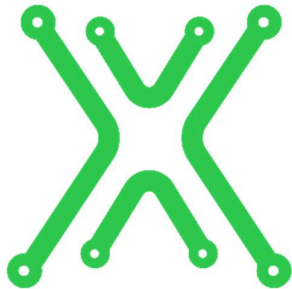


PlexusAV P-AVN-X

Firmware Version 1.4.1 Release Notes

April 1, 2026 – v1



P-AVN-X Firmware Branch Products

P-AVN-4, P-AVN-4E, P-AVN-4D,

P-AVN-3-HDBT

P-AVN-2, P-AVN-2E, P-AVN-2D

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Introduction

This document covers software version 1.4.1 for the P-AVN-X firmware branch products. These models share common code architecture and API commands. Each model has its own filename, but same shared feature sets. Features and improvements in this document apply to all P-AVN-X products unless otherwise stated for a specific model.

Firmware for all PlexusAV products is aligned, meaning that all devices running 1.4.x firmware will work together seamlessly.

P-AVN-4, P-AVN-4E, P-AVN-4D,

P-AVN-3-HDBT

P-AVN-2, P-AVN-2E, P-AVN-2D

Online Resources and Support

plexusAV offers several resources online to obtain firmware, documentation, and initiate support tickets. See links below.

Partner Download Site *(where to get the firmware files and release notes)*

<https://plexusav.com/partner-support-downloads/>

API Development Hub *(use this site to easily look up API commands, syntax, examples, etc.)*

<https://developer.plexusav.online/>

Product Pages *(use this site to download manuals, datasheets, quick-start guides, etc.)*

<https://plexusav.com/support-request/>

Support Ticket Request *(use this site to create a support ticket and get an email/callback)*

<https://plexusav.com/support-request/>

Product Improvements

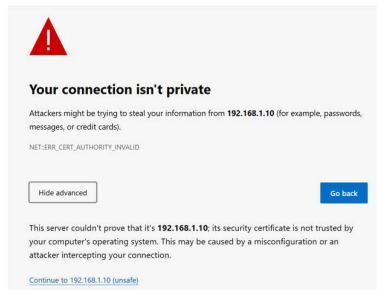
Web-Interface Security: HTTP enable/disable

P-AVN-X Devices host a very sleek web-interface or “ui”, where you can see Dashboard status of the input/output, make channel changes, configure, update, etc. By default, the P-AVN-X product will host both a secure HTTPS and HTTP style URL to access with a web browser.

The HTTPS:// style URL uses a “certificate” to secure the session in between browser and P-AVN-X



- HTTPS:// style web-ui is always available
- This may prompt the browser to show an “accept” or “proceed” dialog (this is normal)



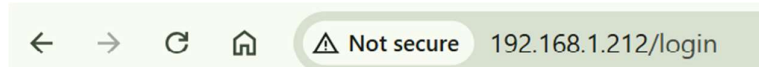
If your browser shows this prompt, click advanced.

Then proceed/accept as needed to access the web-interface via HTTPS.

This is very common in any electronic with web-ui.

- The P-AVN-X uses a valid certificate, but it is not dynamically verified with a 3rd party website over the internet. This is why the browser will notify the user. It is indeed an encrypted session even though browsers like chrome will show in red “not secure”.

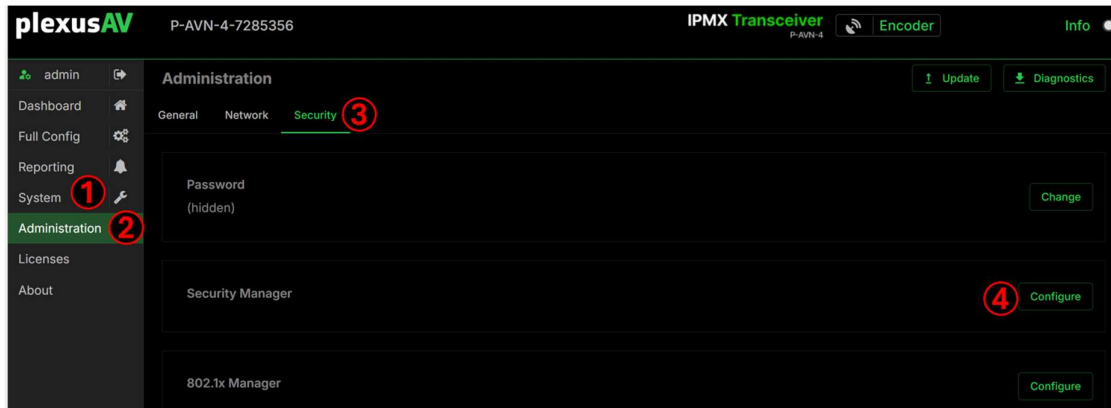
The HTTP:// style URL does not require a certificate or prompt a security warning



