

4K / HDR Five-Input HDMI Switcher with Mirrored Outputs



Version Information

Version	Release Date	Notes
1	Jul 2023	Initial release

Sales, Marketing, and Customer Support

Main Office

Atlona Incorporated
70 Daggett Drive
San Jose, CA 95134
United States

Office: +1.408.962.0515

Sales and Customer Service Hours
Monday - Friday: 6:00 a.m. - 4:30 p.m. (PST)

<https://atlona.com/>

International Headquarters

Atlona International AG
Tödistrasse 18
8002 Zürich
Switzerland

Office: +41.43.508.4321

Sales and Customer Service Hours
Monday - Friday: 09:00 - 17:00 (UTC +1)

Operating Notes



IMPORTANT: Visit <https://www.atlona.com/product/at-hdr-sw-52ed> for the latest firmware updates and User Manual.

Warranty



To view the product warranty, use the following link or QR code:

<https://atlona.com/warranty/>.

Safety and Certification



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT OPEN ENCLOSURE OR EXPOSE TO RAIN OR MOISTURE. NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.



The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of a polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.
11. Only use attachments/accessories specified by Atlona.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this product during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally, or has been dropped.



FCC Compliance

FCC Compliance and Advisory Statement: 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. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver; 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

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Introduction

The Atlona **AT-HDR-SW-52ED** is a 5x2 HDMI matrix switcher for high dynamic range (HDR) formats. Part of the comprehensive family of Atlona 4K HDR integration products, it features five HDMI inputs and matrixed or mirrored HDMI and HDBaseT outputs. The HDBaseT output transmits video, embedded audio, and Ethernet over distances up to 330 feet (100 meters) to the AT-HDR-EX-100CEA-RX receiver (available separately). The HDR-SW-52ED is HDCP 2.2 compliant and supports 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps. It is ideal for the latest as well as emerging 4K/UHD and HDR sources and displays, and includes EDID management features, automatic input switching, and automatic display control. Additionally, 4K downscaling to 1080p @ 60, 30, or 24 Hz is available for the outputs when connected to an HD display. The HDR-SW-52ED can de-embed audio from an HDMI input, or return audio from the HDR-EX-100CEA-RX receiver, to S/PDIF or balanced analog audio outputs. This HDMI switcher can be controlled via Ethernet, RS-232, and IR.

Features

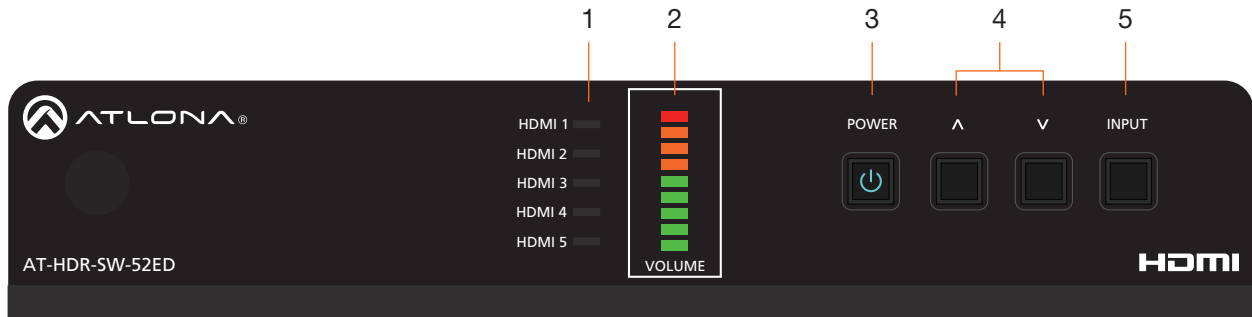
- 5x2 HDMI matrix switcher
- HDBaseT and HDMI outputs with selectable AV switching modes
- Video, audio, power, and data over category cable utilizing HDBaseT technology
- Selectable 4K to 1080p downscaling
- Automatic display control
- Automatic input selection using hot plug detect and video detection technology
- Audio de-embedding
- Delivers return audio from the AT-HDR-EX-100CEA-RX receiver

Package Contents

- 1 x AT-HDR-SW-52ED
- 1 x Captive screw connector, 2-pin
- 1 x Captive screw connector, 3-pin
- 2 x Captive screw connector, 5-pin
- 1 x Long rack ear
- 1 x Short rack ear
- 2 x Mounting plates
- 4 x Mounting screws
- 4 x Rack screws
- 4 x Feet w/rubber grips
- 1 x 48 V / 0.83 A DC power supply

Panel Description

Front Panel



1 HDMI 1 - HDMI 5: Input LED Indicators

These LED indicators display which input is routed to the **HDMI OUT** port. A solid blue indicator represents the active input being used.

2 VOLUME

Displays the output audio level. Refer to [LED Indicators \(page 15\)](#) for more information.

3 POWER

Press this button to toggle between “on” and “standby” power states. When in “standby”, A/V is muted. When “on”, A/V muting will be disabled.

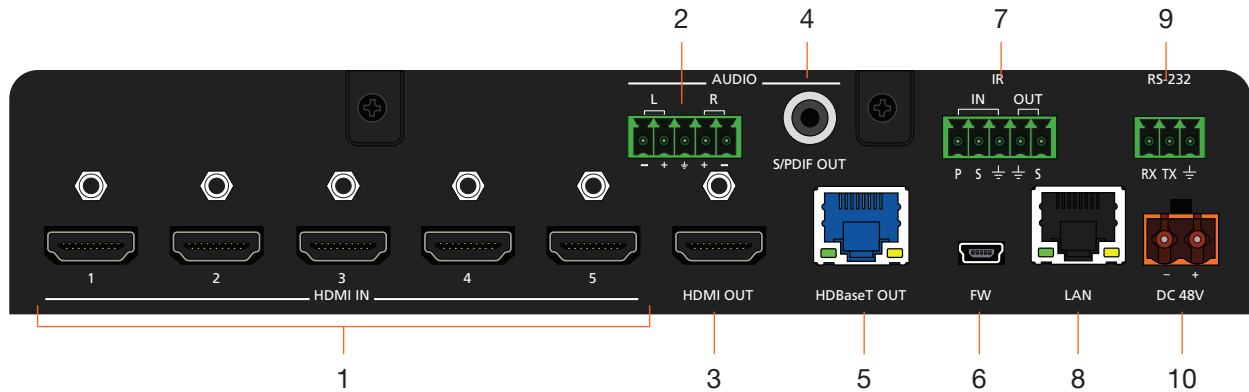
4 Cursor Buttons

Press and release these buttons to increase or decrease the audio output volume on the **ANALOG OUT** port.

5 INPUT

Press and release this button to cycle through each of the HDMI inputs.

Rear Panel



1 HDMI IN

Connect an HDMI cable from each of these ports to an HDMI source.

2 L/R

Connect an analog audio output device to this port using the included captive screw block. Refer to [Analog Audio Output \(page 25\)](#) for information on wiring.

3 HDMI OUT

Connect an HDMI cable from this port to an HDMI display.

4 AUDIO - S/PDIF OUT

Connect an RCA-type cable from this port to the S/PDIF audio input port on an A/V receiver or other audio output device.

5 HDBaseT OUT

Connect a category cable from this port to a the HDBaseT IN port of a compatible receiver unit.

6 FW

Connect a USB-to-mini USB cable to this port from a computer for firmware updates.

7 IR IN/OUT

Connect an IR emitter to the **OUT** (S, GND) pins to control a display using IR. Connect a control system to the **IN** (P, S, GND) pins. A 5-pin captive screw block is included.

8 LAN

Connect an Ethernet cable from this port to the Local Area Network (LAN). The AT-HDR-SW-52ED includes a built-in web server, which can be used to manage and configure the product.

9 RS-232

Connect the included captive screw block to an RS-232 controller to control the AT-HDR-SW-52ED.

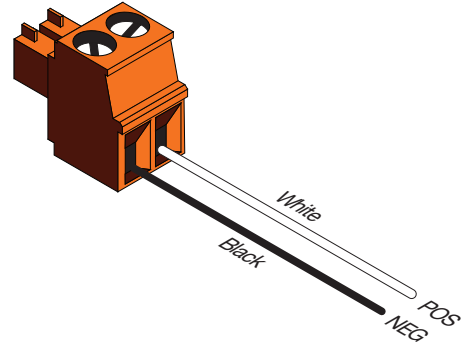
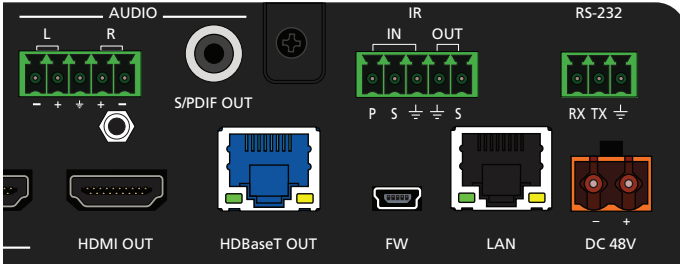
10 DC 48V

Connect the included 48 V DC power supply from this power receptacle to an available AC electrical outlet. Refer to [Power \(page 10\)](#) for more information on wiring the included captive screw connector.

Installation

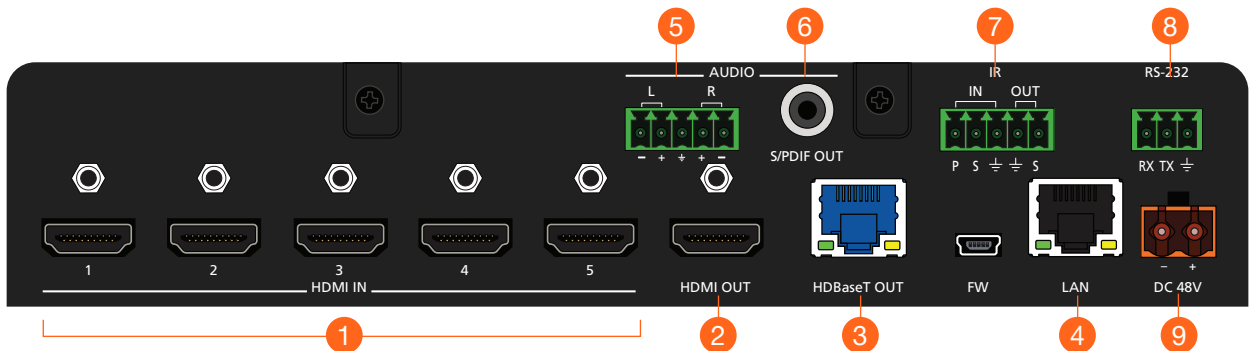
Power

Connect the included 2-pin captive screw connector to the **DC 48V** power receptacle on the rear of the unit. The captive screw comes pre-wired as shown

