PlexusAV
P-AVN-3-HDBT IPMX Gateway Tranceiver

OVERVIEW

The P-AVN-3-HDBT IPMX Gateway 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-3-HDBT ensures seamless integration into existing and future AV networks. HDMI and USB-C AV signals are extended from a wallplate(See P-AVN-WP) to the transceiver using proven HDBaseT signal extension technology. With robust video scaling, HDR support, and flexible network connectivity options, it delivers high-quality, ultra-low latency video transmission across various AV applications, from digital signage to live production.

WHY CHOOSE THE P-AVN-3-HDBT IPMX GATEWAY TRANSCEIVER?

- IPMX-Based Open Standards: Built on IPMX protocols for future-proof AV-over-IP deployment.
- Flexible Video Support: Up to 4K60 with JPEG-XS, 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: Support for Dante, AES67, and Linear PCM ensures professional-grade audio quality.
- Compact Form Factor: Portable form factor with mounting accessory options including a 1RU shelf for two units, or wall/desk mount brackets.
- Easy-to-use Interface and Advanced API: The user interface has been designed for quick deployment and ease-of-use. With its advanced API, the P-AVN-3-HDBT 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®HX, RTSP, RTMP, and MPEG-TS.

KEY FEATURES

FLEXIBLE NETWORK CONNECTIVITY
- 1GB Ultra-Low Latency: Experience high-quality over traditional networks using JPEG-XS codecs without noticeable delay.
- PoE+ Support: Simplify your setup with Power over Ethernet for power delivery and network connectivity through a single cable.
- Ethernet & Fiber: The P-AVN-3-HDBT comes standard with RJ45 and SFP ports for installation into any network infrastructure.

VERSATILE INPUT/OUTPUT OPTIONS
- Seamless Connectivity: Combine with PlexusAV's wall-plates (P-AVN-WP) for streamlined wiring and BYOD applications.
- HDMI & USB-C Accessibility: Easily 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, Linear PCM, and AES67
- HDR Support: Experience better contrast and dynamic colors at their absolute best with HDR support.

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-3-HDBT form factor makes it flexible enough to mount behind a TV, in a control room environment, or in our 1RU and wall-mount accessories.

PlexusAV
P-AVN-3-HDBT IPMX Gateway Tranceiver

REAR PANEL PORTS

Wall-Plate Interface:

HDBaseT I/O Port:	Wires to PlexusAV wall-plate(P-AVN-WP) for HDMI and USB-C
Network Port:	Provides network pass-through connection to USB-C port in wall-plate(P-AVN-WP)

Serial Communication:

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

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

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
SFP Port:	SFP 1GB (100/1000 Auto-Negotiating)

Power Port:

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

FRONT PANEL

Front Panel Display:

LCD Matrix:	Color matrix display & status indicator
Front Panel Indicators:	Power and status indicator lights
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)
Frame Rate Conversion:	25, 30,60fps
Aspect Ratio Adjustment:	Maintain Aspect Ratio (no change) Stretch (fill screen)

AUDIO SUPPORT

Audio Signal Type:	Linear PCM, AES67, 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

Dynamic Range:	HDR10 Pass-Through SDR (Standard Dynamic Range)
Bitrates:	5-800 Mbps* (user configurable)

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:	JPEG-XS [TDC/FIP], 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, 25fps 1280x720P @ 60, 50fps

Video Input Formats:

HDMI IN/USB-C [via Wall Plate Accessory]:

- 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

DIMENSIONS AND POWER

Size:	45mm x 203mm x 216mm (1.75" x 8" x 8.5")
Weight:	2 lbs (0.9kg)
PoE+:	IEEE 802.3at Type 2 Class 4 (25.5 W) compliant
External:	12V DC/3A with NEMA 1-15 US power supply (included in box)

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-3-HDBT Dante Stereo PCM Support 1x Dante Stereo IP Input 1x Dante Stereo IP Output

MOUNTING ACCESSORIES

P-AVN-M-1RU:	2x P-AVN 1RU Rackmount Kit Frame
P-AVN-M-WAL:	2x side brackets for wall/desk mount

WARRANTY

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

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