- HTTP:// style web-ui can now be enabled or disabled
- Using HTTP:// method does not require a certificate and the browser won't show the security prompts. Communication between the P-AVN-X and web-browser is an unsecured session, which is fine in many local/private network topologies.
- **Note: when disabling the HTTP:// access a reboot is required to enable restriction**

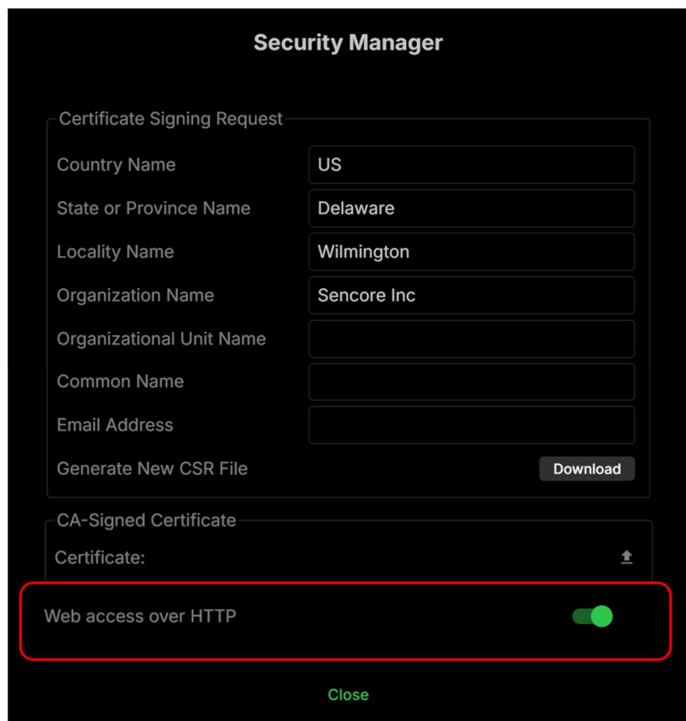
To change the HTTP:// enable/disable setting

1. Login to the P-AVN-X and click on **System** section in the Navigation Pane
2. Click **Administration**, which is underneath the System section
3. Click on the **Security tab** under Administration
4. Click the Security Manager **Configure** button



The toggle button will enable (switch on right = green) or disable (switch on left = gray) HTTP access

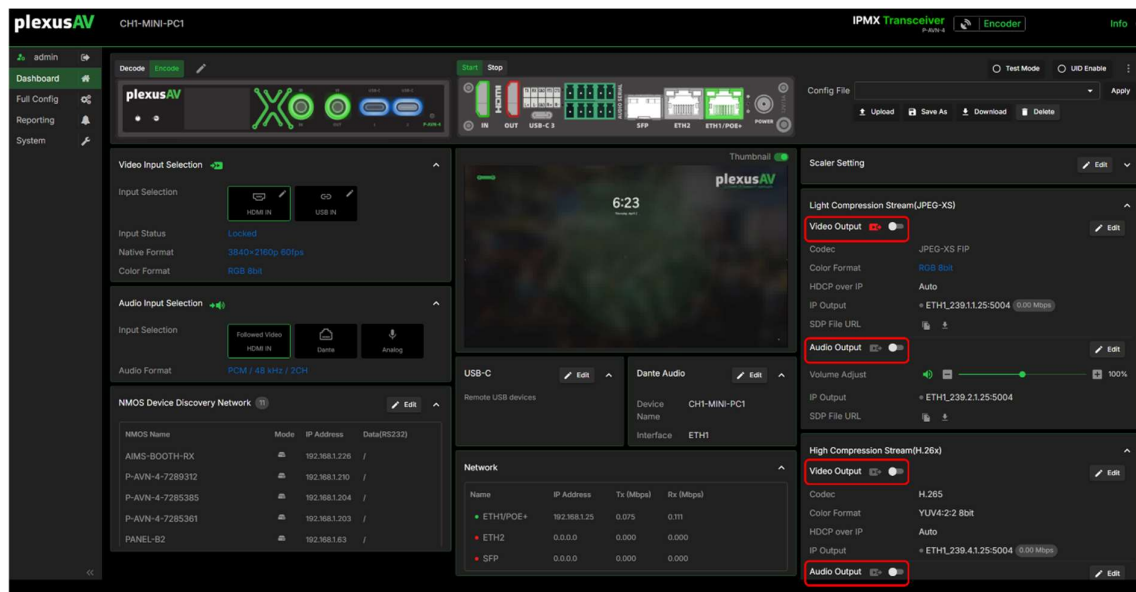
Note: *When disabling access, be sure to reboot the unit after closing Security Manager*