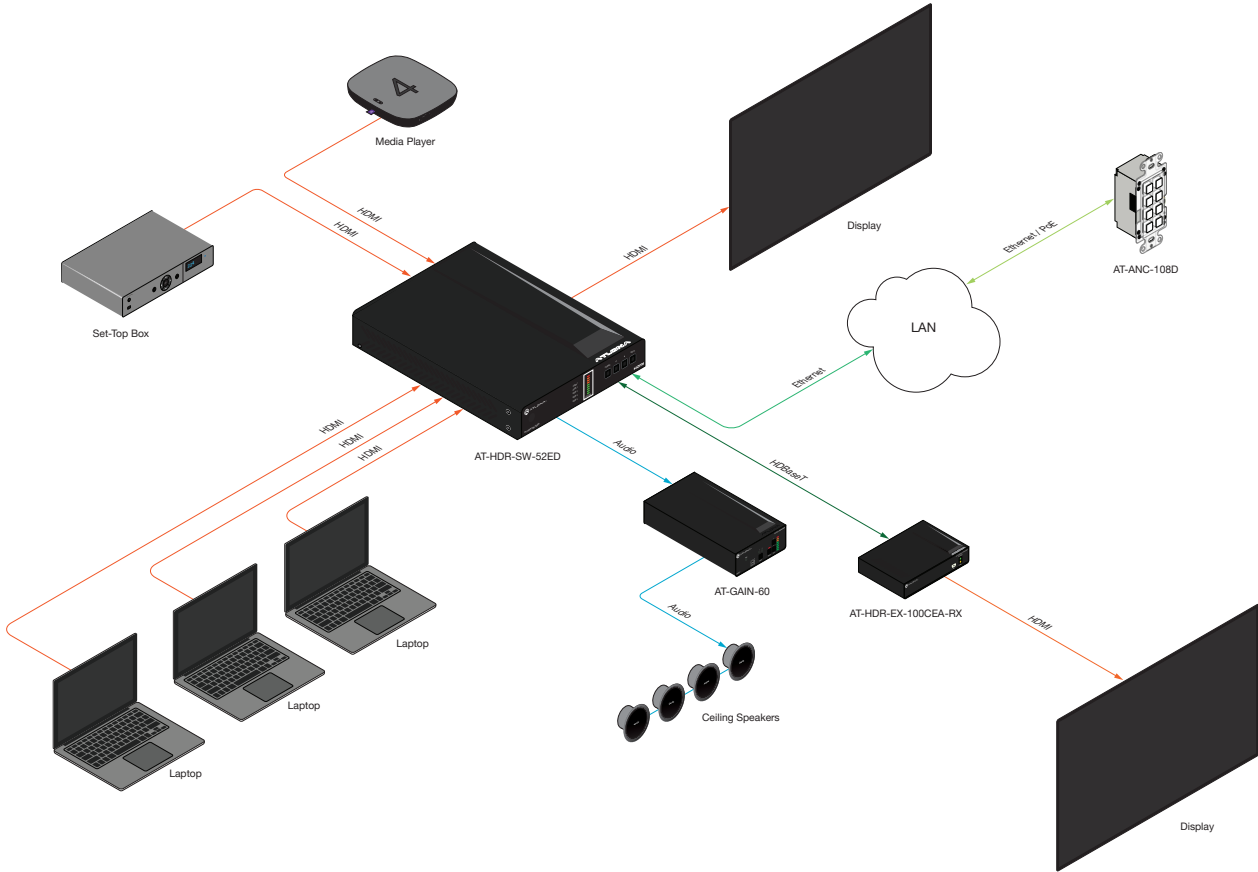


Connection Instructions

1. Connect a source device to each of the **HDMI IN (1 - 5)** ports.
2. Connect a display device to the **HDMI OUT** port.
3. Connect a category cable from the **HDBaseT OUT** port to a the HDBaseT IN port of a compatible receiver unit, such as the AT-HDR-EX-100CEA-RX.
4. Connect an Ethernet cable from the **LAN** port to the Local Area Network (LAN). This step will be required in order to access the built-in web server.
5. Connect the included 5-pin captive screw connector to the 5-pin **AUDIO** port. Refer to [Analog Audio Output \(page 25\)](#) for more information.
6. Connect an RCA-type cable from the **S/PDIF OUT** port to an audio output device.
7. Connect the included 5-pin captive screw connector to the 5-pin **IR** port to use IR control.
8. Connect an RS-232 cable from the control system to the **RS-232** port. Refer to [RS-232 Control \(page 30\)](#) for more information.
9. Connect the included power supply to the **DC 48V** connector and connect the power cord to an available electrical outlet.



Connection Diagram



IP Configuration

The AT-HDR-SW-52ED is shipped with DHCP enabled. Once connected to a network, the DHCP server (if available), will automatically assign an IP address to the unit. If the AT-HDR-SW-52ED is unable to detect a DHCP server within 15 seconds, then the unit will use a self-assigned IP address within the range of 169.254.xxx.xxx/16. If this occurs, refer to [Automatic Private IP Addressing \(APIPA\) Mode \(page 14\)](#).

Use an IP scanner, along with the MAC address on the bottom of the unit, to identify the unit on the network. If a static IP address is desired, the unit can be switched to static IP mode.

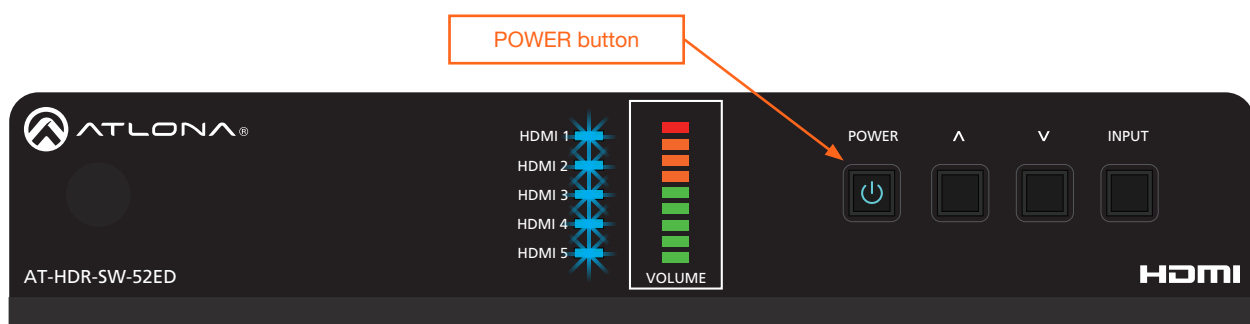


NOTE: When switching between DHCP and static IP mode, the AT-HDR-SW-52ED will retain the last assigned IP address until it is changed manually (static IP mode) or assigned a new IP address by the DHCP server.

Using the Front Panel

1. Make sure the AT-HDR-SW-52ED is powered.
2. Connect an Ethernet cable between the **LAN** port of the AT-HDR-SW-52ED and the Local Area Network (LAN).
3. Press and hold the **POWER** button for approximately 15 seconds. Release the **POWER** button once all the front-panel LED indicators begin to flash. The number of flashes will indicate the currently selected IP mode. Refer to the table, below.

POWER Button flashes	Description	Settings
Two	Static IP mode	IP address: 192.168.1.254 Subnet mask: 255.255.0.0 Gateway: 192.168.1.1
Four	DHCP mode	DHCP server assigned



Using the Web Server

The IP mode of the AT-HDR-SW-52ED can also be set using the built-in web server. In order to access the web server, the IP address of the AT-HDR-SW-52ED must be known.

1. Open the desired web browser and enter the IP address of the AT-HDR-SW-52ED.
2. Log in using the required credentials.
3. Click **System** in the menu bar.
4. Click the **IP Mode** toggle to switch between the `DHCP` and `STATIC IP` setting. When set to `STATIC IP`, the **IP**, **Netmask**, and **Gateway** fields can be modified.
5. Click the **Save** button to save the changes.

Network

MAC Address: B8-98-B0-07-44-36

IP Mode: **STATIC IP**

IP:

Netmask:

Setting the IP Address Using Commands

Use the `IPStatic` and `IPDHCP` commands to switch between DHCP and IP mode through RS-232 or Telnet. Refer to API documentation for more information.



IMPORTANT: When switching between DHCP and static modes, within a Telnet session, the connection will be terminated once the `IPDHCP` command is executed.

- **Setting static IP mode**

1. Connect to the AT-HDR-SW-52ED using RS-232 or Telnet.
2. Execute the `IPStatic` command. This command requires three arguments: the desired IP address of the AT-HDR-SW-52ED, the subnet mask, and the gateway address. All arguments must be entered in dot-decimal notation. The following is an example:

```
IPStatic 192.168.1.112 255.255.255.0 192.168.1.1
```

└── IP address ─┘
└── Subnet mask ─┘
└── Gateway ─┘

- **Setting DHCP mode**

1. Connect to the AT-HDR-SW-52ED using RS-232 or Telnet.
2. At the command line, execute the `IPDHCP on` command using the `on` argument, as shown.

```
IPDHCP on
```

Once DHCP is enabled, the unit will be assigned an IP address by the DHCP server (if present).

Automatic Private IP Addressing (APIPA) Mode

If the AT-HDR-SW-52ED is unable to detect a DHCP server within 15 seconds, when set to DHCP mode, then Automatic Private IP Addressing (APIPA) will be used to assign the an address within the IPv4 address block `169.254.xxx.xxx/16`. If a DHCP server is detected while in APIPA mode, then the AT-HDR-SW-52ED will be assigned an address from the DHCP server pool. To manually adjust the IP address, connect an Ethernet cable directly from the **LAN** port of the AT-HDR-SW-52ED to the LAN port of a computer, then do the following:

1. Click **Start > Settings > Control Panel > Network and Sharing Center**.
2. Click **Change adapter settings**.
3. Right-click on the adapter that is used to establish a wired connection to the network, and select **Properties** from the context menu.
4. Under the **Ethernet Properties** dialog box, select **Internet Protocol Version 4** and then click the **Properties** button. Click the **Use the following IP address** radio button.












IMPORTANT: Before continuing, write down the current IP settings in order to restore them, later. If **Obtain an IP address automatically** and **Obtain DNS server automatically** are selected, then this step is not required.

5. Enter the desired static IP address or the IP address provided by the network administrator. If the computer does not require Internet access or if a statically-assigned IP address is being used, then an address within the IPv4 address block `169.254.xxx.xxx/16` can be entered.
6. Set the subnet mask to `255.255.0.0`.
7. Click the **OK** button then close all **Control Panel** windows.

Device Operation

LED Indicators

The LED indicators on both the front and rear of the unit provide basic information on the current status of the AT-HDR-SW-52ED.

LED	Description	
HDMI 1 - HDMI 5	Solid blue 	The input is the currently selected (active) input.
	Off 	The input is not the active input.
VOLUME (dBFS)	Solid green 	Acceptable range for output volume. Audio should be free of clipping. If audio clipping is heard in this range, check the signal adjustment of the source device.
	Solid amber 	Audio signals that approach the 0 dBFS level are represented in this range. If audio clipping is heard, reduce the output gain of the source device until audio is free of distortion.
	Solid red 	Audio signals which exceed 0 dBFS are represented in this range. Audio clipping occurs at this level. If clipping is heard, reduce the output gain of the source device until audio is free of distortion.
POWER	Solid blue 	Unit is powered and in normal operating mode. A/V muting is disabled.
	Solid red 	Unit is powered and in standby mode. In this mode, A/V will be muted. <ul style="list-style-type: none"> Press the POWER button to place the unit in normal operating mode.
	Off 	Unit is not powered. <ul style="list-style-type: none"> Check the power supply and make sure it is securely fastened to the captive screw connector on the rear of the unit. Make sure that the power supply is connected to an available electrical outlet and that the outlet is "live" (some outlets are controlled by a wall switch).
	Flashing blue (slow) 	Unit is in Update Mode. Refer to Updating the Firmware (page 73) for more information.

