

PlexusAV P-AVN-2

Firmware Version 1.3.0 Release Notes

September 8, 2025 - v1

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Introduction

This document covers software version 1.3.0 of PlexusAV P-AVN-2.

Firmware for all PlexusAV products is aligned, meaning that all devices running 1.3.x firmware will work together seamlessly.

The New Features section highlights the additions introduced since the 1.2.x versions.

Important note:

- **We recommend upgrading the P-AVN Transmitters/Receivers first (to version 1.3.x) and then continuing with the Visual Array upgrade.**

New features

REST API

In addition to the existing GraphQL API, P-AVN-2 1.3.0 introduces a REST API.

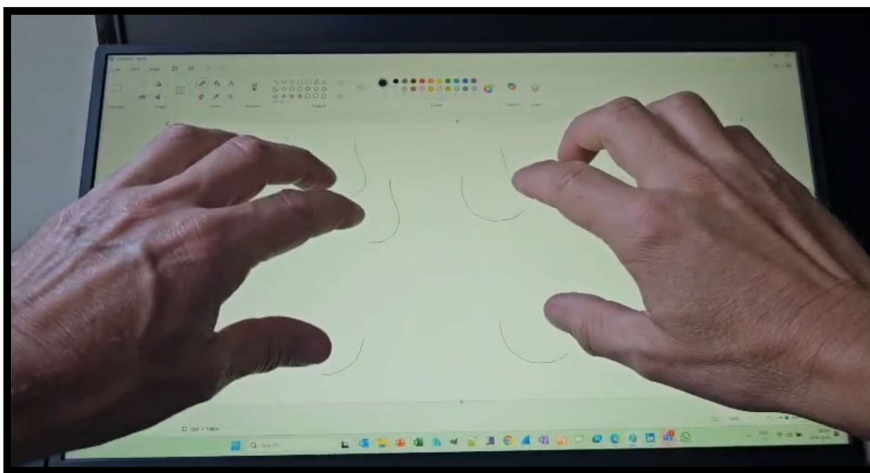
The REST API offers the following properties:

- Minimized number of API calls to complete a task
- Uses friendly names instead of IDs
- Provides a basic command set
- Additional commands will be added gradually

For more information, please refer to P-AVN-X_REST_API_V1.3.0.pdf

USB 10-point Multi-Touch Support

10-point Multi-Touch functionality is now supported over USB.



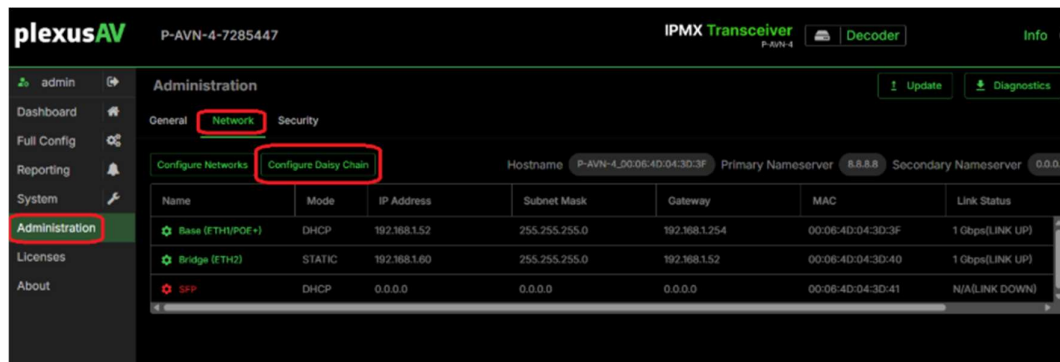
Receiver Daisy Chaining

P-AVN-2 Receiver Daisy Chaining allows either Unicast, or Unicast and Multicast traffic forwarding, from one network port to the other. This enables Receivers to be looped at the IP level, reducing the amount of Ethernet cabling required.

Warnings:

- Do not connect the Base and Bridge ports to the same Ethernet switch. This will cause a network loop, resulting in network congestion and potential failure.
- Please read the explanation of this feature carefully. You must ensure that Ethernet links are not oversubscribed, as this can result in IP packet loss.

P-AVN-2 Receivers can be configured for Daisy Chaining. To enable Daisy Chaining, go to: “Administration” -> “Network” -> “Configure Daisy Chain”



Forwarding is based on:

- **Base Network Interface:** the interface receiving the audio / video
- **Bridged Network Interface:** the interface forwarding the audio / video

You can choose between “Unicast Forward” or “All Traffic Forward”. “All Traffic Forward” includes Multicast Traffic and “Unicast Forward” does not. Multicast is typically used for Audio and Video.

