DuetE5-WP • Duet Wallplate Encoder

Powerful 4K60 4:4:4 AV Encoding in a convenient, Wallplate form-factor

Overview

Visionary Solutions has once again redefined networked AV with the next-generation DuetE5-WP 4K60 4:4:4 Wallplate AV over IP Encoder. Building on the successful PacketAV® Duet Wallplate Encoder, which revolutionized AV convergence by offering a single platform for Dante®/AES67 audio and Video over IP in a convenient wallplate form-factor, the DuetE5-WP takes audiovisual performance to new heights.

The DuetE5-WP delivers stunning 4K60 4:4:4 video quality, ensuring accurate color reproduction and smooth motion handling for the most demanding applications and immersive experiences.

Continuing the legacy of its predecessor, the DuetE5-WP seamlessly integrates Dante®/AES67 audio over a single Gigabit Ethernet port, simplifying audio routing and delivering high-quality audio for various applications.

The DuetE5-WP can be easily mounted in a wall, tabletop, lectern, or floor box using a standard 2-gang US or UK back box, offering a sleek and discreet solution for any installation environment.

With standard PoE connectivity, the DuetE5-WP requires only a single category cable for power and Ethernet, reducing clutter and simplifying installation.

Visionary's PacketAV® and PacketV® products can be deployed on any industry-standard IP network, either on existing enterprise IP networks or a physically separate parallel network (private network) to offload traffic. This versatility ensures ease of installation without compromising network performance or security.

Upgrade your networked AV with the Visionary Solutions DuetE5-WP 4K60 4:4:4 Wallplate AV over IP Encoder. Combining unrivaled video quality, Dante®/AES67 audio integration, and flexible mounting options, the DuetE5-WP is the perfect solution for professionals seeking a powerful, discreet, and easy-to-install AV over IP encoder for their installations.

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.

One Gigabit LAN Port for 4K60 4:4:4 Video, Dante®/AES67, and Control

- 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

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.

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.

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Features cont.

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

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

Seamless Fast Switching

- Tearing free, no black screen, no frame lock

Independent Routing

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

HDMI 2.0 and HDCP 2.2, 2.3 Compliant

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])

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

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Benefits

- A single Gigabit LAN Port for PoE Power, 4K604:4:4 Video, Dante®/AES67, 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
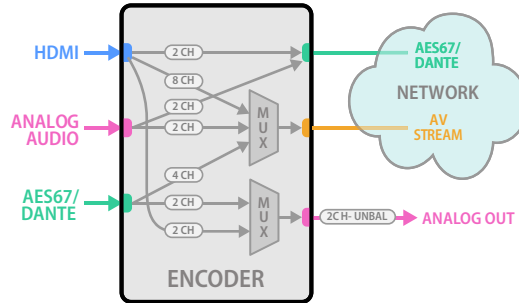
- Reduced operating costs

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, 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 (Encoder)	1x HDMI capable of receiving source input video formats up to 4K60 4:4:4

Audio	
Input Signal Types	HDMI Audio, Dante®/AES67 Network Audio (up to 4 channels) • 1 digital input de-embedded from HDMI • 1 Dante®/AES67 digital audio input (up to 4 channels) • 1 analog stereo input (unbalanced}
Output Signal Types	HDMI Digital Audio (NLPCM pass-through), Analog Stereo Audio, Dante®/AES67 Network Audio • 1 analog stereo audio output (unbalanced} • 1 Dante®/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
Dante™/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

32.8

91.8

103.4

66.8

23   23

Front

64

40.7

5   50.6

Side