

# PlexusAV

## P-AVN-2E IPMX Encoder



### OVERVIEW

The P-AVN-2E IPMX Encoder is a versatile, high-performance AV-over-IP device capable of encoding HDMI or USB-C video signals. Built to support open standards like IPMX, the P-AVN-2E ensures seamless integration into existing and future AV networks. It delivers high-quality, low-latency video transmission using H.26x codecs to save bandwidth and overall project cost. The P-AVN-2E IPMX Encoder can also convert or extend different signals such as keyboard/mouse control over IP, analog audio encoding, and RS232 Serial over IP. Dante stereo audio support is available with optional license at time of purchase.

### WHY CHOOSE THE P-AVN-2E IPMX ENCODER?

- **IPMX-Based Open Standards:** Built on IPMX protocols for future-proof AV-over-IP deployment.
- **Flexible Video Support:** Up to 4K60 with H.264 and H.265 codec support for low latency, high-quality video.
- **Multiple Network Ports:** Two gigabit network ports for installation into traditional ethernet and PoE network environments.
- **Advanced Audio Integration:** AAC-LC/Main, Linear PCM, and audio passthrough ensures professional-grade audio quality.
- **Compact Form Factor:** Small and easy to install, fits into any AV environment without compromise.
- **Easy-to-use Interface and Advanced API:** The P-AVN-2E user interface has been designed for quick deployment and ease-of-use. With its advanced API, the P-AVN-2E can be controlled and managed by the PlexusAV Visual Array or integrate into existing network management systems using REST API.

### APPLICATIONS



#### EDUCATIONAL & CORPORATE AV

Perfect for large campuses, meeting rooms, and lecture halls requiring seamless AV distribution.



#### DIGITAL SIGNAGE

Distribute video across multiple screens in retail, transportation, or large venues.



#### LIVE PRODUCTION

Ensure smooth, reduced-latency video transmission for on site applications.



#### VIRTUAL MATRIX SWITCHING

Ideal for easily switching and distributing video content over 1Gbps networks.



#### BROADCAST & PRODUCTION

Take advantage of H.264/H.265 common payloads over different protocols. Combined with SCG, video streams can be sent over the internet using SRT, or converted between other protocols like NDI<sup>®</sup>HX, RTSP, RTMP, and MPEG-TS.

### KEY FEATURES

#### FLEXIBLE NETWORK CONNECTIVITY

- **1GB Low-Latency:** Experience high-quality MPEG compression.
- **PoE+ Support:** Simplify your setup with Power over Ethernet for power delivery and network connectivity through a single cable.

#### VERSATILE INPUT/OUTPUT OPTIONS

- **HDMI & USB-C:** Seamlessly connect a variety of video sources, including HDMI 2.1 with HDCP 2.3 and USB-C with DisplayPort.
- **Analog & Digital Audio Codec Support:** Supports professional grade balanced analog audio, audio passthrough, Linear PCM, and both AAC-LC and AAC-Main audio encoding.

#### MPEG-4 (H.264) AND HEVC (H.265) CODEC SUPPORT

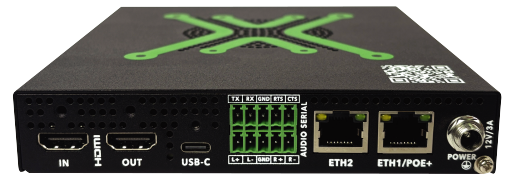
- **Site-to-Site Transmission:** Perfect for applications requiring lower bandwidth consumption over the network infrastructure.

#### COMPACT DESIGN

- **Small Form Factor:** The P-AVN-2E form factor makes it flexible enough to mount behind a TV, in a control room environment or in our 1RU, 4RU, and wall-mount accessories.



## P-AVN-2E IPMX Encoder Specifications



### REAR PANEL PORTS

#### HDMI and USB Interfaces:

- HDMI Input (1): Type-A Female, HDMI 2.1/1.4b  
Content Protection - up to HDCP 2.3  
Consumer Electronics Control (CEC)  
EDID Control - Auto, Presets or Manual
- HDMI Loop Out (2): Type-A Female, HDMI 2.1, 1.4b  
Content Protection - Up to HDCP 2.3
- USB-C (3): Single USB 3.0 (Video, DisplayPort Alt Mode)

#### Analog Audio Input Support:

- Connector: 5-Pin Phoenix
- Channels: Stereo Pair, Balanced, or Unbalanced
- Volume Adjust: Slider in web-interface (+/- volume)
- Pinouts: Printed on chassis silk screen

#### Serial Communication:

- Connector: 5-Pin Phoenix
- Protocol: RS-232 "Serial"
- Pinouts: Printed on chassis silk screen

#### Network Interfaces:

- Ethernet 1: RJ-45/PoE+ (100/1000 Auto-Negotiating)
- Ethernet 2: RJ-45 (100/1000 Auto-Negotiating)
- Cable Type: CAT6 or CAT6A shielded cable recommended

