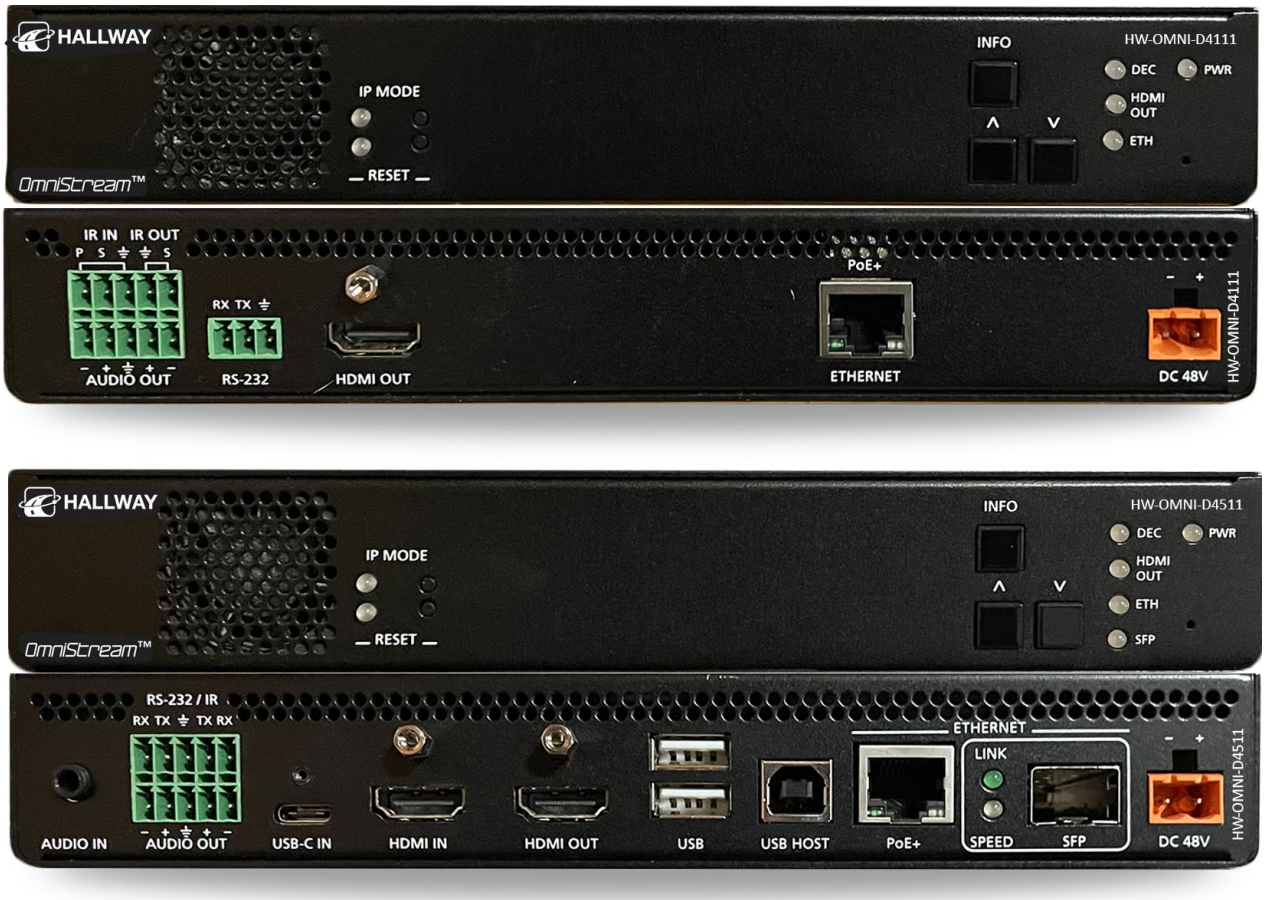
HW-OMNI-D4111

HW-OMNI-D4511

OmniStream Decoder

Instructions for Use

Version August 14, 2026



Hall Research | 1234 Lakeshore Drive, Suite #150, Coppell, TX 75019

Table of Contents

Table of Contents 3
Version Information 5
Sales & Customer Support 6
Warranty 7
Important Safety Information 8
FCC Compliance 9
Introduction 10
Subscribing to a Stream 11
Configuration 12
Panel Description 13
Panel Description – HW-OMNI-D4111 13
Panel Description – HW-OMNI-D4511 15
Connection Diagram 17
Decoder Info Screen 18
Web Server 24
Logging in for the first time 25
System Information 26
Network 28
Network 1 28
Telnet 29
WebUI 29
Switch 1 – Switch 3 29
USB 1 30
IP Input 31
HDMI Output 32
HDCP 32
Video 33
Audio 35
Standby 35

USB 37
Device properties 37
Available host ends 38
Serial 39
Serial port configuration 39
Serial configuration 40
Command (Display On, Volume Up, Volume Down) 40
Logo 41
New logo 41
Uploaded logo 41
Logo insertion 41
Multiview 43
New Multiview 43
PTP 45
eth1 45
LLDP 47
lan0 47
Chassis 47
Port 48
SAP Listener 49
SAP Listener 50
Session 51
Video 51
Configuration 52
Import Configuration 52
Export Configuration 52
Upload SSL certificate 52
Users 53
User 1 / User 2 53
Upgrade 54

Version Information

This section lists document revisions. Update the table whenever the manual is revised.

Version	Date	Notes
August 14, 2026	[Release Date]	Initial draft release

Sales & Customer Support

Main Office	Hall Research, 1234 Lakeshore Dr Suite #150, Coppell, TX 75019
Support Hours	Monday – Friday, 8:00 a.m. – 5:00 p.m. (CST)
Website	https://www.hallresearch.com
Product Page	https://www.hallresearch.com/product/HW-OMNI-D4111 https://www.hallresearch.com/product/HW-OMNI-D4511

IMPORTANT: Visit https://www.hallresearch.com/product/HW-OMNI-D4111 for the latest firmware updates and Instructions for Use.

Warranty

To view the product warranty, use the following link: https://hallresearch.com/warranty

Important Safety Information

CAUTION: Risk of electric shock. Do not open the enclosure or expose to rain or moisture. No user-serviceable parts inside. Refer servicing to qualified service personnel.

- Do not expose this apparatus to rain, moisture, dripping, or splashing and ensure no objects filled with liquids are placed on the unit.
- Do not install in a bookcase, cabinet, or other confined space. Ensure the unit is well ventilated.
- Do not obstruct ventilation openings with newspapers, tablecloths, curtains, or similar items.
- Do not install near any heat sources such as radiators, heat registers, stoves, or amplifiers.
- Do not place sources of naked flames, such as lighted candles, on the unit.
- Clean this apparatus only with a dry cloth.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Protect the power cord from being walked on or pinched, particularly at plugs.
- Only use attachments and accessories specified by the manufacturer.
- Refer all servicing to qualified service personnel.

FCC Compliance

This hardware device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Introduction

OmniStream products operate on a similar basic concept as matrix switch endpoints: A/V signals are transmitted from one location to another over category cable. However, OmniStream differs from traditional matrix switchers because it is an IP-based solution, allowing data to be distributed over a standard IP network.

These endpoints are referred to as encoders and decoders. Encoders function like transmitters, while decoders function like receivers.

Figure 1.1 shows an encoder and decoder connected through a network switch. Like all network devices, each encoder and decoder must have a unique IP address. By default, OmniStream encoders and decoders are DHCP-enabled. This means that when a unit is connected to a network with a DHCP server available, it will automatically receive an IP address.

If no DHCP server is available, the unit will assign itself an IP address in the 169.254.xxx.xxx/16 range. OmniStream devices can also be configured with a static IP address when needed. Static IP addressing is covered in a later section.

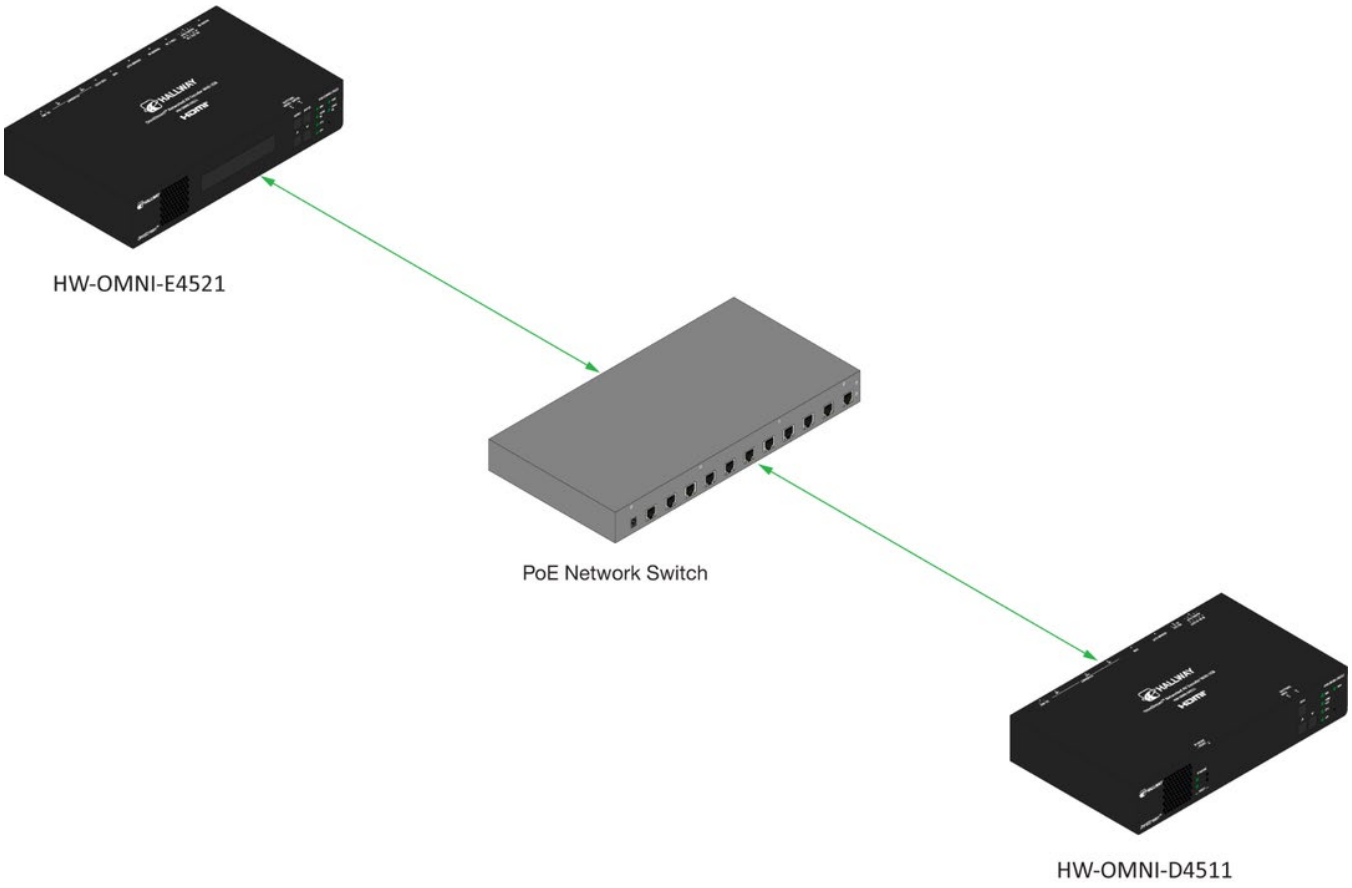


Figure 1.1

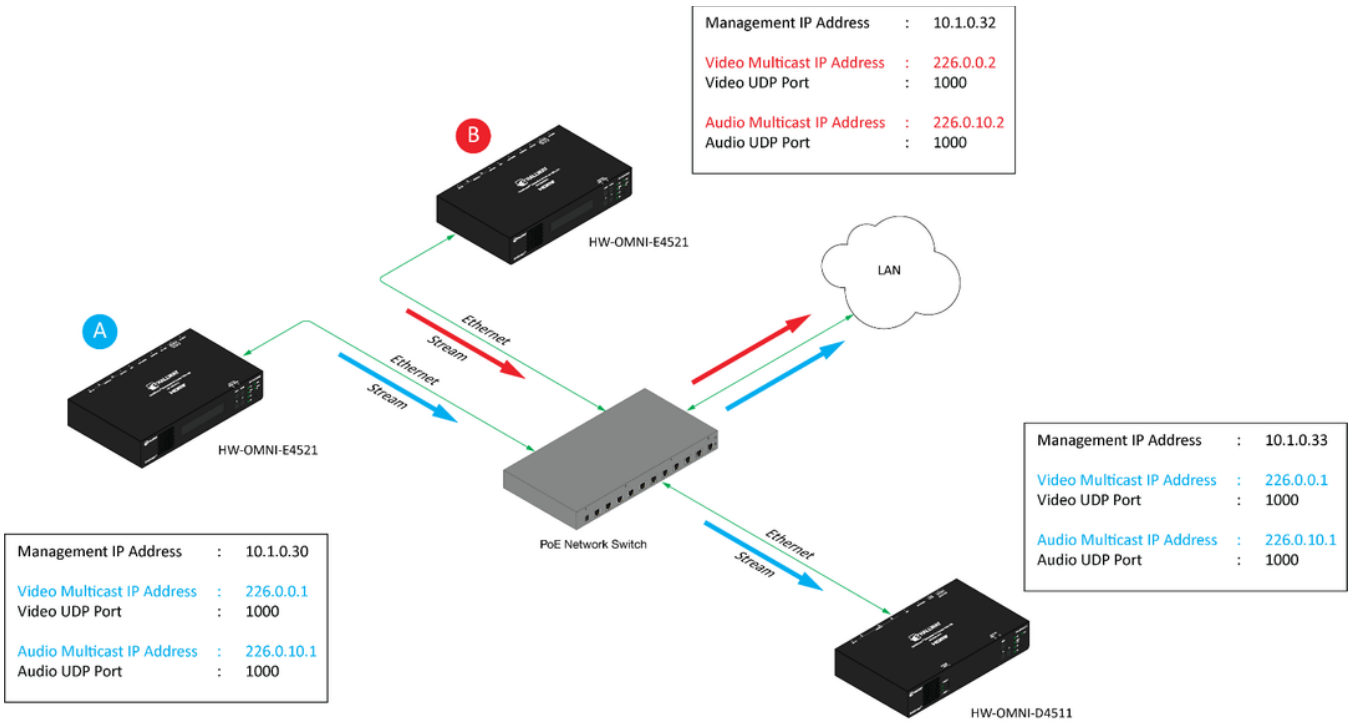
Subscribing to a Stream

To receive content from an encoder, the decoder must subscribe to the multicast IP address and UDP port of the stream or streams. The decoder does not subscribe to the session itself, but rather to the individual streams within that session.