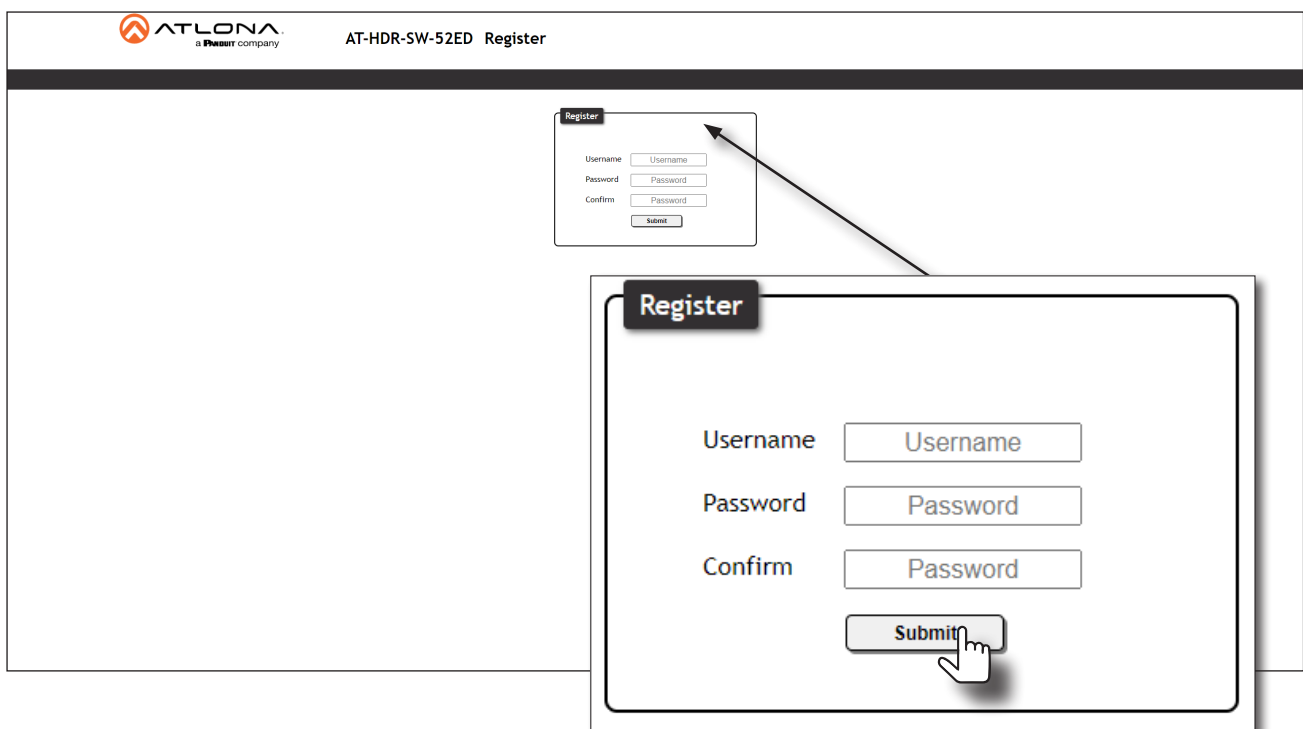
Logging in to the Web Server

Most of the AT-HDR-SW-52ED operation is handled through the built-in web server. In order to access the web server, the IP address of the unit must be known. Refer to [IP Configuration \(page 12\)](#) for more information.

Login Registration

Before the built-in web server can be accessed, a username and password must be created.

1. Launch the desired web browser and enter the IP address of the AT-HDR-SW-52ED in the address bar.
2. The AT-HDR-SW-52ED **Register** page will be displayed.



The screenshot shows the AT-HDR-SW-52ED Register page. At the top left is the ATLONA logo and 'a PANOUT company'. The page title is 'AT-HDR-SW-52ED Register'. The main content area contains a registration form with the following fields: Username (input box), Password (input box), and Confirm (input box). Below these fields is a Submit button. A callout box highlights the form, and a hand cursor is shown clicking the Submit button.

3. Enter the desired username in the **Username** field. In the example above, the username `admin` is used.
4. Enter the desired password in the **Password** field.

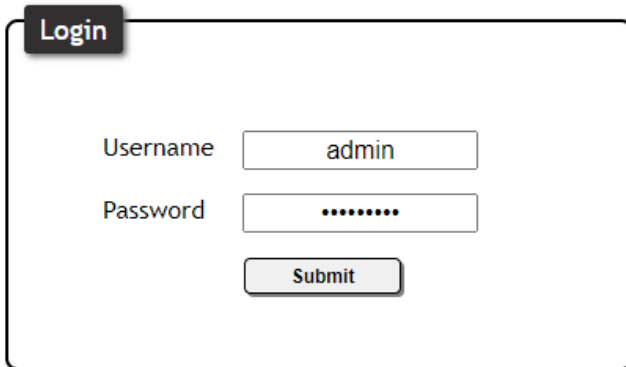


IMPORTANT: The password must contain a minimum of 8 characters, including one uppercase character, one lowercase character, and one number. Special characters are not permitted. Note that the **Password** and **Confirm** fields will be masked when entering the password.

5. Verify the password by entering it in the **Confirm** field.
6. Click the **Submit** button.
7. The **Login** screen will be displayed.

Logging in after Registration

1. Launch the desired web browser and enter the IP address of the AT-HDR-SW-52ED in the address bar.
2. Enter the correct username and password in the respective fields.
3. Click the **Submit** button.



The screenshot shows a login interface with a dark header containing the word "Login" in white. Below the header, there are two input fields: "Username" with the text "admin" and "Password" with a masked password represented by seven dots. A "Submit" button is located below the password field.

4. The **Info** page will be displayed.

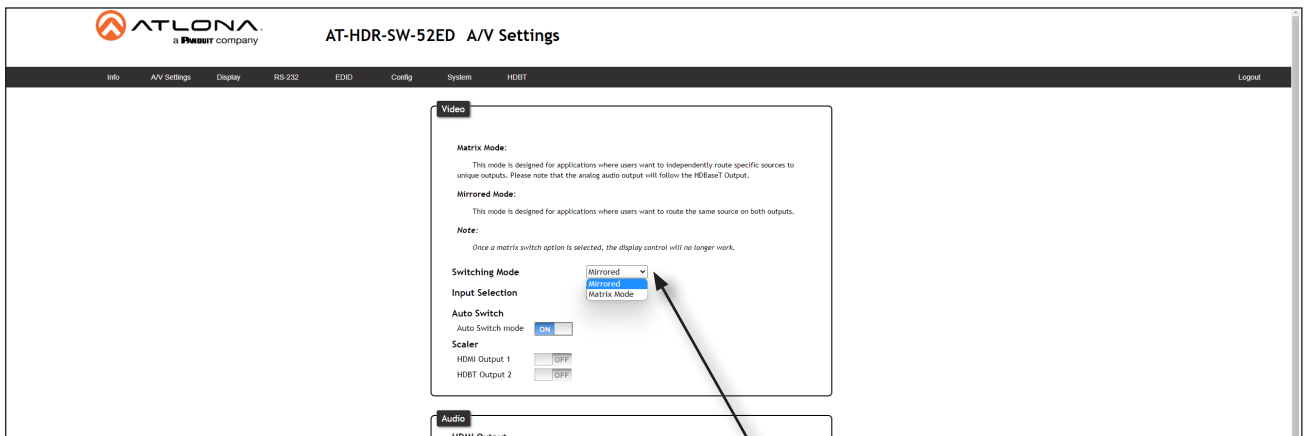
Switching Modes

The AT-HDR-SW-52ED features two switching modes: *Mirrored* and *Matrix Mode*. Each of these modes will be covered in the following section. Switching modes are configured using the built-in web server.

Mirrored Mode

This is the default mode. Once video is detected on the active input port, the output signal will be displayed on both the **HDMI OUT** and **HDBaseT OUT** port. The active input will be identified on the front panel HDMI LED input indicators and will be displayed as a solid green LED. [Auto Switching \(page 21\)](#) can also be enabled, if desired, to allow the AT-HDR-SW-52ED to automatically switch between inputs, if a new source is connected or an existing source is disconnected.

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Click the **Switching Mode** drop-down list and select **Mirrored**.



Matrix Mode:

This mode is designed for applications where users want to independently route specific sources to unique outputs. Please note that the analog audio output will follow the HDBaseT Output.

Mirrored Mode:

This mode is designed for applications where users want to route the same source on both outputs.

Note:

Once a matrix switch option is selected, the display control will no longer work.

Switching Mode Mirrored ▼

Input Selection Mirrored
Matrix Mode

Auto Switch

Auto Switch mode ON

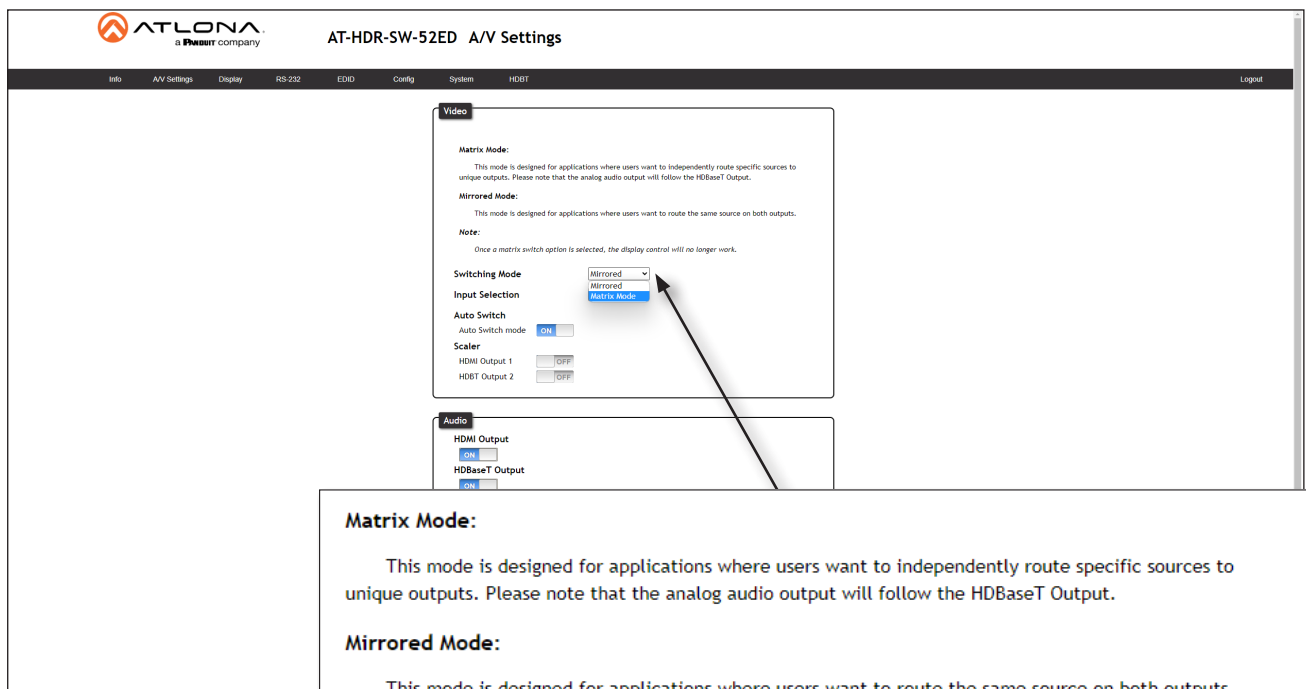
Matrix Mode

This mode allows the AT-HDR-SW-52ED to independently switch between any input to any output. Auto Switching is disabled in Matrix Mode. Audio on the **L/R** and **S/PDIF OUT** ports will always follow **HDBaseT OUT** while the AT-HDR-SW-52ED is in Matrix Mode.

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Click the **Switching Mode** drop-down list and select `Matrix Mode`.



IMPORTANT: If the AT-HDR-SW-52ED is set to Matrix Mode, then Auto Switching will be disabled.



The screenshot shows the AT-HDR-SW-52ED A/V Settings page. The 'Switching Mode' dropdown menu is open, showing three options: 'Mirrored', 'Mirrored', and 'Matrix Mode'. A mouse cursor is pointing at 'Matrix Mode'. Below the screenshot, there is a callout box with the following text:

Matrix Mode:

This mode is designed for applications where users want to independently route specific sources to unique outputs. Please note that the analog audio output will follow the HDBaseT Output.

Mirrored Mode:

This mode is designed for applications where users want to route the same source on both outputs.

Note:

Once a matrix switch option is selected, the display control will no longer work.

