

PlexusAV

P-AVN-4 IPMX Transceiver



OVERVIEW

The P-AVN-4 IPMX Transceiver is a versatile, high-performance AV-over-IP device capable of both encoding and decoding video. Built to support open standards like IPMX, the P-AVN-4 ensures seamless integration into existing and future AV networks. With robust video scaling, HDR support, and flexible network connectivity options, it delivers high-quality, low-latency video transmission across various AV applications, from digital signage to live production.

WHY CHOOSE THE P-AVN-4?

- **IPMX-Based Open Standards:** Built on IPMX protocols for future-proof AV-over-IP deployment.
- **Flexible Video Support:** Up to 4K60 with H.264/265 compression for low-latency, high-quality video.
- **Multiple Network Ports:** Three gigabit network ports, including an SFP option, allow for installation into fiber, ethernet and PoE network environments.
- **Advanced Audio Integration:** Support for Dante, AES67, and Linear PCM 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-4 user interface has been designed for quick deployment and ease-of-use. With its advanced API, the P-AVN-4 can be controlled and managed by the PlexusAV Visual Array or integrate into existing network management systems.

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.



E-SPORTS & LIVE PRODUCTION

Ensure smooth, low-latency video transmission for fast-paced events.



VIRTUAL MATRIX SWITCHING

Ideal for switching and distributing video content in real-time.



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®HX, RTSP, RTMP, and MPEG-TS.

KEY FEATURES

FLEXIBLE NETWORK CONNECTIVITY

- **1GB Ultra Low Latency:** Lite compression without sacrificing quality to achieve near-instant transmission across an AV over IP network.
- **Ethernet and Fiber:** The P-AVN-4 comes standard with RJ45 and SFP ports for installation into any network infrastructure.
- **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:** Connect a variety of video sources, including HDMI 2.1 with HDCP 2.3 and USB-C with DisplayPort, for seamless integration into any AV workflow.
- **Analog & Digital Audio:** Supports both professional grade balanced analog audio, Linear PCM, AES67, and Dante for ultimate flexibility in audio routing.
- **HDR Support:** Contrast and colors at their absolute best with HDR support.

MULTIPLE VIDEO CODEC SUPPORT FOR ANY APPLICATIONS

- **JPEG-XS with FIP/TDC Profile:** Perfect for applications requiring high-quality, low-latency video like live production, e-sports, and broadcast.
- **MPEG-4 (H.264) and HEVC (H.265):** Perfect for applications requiring lower bandwidth (<50Mbps) or site-to-site transmission when sending IPMX streams over the internet.

COMPACT DESIGN

- **Small Form Factor:** The P-AVN-4 form factor makes it flexible enough to mount behind a TV, in a control room environment or in our 14 unit rack-mount kit.



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P-AVN-4 IPMX Transceiver Specifications



ENCODER MODE INTERFACE SPECIFICATIONS

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 (1): | Type-A Female, HDMI 2.1, 1.4b Content Protection – up to HDCP 2.3 |
| USB-C (3): | Two USB 2.0 (Data, Front) One USB 3.0 (Video, DisplayPort Alt Mode, Rear)✕ |

DECODE MODE INTERFACE SPECIFICATIONS

HDMI and USB Interfaces:

| | |
|------------------|---|
| HDMI Input (1): | Type-A Female, HDMI 2.1/1.4b Content Protection – up to HDCP 2.3 |
| HDMI Output (1): | Type-A Female, HDMI 2.1, 1.4b Content Protection – up to HDCP 2.3 Consumer Electronics Control (CEC) EDID Control - Save EDID to file or EDID download |
| USB-C (3): | Two USB 2.0 (Data, Front) One USB 3.0 (Video, DisplayPort Alt Mode, Rear)✕ |

Network Interfaces

| | |
|-------------|--|
| Ethernet 1: | RJ-45/PoE+ (100/1000 Auto-Negotiating) |
| Ethernet 2: | RJ-45 (100/1000 Auto-Negotiating) |
| Fiber: | SFP 1GB (100/1000 Auto-Negotiating) |

