PlexusAV

P-AVN-2 IPMX Transceiver

OVERVIEW

The P-AVN-2 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-2 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-2?

- 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 ultra-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: 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-2 user interface has been designed for quick deployment and ease-of-use. With its advanced API, the P-AVN-2 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.

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®HX, RTSP, RTMP, and MPEG-TS.

KEY FEATURES

FLEXIBLE NETWORK CONNECTIVITY

- 1GB Ultra-Low Latency: Experience high quality MPEG compression.
- Ethernet and Fiber: The P-AVN-2 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: Seamlessly connect a variety of video sources, including HDMI 2.1 with HDCP 2.3 and USB-C with DisplayPort.
- Analog & Digital Audio: Supports professional grade balanced analog audio, Linear PCM, AES67, and optional Dante audio license at time of purchase for ultimate flexibility in audio routing.

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-2 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.

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P-AVN-2 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)

DECODER 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)

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

Codecs: H.264 (MPEG-4), H.265 (HEVC)

Video Support (HDMI/USB-C Input):

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.

Video Support (IPMX stream output):

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

Bitrates: 5-25 Mbps*, user configurable

Dynamic Range: HDR10 Pass-through, SDR (Standard Dynamic Range)

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.

Video Scaler Processing:
Videowall Processing: Up to 3x3, more templates available upon request.

Audio Support:

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

Dante Audio Support (not included by default, requires license purchase):

Dante Controller detects P-AVN-2
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, Unit-ID, and dark mode to disable RGB ring lights 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)
PoE+:	IEEE 802.3at Type 2 Class 4 compliant
External:	12V DC/3A (optional, sold separately). See Power Accessories.

Power Consumption (Operational Mode): 22W Typical
Power Consumption (Eco Mode) FW 1.4: 14.3W

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-2/4 1RU Rackmount Kit Frame
P-AVN-M-4RU-KIT:	14x P-AVN-2/4 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 1Gbps RJ45 copper transceiver
P-AVN-SFP-1G-FIBER-1310NM-SM: SFP Fiber 1Gbps Single Mode, 1310NM
P-AVN-SFP-1G-FIBER-850NM-MM: SFP Fiber 1Gbps Multimode, 850NM

FUTURE FEATURES (PLANNED UPDATES)

IR input and output
Increased maximum bitrate range (available with next software release)

WARRANTY

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

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