Individual State control of JPEG-XS vs. H.26x Audio/Video streams

The P-AVN-4, and P-AVN-3-HDBT encoder modes support dual streaming, where both a JPEG-XS and H.26x based channel can have their own audio essence stream.

- ✓ Both the audio and video streams can now be enabled/disabled individually for Light Compression and High Compression streams.
- ✓ P-AVN-4, and P-AVN-3-HDBT can now send *just* H.26x, JPEG-XS, or both. Previously JPEG-XS video was always enabled (hard coded to ON state)



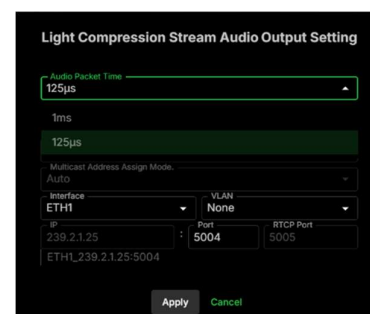
Configurable Audio Packet Time setting on JPEG-XS (LC) stream

New configurable Audio Packet Time setting (125µs or 1ms) for JPEG-XS “LC” stream

- ✓ Enables tuning of IPMX audio packetization for optimal performance:
- ✓ 125µs: minimal latency (ideal for high-channel-count, low-latency workflows)
- ✓ 1ms: reduced network/CPU load (ideal for bandwidth-constrained networks)

Impact: Integrators can now balance channel capacity, latency, and network utilization based on deployment requirements. Default: 125µs for maximum AES67/IPMX compatibility

To access this setting, click EDIT next to the LC audio section



Analog Audio Direction Selection

P-AVN-X Devices have a 5-PIN phoenix port for balanced or unbalanced audio wiring. Previously the analog port was fixed as Input for Encoder Mode, Output for Decoder Mode. Now the direction of the analog audio port can be configured for either direction on both Encode and Decode modes.

To set direction of analog I/O

- Open Dashboard of P-AVN-X web-interface
- Click on Full Config in the navigation panel
- Select analog direction and click apply

Note: The Dashboard widgets will change when analog direction is changed

- **Analog = Input** when Audio Input selection for the encoder will show Analog option
- **Analog = Output** when Analog Output Widget will be shown on the right side of Dashboard

P-AVN-4 Encoder Mode: Example of Analog Audio Encoding

The screenshot displays the configuration for P-AVN-4 Encoder Mode. It includes two panels: 'Full Config – Analog Audio Settings' and 'Dashboard – Audio Input Widget'.

Full Config – Analog Audio Settings: Shows 'Analog Direction' set to 'Input' (selected with a green dot).

Dashboard – Audio Input Widget: Shows 'Audio Input Selection' with 'Analog' selected. 'Input Selection' shows 'Followed Video', 'HDMI IN', 'Dante', and 'Analog'. 'Audio Format' is 'PCM' and 'Audio Status' is 'Not Present'.

P-AVN-4 Encoder Example: Analog Audio Encoding to IPMX

The diagram shows the physical ports of the device. A red arrow labeled 'INPUT' points to the 'HDMI IN' port. A green arrow labeled 'OUTPUT' points to the 'ETH1/POE+' port. The 'AUDIO SERIAL' port is highlighted with a red box.