IPMX Support:

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 Bit-Rate Compressed Video

VIDEO AND AUDIO SPECIFICATIONS

| | |
|---------|--|
| Codecs: | JPEG XS, FIP/TDC (Flawless Image Profile), MPEG-4 (H.264), HEVC (H.264) |
|---------|--|

Video Support (HDMI/USB-C Input):

3840x2160P @ 60, 50, 30, 25fps
2560x1600P @ 60*
2560x1440P @ 60*
2560x1080P @ 60*
1920x1200P @ 60*
1920x1080P @ 60, 50, 30, 25fps
1680 x 1050P @ 60*
1600 x 1200P @ 60*
1440 x 900P @ 60*
1280 x 1024P @ 60*
1024 x 768P @ 60*
1280x720P @ 60, 50fps
800 x 600P @ 60*
640 x 480P @ 60*

* Supported in upcoming release. Subject to change

Video Support (IPMX stream output):

3840x2160P @ 60, 50, 30, 25fps
1920x1080P @ 60, 50, 30, 25fps
1280x720P @ 60, 50fps

Bitrates: 5 – 800 Mbps*, user configurable

Dynamic Range: HDR10, SDR

Color Formats (IPMX stream output):

8/10 bit, YUV 4:2:0/4:2:2

Color Formats (HDMI/USB-C output):

8/10/12 bit, RGB 4:2:0/4:4:4

Color Gamut: BT.2020, BT.709, BT.601

Video Scaling:

Support on Encoder and Decoder mode.
Supports resolution upscaling, downscaling,
frame rate conversion, color mode conversion,
and aspect ratio adjustment.

Videowall Processing:

Up to 3x3, more templates available upon request

Audio Support:

AAC Bitrate Range: Linear PCM, AES67, AAC-Main, and Pass-through
96/112/128/160/192/224/256 (Kbps)
Sampling Rate: 44.1, 48KHz
Volume Control: +/- adjustment

Dante Audio Support:

Dante Controller detects P-AVN-4
Dante Stereo PCM audio support
1x Dante Stereo IP input
1x Dante Stereo IP output

Analog Audio Support:

Connector: 5-pin Phoenix
Channels: Stereo Pair, Balanced or Unbalanced

MANAGEMENT AND CONTROL

Web Interface (Web UI): Built-in web interface for easy configuration and control.
HTTPS API: Supports GraphQL for advanced integration.
NMOS Support: IS-04, IS-05, and BCP-003.
Dante Controller: (Dante Audio only)
RS232 Control: 5-pin Phoenix connector for integration with existing control systems.
LED Indicators: Power, error, UUID, and dark mode to disable indicators.

DIMENSIONS & POWER

Size: 162 mm x 143 mm x 26 mm (6.37" x 5.63" x 1.02")
Weight: 1.3 lbs (0.6 kg)

Power:

PoE+: IEEE 802.3at Type 2 Class 4 (25.5 W) compliant
External: 12V DC/3A (optional, sold separately).
See Power Accessories.

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 typical

MOUNTING ACCESSORIES

P-AVN-M-1RU: 3x P-AVN-4 1RU Rackmount Kit Frame
P-AVN-M-4RU-KIT: 14x P-AVN-4 4RU Rackmount Kit Frame
P-AVN-M-WAL: Table and Wall mounting bracket (set of 2)

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

SFP OPTIONS

P-AVN-SFP-1G-COPPER-RJ45-ETH – SFP Copper Module, 1Gbps Copper, RJ45 transceiver
P-AVN-SFP-1G-FIBER-1310NM-SM – SFP Fiber Module, 1Gbps Single Mode, 1310NM
P-AVN-SFP-1G-FIBER-850NM-MM – SFP Fiber Module, 1Gbps Multimode, 850NM

FUTURE FEATURES (PLANNED UPDATES)

IR input and output

WARRANTY

3-year warranty - The P-AVN-4 comes standard with a 3-year limited warranty. For additional details reach out to PlexusAV at the link below.