This process is like changing channels on a set-top box. For example, to view content on channel 213, the set-top box must be tuned to channel 213. For a decoder to receive content from an encoder stream, the decoder's multicast IP address and UDP port must match those of the encoder stream it is intended to receive.

> **NOTE:** The encoder and decoder management IP (class C) address is different from its multicast IP address. The device IP address identifies the encoder or decoder on the network, while the multicast IP (class D) address identifies the stream being transmitted.

Figure 1.2 shows two encoders and a single decoder connected to a network switch. The decoder is receiving content from encoder "A" because the decoder is set to the same multicast IP address and UDP ports for both the video and audio stream. If the decoder were set to the multicast IP address and UDP ports for encoder "B", then the decoder would receive the content from encoder "B".



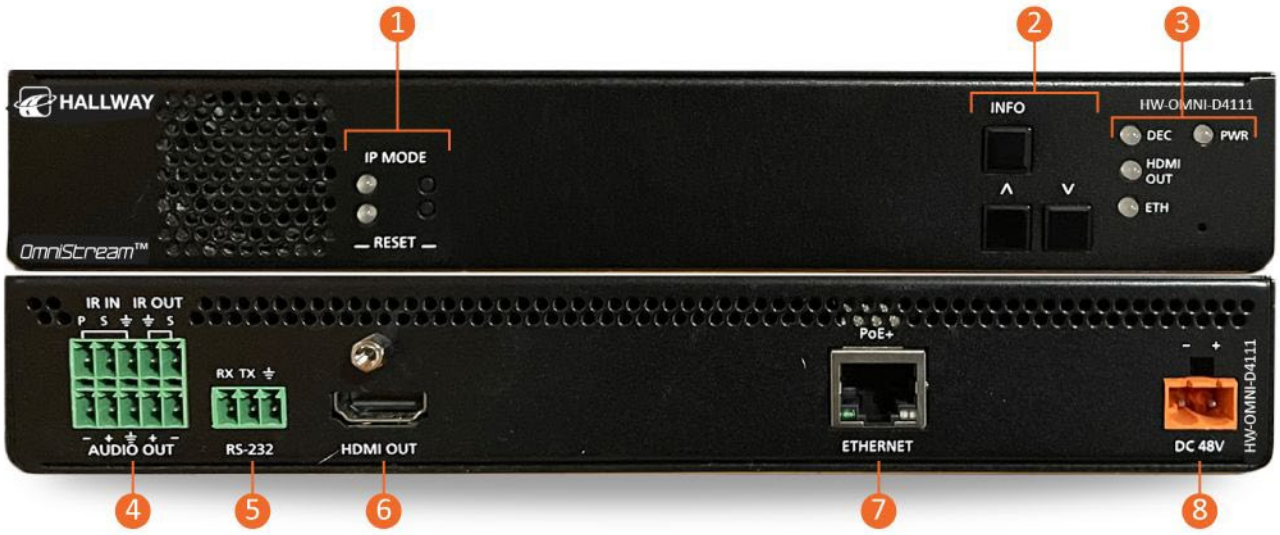
Configuration

Typically, it is required that installers configure each encoder and decoder endpoint, individually, by specifying the multicast addresses, ports, stream settings, and decoder stream selection. OmniStream simplifies this task by incorporating that intelligence directly into the endpoints.

When powered on and connected to the network for the first time, each decoder boots and automatically joins an available advertised stream. However, if multiple encoders are already active when the decoders boot, the decoders will typically join the lowest stream in the available list. This allows the system to display content quickly with no installer intervention, making it easy to confirm that the network, encoders, decoders, and displays are operating correctly.

Panel Description

Panel Description – HW-OMNI-D4111

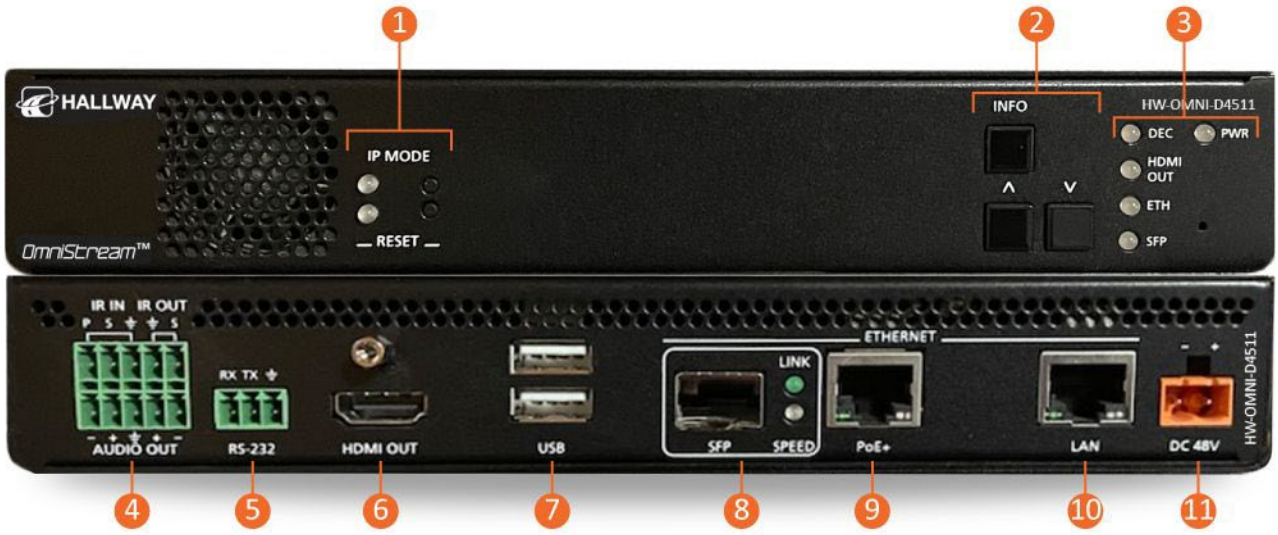


1. **LED Indicators**
   IP MODE – Press and hold this recessed button using a small pointed object, such as a paper clip, to set the IP mode to either DHCP or Static. The default IP mode is DHCP.
   RESET – Press and hold this recessed button using a small pointed object, such as a paper clip, to restore the unit to factory-default settings. Do not use excessive force or sharp objects that may damage the button.
2. **Buttons**
   INFO – Press this button to display the Info screen on the connected display.
   UP – Press this button to scroll up through different screens in the Info screen.
   DOWN – Press this button to scroll down through different screens in the Info screen.
3. **LED Indicators**
   DEC – This LED will be green when decoding is active.
   HDMI OUT – This LED will be green when an active sink device is connected to the HDMI OUT port.
   ETH – This LED is green when a valid Ethernet link is established between the decoder and the network switch.
   PWR – This LED will be green when the decoder is powered.
4. **AUDIO OUT** – Connect this 5-pin terminal block output to a balanced or unbalanced stereo analog audio input on the destination device. For balanced audio, connect the positive (+), negative (-), and shield/ground conductors for the left and right channels to the corresponding terminals. For unbalanced audio, connect the left and right signal conductors to L+ and R+, and connect ground/shield to G. Leave L- and R- unconnected unless otherwise specified.

IR IN – Connect this 3-pin terminal block input to an IR receiver.
IR OUT – Connect this 2-pin terminal block input to an IR blaster.

5. **RS-232** – Connect a 3-pin terminal block to this port for RS-232 control.
6. **HDMI OUT** – Connect an HDMI cable from this port to a sink device.
7. **ETHERNET / PoE+ –** Connect this port to a PoE or PoE+ (IEEE 802.3af/at) compliant network switch using a standard Ethernet cable. This connection provides both data and power to the device. If a PoE+ switch is not available, use the 48 V DC power supply (part no. AT-PS-48083-C, sold separately). NOTE: The decoder can be powered by either a 48 V DC power adapter or a PoE/PoE+ switch. When both power sources are connected, the device gives priority to the 48V DC power adapter.
8. **DC 48V** – Connect a 48 V DC power supply (part no. AT-PS-48083-C, sold separately) to this receptacle to power the unit when a PoE or PoE+ (IEEE 802.3af/at) switch is not being used.
   NOTE: The decoder can be powered by either a 48 V DC power adapter or a PoE/PoE+ switch. When both power sources are connected, the device gives priority to the 48V DC power adapter.

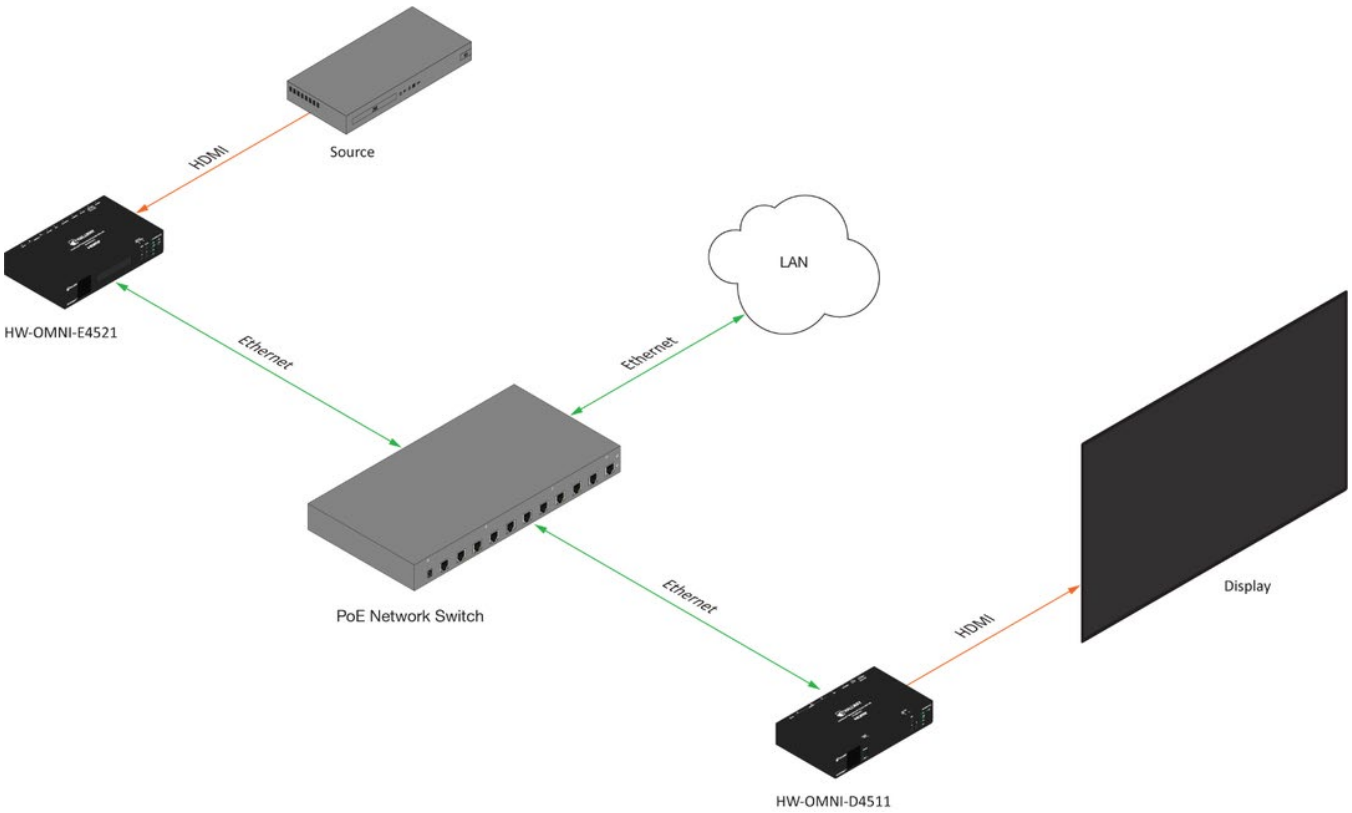
Panel Description – HW-OMNI-D4511



1. **LED Indicators**
   IP MODE – Press and hold this recessed button using a small pointed object, such as a paper clip, to set the IP mode to either DHCP or Static. The default IP mode is DHCP.
   RESET – Press and hold this recessed button using a small pointed object, such as a paper clip, to restore the unit to factory-default settings. Do not use excessive force or sharp objects that may damage the button.
2. **Buttons**
   INFO – Press this button to display the Info screen on the connected display.
   UP – Press this button to scroll up through different screens in the Info screen.
   DOWN – Press this button to scroll down through different screens in the Info screen.
3. **LED Indicators**
   DEC – This LED will be green when decoding is active.
   HDMI OUT – This LED will be green when an active sink device is connected to the HDMI OUT port.
   ETH – This LED is green when a valid Ethernet link is established between the decoder and the network switch.
   SFP – This LED is green if the decoder is using an SFP module and indicates SFP network activity/status.
   PWR – This LED will be green when the decoder is powered.
4. **AUDIO OUT** – Connect this 5-pin terminal block output to a balanced or unbalanced stereo analog audio input on the destination device. For balanced audio, connect the positive (+), negative (-), and shield/ground conductors for the left and right channels to the corresponding terminals. For unbalanced audio, connect the left and right signal conductors to L+ and R+, and connect ground/shield to G. Leave L- and R- unconnected unless otherwise specified.
   IR IN – Connect this 3-pin terminal block input to an IR receiver.
   IR OUT – Connect this 2-pin terminal block input to an IR blaster.

5. **RS-232** – Connect a 3-pin terminal block to this port for RS-232 control.
6. **HDMI OUT** – Connect an HDMI cable from this port to a sink device.
7. **USB** – Connect USB devices to these ports.
8. **SFP** – Connect an SFP module to the SFP port.
   LINK – This LED is green when SFP network activity is detected.
   SPEED – This is green when 1000mb/gb connection is established.
9. **PoE+ –** Connect this port to a PoE or PoE+ (IEEE 802.3af/at) compliant network switch using a standard Ethernet cable. This connection provides both data and power to the device. If a PoE+ switch is not available, use the 48 V DC power supply (part no. AT-PS-48083-C, sold separately). NOTE: The decoder can be powered by either a 48 V DC power adapter or a PoE/PoE+ switch. When both power sources are connected, the device gives priority to the 48V DC power adapter.
10. **LAN** – Use this port to connect an Ethernet cable for daisy-chaining decoders within a wall installation, or to enable IP-based device control over Ethernet.
11. **DC 48V** – Connect a 48 V DC power supply (part no. AT-PS-48083-C, sold separately) to this receptacle to power the unit when a PoE or PoE+ (IEEE 802.3af/at) switch is not being used.
    NOTE: The decoder can be powered by either a 48 V DC power adapter or a PoE/PoE+ switch. When both power sources are connected, the device gives priority to the 48V DC power adapter.