Switching Mode

Mirrored

Input Selection

Mirrored

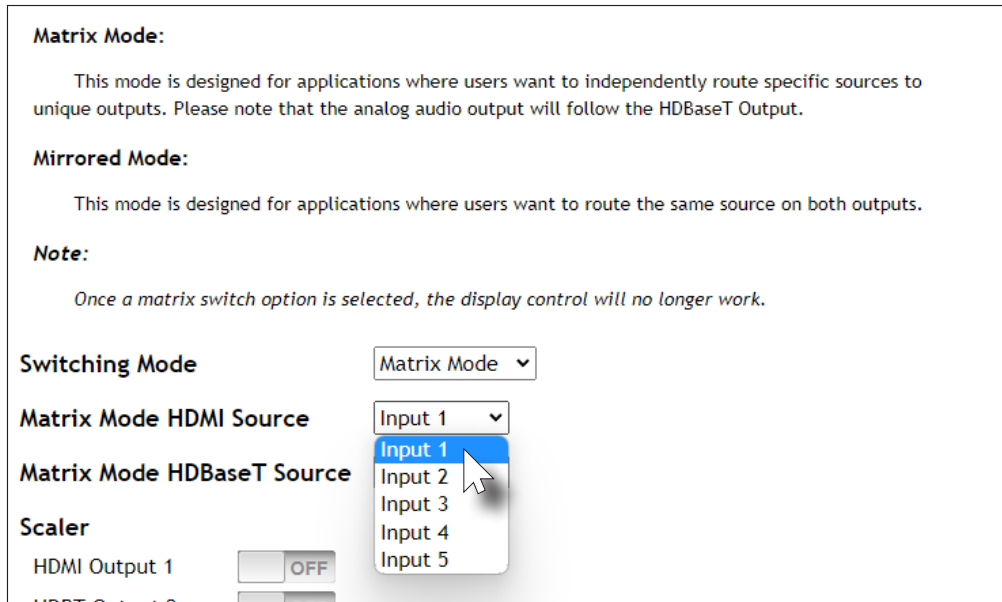
Matrix Mode

Auto Switch

Auto Switch mode

ON

4. Click the **Matrix Mode HDMI Source** drop-down list and select the input to be routed to the **HDMI OUT** port.



5. Click the **Matrix Mode HDBaseT Source** drop-down list and select the input to be routed to the **HDBaseT OUT** port.

Auto Switching

The AT-HDR-SW-52ED provides Auto Switching capability, which is enabled by default. This feature will automatically switch the input to the most recently-connected source. If the active source is disconnected, then the input will automatically be switched to the previously-connected source.



IMPORTANT: The Auto Switching feature is only available when the **Switching Mode** is set to **Mirrored** mode. Refer to [Switching Modes \(page 18\)](#) for more information.

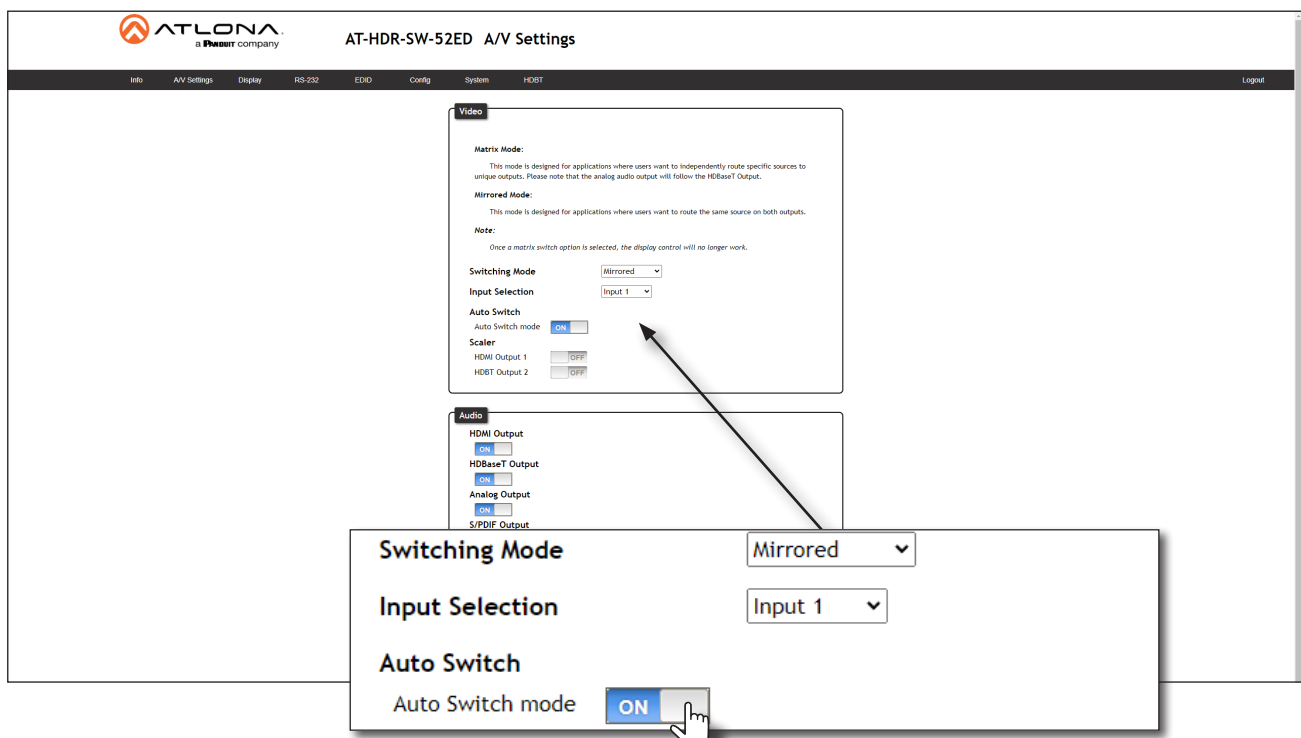
Enabling / Disabling Auto Switching

By default, Auto Switching is enabled on the AT-HDR-SW-52ED, allowing the unit to automatically switch between inputs when sources are connected or disconnected.

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Verify that the **Switching Mode** is set to **Mirrored**.
4. Click the **Auto Switch mode** toggle switch to the **ON** position to enable Auto Switching. This is the default setting. If Auto Switching is not desired, click this toggle switch to the **OFF** position. If the previously active input is no longer available, then the AT-HDR-SW-52ED will fallback to any available input.



NOTE: The AT-HDR-SW-52ED retains the currently selected input, even after the unit is powered off then powered on. The system should re-evaluate the Auto Switching logic after power on and select an input.



The screenshot shows the AT-HDR-SW-52ED A/V Settings web interface. The 'Video' section includes the following settings:

- Switching Mode:** Mirrored
- Input Selection:** Input 1
- Auto Switch mode:** ON
- Scaler:** HDMI Output 1 (OFF), HDBT Output 2 (OFF)

The 'Audio' section includes the following settings:

- HDMI Output:** ON
- HDBaseT Output:** ON
- Analog Output:** ON
- S/PDIF Output:** ON

A callout box highlights the 'Switching Mode' dropdown (set to 'Mirrored'), 'Input Selection' dropdown (set to 'Input 1'), and the 'Auto Switch mode' toggle switch (set to 'ON'). An arrow points from the 'Auto Switch mode' toggle in the callout to the 'ON' button in the main interface.

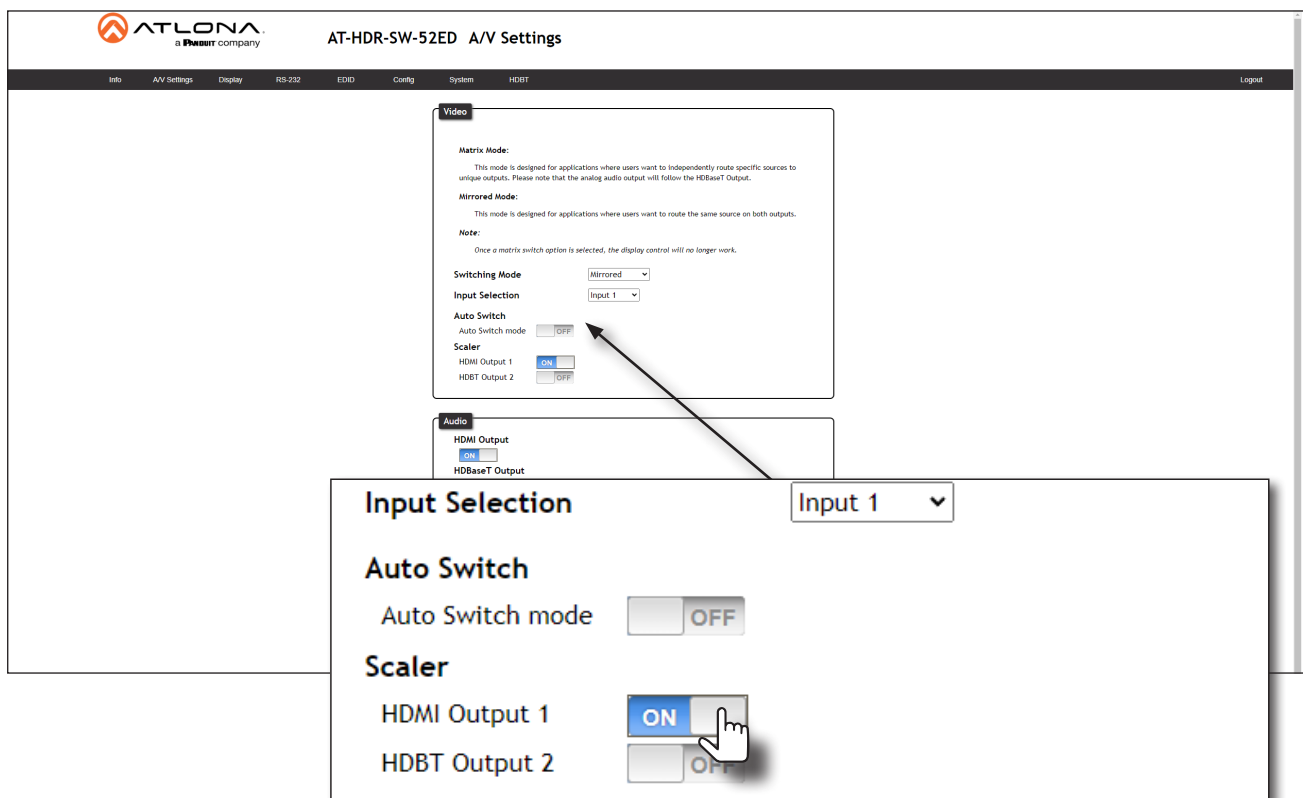
Scaler Pass-Through

Click this toggle switch to enable or disable the scaler pass-through feature. When set to the **ON** position, 4K content will be down-scaled to 1080p when the output device detects a 1080p display on the output. When set to the **OFF** position, the output resolution / timing will be the same as the input source. The default setting is **OFF**. Refer to [Notes on Scaling \(page 23\)](#) for more information.



IMPORTANT: The scaler will only downscale the image resolution and does not support frame rate scaling/conversion such as 60 Hz to 30 Hz. The frame rate of the source must be supported by the display device.

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Click the **HDMI Output 1** and/or **HDBT Output 2** toggle switch to the **ON** position.



The screenshot shows the AT-LONA web interface for the AT-HDR-SW-52ED device, specifically the A/V Settings page. The 'Video' section is expanded, showing 'Matrix Mode' (Mirrored), 'Switching Mode' (Mirrored), 'Input Selection' (Input 1), and 'Auto Switch' (Auto Switch mode OFF). The 'Scaler' section is highlighted with a callout box, showing 'HDMI Output 1' set to ON and 'HDBT Output 2' set to OFF. A hand cursor is shown clicking the 'ON' toggle for 'HDMI Output 1'.

4. The following message box will be displayed if either toggle switch is enabled. Click **OK** to dismiss the message box.
5. Click the toggle switch again, to return the toggle switch to the **OFF** (default) position.

10.20.20.47 says

Frame rate of the source must be accepted by the scaled display. The scaler will only downscale resolution and not framerate. If you experience black screen this may be due to the frame rate not being supported



Notes on Scaling

The following section provides important information about how the AT-HDR-SW-52ED processes 4K (UHD) video signals.