Configure Daisy Chain

RX Daisy Chain ☒

When **Enabling** the daisy chain with **All traffic forward** mode, RX will receive A/V/Data, NMOS control and USB/IP signals via Base port and forward these traffic via Bridge port.

Interface (Base)
ETH1/POE+

Interface (Bridge to the Base)
ETH2

Bridge (1traffic forward mode)
All traffic forward

Unicast forward

All traffic forward

With Daisy Chaining, the Bridge Interface does not get its own IP Address. A P-AVN-2 internal, virtual Ethernet switch connects it to the Base Interface when Daisy Chain is enabled.

Name	Mode	IP Address
Base (ETH1/POE+)	STATIC	192.168.1.52
Bridge (ETH2)	-	-
SFP	DHCP	0.0.0.0

Note: Make sure your Network Hosts (IP Devices) connected to both Base and Bridge Port reside in the same IP Subnet (IP Range).

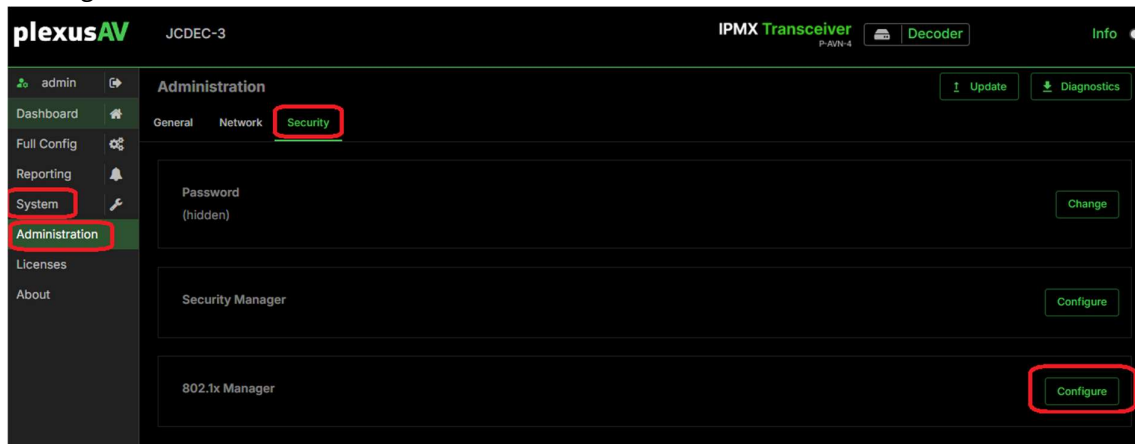
Daisy Chaining Multicast Audio / Video recommendations. Daisy Chaining for Unicast traffic is straightforward. However, Daisy Chaining with Multicast Audio / Video requires some attention.

- **H.26x (High Compression):** Disable “IGMP Fast Leave” on Ethernet switch port connected to the first daisy chained receiver. Route all daisy chained receivers to a maximum of 10 unique streams (at 25Mbps).
- Make sure that a user cannot oversubscribe Ethernet links by programming routing restrictions in your Control System.
- Limit the number of Daisy Chaining receivers to 16

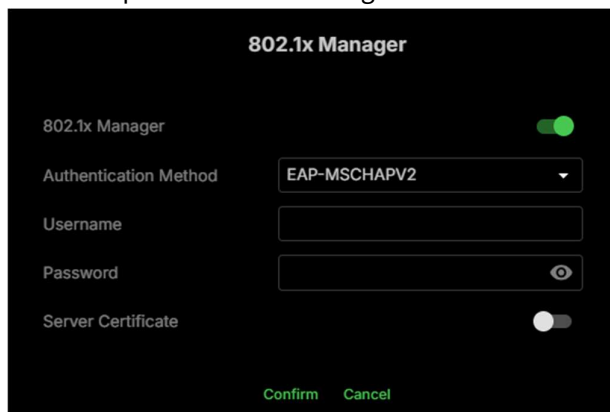
802.1x

Version 1.3.0 brings a new security feature: 802.1x. Covering the details of 802.1x configuration is beyond the scope of these release notes. If you have questions about this feature, please contact plexusAV support.

Locate the 802.1x settings by selecting: “System” - “Administration” - “Security”. Then click “Configure”.