Connection Diagram



Decoder Info Screen

To display the OSD on the display connected to the decoder, press the INFO button on the front panel. The Info screen remains displayed for approximately 30 seconds, then automatically closes. To hide the OSD before this timeout, press the INFO button again while the OSD is displayed.

The upper portion of the screen displays information about the decoder, including the model, hostname, management IP address, and subnet mask. The lower portion of the screen displays the session name, the video multicast IP address/port, and the audio multicast IP address/port.

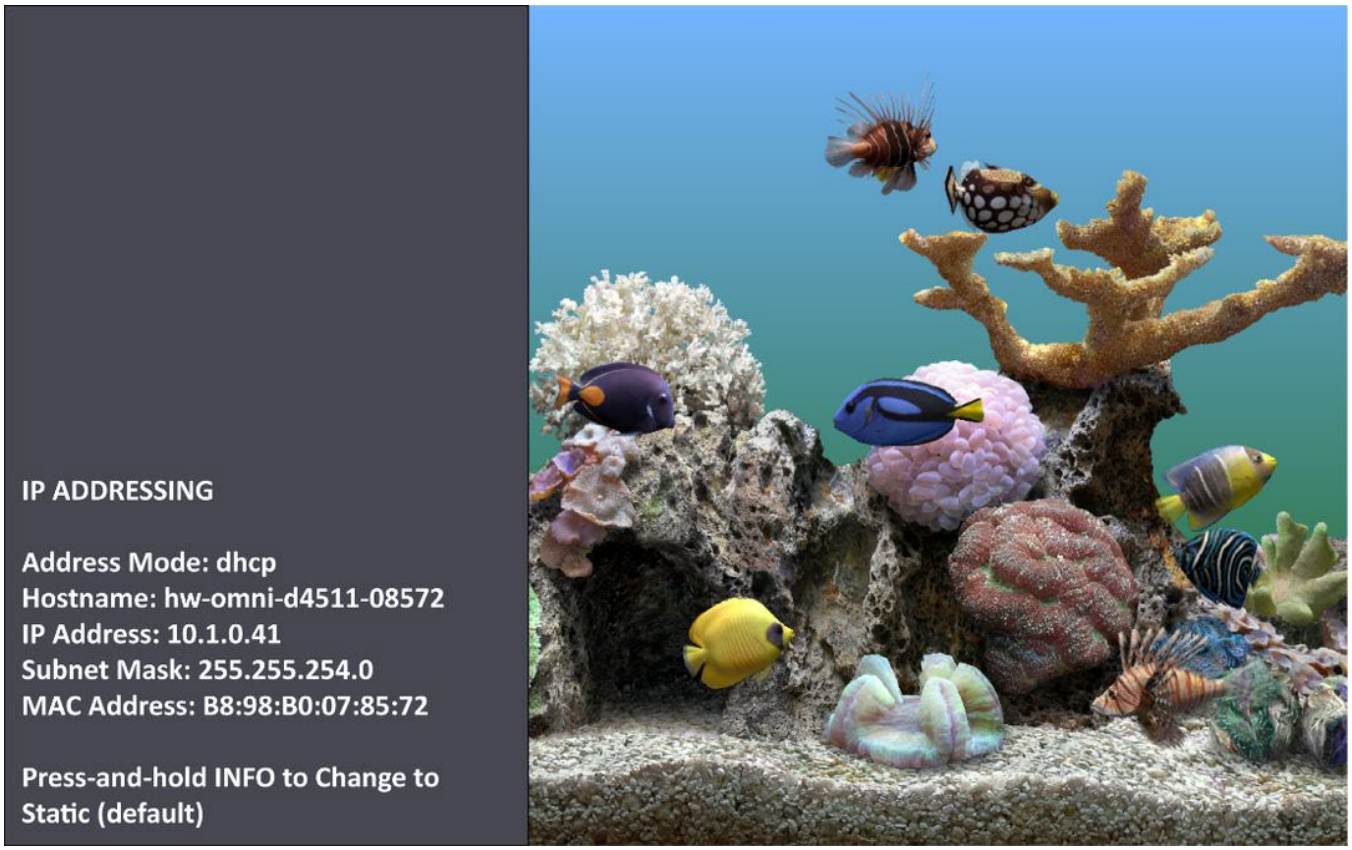


Press the UP or DOWN button to scroll through the available screens. When pressing the DOWN button, the screens appear in the following order:

1. Audio / Video Status – Displays stream information, output resolution, and audio format.



2. IP Addressing – Displays the current IP mode, hostname, management IP address, subnet mask, and MAC address.



Press and hold the INFO button to switch to Static IP mode. The following screen will be displayed:



To continue, press and hold the INFO button confirm the operation. To cancel, press the UP or DOWN buttons. After the INFO button is pressed again, the decoder reboots and switches to Static IP mode. The last IP configuration used in DHCP mode is retained for Static IP mode. To change the IP address or other network settings, log in to the web server and update the System > Network page.

To return to DHCP mode, access the System > Network page in the web server, or press INFO from the IP Addressing screen in the OSD and follow the on-screen instructions.

3. Device Information – Displays the serial number and detailed information about the installed firmware version.



Press and hold the INFO button to access the reset options. Press ENTER again to reboot the decoder.

Press and hold the INFO button for 5 seconds to restore the decoder to its factory-default settings.

To cancel and return to the main menu, press the UP or DOWN buttons.


Press ENTER once to reboot
Press ENTER for 5 seconds to Factory Reset

Web Server

To access the web server of the decoder, the decoder's IP address must first be identified. This can be done in either of the following ways:

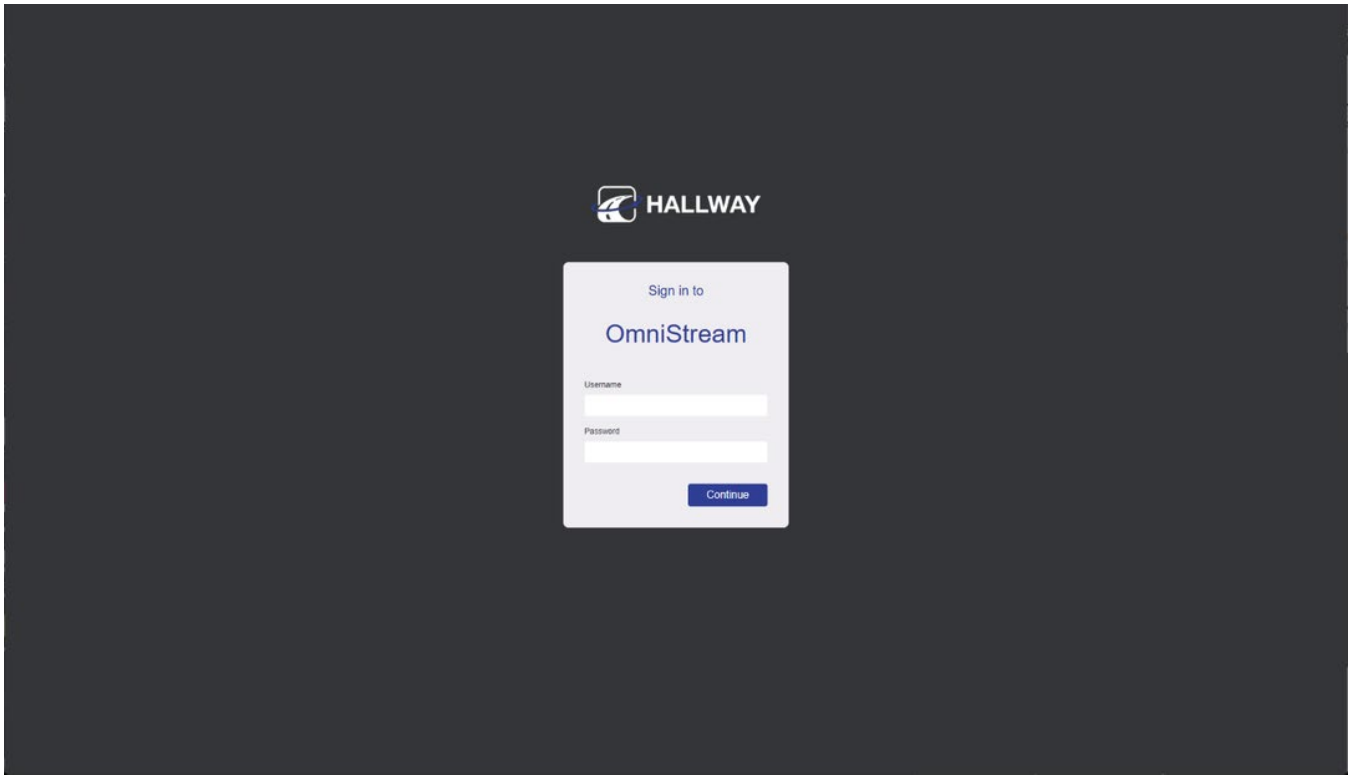
- Press the INFO button on the decoder to display the current IP address.
- Use IP scanner software.
- Access the unit by its domain name.

When using IP scanner software, the computer and the OmniStream decoder must be connected to the same network.

Logging in for the first time

Launch the desired web browser and enter the IP address or domain name of the decoder in the address bar.

- Enter the password. The default password is password. By default, the Password field is masked.
-

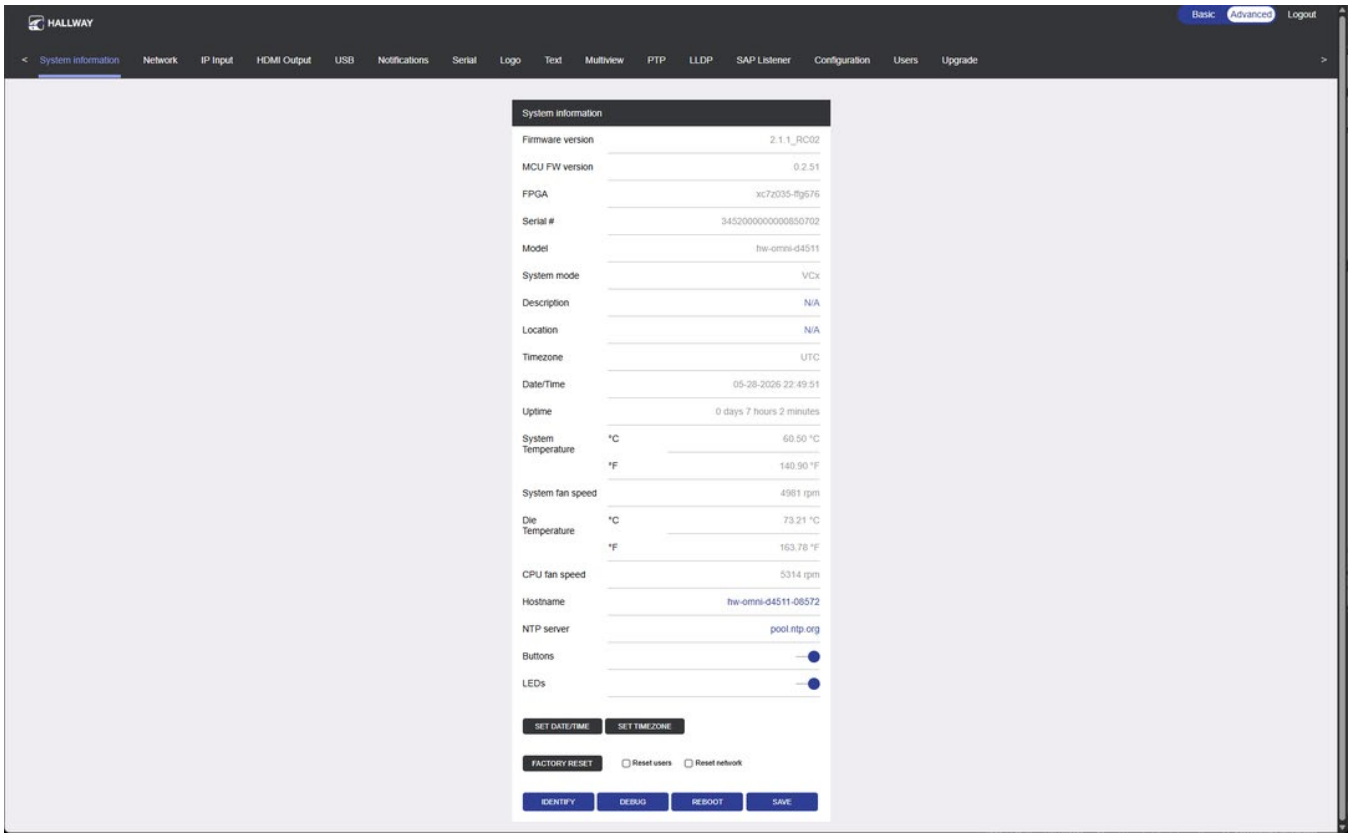


Web Server — Login screen

- In the Username field enter admin
- Enter password in the Password field.
- The System Information screen will be displayed.

System Information

The Info page provides a summary of the decoder's status and basic device information. This page displays identification and firmware details, input and network connection status, and current power consumption. It also includes a thumbnail preview of the input stream, when enabled, for quick visual monitoring.



Web Server — System Information page

Firmware version – Displays the current firmware version installed on the device.

MCU FW version – Displays the firmware version for the device microcontroller.

FPGA - Displays the FPGA device or FPGA firmware identifier.

Serial # – Displays the device serial number.

Model – Displays the device model number.

System mode – Displays the current operating mode. The default mode, VCx, uses Atlona's latest codec technology and offers strong support for both computer graphics and motion video. It supports 4K60 4:4:4 fast switching, dual streaming from OmniStream encoders, and multiview on OmniStream decoders. VCx is the only available mode on 4xxx units. For compatibility with legacy units, those units must be running firmware version 2.0.0 or later with the VCx codec.

Description – Displays the user-defined device description, when configured.

Location – Displays the user-defined device location, when configured.

Timezone – Displays the current timezone used by the device.

Date/Time – Displays the current device date and time.

Uptime – Displays the amount of time the device has been running since the last reboot.

System Temperature – Displays the current system temperature in Celsius and Fahrenheit.

System fan speed – Displays the current system fan speed in RPM.