Analog Audio Output Options:

- RCA -> Phoenix
- XLR - Phoenix
- Balance or Unbalanced

IPMX Output Options:

- IPMX [AES-67 [PCM]]
- Multicast / IP

P-AVN-4 Encoder Mode: Example of Analog Audio Encoding

The screenshot displays the configuration for P-AVN-4 Encoder Mode. It includes two panels: 'Full Config – Analog Audio Settings' and 'Dashboard – Audio Output Widget'.

Full Config – Analog Audio Settings: Shows 'Analog Direction' set to 'Output' (selected with a green dot).

Dashboard – Audio Output Widget: Shows 'Analog Output' set to 'Same as source'. 'Audio Source Selection' shows 'Followed Video', 'HDMI IN', and 'Dante'. 'Volume Adjust' is set to 100%.

P-AVN-4 Example: IPMX or Dante IP Audio Decode to Analog

The diagram shows the physical ports of the device. A red arrow labeled 'OUTPUT' points to the 'HDMI OUT' port. A green arrow labeled 'INPUT' points to the 'ETH1/POE+' port. The 'AUDIO SERIAL' port is highlighted with a red box.

Analog Audio Output Options:

- RCA -> Phoenix
- XLR - Phoenix
- Balance or Unbalanced

IP Audio Input Options:

- IPMX [AES-67 [PCM]]
- Dante Stereo [PCM]
- Multicast / IP

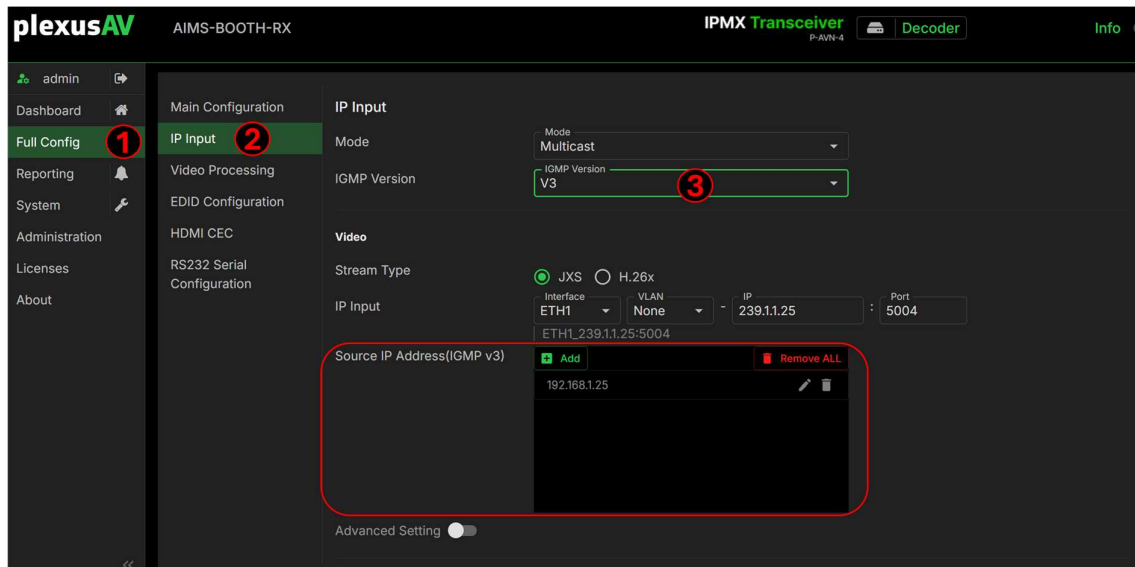
Multicast Address Handling Improvements

- ✓ P-AVN-X will restrict multicast addresses to stay in the range defined by IPMX standard.
- ✓ IGMPv3 SSM (Source Specific Multicasting) is now supported on Decoders
 - Includes automatic source update for IGMPv3 when channels changed via NMOS

SSM or Source Specific Multicasting is used when the decoder is configured to receive multicast streams only from a specified source.

To access the P-AVN-X Decoder GMPv3 Source Specific Settings

1. Click on Full Config in navigation pane (make sure you're in decoder mode)
2. Click on IP Input
3. Select V3 under IGMP version Drop Down
 - a. The Source IP window will then appear



NMOS IS-11 Improvements

P-AVN-X Devices are interoperable with other IPMX products and use the NMOS API standards to discover devices and route streams. Adding support for IS-11 is part of maintaining compliance and IPMX certification. This feature is an enhancement to the existing device discovery using NMOS.