- The **HDMI OUT** port supports up to 4K @ 60 Hz, 12-bit, with HDR.
- If the source is 4K, and the output port is connected to a 1080p (not 4K-capable) display, then the output will be down-scaled as follows:

Input	Output
4K @ 24 Hz	1080p @ 24 Hz
4K @ 30 Hz	1080p @ 30 Hz
4K @ 60 Hz, 4:2:0	1080p @ 60 Hz, YUV/RGB 4:4:4

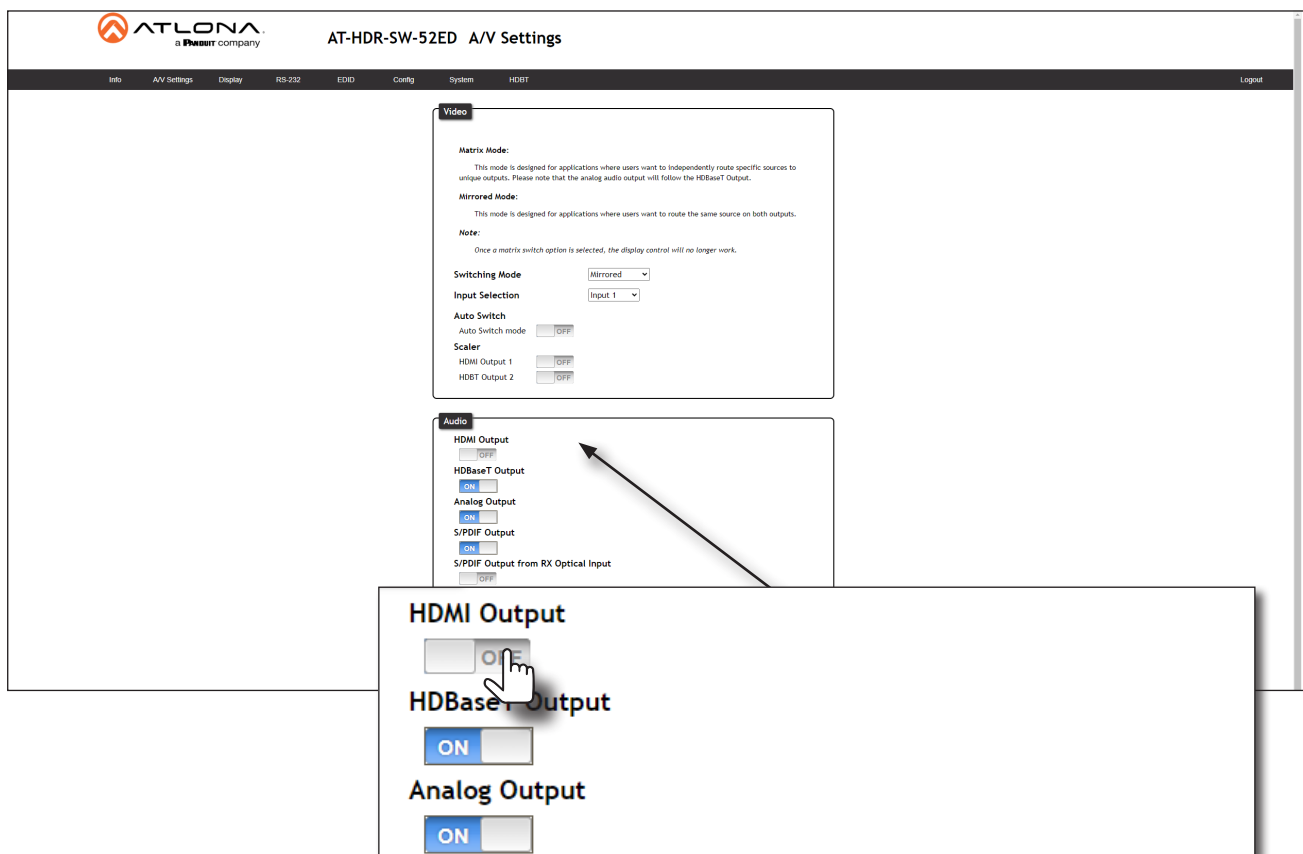
- HDR / Dolby Vision / HLG formats cannot be downscaled to 1080p.
- The internal scaler will be bypassed if the connected display supports the resolution and timing information from the source device.

Audio Management

The AT-HDR-SW-52ED provides volume control and independent audio muting. Audio muting can be controlled on the **L/R**, **HDMI OUT**, and **HDBaseT OUT** ports. To de-embed the source audio to the **L/R** port, connect the included 5-pin captive screw connector to the **L/R** port. De-embedding audio is restricted to two-channel Linear PCM formats.

HDMI / HDBaseT Audio Muting

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Locate the **Audio** section.
4. Click the toggle switch for the desired output. For example, to mute the audio output on the **HDMI OUT** or **HDBaseT OUT** port, click the associated toggle switch to the **OFF** position. To re-enable the audio for that output, set the toggle switch to the **ON** position.



The screenshot displays the AT-HDR-SW-52ED A/V Settings web interface. The top navigation bar includes 'Info', 'A/V Settings', 'Display', 'RS-232', 'EDID', 'Config', 'System', and 'HDMI'. The 'A/V Settings' page is divided into 'Video' and 'Audio' sections. The 'Audio' section contains several output options with toggle switches: HDMI Output (OFF), HDBaseT Output (ON), Analog Output (ON), S/PDIF Output (ON), and S/PDIF Output from RX Optical Input (OFF). A callout box highlights the 'HDMI Output' toggle switch, showing it being moved from the 'OFF' position to the 'ON' position. The callout also shows the 'HDBaseT Output' and 'Analog Output' toggles in their 'ON' positions.

Analog Audio Output

The AT-HDR-SW-52ED features a separate **L/R** port on the rear panel. This port provides de-embedding and conversion of two-channel LPCM audio streams to analog audio. Audio output volume can be controlled using API commands or the built-in web server.



IMPORTANT: The AT-HDR-SW-52ED will only de-embed two-channel LPCM audio. In addition, video must accompany the audio at all times. This product does not support audio-only (“free-run” mode) output.

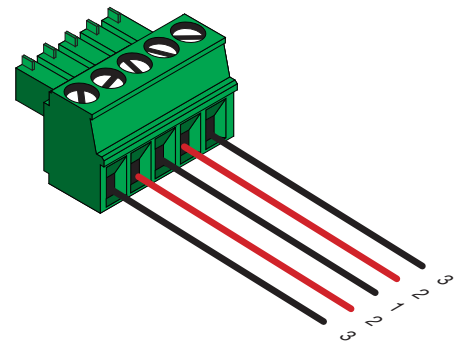
L/R Port Wiring

The included 5-pin captive screw block can be wired to support balanced audio using XLR connectors, or unbalanced audio using RCA connectors.

Balanced Audio (XLR)

Channel	Signal (AT-HDR-SW-52ED)	Pin (XLR)
R	-	3
R	+	2
--	GND*	1
L	+	2
L	-	3

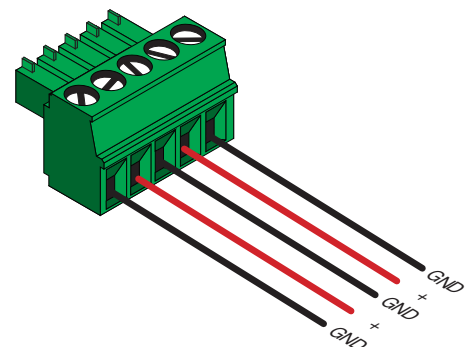
*The **GND** signal, from the 5-pin captive screw connector on the AT-HDR-SW-52ED, should be tied to pin 1 on *both* XLR connectors.



Unbalanced Audio (RCA)

Channel	Signal (AT-HDR-SW-52ED)	Pin (RCA)
R	to GND*	--
R	+	+
--	GND	GND
L	+	+
L	to GND*	--

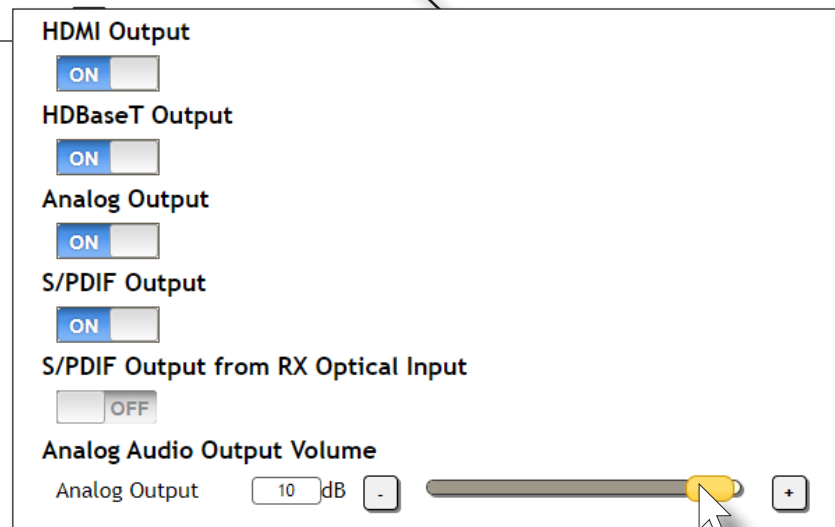
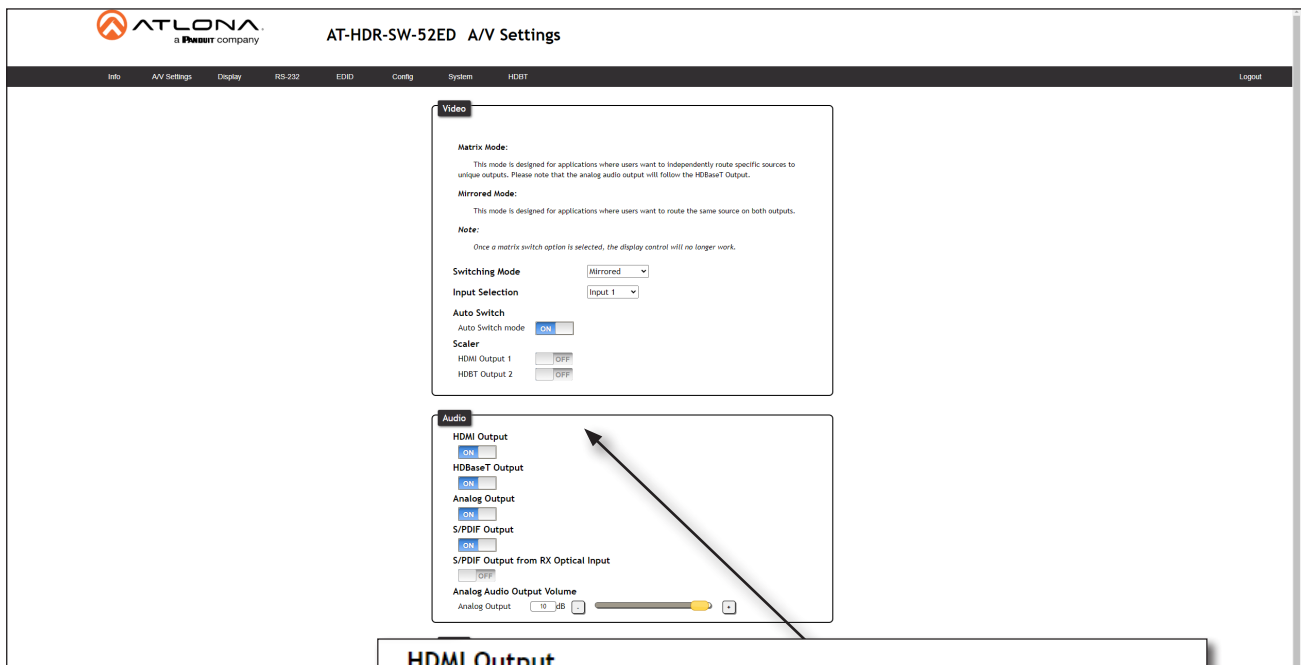
*The **GND** signal, from the captive screw connector on the AT-HDR-SW-52ED, should be tied to **L-** and **R-** on the captive screw connector.