Die Temperature – Displays the value returned from the die temperature sensor (DTS) on the chip of the PCB

CPU fan speed – Displays the current CPU fan speed in RPM.

Hostname – Displays the hostname of the decoder. By default, OmniStream decoders are assigned a default hostname, which is constructed as follows: hw-omni-[SKU]-[last five digits of serial number]. If using a custom hostname, it must meet the hostname standards, defined here: https://tools.ietf.org/html/rfc1123.

NTP server – Displays the NTP server. This field is set to pool.ntp.org by default. Click this field to enter the desired NTP server address.

Buttons – Enables or disables the front-panel buttons.

LEDs – Enables or disables the front-panel LEDs.

Set Date/Time – Opens the date and time setting control. Use this to manually set the device date and time.

Set Timezone – Opens the timezone setting control. Use this to assign the correct timezone for the device.

Factory Reset – Click this button to reset the decoder to factory-default settings. When performing a factory reset, the following options can be selected, by clicking the check box. If no options are selected, then the decoder is reset with no factory-default settings.

- **Reset user** – Resets the decoder to factory-default settings and resets custom user information.
- **Reset network** – Resets the decoder to factory-default settings and resets network information.

Identify – Click this button to physically identify a unit on the network. Clicking this button will cause all front-panel LED indicators to flash for 10 seconds.

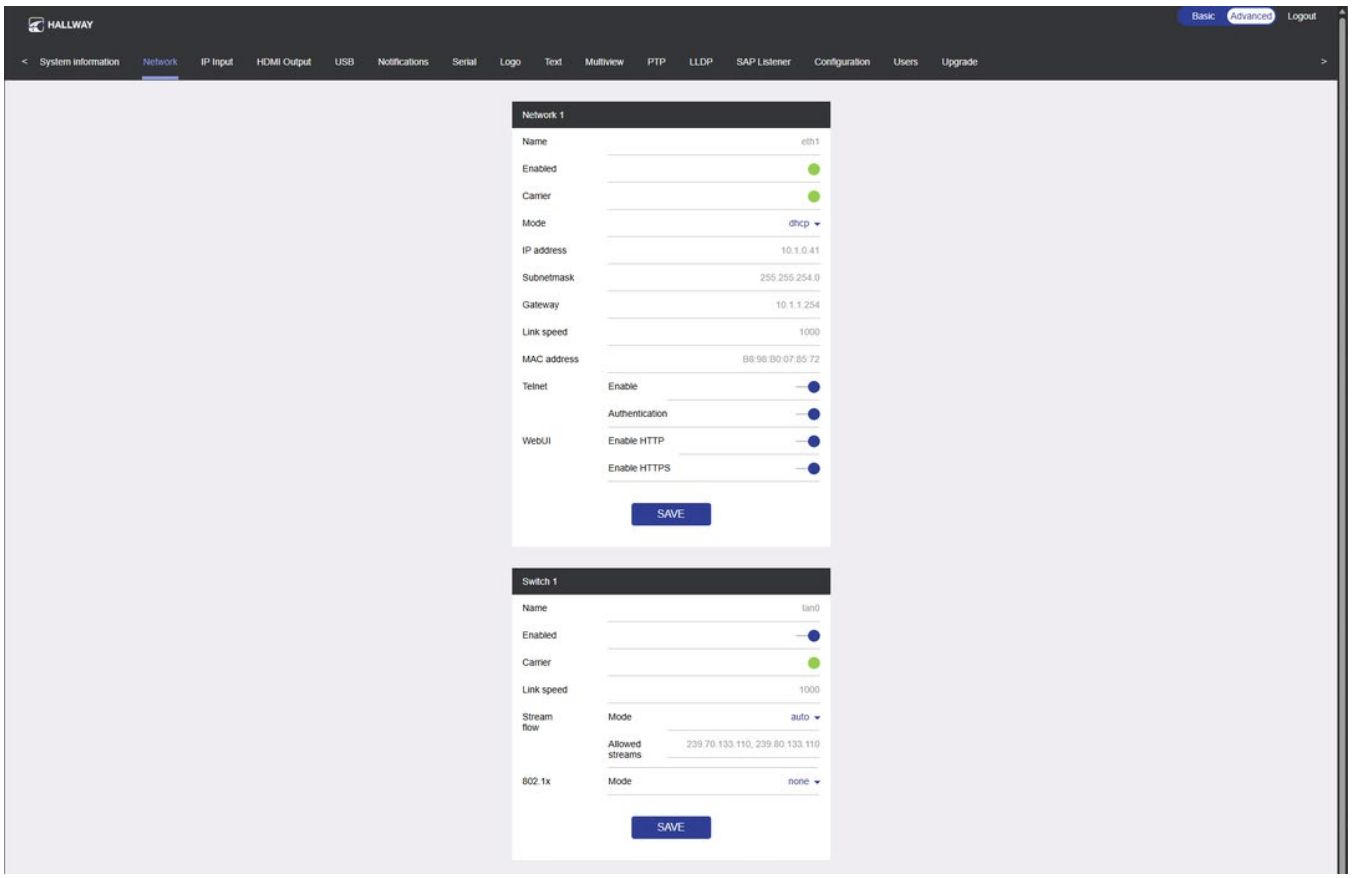
Debug – Click this button to instruct the unit to create a debug file. This file is used by Atlona Technical Support Engineers to diagnose internal issues with the unit.

Reboot – Click this button to perform a soft reboot of the decoder.

Save – Click this button to commit changes to the settings on this page.

Network

The Network page is used to configure the decoder's network communication settings. This page provides options for selecting DHCP or static IP addressing, specifying DNS settings, viewing Link Layer Discovery Protocol (LLDP) information for the connected network switch, and enabling or configuring 802.1X authentication for secured network environments.



Web Server — Network page

Network 1

Name – Displays the name of the Ethernet interface. This field cannot be changed.

Enabled – This indicator displays the state of the Network Interface Card (NIC). If the indicator is green, then the NIC is in the up/up state.

Carrier – If this indicator is green, then an active link exists. Otherwise, if no link exists, this indicator will be red.

Mode – Click this drop-down list to select the desired IP mode. Select DHCP to let the DHCP server (if present) assign the encoder the IP settings. When static is selected, the information for the IP Address, Subnetmask, and Gateway fields must be entered.

IP Address – Displays the IP address used by interface. This field can only be changed if Mode is set to static.

Subnetmask – Displays the subnet mask for the interface. This field can only be changed if Mode is set to static.

Gateway – Displays the gateway (router) address for the interface. This field can only be changed if Mode is set to static.

Link Speed – Displays the link speed at the Ethernet port.

MAC Address – Displays the Media Access Control (MAC) address of the decoder.

Telnet

- **Enable** – Click this toggle switch to enable or disable Telnet sessions on the decoder. When enabled, the toggle switch will be blue.
- **Authentication** – Click this toggle switch to enable or disable Telnet authentication. When enabled, the toggle switch will be blue.

WebUI

- **Enable HTTP** – Click this toggle switch to enable or disable HTTP. When enabled, the toggle switch will be blue.
- **Enable HTTPS** – Click this toggle switch to enable or disable HTTPS sessions. When enabled, the toggle switch will be blue.

Switch 1 – Switch 3

Name – Displays the name of the Ethernet interface. This field cannot be changed.

Enabled – This indicator displays the state of the Network Interface Card (NIC). If the indicator is green, then the NIC is in the up/up state.

Carrier – If this indicator is green, then an active link exists. Otherwise, if no link exists, this indicator will be red.

Stream flow – Controls whether multicast stream traffic is permitted through the selected switch port. This setting determines whether the port can send, receive, or block multicast streams according to the selected mode and allowed stream list.

- **Mode** – Selects how multicast stream traffic is handled on the selected switch port. auto allows the switch to manage stream forwarding automatically. allow permits configured multicast streams. deny blocks configured multicast streams. The default setting is auto.
- **Allowed streams –** Lists the multicast streams permitted on the selected switch port.

802.1x – 802.1x is a port-based network access control protocol used to prevent unauthorized devices from connecting to a Local Area Network (LAN). In a typical 802.1x environment, three parties are involved: the supplicant (client device), the authenticator (such as an Ethernet switch or wireless access point), and the authentication server. Before the device is granted access to the network, communication is limited to Extensible Authentication Protocol over LAN (EAPOL) traffic. If authentication is successful, the authentication server notifies the authenticator, and the decoder is allowed onto the LAN.

Mode – Click this drop-down list to select the desired authentication method.

- **None** – 802.1x not enabled.
- **PEAP-MSCHAPv2**: Protected EAP. Requires user credentials and a CA (certificate authority) certificate.
- **EAP-TLS**: EAP Transport Layer Security. Requires a client certificate, client private key, and CA certificate.

Identity – Enter the username in this field. This field is only available when Mode is set to PEAP/MSCHAPv2.

Password – Enter the password in this field. This field is only available when Mode is set to PEAP/MSCHAPv2.

CA Certificate – Specifies the trusted Certificate Authority certificate used by the device to validate the 802.1x authentication server certificate. This field is only available when Mode is set to either PEAP/MSCHAPv2 or EAP-TLS.

Client certificate – Specifies the certificate used to identify the device to the 802.1x authentication server when EAP-TLS is selected. This field is only available when Mode is set to EAP-TLS.

Client private key – Specifies the private key associated with the client certificate. This field is only available when Mode is set to EAP-TLS.

SFP – Displays read-only identification information for the installed SFP module. These fields are populated automatically when a compatible SFP module is installed. If no module is installed, or if module information is unavailable, the fields display N/A.

- Vendor – Displays the manufacturer name reported by the installed SFP module.
- Vendor SN – Displays the serial number reported by the installed SFP module.
- Vendor PN – Displays the part number reported by the installed SFP module.

Save – Click this button to commit any changes.

USB 1

This section configures the network address settings used by the USB extension subsystem. These settings are used for USB pairing, routing, or communication between compatible USB host and device endpoints.

Name - Displays the name assigned to the USB extension interface.

Mode - Selects the IP addressing mode for the USB extension interface. When set to DHCP, the interface receives its IP address, subnet mask, and gateway from a DHCP server.

IP address - Displays the IP address assigned to the USB extension interface.

Subnetmask - Displays the subnet mask assigned to the USB extension interface.

Gateway - Displays the default gateway assigned to the USB extension interface.

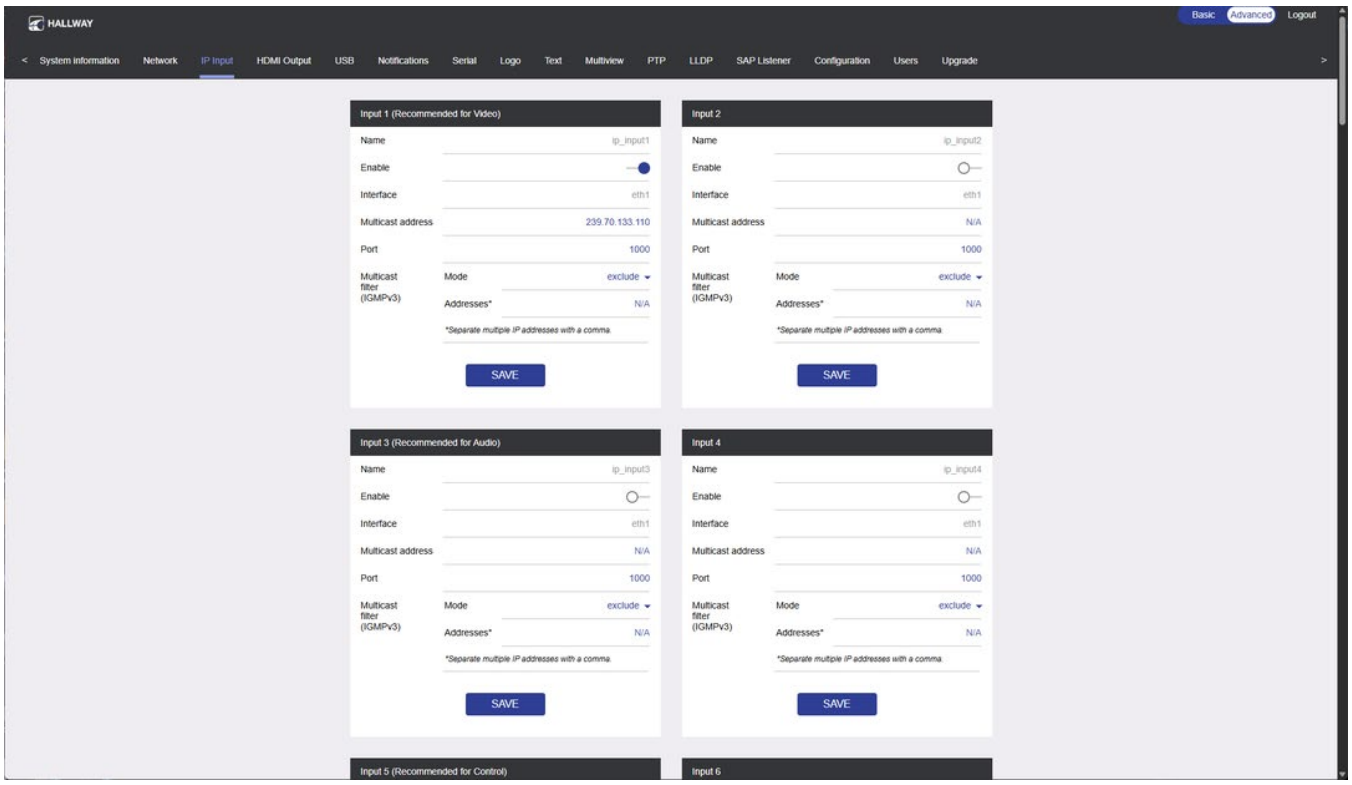
MAC address - Displays the hardware address assigned to the USB extension interface.

Save – Click this button to commit any changes.

> **NOTE:** The USB network settings apply to the USB extension subsystem. These values are configured automatically when the network Mode is set to DHCP.

IP Input

The IP Input page configures incoming IP stream subscriptions for the decoder. Each input group specifies the multicast address, UDP port, network interface, and optional IGMPv3 source filter used to receive a stream. Each group uses the same fields. Input 1 is recommended for video streams. Input 3 is recommended for audio streams.



Web Server — IP Input page

Name – Displays the name assigned to the IP input.

Enable – Enables or disables the selected IP input.

Interface – Displays the network interface used by the selected IP input.

Multicast address – Specifies the multicast IP address used by the selected stream.

Port – Specifies the UDP port used by the selected stream.