This will open the 802.1x manager



H.26x Stream Type Selection

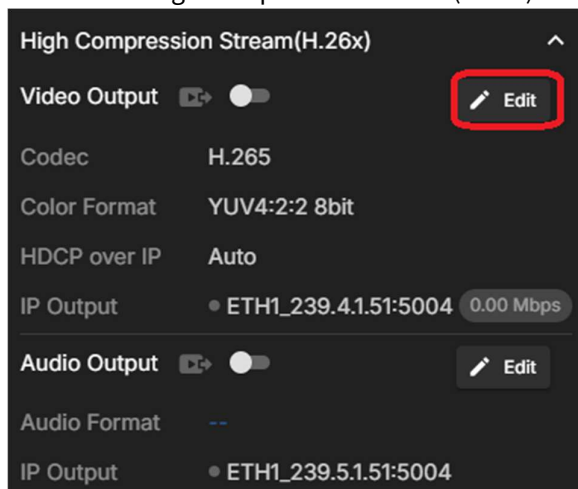
In the previous P-AVN-2 version 1.2.0, the H.264 and H.265 streams were always Variable Bitrate (VBR). More specifically, they used GDR (Gradual Decoder Refresh), which is a form of VBR with distributed I-frames.

Version 1.3.0 still uses VBR/GDR streams but allows for higher bandwidth—up to 60 Mbps. Additionally, you can select Constant Bitrate (CBR) streams, also up to 60 Mbps.

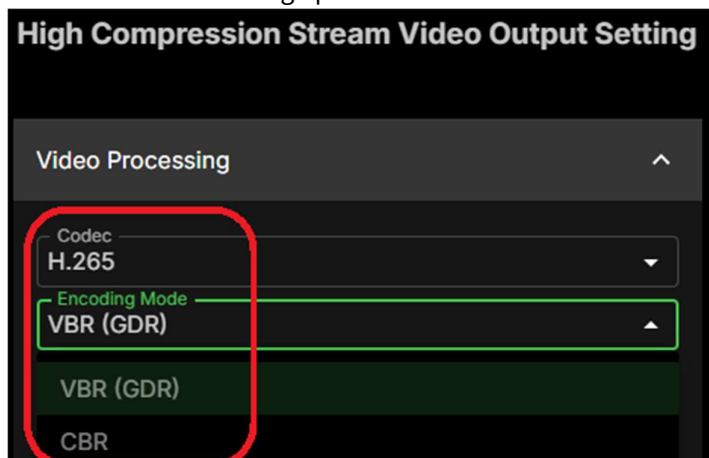
Recommendations for selecting CBR or VBR:

- Without a Stream Conversion Gateway (SCG): We recommend using VBR, as it is the most efficient way to transmit AV streams.
- With a Stream Conversion Gateway (SCG): We recommend using CBR, since some third-party receivers (decoders) may not support VBR streams.

Locate the “High Compression Stream (H.26x) in the Encoder dashboard and click edit.



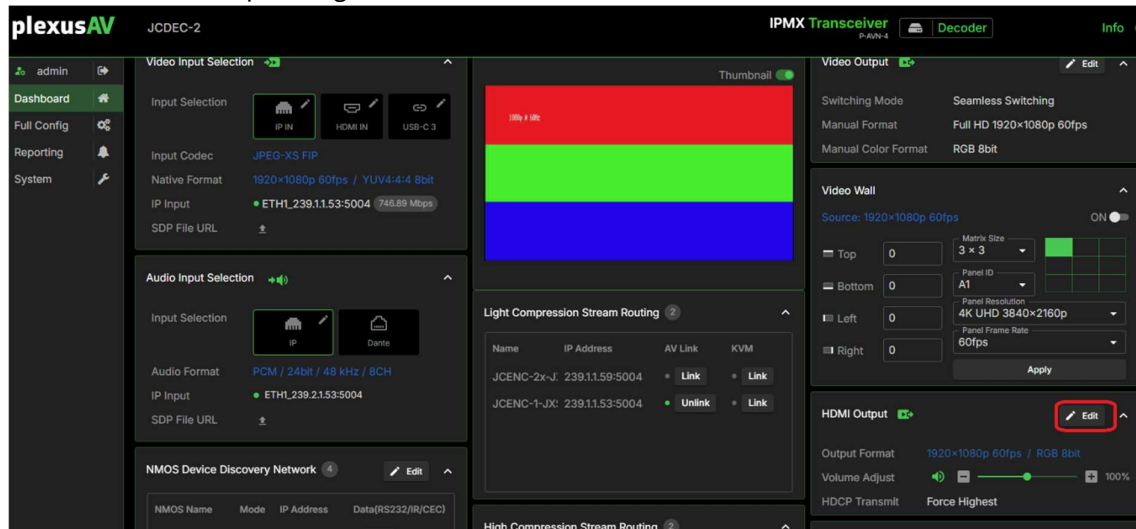
You can set the encoding options as described above.