De-Embedding Audio

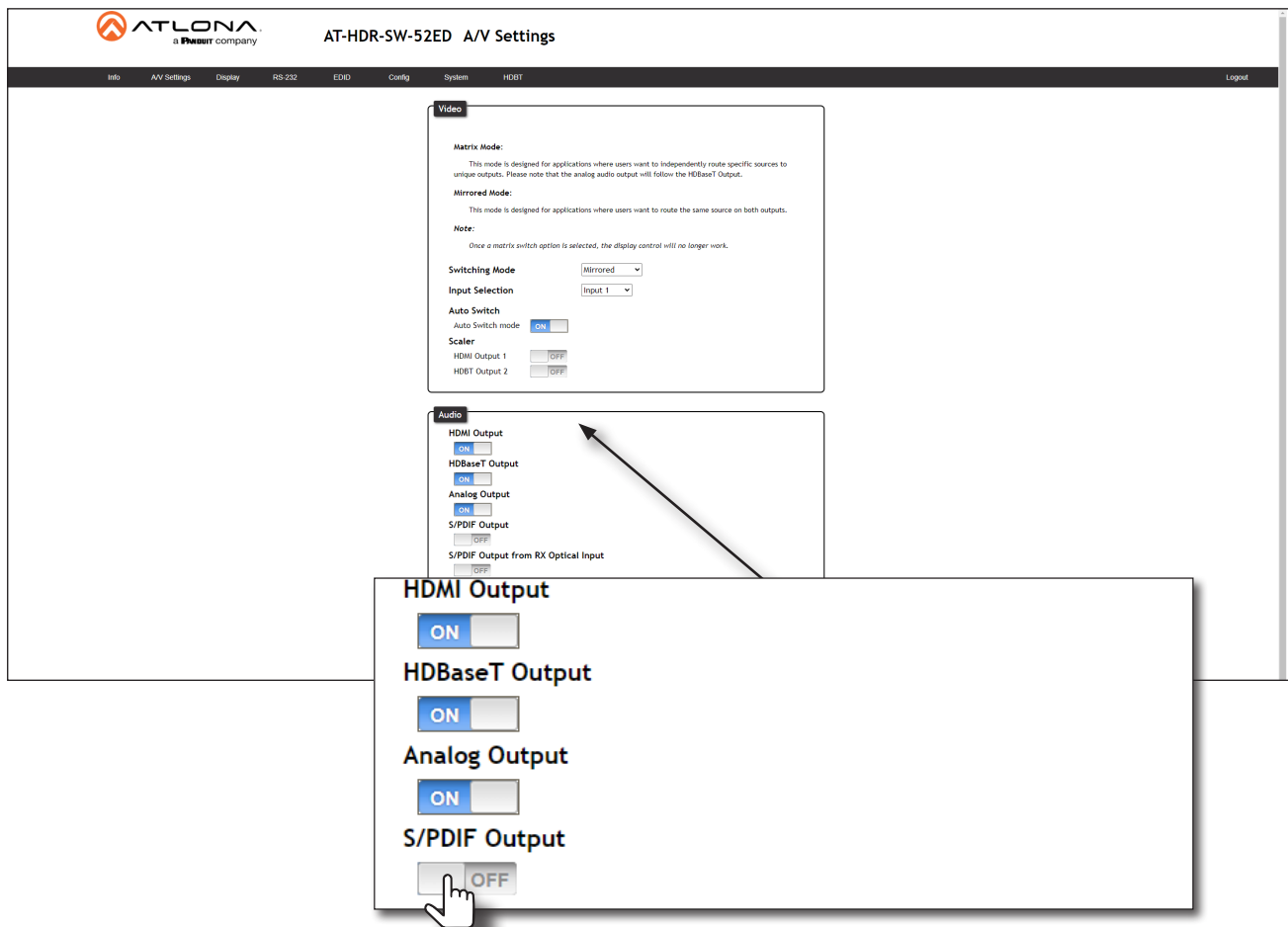
1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Locate the **Audio** section.
4. Click the **Analog Output** toggle switch to the ON position. To mute the audio on the L/R port, click this toggle switch to the OFF position.
5. Under **Analog Audio Output Volume**, click and drag the slider to adjust the audio output level. The current output volume, in decibels, will be displayed in the **Analog Output** field, next to the slider bar. Audio output level can be set within the range of -90 dB to +10 dB. The default settings is 0 dB.

The decibel value can also be entered directly in the **Analog Output** field, instead of using the slider.



S/PDIF Audio Muting

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Locate the **Audio** section.
4. Click the **S/PDIF Output** toggle switch to the **OFF** position. To re-enable the audio on the **S/PDIF OUT** port, set the toggle switch to the **ON** position.



The screenshot displays the AT-HDR-SW-52ED A/V Settings web interface. The 'Audio' section is highlighted, showing the following settings:

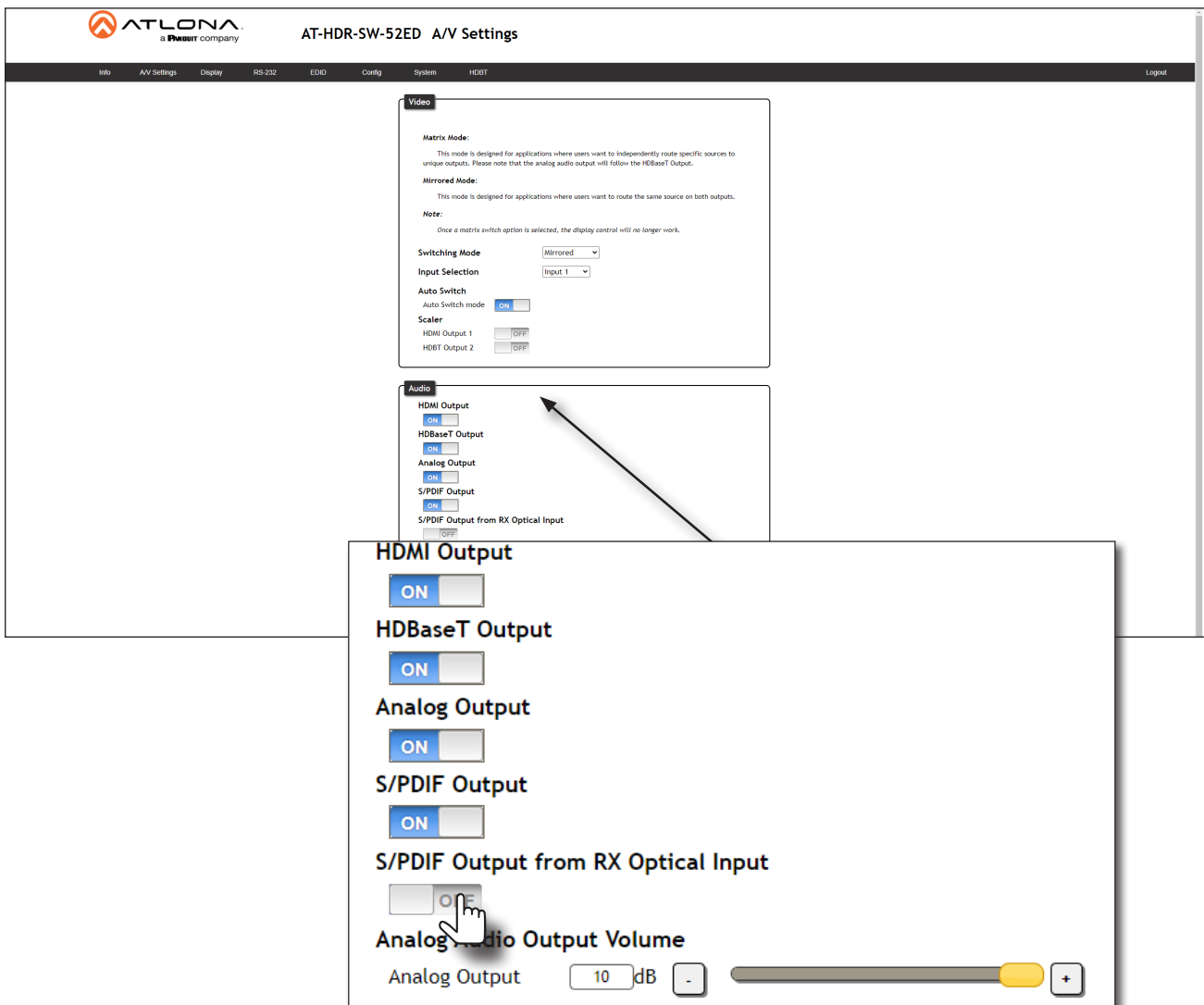
- HDMI Output: ON
- HDBaseT Output: ON
- Analog Output: ON
- S/PDIF Output: OFF
- S/PDIF Output from RX Optical Input: OFF

A callout box provides a magnified view of the S/PDIF Output toggle switch, which is currently set to OFF. A hand cursor is shown clicking the OFF button.

S/PDIF Audio Muting from RX

This feature allows muting of the optical input on the receiver (AT-HDR-EX100-CEA-RX).

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Locate the **Audio** section.
4. Click the **S/PDIF Output from RX Optical Input** toggle switch to the **OFF** position. To re-enable the audio on the optical port of the receiver, set the toggle switch to the **ON** position.



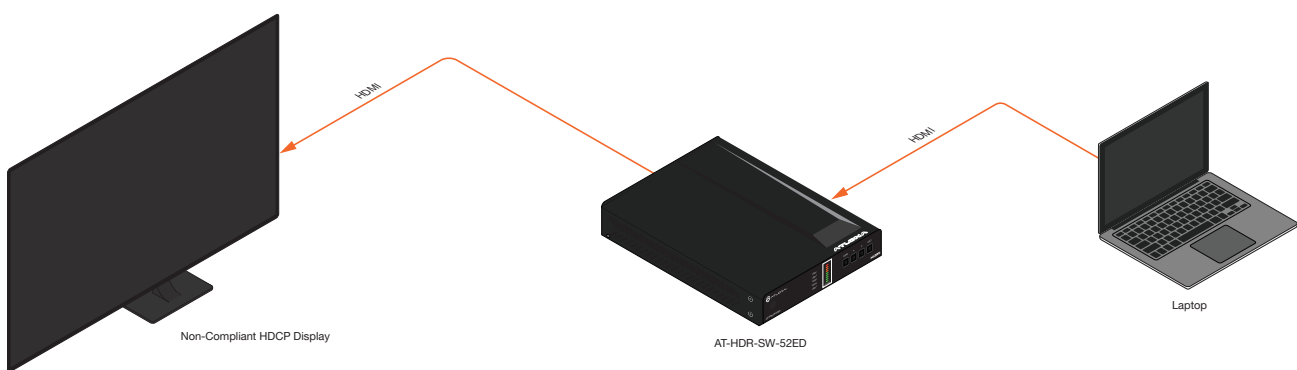
The screenshot displays the AT-HDR-SW-52ED A/V Settings web interface. The top navigation bar includes 'Info', 'A/V Settings', 'Display', 'RS-232', 'EDID', 'Config', 'System', and 'HDBT'. The main content area is divided into 'Video' and 'Audio' sections. The 'Audio' section contains several output options, each with a toggle switch: HDMI Output (ON), HDBaseT Output (ON), Analog Output (ON), S/PDIF Output (ON), and S/PDIF Output from RX Optical Input (OFF). A callout box provides a magnified view of these audio settings, showing the 'S/PDIF Output from RX Optical Input' toggle switch being moved from 'ON' to 'OFF' by a mouse cursor. Below the audio settings is the 'Analog Audio Output Volume' section, which includes a volume slider set to 10 dB and '+'/'-' buttons.

HDCP Content

Transmitting HDCP content to a display that is not HDCP compliant can result in “snow”, image flickering, or no picture. In the illustration below, a laptop source is connected to the AT-HDR-SW-52ED, which is connected to a display that is not HDCP compliant.