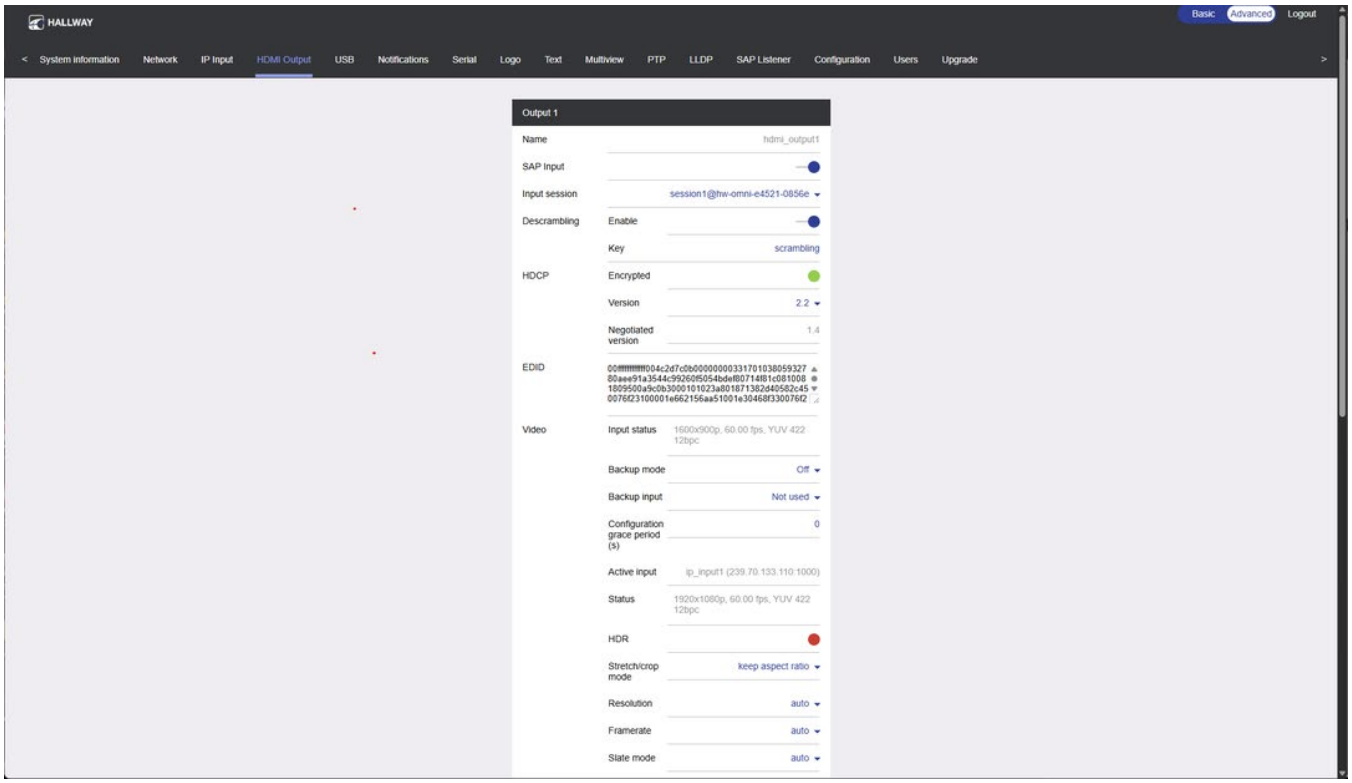
Multicast filter (IGMPv3) – Configures IGMPv3 source filtering for the selected multicast stream. IGMPv3 supports source filtering, which lets a device receive or reject multicast traffic from specified source addresses.

Mode – Selects the IGMPv3 multicast source filter mode. Include receives traffic only from the listed source addresses. Exclude receives traffic from the multicast group except from the listed source addresses.

Addresses – Specifies one or more source IP addresses used by the IGMPv3 multicast filter. Separate multiple IP addresses with commas.

HDMI Output

The HDMI Output page configures the selected HDMI output, including input stream selection, SAP input selection, descrambling, HDCP behavior, EDID data, video status, backup input behavior, and output video formatting.



Web Server — HDMI Output page

Name - Displays the name assigned to the HDMI output.

SAP Input - Enables or disables SAP-based input session selection for the HDMI output.

Input session - Selects the advertised input session used by the HDMI output when SAP Input is enabled.

Descrambling – Enables or disables descrambling for the selected input stream.

- **Enable** – Click this toggle switch to enable or disable scrambling. When enabled, the toggle switch will be blue.
- **Key** - Specifies the descrambling key used to decode a scrambled input stream. The key must match the scrambling key used by the source stream.

HDCP

- **Encrypted -** Indicates whether the selected HDMI output path is using HDCP encryption. HDCP is a content-protection system used to protect digital audio and video content across digital interfaces. If the indicator is green then the stream is encrypted.
- **Version –** Selects the HDCP version.

- Use 2.2 when the connected display and source path need HDCP 2.2, especially for protected 4K content.
- Use 1.4 when working with older displays, capture devices, switchers, or other downstream equipment that do not handle HDCP 2.2 reliably.
- Use None when the output should not use HDCP, such as with non-protected content or when connected to equipment that cannot accept HDCP. This does not decrypt protected content. If the content requires HDCP and the setting is None, protected content will not pass. Setting this value to None does not decrypt HDCP content.
- **Negotiated version -** Displays the HDCP version negotiated with the connected HDMI display or downstream device. In the example shown, the negotiated version is 1.4.

EDID - Displays the EDID data reported by the connected display or assigned to the HDMI output. EDID communicates supported display capabilities, such as resolution, timing, and audio support, to the source device.

Video

- **Input status** – Displays the current video format of the selected input stream, including resolution, frame rate, color format, and color depth.
- **Backup mode** – Selects whether backup input behavior is enabled for the HDMI output.
- **Backup input** – Selects the backup input used when the primary input is unavailable.
- **Configuration grace period (s)** – Specifies the delay, in seconds, before backup input switching or related configuration behavior is applied.
- **Active input** – Displays the input currently routed to the HDMI output.
- **Status** – Displays the current output video status, including resolution, frame rate, color format, and color depth.
- **HDR** – Indicates whether HDR is active or detected for the current output signal. If the indicator is green, then HDR is active.
- **Stretch/crop mode** – Selects how the image is scaled or cropped when the input aspect ratio does not match the output format.
- **Keep aspect rati**o - Scales the image to fit the output while preserving the original aspect ratio. Black bars may appear if the input and output aspect ratios do not match.
- **Fullscreen** - Scales the image to fill the entire output. The image may be stretched if the input and output aspect ratios do not match.
- **16:9** - Scales or crops the image for a 16:9 output aspect ratio.
- **16:1**0 - Scales or crops the image for a 16:10 output aspect ratio.
- **4:3** - Scales or crops the image for a 4:3 output aspect ratio.

Resolution – Selects the HDMI output resolution. When set to auto, the output resolution is selected automatically.

Framerate – Selects the HDMI output frame rate. When set to auto, the output frame rate is selected automatically.

Slate mode – Click this drop-down list to select the slate mode.

- **Off** – Disables the image from being displayed.
- **Manual** – Forces the slate to be presented even if a valid signal is present.
- **Auto** – The image will only be displayed when the source signal is lost. For example, this mode is useful in conference room applications for displaying system instructions when no sources are connected.

Slate logo – Selects the logo or graphic displayed by the HDMI output when slate mode is active. Select Not used to disable the slate logo. Select an uploaded logo, such as OmniStream_Decoder, to use that image as the slate graphic.

Video Wall – Configures the HDMI output for use as part of a video wall. When enabled, the decoder displays only the assigned portion of the source image so multiple displays can form one larger image.

- **Enable -** Enables or disables video wall processing for the HDMI output.
- **Unit -** Selects the unit of measure used for video wall sizing and edge compensation values. Available options may include pixels, mm, and inches.
- **Total display width -** Specifies the total width of the complete video wall area.
- **Total display height -** Specifies the total height of the complete video wall area.
- **Width -** Specifies the width of the display or image region assigned to this decoder.
- **Height -** Specifies the height of the display or image region assigned to this decoder.
- **Change Width and Height -** Applies or updates the width and height values used for the selected video wall configuration.
- **Horizontal -** Specifies the horizontal position offset for this decoder within the video wall.
- **Vertical -** Specifies the vertical position offset for this decoder within the video wall.
- **Rotation (°) -** Selects the image rotation angle for the display connected to this decoder. Common options are 0, 90, 180, and 270 degrees.
- **Edge compensation -** Selects the edge compensation method used to correct image alignment across display bezels or blended edges. Available options may include None, Bezel compensation, and Edge blending.

Fast Switching – Configures fast-switching behavior for the HDMI output. Fast switching helps reduce the time required for the display to show video when changing between compatible input streams.

- **Enable -** Enables or disables fast switching for the HDMI output.
- **Timeout (s) -** Sets the amount of time, in seconds, that the decoder waits during a fast-switching event before timing out or falling back to normal switching behavior.
- **Color space -** Selects the color space used for fast switching. The selected color space helps keep the HDMI output format consistent when switching between compatible streams.

TO PRIMARY – Click this button to assign as the Primary IP Input. Both Video and Audio support this feature.

TO BACKUP – Click this button to force the audio stream to fall over to the Backup IP Input (if redundancy is configured). Both Video and Audio support this feature.

Audio

- **Backup mode** – Click this drop-down list to select the backup mode. Both Video and Audio provide the Backup Mode feature.
- **Off** – Backup source is disabled; join request not sent.
- **Join** – Active The decoder sends a join request only when the decoder decides to switch between audio sources. Switch time will not exceed 5 seconds.
- **Join Always** – The decoder always joins to the backup audio source. Switch time will not exceed 0.5 seconds.
- **Backup input** – Select the secondary audio backup IP input from this drop-down list. If the primary IP input is down, then the decoder will automatically switch to this input. Refer to the Backup Mode option, above, for setting the conditions for switching inputs. Both Video and Audio provide the Backup Input feature.
- **Configuration grace period** – To prevent the decoder from automatically making the redundancy switch, when redundancy is enabled, a grace period can be entered. By default, the grace period is set to zero seconds. If set to zero seconds, automatic failover will occur if the stream is interrupted for any reason.
- **Active input** – Displays the active audio input.
- **Downmixing** – Click this drop-down list to select how LPCM audio will be down-mixed. Note that lossless audio formats cannot be downmixed.
- **Status** – Displays the active audio input. If no input is active or detected, then this field will display “No active audio”.
- **Mute** – Click this toggle switch to enable or disable the audio output. If enabled, the toggle switch will be blue.
- **Volume** – Click the – or + buttons to decrease or increase the output volume.
  Range: 0 to 15.
- **Analog output gain** – Click the – or + buttons to decrease or increase the analog output gain. Range: 0 to 15.

TO PRIMARY – Click this button to assign as the Primary IP Input. Both Video and Audio support this feature.

TO BACKUP – Click this button to force the audio stream to fall over to the Backup IP Input (if redundancy is configured). Both Video and Audio support this feature.

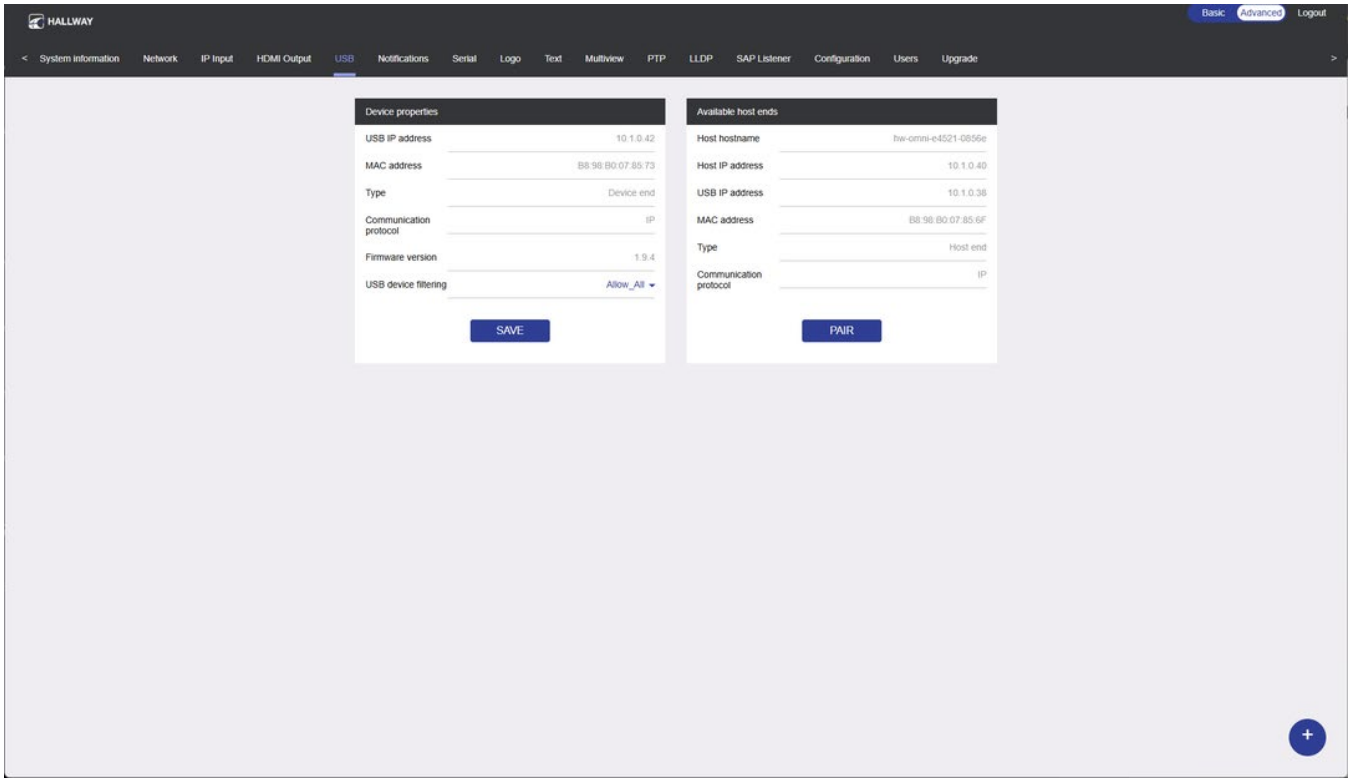
Standby

- **Auto on** – Click this toggle switch to enable or disable power-on and power-off on the connected sink using CEC. When enabled, this toggle switch will be green and the power-on command will be sent to the display when an A/V signal is detected.