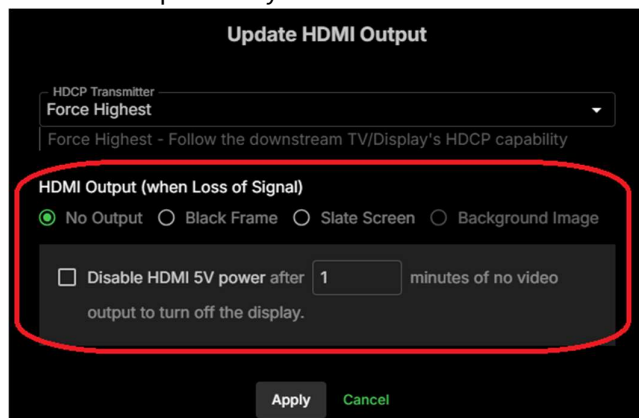
Disable 5V on HDMI output

Some HDMI displays will not go to sleep mode, unless the 5V on their HDMI input is disabled. Firmware 1.3.0 introduces a way to disable this 5V based on a customizable time value.

Locate the HDMI Output widget on the Dashboard and click "Edit"



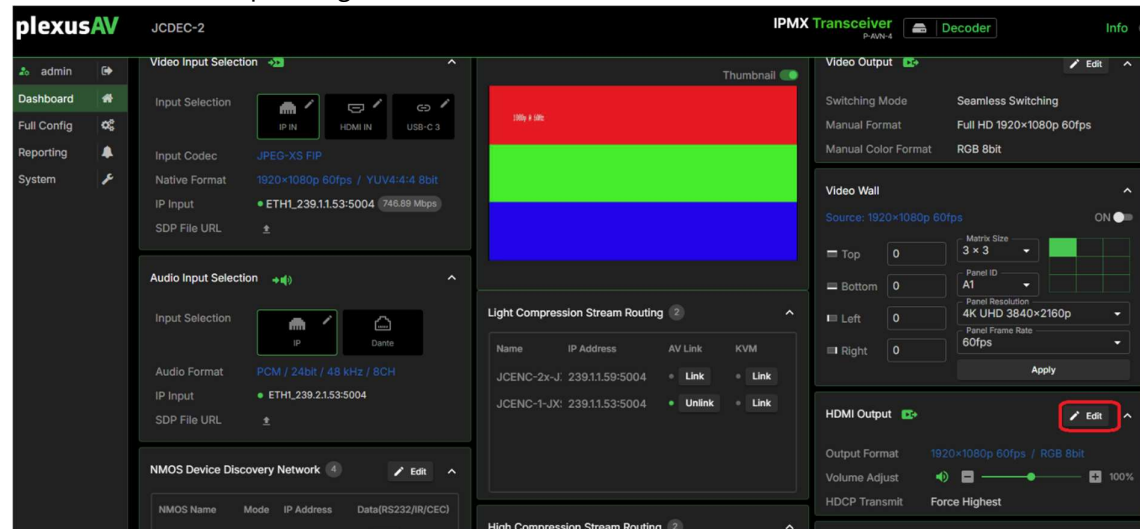
Click "No output" and you will be able to set the 5V disable timer (in minutes)



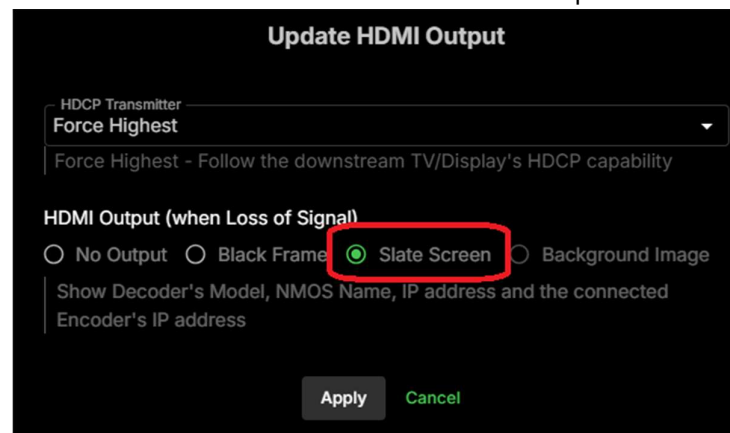
HDMI Slate Screen

This feature allows you to display troubleshooting information if a Receiver no longer has a valid input.