IS-11 = “Discovery & Registration for IPMX-style routing”

- ✓ Added IS 11 support to the NMOS stack, enabling automatic discovery and registration of IPMX compatible sources and sinks.
- ✓ Added EDID based video resolution setting for IS 11 on P AVN 4E, P AVN 4D, P AVN 4, P AVN 3 HDBT, P AVN 2, and P AVN 2E so that the P AVN X can set the correct video resolution for IS 11 aware sinks.
- ✓ Added DNS domain name retrieval – support for DNS-based domain name resolution

IS-11-related bug fixes

- Improved RTCP handling for H.26x/JPEG-XS video in IS-11-driven subscription and update workflows to prevent glitches and stream drops when routes change.
- Corrected colorimetry format and TCS handling in RTCP packets so that IS-11-advertised sources produce consistent metadata for downstream devices.
- Fixed SDP-related issues affecting how IS-11-compatible sources and sinks describe their capabilities and routes, restoring proper interpretation by the P-AVN-X.
- Fixed first RTP packet timestamp behavior when starting an IS-11-based video route, improving alignment and lip-sync.
- Prevented abnormal RTP packets after RTCP that could disrupt IS-11-controlled video streams during dynamic route updates.
- Enhanced RTCP video subscription and update handling so that IS-11-driven route changes (e.g., re-subscribing to a source) remain stable and predictable.

Bug Fixes

These are general bug-fixes and improvements to the product. If you require more information please reach out to technical support.

- Fixed intermittent Type-C unlock issue
- Corrected colorimetry format and TCS handling in RTCP packets
- Fixed first RTP packet timestamp issue
- Addressed SDP issues (including revert of a prior SDP fix)
- Resolved abnormal RTP packets after RTCP
- Fixed IGMPv3 leave group issue
- Corrected audio TX SSRC value issue
- Fixed intermittent HDMI unlock issue
- Fixed compensation issue during video frame generation
- Enhanced destination IP validation during the patch process
- Fixed NMOS log level configuration issue
- Improved RTCP handling before frame start
- Forward 802.1 LLDP packets directly to PS
- Set IGMP filter mode default to exclude

Upgrade procedure

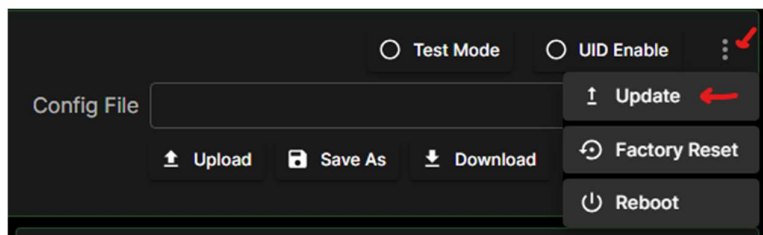
There are two ways to upgrade the P-AVN-4 firmware:

1. Using P-AVN-4 local WebUI
2. Using Visual Array: upgrading multiple P-AVN-4 units in one go

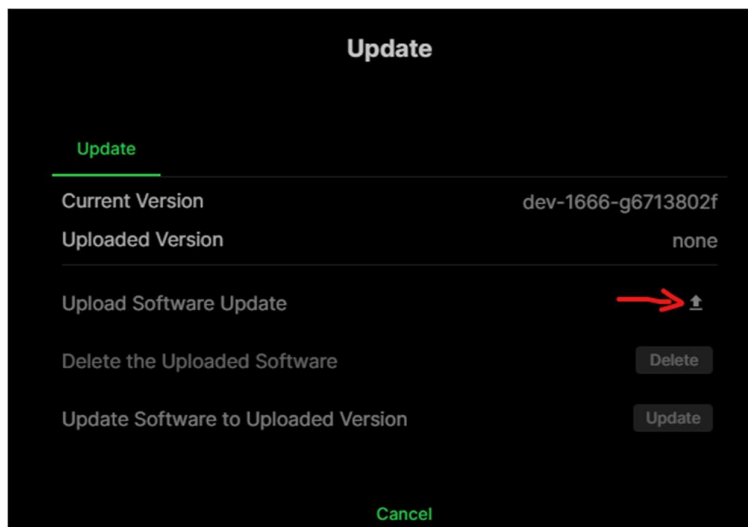
We will cover both ways of upgrading.