- **Projector cooldown (s)** – Enter the time interval, in seconds, before the projector can be powered-off. This time interval prevents the decoder from sending additional commands until the projector has had time to complete its cool-down process.
- **Timeout (s)** – Enter the time interval, in seconds, before the next command can be accepted by the display.
- **Type** – Click this drop-down list to select the display mode.
- **DispSW Avon** – Display switches on/off, source audio/video signal always on.
- **DispSW AVSW** – Display switches on/off, source audio/video signal switches on/off.
- **AV SW** – Display is always on, source audio/video signal switches on/off.
- **Always on** – Display is always on, source audio/video signal always on.

USB

The USB page is only available on the HW-OMNI-D4511. Use this page to review USB extension network information, configure USB device filtering, and pair the device endpoint with a compatible host endpoint.



Web Server — USB page

Device properties

USB IP address - Displays the IP address assigned to this device's USB extension interface.

MAC address - Displays the hardware address assigned to this device's USB extension interface.

Type - Displays the USB endpoint type. Device end indicates the USB side used for USB peripheral devices.

Communication protocol - Displays the protocol used for USB extension communication. In the example shown, the protocol is IP.

Firmware version - Displays the firmware version used by the USB extension subsystem.

USB device filtering - Selects which USB device types are allowed or blocked through the USB extension connection. This setting helps restrict the types of USB peripherals that can be passed between the paired USB host and device endpoints.

- **Allow_All -** Allows all supported USB device types to pass through the USB extension connection.
- **Allow_Hid_Hub -** Allows USB HID devices and USB hubs. HID devices commonly include keyboards, mice, touchscreens, and other human-interface devices.
- **Allow_Hid_Hub_Smartcard -** Allows USB HID devices, USB hubs, and smart card devices.

- **Block_Isochronous -** Blocks isochronous USB devices. Isochronous USB transfers are commonly used by time-sensitive devices such as USB audio and video devices, where steady data delivery is more important than retransmission.
- **Block_MassStorage -** Blocks USB mass storage devices, such as USB flash drives, external USB drives, and similar storage devices.
- **Block_Isochronous_MassStorage -** Blocks both isochronous USB devices and USB mass storage devices.

Save - Saves changes made to the USB device properties.

Available host ends

Host hostname - Displays the hostname of an available USB host endpoint.

Host IP address - Displays the IP address assigned to the available USB host endpoint.

USB IP address - Displays the USB extension IP address assigned to the available USB host endpoint.

MAC address - Displays the hardware address assigned to the available USB host endpoint.

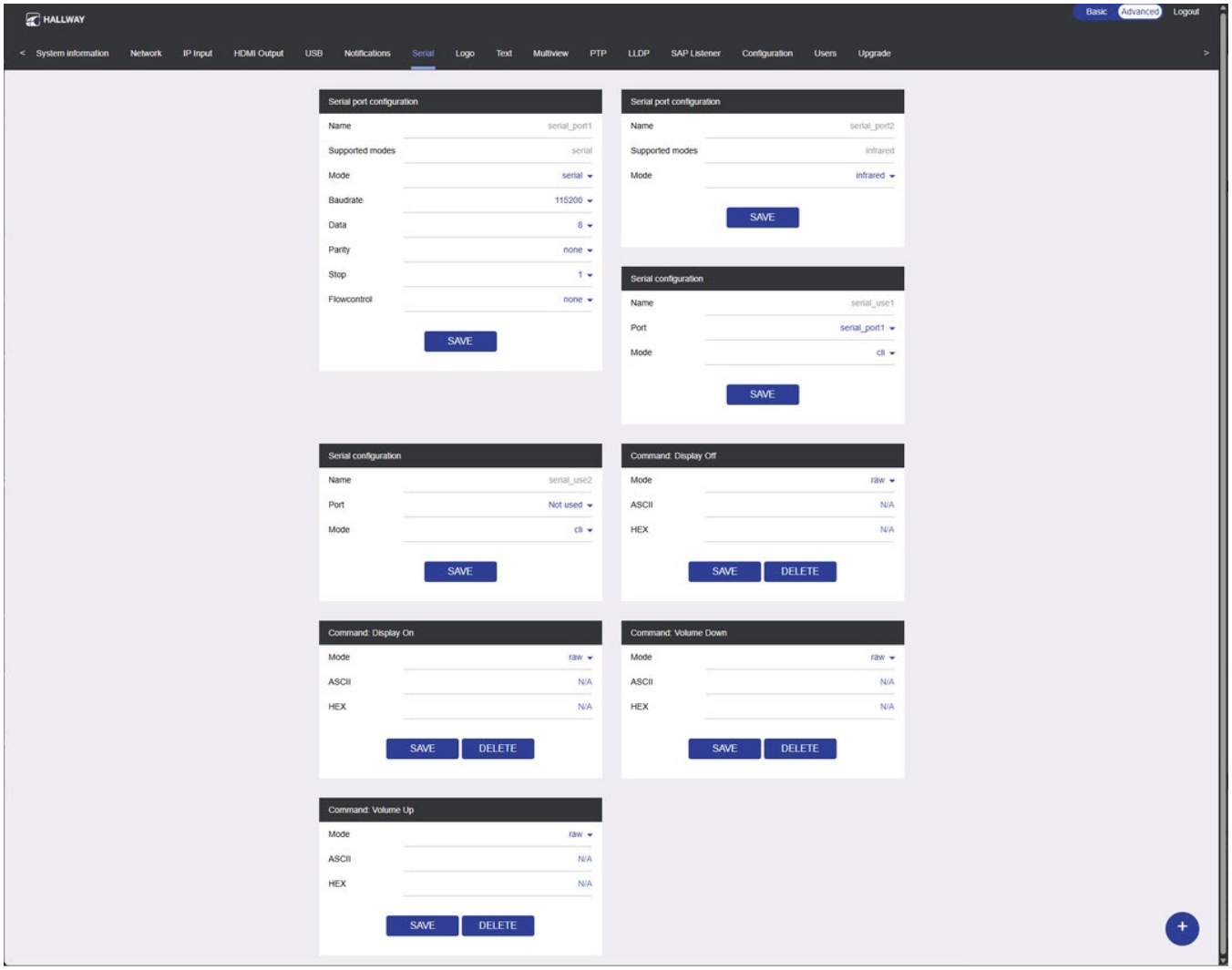
Type - Displays the USB endpoint type. Host end indicates the USB side connected to the host computer or upstream USB host.

Communication protocol - Displays the protocol used by the available USB host endpoint. In the example shown, the protocol is IP.

Pair - Pairs this device endpoint with the selected host endpoint. Pairing establishes the USB extension relationship between the USB device side and the USB host side.

Serial

The Serial page configures RS-232 and IR control behavior. It includes port-level settings, serial-use assignments, and stored control commands for common display actions.



Web Server — Serial page

Serial port configuration

Name - Displays the name assigned to the serial or IR port.

Supported modes - Displays the control mode supported by the selected port, such as serial or infrared.

Mode - Selects the operating mode for the port. Available modes depend on the port hardware and supported mode.

Baudrate - Click this drop-down list to select the desired baud rate: 115200, 57600, 38400, 19200, or 9600.

Data - Selects the number of data bits used for RS-232 communication.

Parity - Selects the parity setting used for RS-232 communication.

Stop - Selects the number of stop bits used for RS-232 communication.

Flowcontrol - Selects the flow-control method used for RS-232 communication.

Save - Saves changes made to the selected serial port configuration.

Serial configuration

Name - Displays the name assigned to the serial-use configuration.

Port - Selects the serial or IR port assigned to this configuration. Select Not used when no port is assigned.

Mode - Selects how the assigned serial port is used. In the example shown, cli indicates command-line control behavior.

Save - Saves changes made to the selected serial configuration.

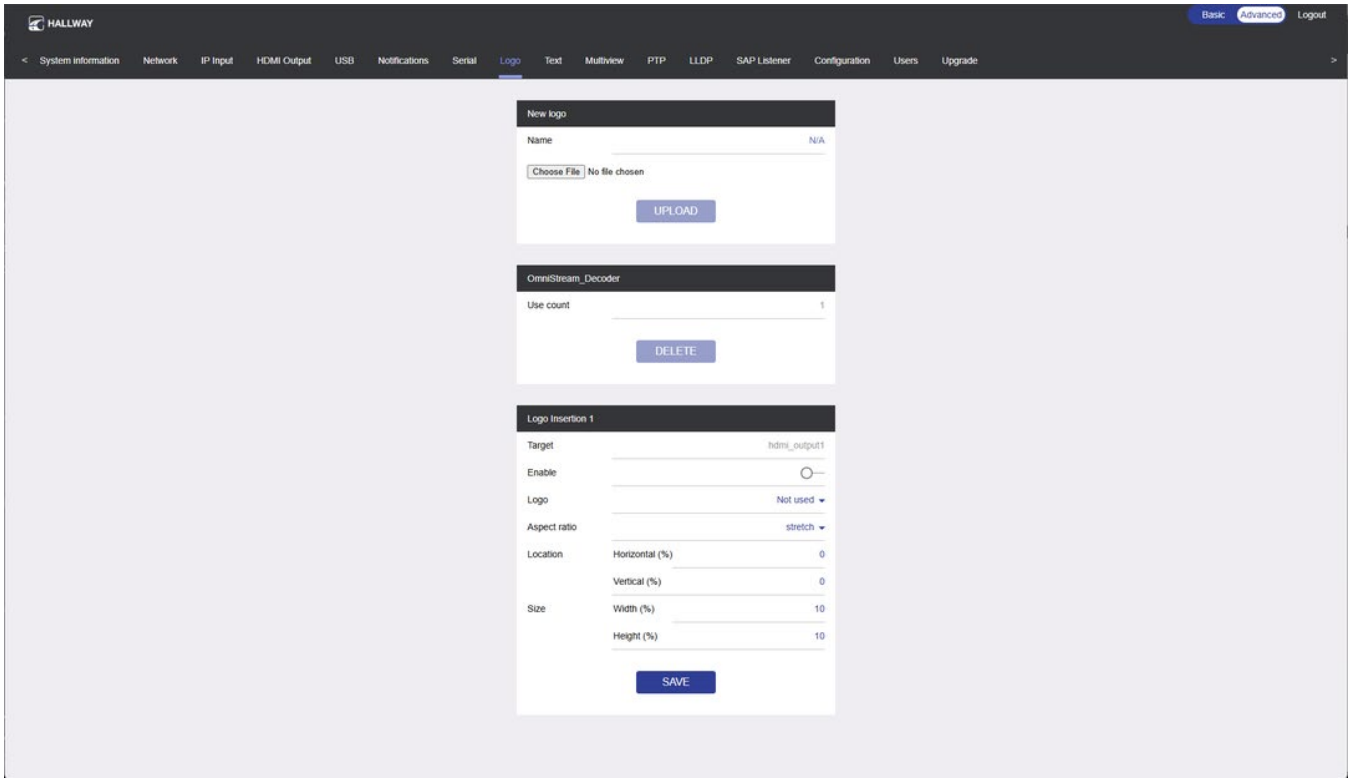
Command (Display On, Volume Up, Volume Down)

Mode - Selects the command format. In the example shown, raw indicates that the command is entered directly as ASCII or hexadecimal data

- **ASCII** - Specifies the command string in ASCII format.
- **HEX** - Specifies the command string in hexadecimal format.
- **SAVE** - Saves the command settings.
- **DELETE** - Deletes the stored command.

Logo

The Logo page manages uploaded logo graphics and logo insertion settings. Uploaded logos can be assigned to an HDMI output and displayed over the video image.



Web Server — Logo page

New logo

Name - Displays the name of the selected logo file or the name assigned to a newly uploaded logo.

Choose File - Opens a file browser for selecting a logo image to upload.

Upload - Uploads the selected logo image to the device.

Uploaded logo

Use count - Displays the number of times the uploaded logo is currently used by logo insertion or slate/logo settings.

Delete - Deletes the uploaded logo from the device. A logo should not be deleted while it is assigned to an active logo insertion or slate setting.

Logo insertion

Target - Displays the output where the logo will be inserted. In the example shown, the target is hdmi_output1.

Enable - Enables or disables logo insertion on the selected target output.

Logo - Selects the uploaded logo image to insert on the selected output. Select Not used when no logo should be inserted.

Aspect ratio - Selects how the logo image is scaled. Use Keep to preserve the logo's original aspect ratio. Use Stretch to scale the logo to the selected width and height.

Location / Horizontal (%) - Sets the horizontal position of the logo on the output image as a percentage.

Location / Vertical (%) - Sets the vertical position of the logo on the output image as a percentage.

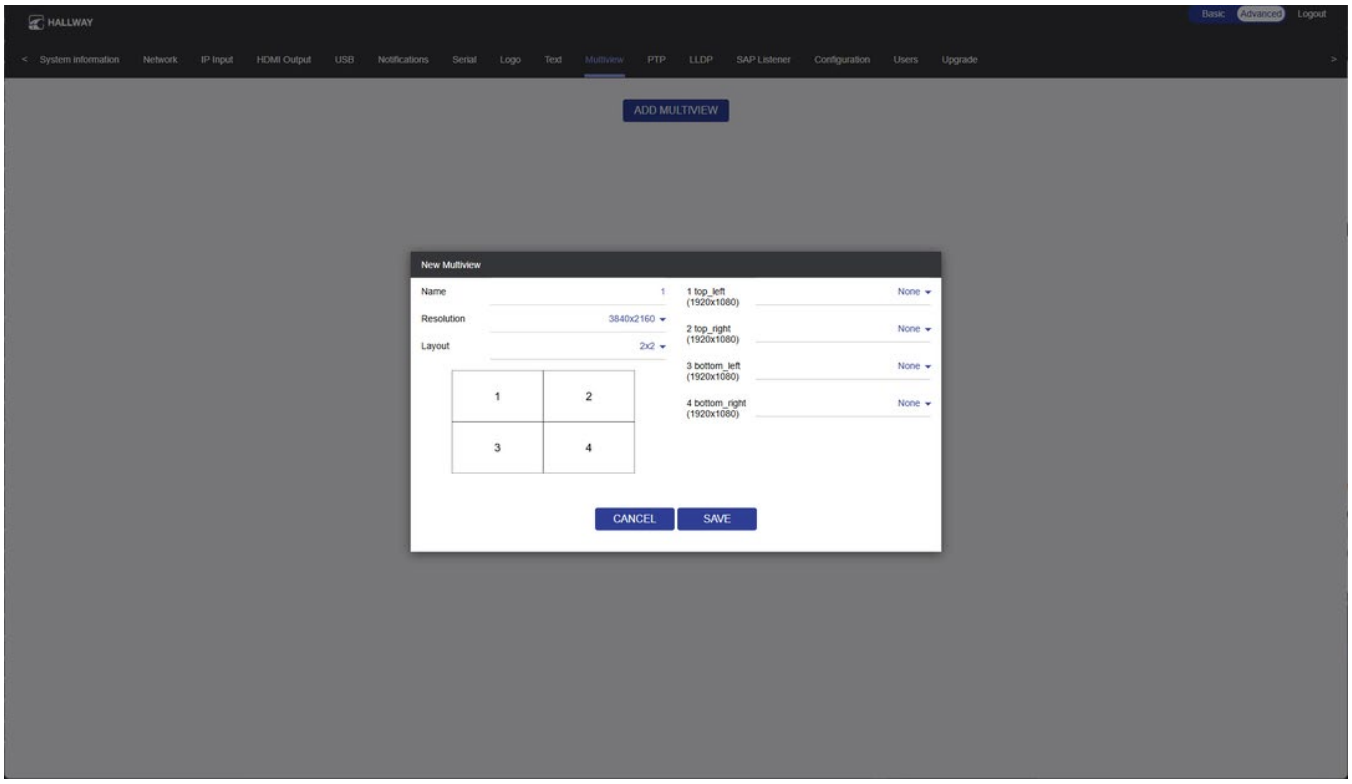
Size / Width (%) - Sets the logo width as a percentage of the output image width.