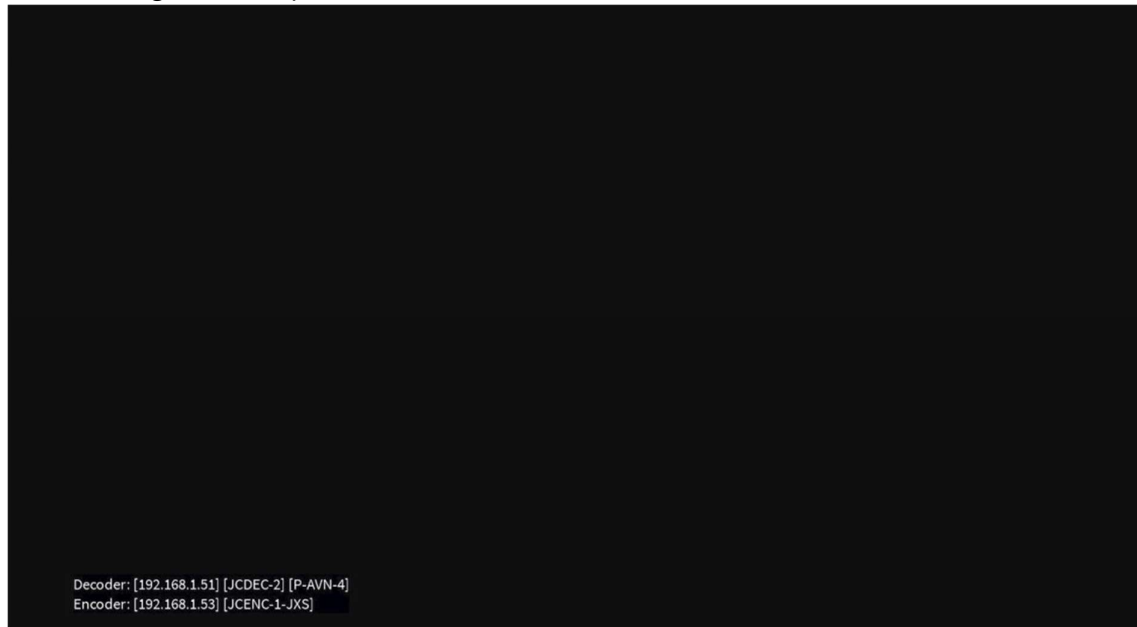
Locate the HDMI Output widget on the Dashboard and click “Edit”



You can select Slate Screen. It will show the Decoder's Model, NMOS Name, IP address and the connected Encoder's IP address on the HDMI Output.



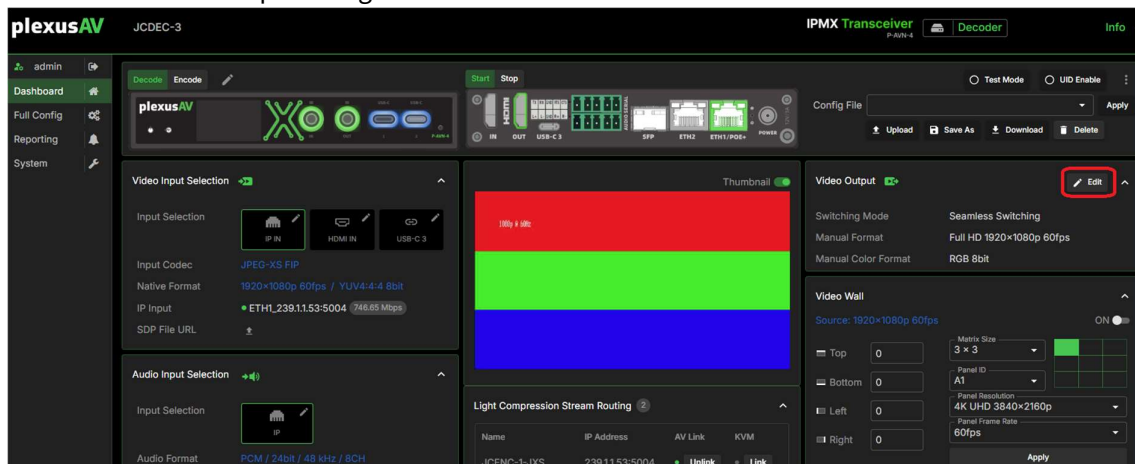
The following is an example of a Slate Screen



