   23

66.8

Front

64

40.7

5   50.6

Side