Size / Height (%) - Sets the logo height as a percentage of the output image height.

Save - Saves changes made to the logo insertion settings.

Multiview

The Multiview page creates and manages multiview layouts for the HDMI output. A multiview layout lets the decoder display multiple IP input streams on one screen. Click the ADD MULTIVIEW button to configure canvas resolution, layout, and input streams for each window.



Web Server — Multiview page

ADD MUTLIVIEW – Click this button to open the New Multiview dialog box.

New Multiview

Name - Specifies the name assigned to the multiview layout.

Resolution - Selects the canvas resolution for the multiview layout. Options are 3840x2160, 2560x1440, and 1920x1080.

Layout - Selects the multiview window arrangement. In the example shown, 2x2 divides the canvas into four equal windows.

- **2x2 -** Displays four equal windows arranged in a 2-by-2 grid.
- **Side-by-side -** Displays two windows side by side.
- **PIP-top-left -** Displays a picture-in-picture layout with the smaller window in the top-left corner.
- **PIP-top-right -** Displays a picture-in-picture layout with the smaller window in the top-right corner.
- **PIP-bottom-left -** Displays a picture-in-picture layout with the smaller window in the bottom-left corner.

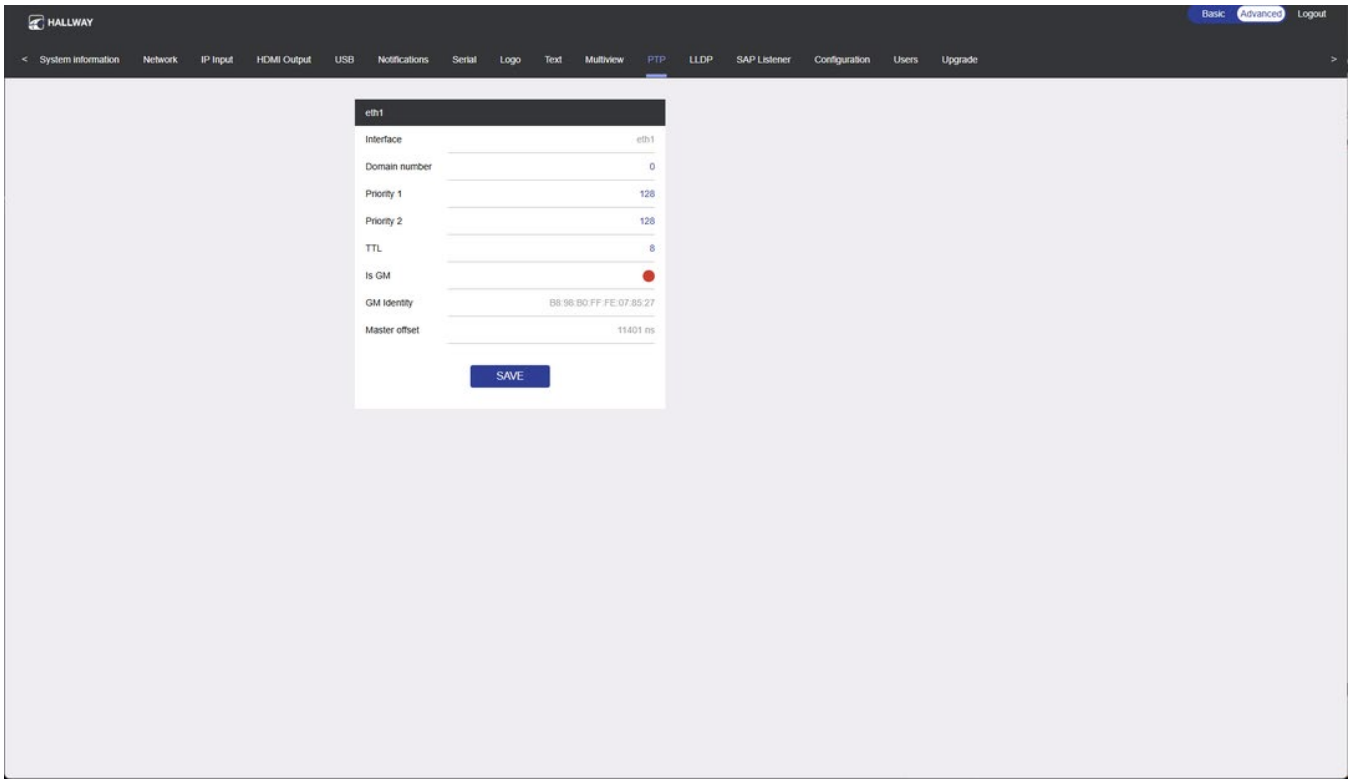
- **PIP-bottom-right -** Displays a picture-in-picture layout with the smaller window in the bottom-right corner.
- **1+3-horizontal-bottom -** Displays one large window with three smaller windows arranged horizontally along the bottom.
- **1+3-horizontal-top -** Displays one large window with three smaller windows arranged horizontally along the top.
- **1+3-vertical-right -** Displays one large window with three smaller windows arranged vertically along the right side.
- **1+3-vertical-left -** Displays one large window with three smaller windows arranged vertically along the left side.
- **4-split -** Displays four windows in a split-screen layout.

Cancel - Closes the New Multiview dialog box without saving changes.

Save - Saves the multiview layout.

PTP

The PTP page displays and configures Precision Time Protocol settings for the selected network interface. PTP is used to synchronize clocks across a packet network. In AV-over-IP systems, PTP is commonly used to keep audio and video endpoints synchronized. PTP is defined by IEEE 1588.



Web Server — PTP page

eth1

Interface - Displays the network interface used for PTP communication.

Domain number - Specifies the PTP domain used by the interface. Devices must be in the same PTP domain to synchronize with each other.

Priority 1 - Sets the first priority value used when selecting the PTP grandmaster clock. Lower values have higher priority in the grandmaster selection process.

Priority 2 - Sets the second priority value used when selecting the PTP grandmaster clock. This value is used later in the selection process when other clock properties are equal.

TTL - Sets the Time To Live value for PTP multicast packets.

Is GM - Indicates whether this device is currently operating as the PTP grandmaster. The grandmaster is the primary timing source for the PTP domain.

GM Identity - Displays the clock identity of the current PTP grandmaster.

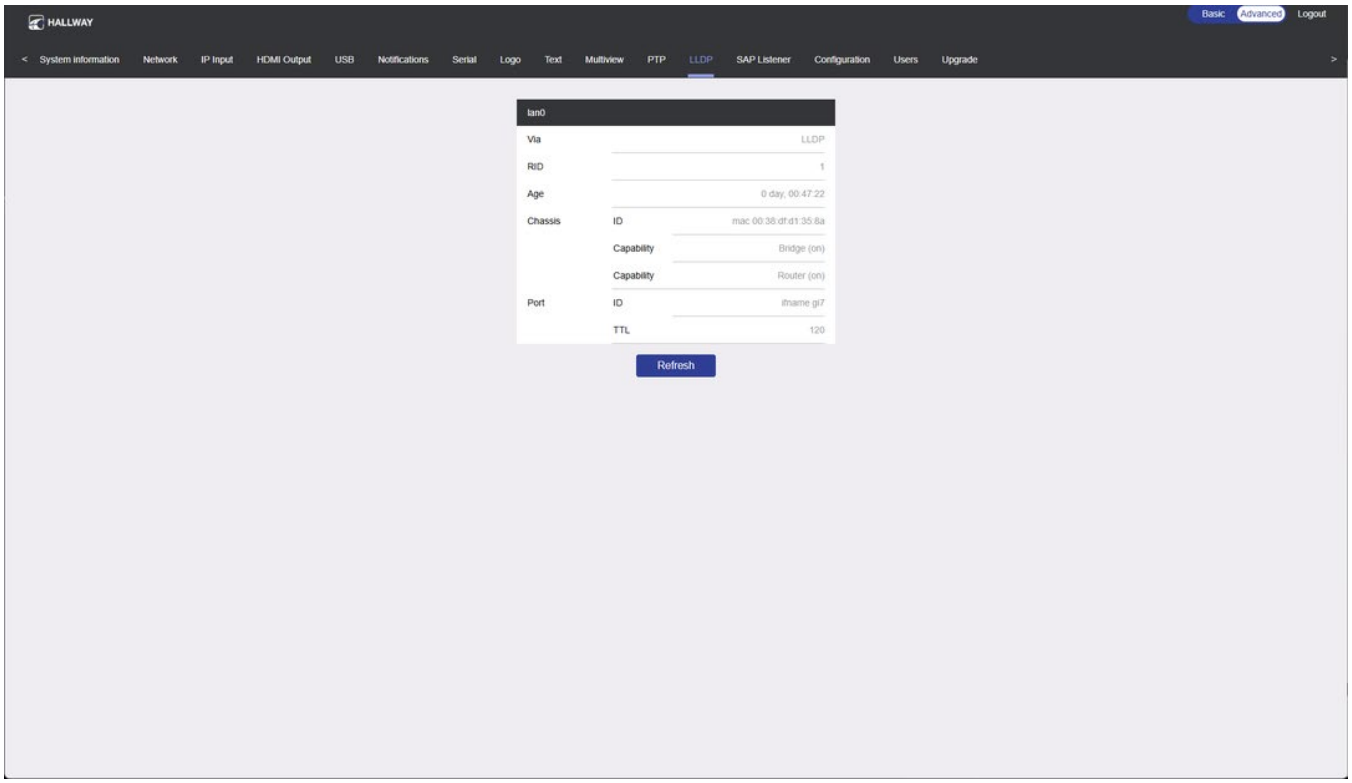
Master offset - Displays the measured time offset between this device and the current PTP grandmaster. In the example shown, the value is reported in nanoseconds.

Save - Saves changes made to the PTP settings.

> **NOTE:** In most systems, all AVoIP endpoints that need synchronized audio/video timing should use the same PTP domain. Priority values help determine which device becomes the grandmaster when more than one PTP-capable device is present. PTP uses a grandmaster selection process known as the Best Master Clock Algorithm.

LLDP

The LLDP page displays Link Layer Discovery Protocol information received from the connected network device. LLDP is a vendor-neutral Layer 2 discovery protocol used by network devices to advertise identity, port, capability, and neighbor information on a local Ethernet network. LLDP is defined by IEEE 802.1AB.



Web Server — LLDP page

lan0

Via - Displays the discovery protocol used to receive the neighbor information. In the example shown, the information was received by LLDP.

RID - Displays the remote identifier for the discovered LLDP neighbor entry.

Age - Displays how long the current LLDP neighbor information has been available or how long it has been retained.

Chassis

ID - Displays the chassis identifier reported by the connected LLDP neighbor. This is often based on the neighbor device MAC address.

Capability - Displays a capability advertised by the LLDP neighbor, such as Bridge or Router. These values describe the type of network functions supported by the connected device.

Port

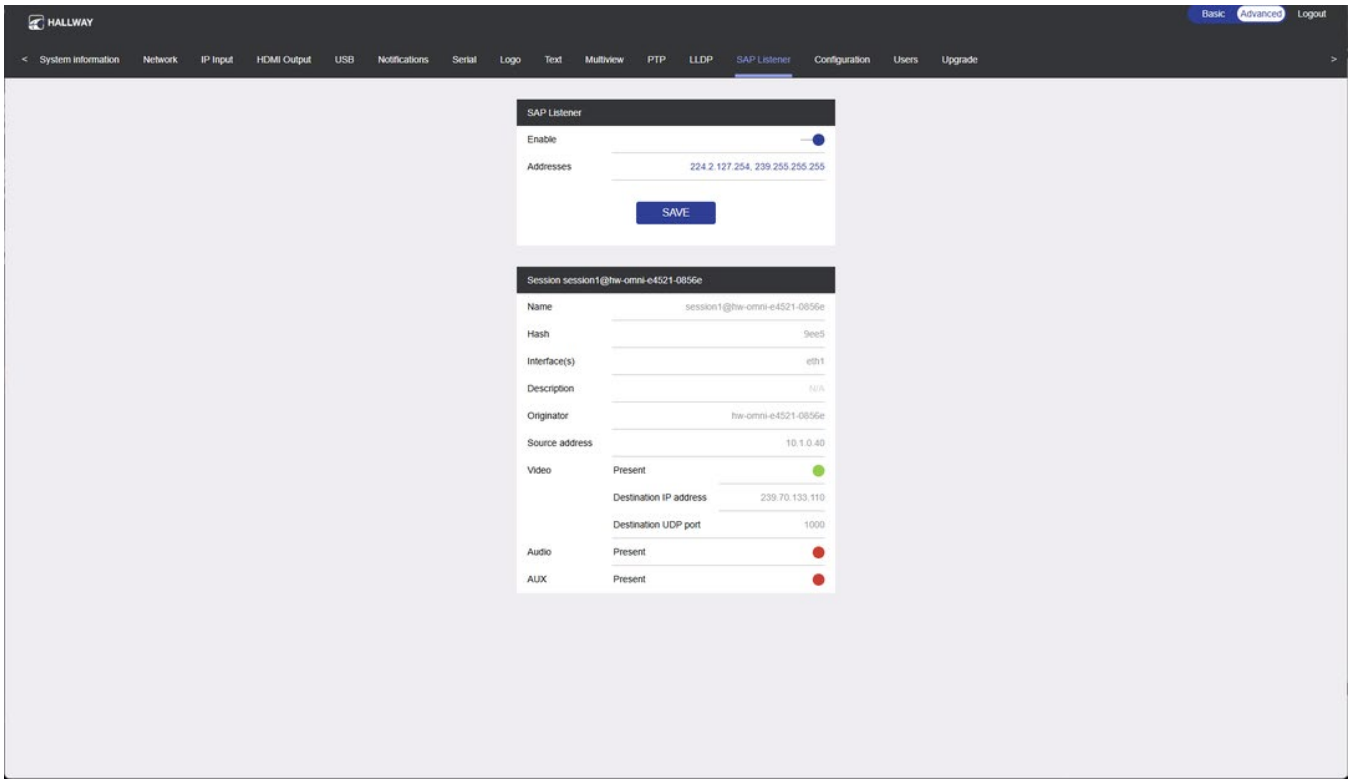
ID - Displays the port identifier reported by the LLDP neighbor. This identifies the switch or network device port connected to this unit.

