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 JPEG XS 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
Bring IP-based workflows into the heart of your video production, enabling high-quality, ultra-low-latency encoding and decoding for live broadcasts.

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.

HIGH-QUALITY CODEC SUPPORT
- JPEG-XS with FIP Profile: Perfect for applications requiring high-quality, low-latency video like live production, e-sports, and broadcast. With the addition of the FIP profile, video becomes crystal clear which ideal for medical, gaming, and enterprise applications.
- HDR Support: Contrast and colors at their absolute best with HDR support.

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.

PlexusAV
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)
Ethernet 3:	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
Video Support

Codecs:	JPEG XS, JPEG XS Flawless Imaging Profile (FIP)
Resolutions/Frame Rates:	

- 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

Bitrates:	200 – 800 Mbps, user configurable
Dynamic Range:	HDR10, HLG, SDR
Color Formats:	8 / 10 / 12 bit, YUV 4:2:0 / 4:2:2 / 4:4:4 and RGB
Color Gamut:	BT.2020, BT.709, BT.601
Video Scaler:	Supports resolution upscaling, downscaling, frame rate conversion, color mode conversion, and aspect ratio adjustment.
Videowall Processing:	Up to 3x3

Audio Support

Uncompressed Audio Support:	Linear PCM, AES67
Bit Depth:	24/20/16-bit
Sampling Rate:	192, 176.4, 96, 88.2, 48, 44.1, 32kHz
Volume Control:	

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)

Secondary Stream:	HEVC/H.264 compressed video
VESA Video Modes:	Additional support for various video standards
AAC and Dolby Audio Support	
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.

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