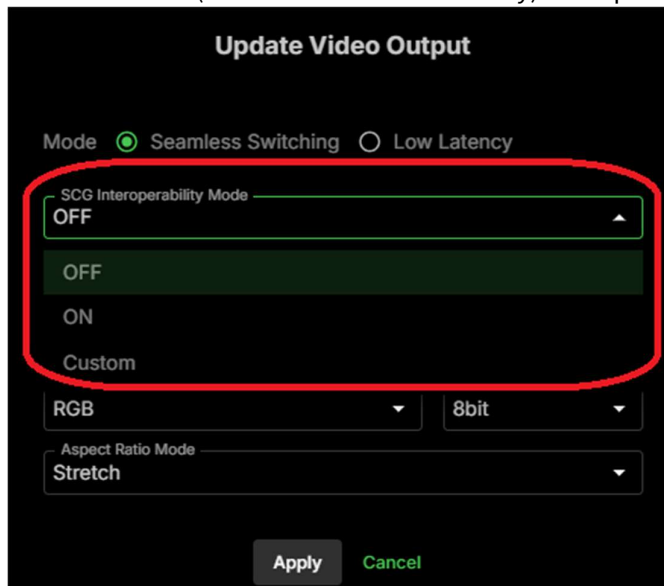
Stream Conversion Gateway Interoperability Mode

We have introduced a “Stream Conversion Gateway Interoperability Mode” in the P-AVN-2 Decoder. Enabling this mode adds approximately one frame of latency. However, this allows Stream Conversion Gateway IPMX H.26x streams to be decoded by the P-AVN-2.

Locate the “Video Output” widget on the decoder and click “Edit”

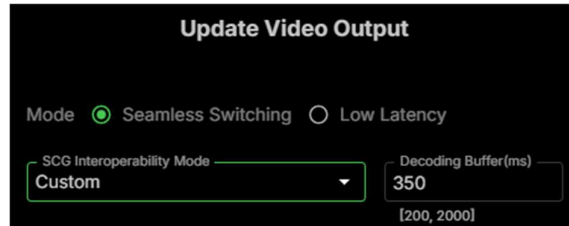


Choose the SCG (Stream Conversion Gateway) Interoperability Mode



The following guidelines help you choose the correct mode:

- **OFF:** you are not using the Stream conversion Gateway
- **ON:** you are using the Stream conversion Gateway. You can still decode streams coming from P-AVN-4, P-AVN-2, P-AVN-2E or P-AVN-3-HDBT directly.
- **Custom:** If you are using the Stream Conversion Gateway and experience AV glitches (very rare), additional buffering (latency) may be required. You can set a custom value to address this.



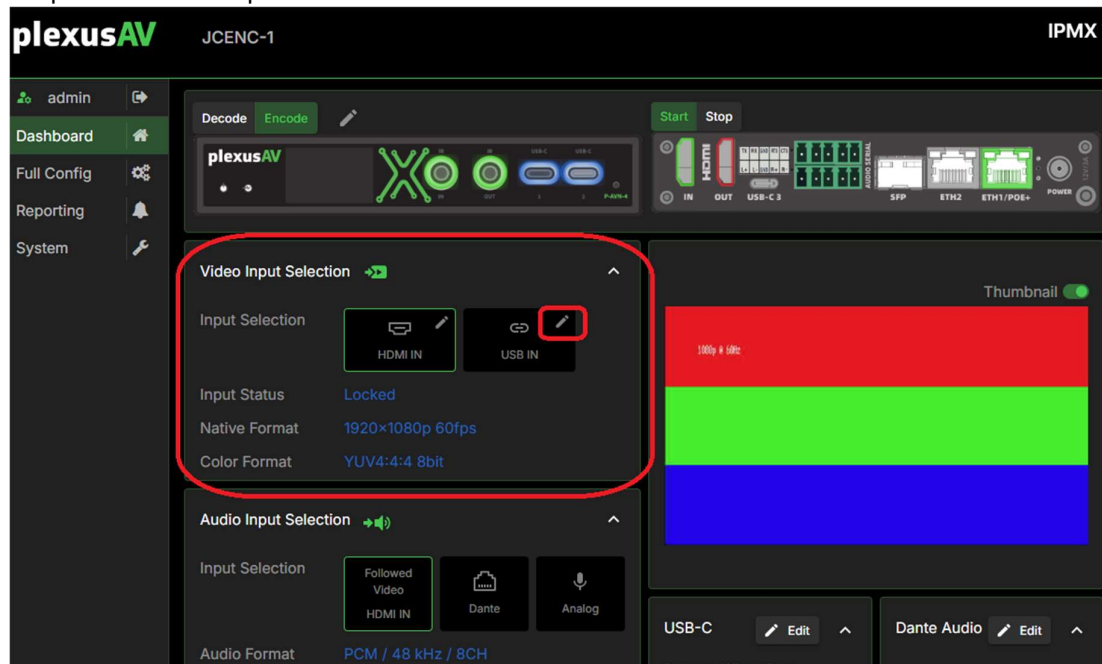
The screenshot shows a dark-themed settings window titled "Update Video Output". It contains two radio buttons for "Mode": "Seamless Switching" (which is selected with a green dot) and "Low Latency". Below the radio buttons, there is a dropdown menu labeled "SCG Interoperability Mode" with "Custom" selected. To the right of the dropdown is a text input field labeled "Decoding Buffer(ms)" containing the value "350". Below the input field, the range "[200, 2000]" is displayed.