TTL - Displays the Time To Live value for the LLDP information, in seconds. LLDP frames include mandatory chassis ID, port ID, and TTL information.

Refresh - Updates the LLDP information displayed on the page.

SAP Listener

The SAP Listener page enables the decoder to listen for SAP announcements from OmniStream encoders or other compatible stream sources. SAP, or Session Announcement Protocol, is used to announce multicast session information. RFC 2974 defines SAP as a multicast session announcement protocol.



Web Server — SAP Listener page

SAP Listener

Enable - Enables or disables the SAP listener. When enabled, the toggle switch will be blue, and the device listens for SAP session announcements on the configured multicast addresses.

Addresses - Specifies the multicast addresses used by the SAP listener. The decoder listens on these addresses for advertised stream sessions.

Save - Saves changes made to the SAP listener settings.

Session

Name - Displays the name of the discovered SAP session.

Hash - Displays the SAP session hash value used to identify the announced session.

Interface(s) - Displays the network interface on which the SAP session was discovered.

Description - Displays the session description, when provided by the stream source.

Originator - Displays the device or host that originated the SAP announcement.

Source address - Displays the source IP address of the device advertising the session.

Video

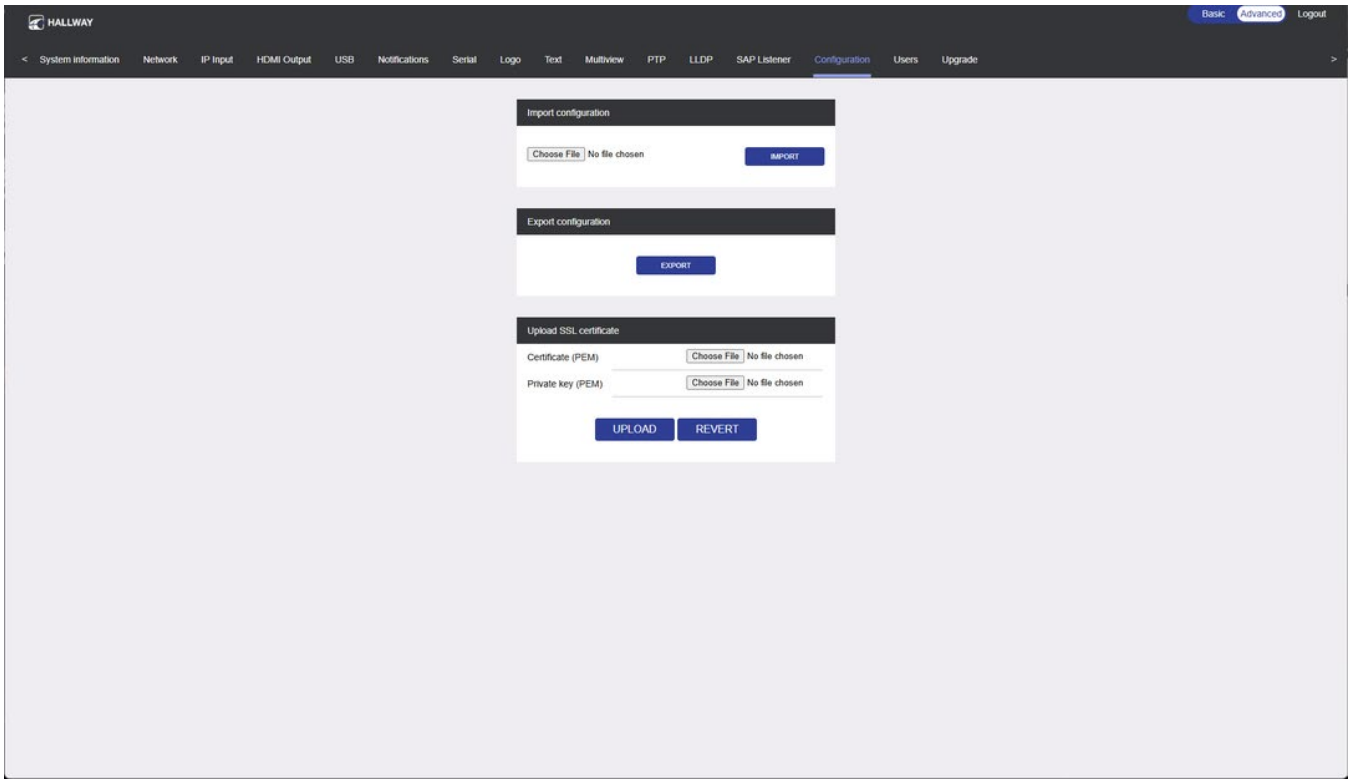
- **Present** - Indicates whether the announced session includes a video stream.
- **Destination IP address** - Displays the multicast destination IP address for the video stream.
- **Destination UDP port** - Displays the UDP port used by the video stream.

Audio Present - Indicates whether the announced session includes an audio stream.

AUX Present - Indicates whether the announced session includes auxiliary data.

Configuration

The Configuration page provides tools for importing and exporting the device configuration file and uploading an SSL/TLS certificate for the built-in web server. A server certificate and matching private key are used for HTTPS server authentication, allowing a browser to verify the device identity during a secure web connection.



Web Server — Configuration page

Import Configuration

Choose File - Opens a file browser for selecting a configuration file to import.

Import - Imports the selected configuration file to the device.

Export Configuration

Export - Exports the current device configuration to a file.

Upload SSL certificate

Certificate (PEM) - Selects the SSL/TLS certificate file to upload to the device. The certificate is used by the built-in web server for HTTPS authentication.

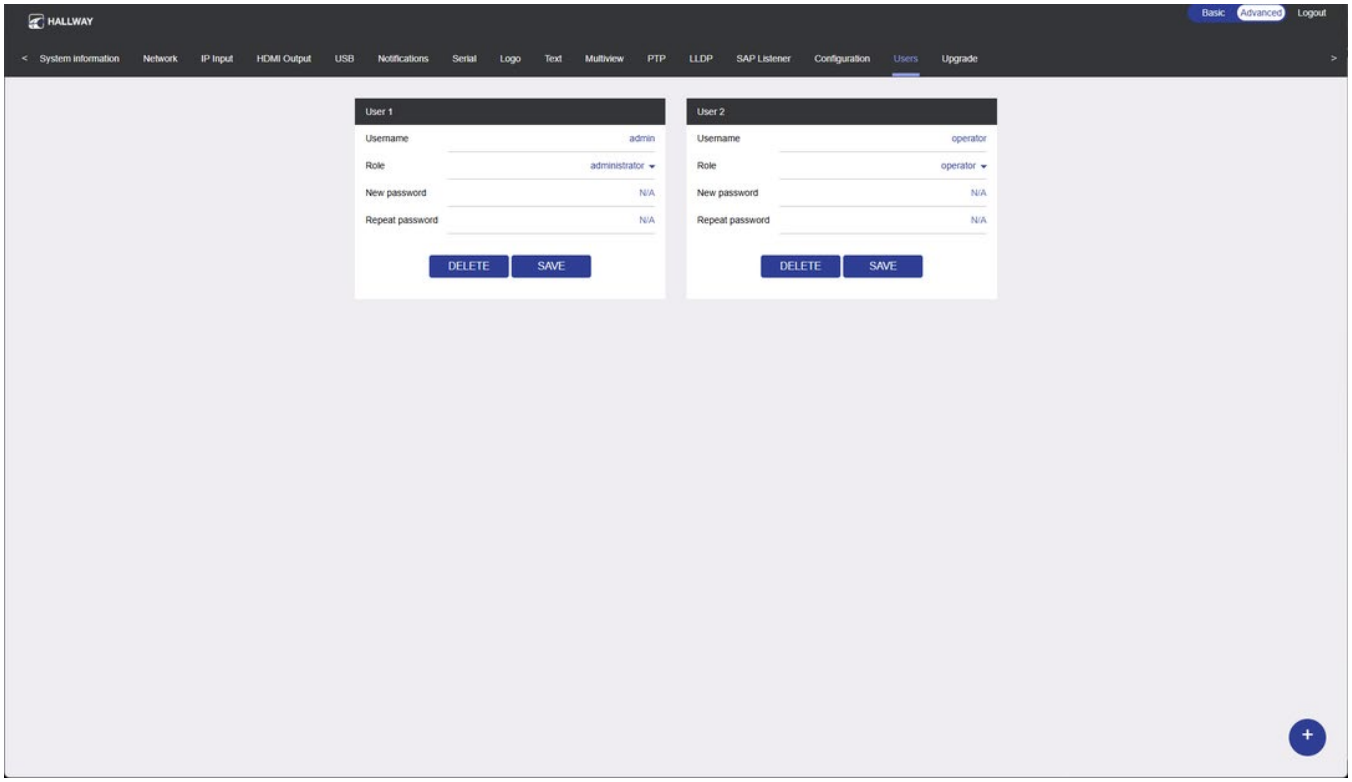
Private key (PEM) - Selects the private key file associated with the SSL/TLS certificate. The private key must match the uploaded certificate.

Upload - Uploads the selected SSL/TLS certificate and private key files to the device.

Revert - Restores the previous or default SSL/TLS certificate settings.

Users

The Users page manages local web interface user accounts. Each user entry includes a username, access role, password fields, and account management controls.



Web Server — Users page

User 1 / User 2

Username - Displays the username for the account.

Role - Selects the access level assigned to the user account. In the example shown, available roles include administrator and operator.

New password - Specifies a new password for the selected user account.

Repeat password - Confirms the new password. This value must match the New password field before the password can be saved.

Delete - Deletes the selected user account.

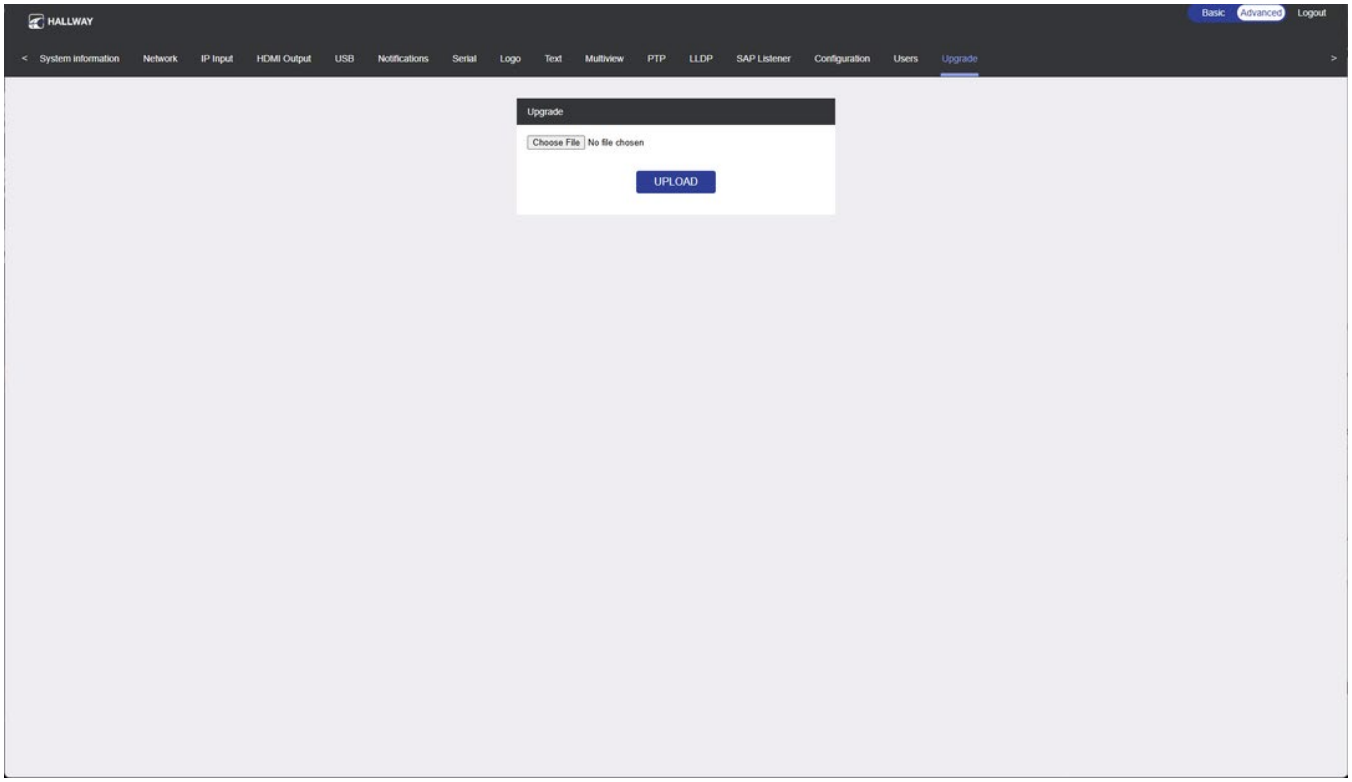
Save - Saves changes made to the selected user account.

Add user (+) - Adds a new user account.

> **NOTE:** Administrator accounts typically have full access to device configuration and user management. Operator accounts typically have limited access for day-to-day operation.

Upgrade

The Upgrade page is used to upload a firmware file and update the decoder. Use this page only with firmware provided by Atlona or an approved support source.



Web Server — Upgrade page

Choose File - Opens a file browser for selecting the firmware update file.

Upload - Uploads the selected firmware file to the device and starts the upgrade process.

> **NOTE:** Do not remove power, disconnect the network, or reboot the device while the firmware upgrade is in progress. Interrupting the upgrade process may cause the device to stop operating correctly. After the upgrade is complete, the device will reboot automatically.