Upgrade with Local P-AVN-4 WebUI

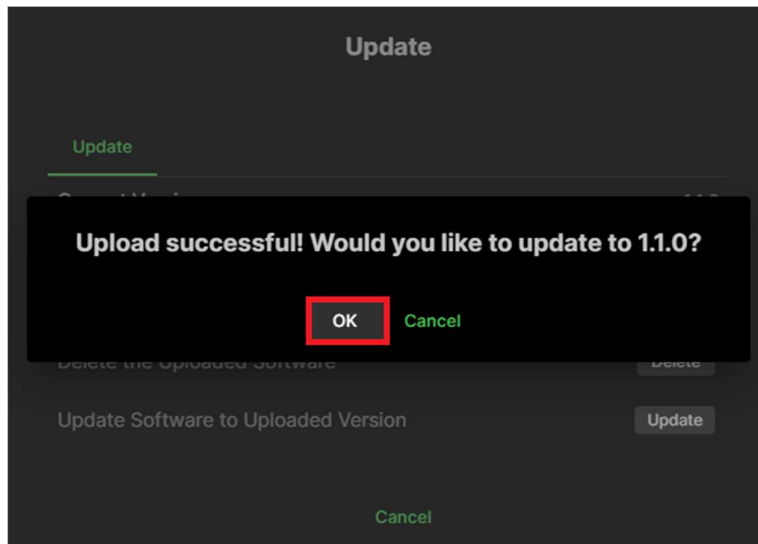
Log into the unit and look for the ellipse on the right side of the web UI. Click it, then click “Update”.



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

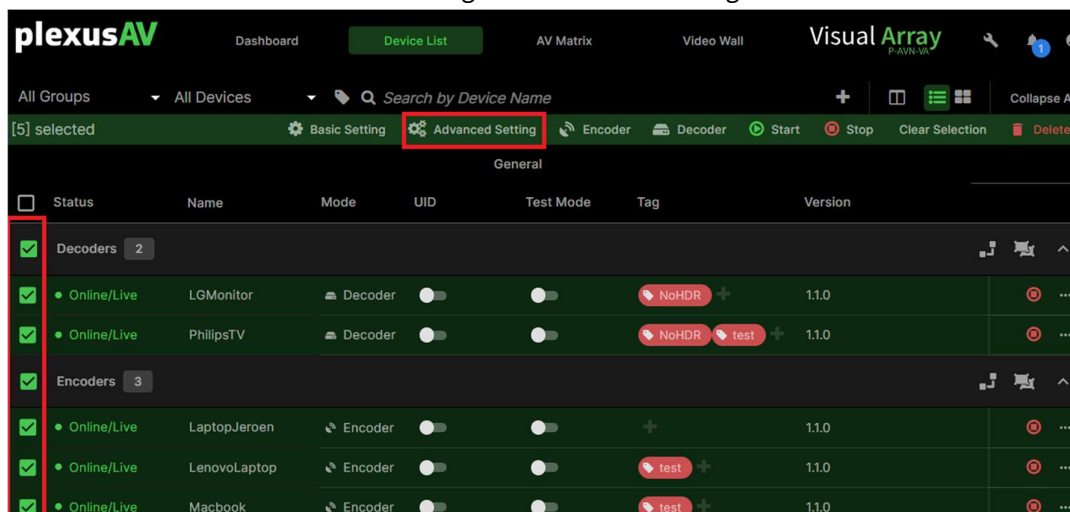


Select the update file and click “Open”. Then click “OK” to upgrade.



Batch upgrade with Visual Array

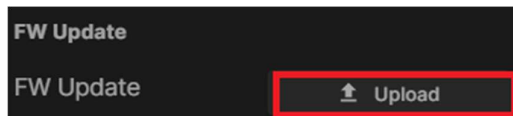
Select all transceivers in device list and go to “Advanced Settings”:



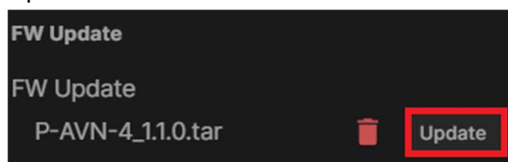
Delete any existing VA uploaded firmware (if there is any existing firmware) by clicking the bin button:



Click upload to upload the firmware to VA:



Update the units:



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