

E5000 • Encoder | D5000 • Decoder

Distribute 4K60 4:4:4 Video and Audio over Gigabit Ethernet

Overview

Visionary Solutions proudly presents the E5000 AV over IP Encoder and D5000 AV over IP Decoder, delivering the performance and reliability of Visionary's 5-Series platform in a streamlined, cost-optimized design. Building on our cinema-quality, ultra-low-latency, sub-frame visually lossless 4K UHD over IP solutions, the E5000 and D5000 provide essential encoding and decoding performance - including native AES67 audio support - in compact form factors that balance functionality and value.

Recognizing that many projects require scalable AV over IP distribution with practical system economics, the E5000 and D5000 offer a cost-effective, value-engineered approach that maintains Visionary's uncompromising quality for large-scale projects with essential 4K60 encoding and decoding needs. For decoder-heavy deployments, the D5000 provides an efficient way to expand system output capacity, while the E5000 delivers the matching encoding performance needed to bring sources onto the network.

Designed for simplicity and scalability, the E5000 Encoder and D5000 Decoder bypass the limitations of traditional switch matrix systems by harnessing the flexibility and power of modern IP networks. Professional AV designers and IT directors choose



Visionary's 5-Series endpoints as a cutting-edge alternative to conventional distribution.

The E5000 Encoder and D5000 Decoder can be deployed on any industry-standard IP network, offering seamless integration with existing enterprise networks or dedicated AV infrastructures. This flexibility allows efficient installation while supporting optimal performance and long-term network stability.

Upgrade your AV installations with Visionary's new E5000 Encoder and D5000 Decoder - the next evolution in cost-effective, 4K60-capable AV over IP distribution.

Features

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

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

Independent Routing

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

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.

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])

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Features cont.

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

Enterprise applications demand a secure Network

- 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.
- 802.1x Authentication for Network access control -
- SSH Network Protocol - SSH is a network protocol used to remotely access and manage a device through command line communications.

Auto Video Scaler

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

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.

Built in Video Wall Functions

- A Single platform to support distributed displays and Video Walls; without expensive video wall processors
- Enhanced Video Wall functionality – supports video rotation 180/270 degrees
- Easily create video walls using normal commodity displays
- Built-in video wall processor that allows you to build up to a 16x16 video wall

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

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

Control

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

QoS Support

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

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Features cont.

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.

Seamless Fast Switching

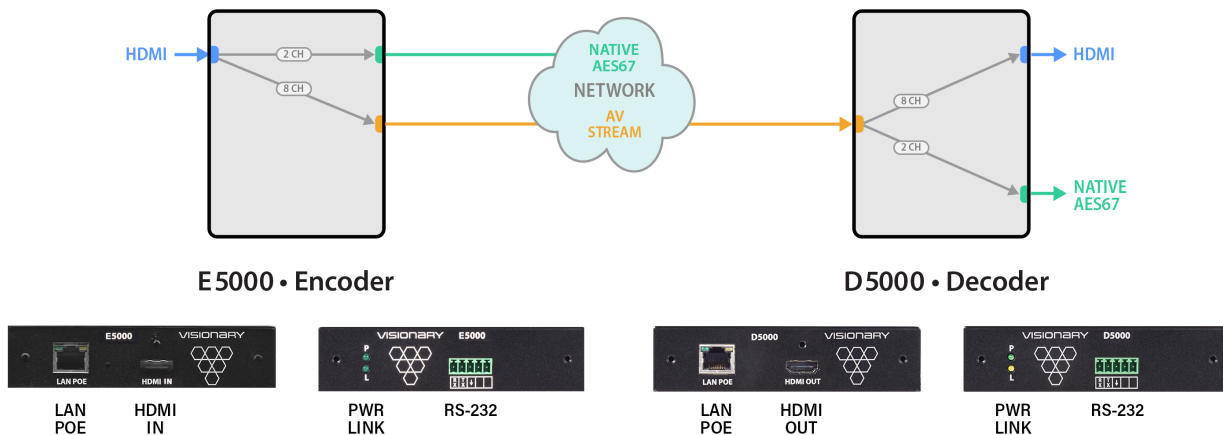
- Tearing free, no black screen, no frame lock

HDMI 2.0 and HDCP 2.2, 2.3 Compliant

Benefits

- A single Gigabit LAN Port for PoE Power, 4K60 4:4:4: Video, Audio, and Control
- Easy Control Integration
- Simplified, cost-optimized design for large-scale deployments
- Low bitrates
- No fiber or 10 Gigabit switch required
- Low-Cost network switches are used
- Scalable / Unlimited Distribution
- Utilize existing network resources
- Compact form factor ideal for space-constrained environments
- Standard network cabling [CAT5e/6]
- Rapid deployment
- Single network for AV and IT
- Reduced operating costs
- Ultra-low Latency [Sub-frame ~2ms visually lossless]

Audio Workflow



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Specifications

| Encoding/Decoding | |
|------------------------------|---|
| Video Codec | JPEG2000 based visually lossless video compression algorithm |
| Audio Codec | LPCM, 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 Type | Encoder: 1 x HDMI capable of receiving source input video formats up to 4K60 4:4:4 |
| Output Signal Type | Decoder: 1x HDMI capable of scaling and outputting video formats up to 4K60 4:4:4 |
| Scaler (Decoder) | Supports a wide range of resolutions and rates, up to 4K in/1080P out, 1080P in/4K out, image rotation, and video wall up to 16x16 Integrated scaling helps optimize image quality and switching performance |
| Audio | |
| Input Signal Type | HDMI Audio • 1 Native AES67 digital audio output (up to 2 channels) |
| 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 True HD, Dolby Atmos, DTS®, DTS-ES, DTS96/24, DTS-HD High Res, DTS-HD Master Audio, DTS:X, LPCM up to 8 channels. |
| Analog-To-Digital Conversion | 24-bit 48 kHz |
| Native AES67 | 24-bit 48kHz |

| Communication & Control of External Devices | |
|---|---|
| Ethernet | Network connectivity for control and AV traffic |
| Serial / RS-232 | Bi-directional device control and monitoring |
| HDMI | HDCP 2.2, 2.3, CEC |
| Connectors | |
| LAN | 8-pin RJ-45 connector, female; 100BASE-TX / 1000BASE-T Ethernet port / PD port POE (IEEE 802.3af or 802.3at) |
| HDMI Output | HDMI Type A connector, female |
| 8 pin Euroblock 3.81mm pitch connector | RS-232 port |
| Power | |
| Power Consumption | 7.5 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 | 25.6 BTU/hr |
| Acoustic Noise | 0 dBA |
| Form Factor | |
| Dimensions | Height: 1.15 in. (29.3 mm) Width: 5.75 in. (146 mm) Depth: 5.10 in. (129.7 mm) |
| Weight | 1.0 lb (0.45 kg) |
| Compliance | |
| | CE, FCC, C-tick, RoHS, WEEE, TAA |

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Dimensions