#### Power Port:

- Power Specifications: 12V/3A DC
- Polarity: Center-Positive

### FRONT PANEL PORTS

#### Infra-Red (IR) Ports:

- Audio Jack: 3.5mm (tip-ring-sleeve)
- IR IN: Receives IR signal from attached dongle/adaptor
- IR OUT: Transmits IR signal out attached dongle/adaptor

#### ID Button:

- ID Push Button: One-Click
- ID Light: When ID mode is on, LED is lit and HDMI output shows system information

#### Factory Reset:

- Press and hold recessed button for 10 seconds

### IPMX SUPPORT

#### Technical Standards:

- TR-10-1: System Timing and Definitions
- TR-10-3: PCM Digital Audio
- TR-10-5: HDCP Key Exchange Protocol
- TR-10-7: Compressed Video
- TR-10-8: NMOS Requirements
- TR-10-11: Constant Bitrate Compressed Video

### VIDEO SCALING

- Encoder Video Scaling: Upscale (up to 3840x2160)
- Aspect Ratio Adjustment: Maintain Aspect Ratio (no change)  
Stretch (fill screen)

### AUDIO SUPPORT

- Audio Signal Type: Linear PCM, AAC-LC, AAC-Main, Pass-Through
- AAC Bitrate Range: 96/112/128/160/192/224/256 Kbps
- Sample Rate: 44.1/48 KHz

### VIDEO AND AUDIO SPECIFICATIONS

- Bitrate Range: 5-60Mbps\* (VBR and CBR)
- Dynamic Range: HDR10 Pass-Through\*  
SDR (Standard Dynamic Range)

#### Color Formats:

- IPMX Stream Output: 8/10-bit, YUV 4:2:0 / 4:2:2
- HDMI/USB-C Output: 8/10-bit, YUV 4:2:0 / 4:2:2

#### Color Gamut:

- BT.2020, BT.709, BT.601

#### Codec Support:

- Video Codecs: H.264 (MPEG-4), H.265 (HEVC)
- Audio Codecs: AAC, PCM

#### Video Output Formats:

- IPMX Stream Output: 3840x2160P @ 60, 50, 30, 25fps  
1920x1080P @ 60, 50, 30, 25  
1280x720P @ 60, 50

#### Video Input Formats:

- HDMI IN/USB-C: 3840x2160P @ 60, 50, 30, 25fps  
2560x1600P @ 60\*  
2560x1440P @ 60\*  
2560x1080P @ 60\*  
1920x1200P @ 60\*  
1920x1080P @ 60, 50, 30, 25  
1680 x 1050P @ 60\*  
1600 x 1200P @ 60\*  
1440 x 900P @ 60\*  
1280 x 1024P @ 60\*  
1024 x 768P @ 60\*  
1280x720P @ 60, 50  
800 x 600P @ 60\*  
640 x 480P @ 60\*  
\* Supported in upcoming release. Subject to change.

### MANAGEMENT AND CONTROL

- Web Interface: Browser-based HTTPS Web-UI and Control
- HTTPS API: GraphQL, REST API\*
- NMOS Support: IS-04, IS-05, BCP-003
- LED Indicators: (1) Power  
(2) Status  
(3) Stream  
(4) HDMI-IN  
(5) USB  
(6) HDCP

### DIMENSIONS AND POWER

- Size: 162mm x 143mm x 26mm (6.37" x 5.63" x 1.02")
- Weight: 1.3 lbs (0.6kg)
- PoE+: IEEE 802.3at Type 2 Class 4 compliant
- External: 12V DC/3A (optional, sold separately)  
See Power Accessories

#### Power Consumption (Operational Mode): 15W Typical

#### Power Consumption (Eco Mode) FW 1.4: 11W

### ENVIRONMENTAL CONDITIONS

- Operating Temperature: -13° to 113° F (-25° to 45° C)
- Storage Temperature: -40° to 113° F (-40° to 45° C)
- Operating Humidity: Less than 95% (non-condensing)
- Acoustic Noise: 33 dBA (normal operation)

### DANTE AUDIO (OPTIONAL)

- Dante Stereo License Option: 1x Input + 1x Output
- Dante Features: Dante Controller Detects P-AVN-2E  
Dante Stereo PCM Support  
1x Dante Stereo IP Input  
1x Dante Stereo IP Output

### MOUNTING ACCESSORIES

- P-AVN-M-1RU: 3x P-AVN-2E 1RU Rackmount Kit Frame
- P-AVN-M-4RU -KIT: 14x P-AVN-2E 4RU Rackmount Kit Frame

### POWER ACCESSORIES

- P-AVN-PSU-TYPE-A-US: Type A Power Supply
- P-AVN-PSU-TYPE-C-EU: Type C Power Supply
- P-AVN-PSU-TYPE-G-UK: Type G Power Supply
- P-AVN-PSU-TYPE-I-AUS: Type I Power Supply

### FUTURE FEATURES (PLANNED UPDATES)

#### IR Input and Output

### WARRANTY

- 3-year warranty: The P-AVN-2E comes standard with a 3-year limited warranty.

For additional details reach out at <https://plexusav.com/contact-us/>