USB Type-C HDCP Upgrade

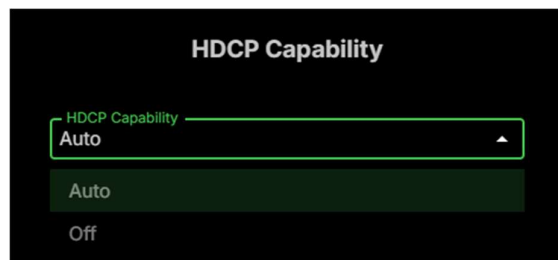
There are two HDCP upgrades for the P-AVN-2 Type-c input:

1. HDCP 2.x support
2. Turn OFF HDCP

Locate the “Video Input Selection” widget on the P-AVN-2 dashboard. Next, locate the USB-c input and click the pencil icon



You can now turn OFF HDCP



AAC-LC profile

Related to H.26x encoding, 1.3.0 features AAC-LC (Advanced Audio Coding – Low Complexity)

Locate the High Compression Stream (H.26x) widget on P-AVN-2 Encoder dashboard. Next click

“Edit” for the Audio output.

High Compression Stream(H.26x)

Video Output Edit

Codec H.265

Color Format YUV4:2:2 8bit

HDCP over IP Auto

IP Output ETH1_239.4.1.53:5004 0.19 Mbps

Audio Output Edit

Volume Adjust 100%

Audio Format AAC / 48kHz / 2CH

IP Output ETH1_239.5.1.53:5004 127.99 Kbps

In Manual AAC Mode, you can select between AAC-Main and AAC-LC.

Audio Output Setting

Audio Processing

Mode **Manual**

Codec **AAC**

AAC Profile **AAC-LC** Bitrate(Mbps) **128**

AAC-Main

AAC-LC

Multicast Address Assign Mode. **Auto**

Interface **ETH1** VLAN **None**

IP **239.5.1.53** Port **5004** RTCP Port **5005**

ETH1_239.5.1.53:5004

Apply Cancel

The following guidelines help you choose the correct mode:

- **AAC-Main:** you are not using the Stream conversion Gateway. AAC main has the best audio quality.
- **AAC-LC:** you are using the Stream conversion Gateway. Some third-party receivers (decoders) can only handle AAC-LC audio.

Bug Fixes

- Multiple minor bug fixes
- The Unicast IP address of PTP grandmasters, was displayed incorrectly in PTP settings.

Known issues

- NMOS name and IP address are not preserved with a P-AVN-2 config file profiles save / apply.

Upgrade procedure

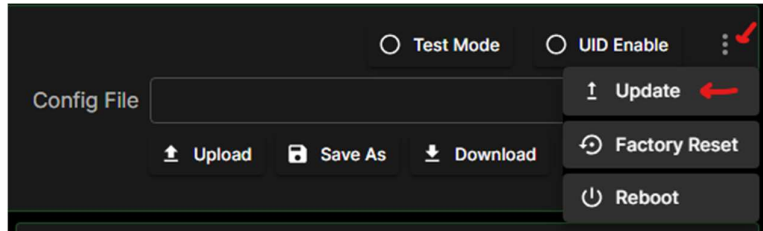
There are two ways to upgrade the P-AVN-2 firmware:

1. Using P-AVN-2 local WebUI
2. Using Visual Array: upgrading multiple P-AVN-2 units in one go

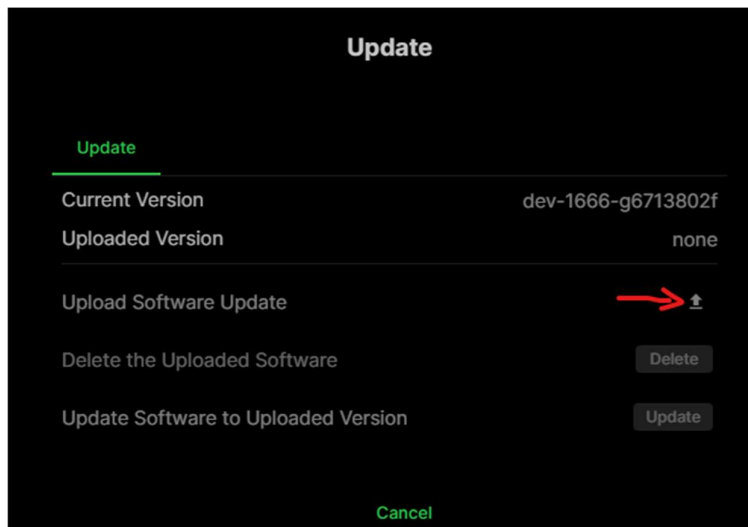
We will cover both ways of upgrading.