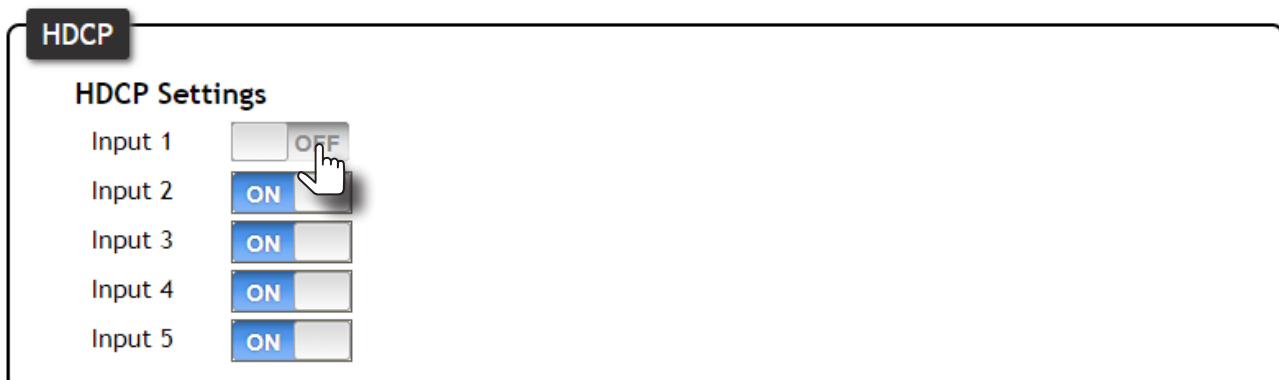


IMPORTANT: Not all source devices are capable of transmitting non-HDCP content. For example, Sony PlayStation® gaming consoles and Mac® computers always transmit HDCP-encrypted content.



By default, the laptop may transmit HDCP content. However, when connected to a display that does not support HDCP, the laptop must be instructed to send non-HDCP content in order for the content to be displayed.

1. Log in to the web server.
2. Click **A/V Settings** in the menu bar.
3. Locate the **HDCP** section.
4. Click the toggle switch next to the desired input. In this example, clicking the **Input 1** toggle switch and setting it to the **OFF** position will instruct the source device to send non-HDCP content, if possible.



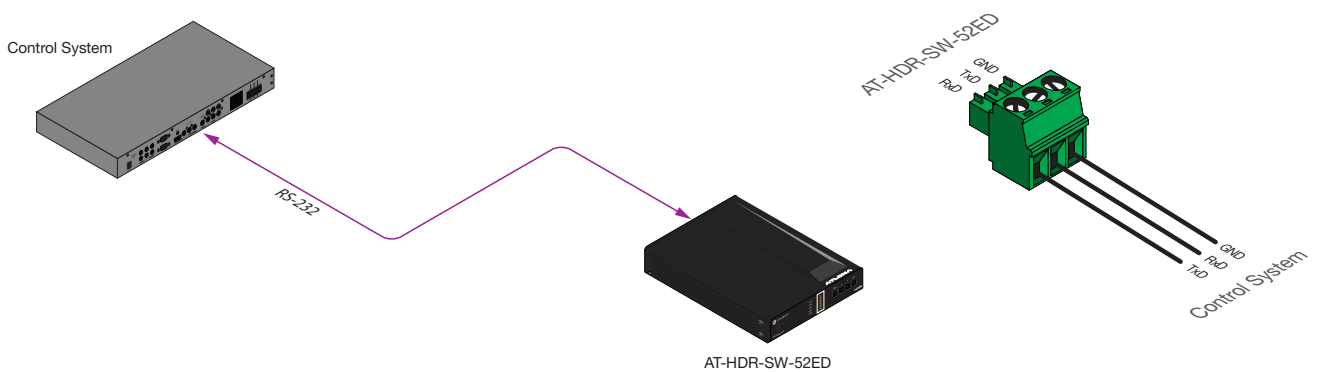
If the display is unable to receive HDCP content, then a “black screen” with no image will be displayed.

RS-232 Control

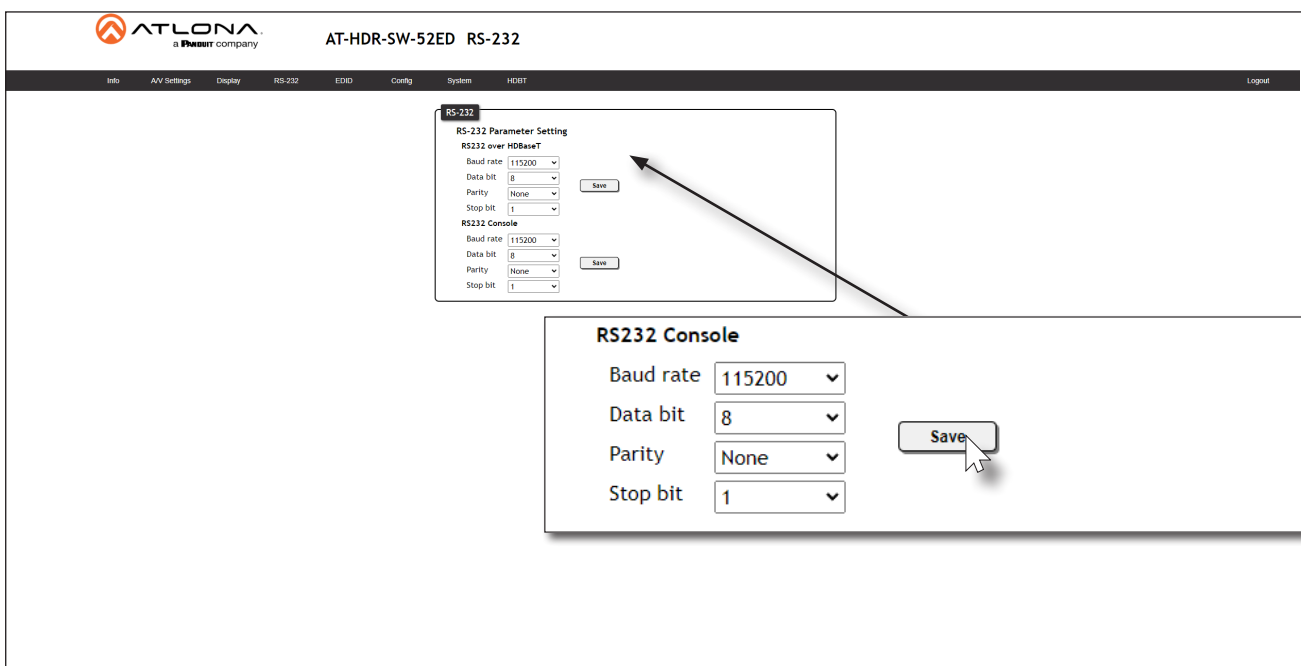
The **RS-232** port is used to directly control the AT-HDR-SW-52ED using a control system (Console Mode) or can be used to send commands to the AT-HDR-SW-52ED, from a control system, to the display/sink device over HDBaseT (Pass-Through Mode).

Console Mode

1. Connect the RS-232 cable between the control system and the **RS-232** port on the AT-HDR-SW-52ED. The included 3-pin captive screw should be wired as shown.
2. Log in to the web server.



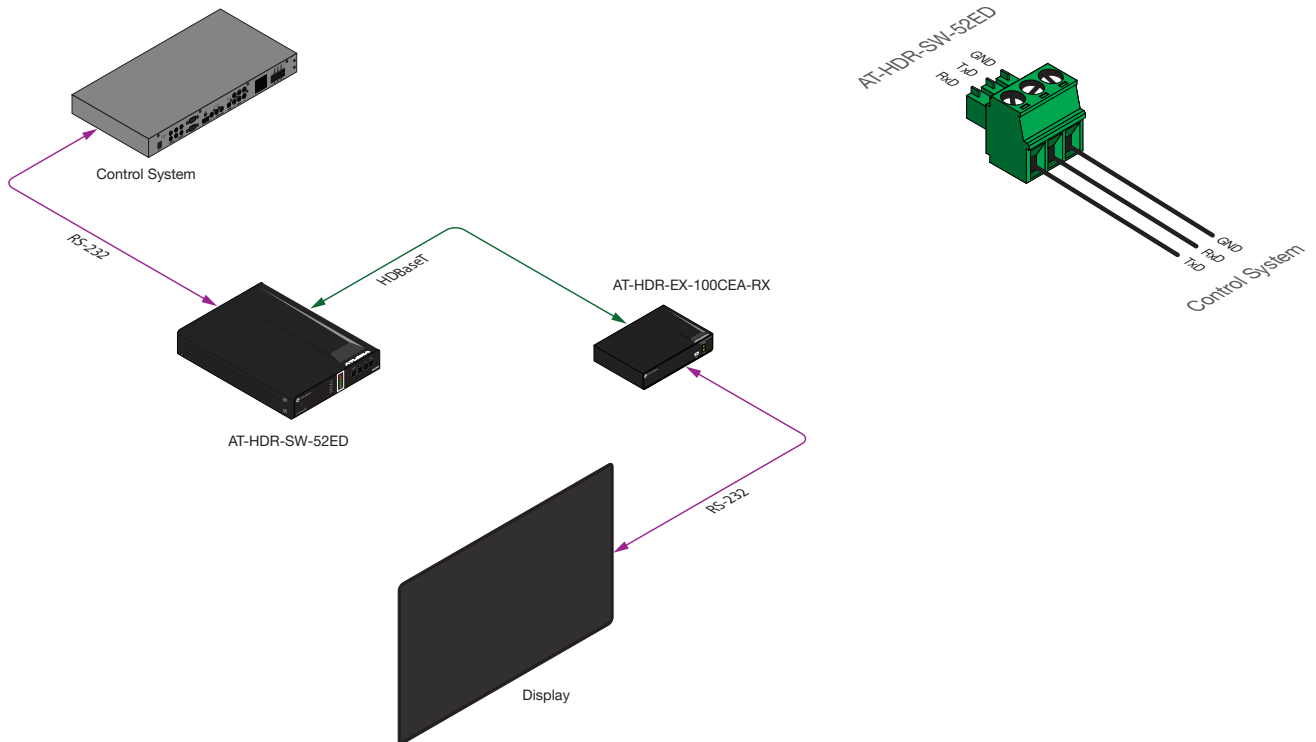
3. Click **RS-232** in the menu bar.
4. Under the **RS232 Console** section, select the proper baud rate, data bit, parity, and stop bit settings. These settings must correspond with the control system RS-232 settings.



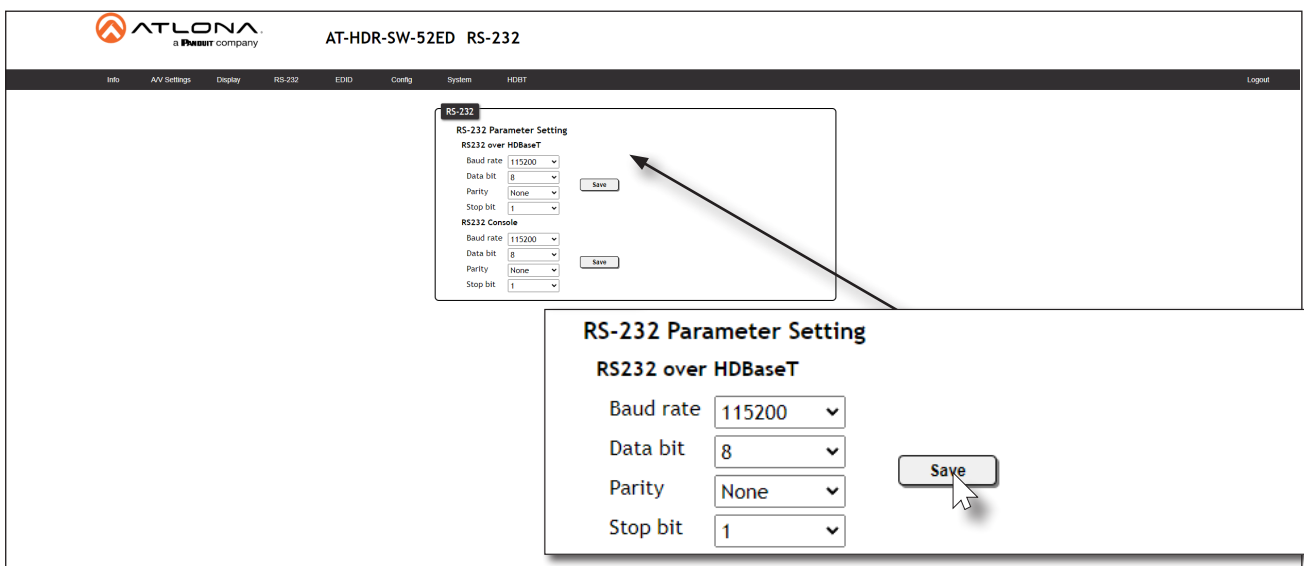
5. Click the **Save** button to commit changes.