Upgrade with Local P-AVN-2 WebUI

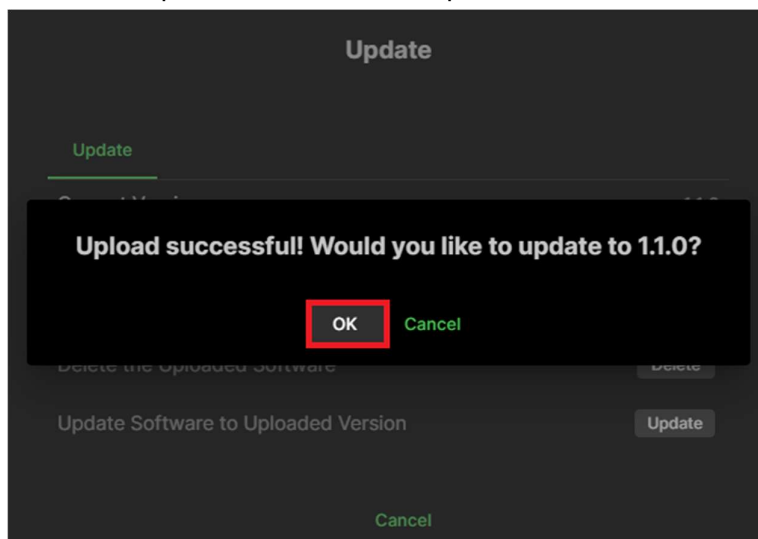
Log into the unit and look for the ellipse on the right side of the web UI. Click it, then click “Update”.



Click the “Up-arrow” icon to open a window to select the update.

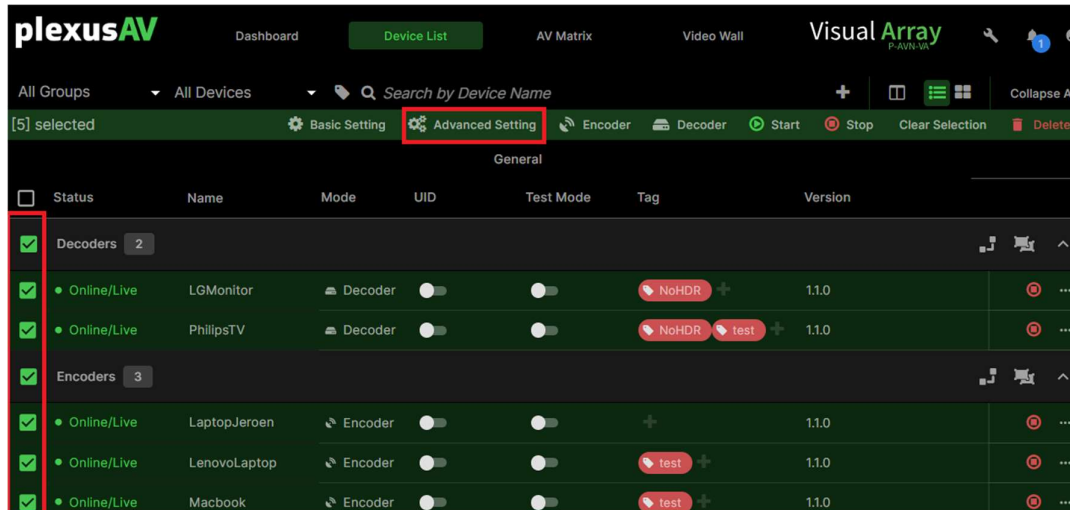


Select the update file and click “Open”. Then click “OK” to upgrade.



Batch upgrade with Visual Array

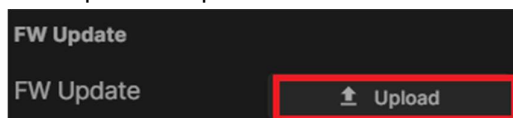
Select all transceivers in device list and go to “Advanced Settings”:



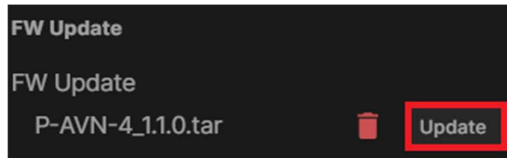
Delete any existing VA uploaded firmware (if there is any existing firmware) by clicking the bin button:



Click upload to upload the firmware to VA:



Update the units:



If all units are ready (100%), leave the advanced settings by clicking “Cancel”.