Pass-Through Mode

1. Connect the RS-232 cable between the control system and the **RS-232** port on the AT-HDR-SW-52ED. The included 3-pin captive screw terminal should be wired as shown.
2. Connect a category cable from the **HDBaseT OUT** port to a receiver (AT-HDR-EX-100CEA-RX).
3. Connect an RS-232 cable between the display (sink) and the receiver.



4. Log in to the web server.
5. Under the **RS232 over HDBaseT** section, select the proper baud rate, data bit, parity, and stop bit settings. These settings must correspond with the control system RS-232 settings.



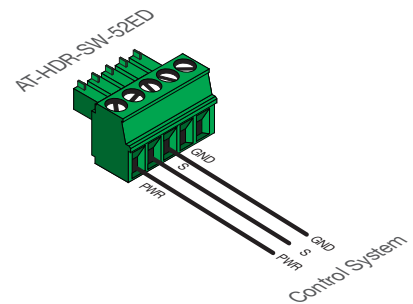
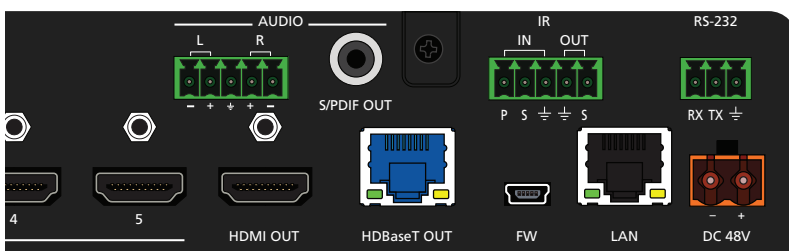
6. Click the **Save** button to commit changes.

IR Control

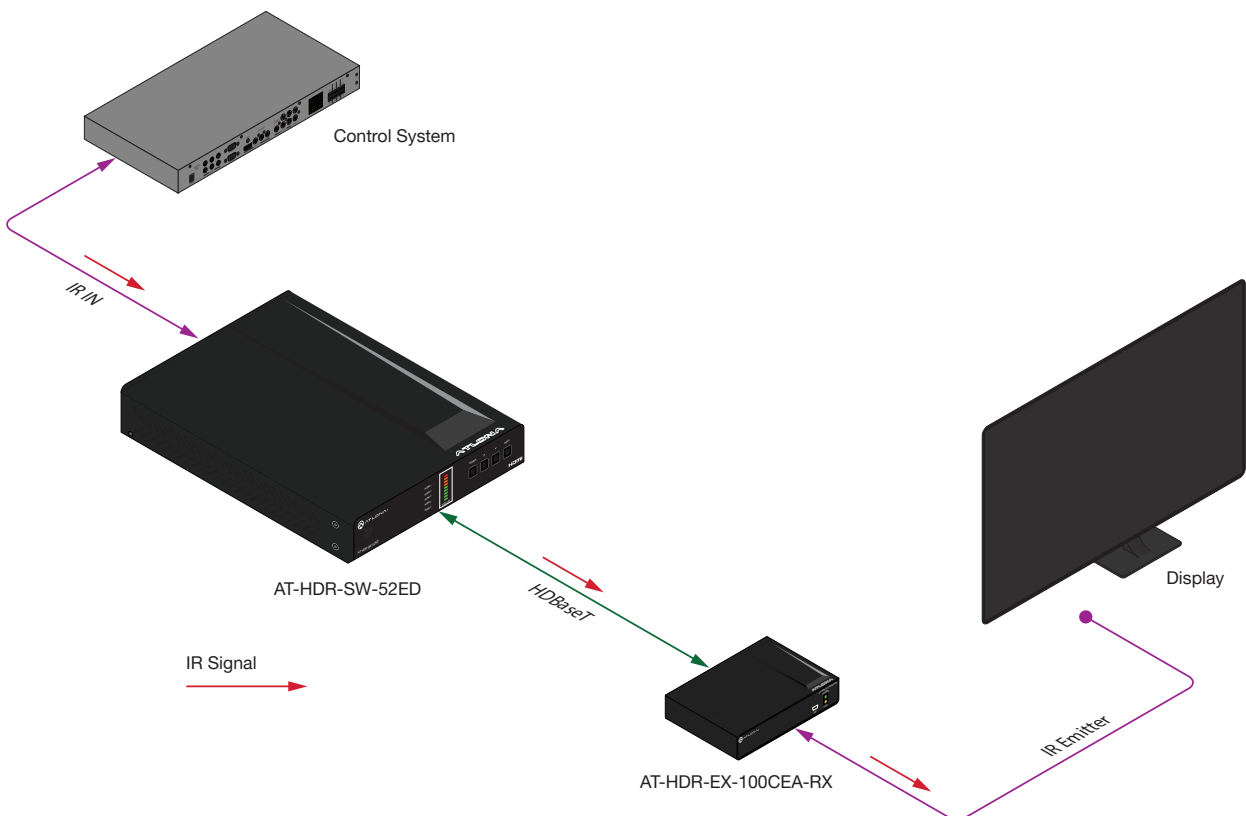
IR can be used to control either headend or sink devices. IR is compatible with carrier frequencies from 30 kHz to 60 kHz.

Controlling Display Devices

1. Remove at least 3/16" (5 mm) of insulation from the wire leads.
2. Connect the included 5-pin captive screw connector to the **IR IN/OUT** port of the AT-HDR-SW-52ED. The included captive screw connector should be wired as shown.

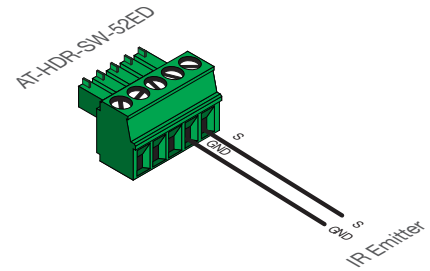
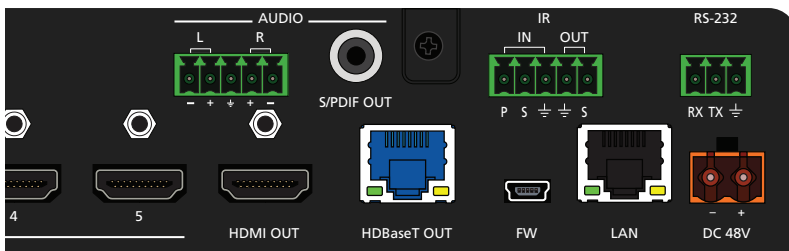


3. Connect the IR emitter to the receiver and place the emitter next to the display (sink) device, as shown in the illustration below.

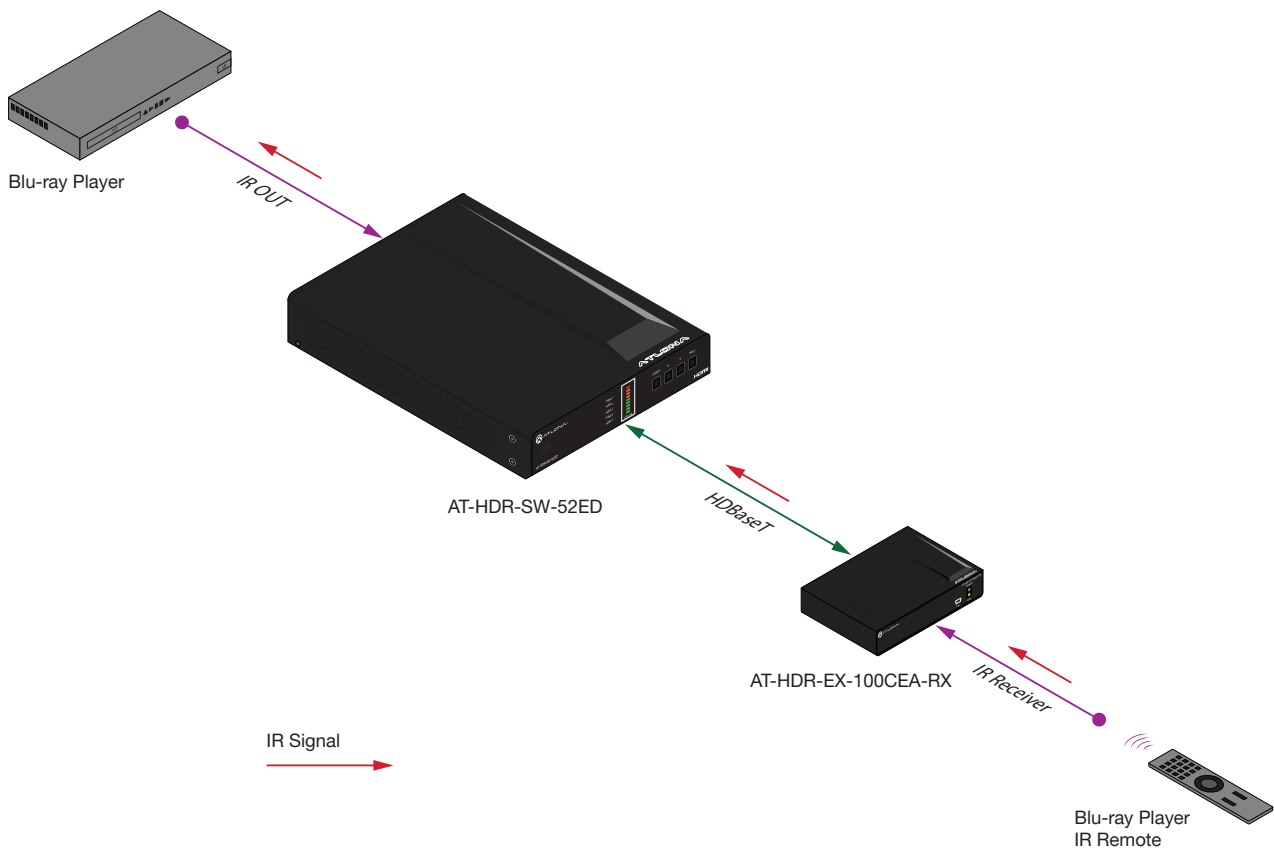


Controlling Source Devices

1. Remove at least 3/16" (5 mm) of insulation from the wire leads.
2. Connect the included 5-pin captive screw connector to the **IR IN/OUT** port of the AT-HDR-SW-52ED. The included captive screw connector should be wired as shown.



3. Connect the IR emitter to the receiver and place the emitter next to the display (sink) device, as shown in the illustration below.
4. Place the IR emitter next to the source device, as shown in the illustration below.



Display Control

The AT-HDR-SW-52ED provides three protocols for display control: CEC, RS-232, and IP. No external control system is required. Each of these methods will be covered in this section.



IMPORTANT: The AT-HDR-SW-52ED **Switching Mode** must be set to **Mirrored**. Display control is not supported under **Matrix Mode**. Refer to **Switching Modes (page 18)** for more information.

Using CEC

Consumer Electronics Control* (CEC) is the simplest method of control when working with a display. The **POWER** button, on the front panel of the AT-HDR-SW-52ED, can be programmed to toggle power on the display, allowing for convenient remote control of the display device. Note that the display must have CEC enabled to receive CEC messages. Both the **HDMI OUT** and **HDBaseT OUT** ports can be used for CEC control. If using CEC control over HDBaseT, connect the HDMI cable from the receiver to the display.

**Atlona has confirmed proper CEC functionality with several current models of Samsung, Panasonic, and Sony displays. However, it is not guaranteed that CEC will work with all displays. Many manufacturers do not support the CEC "off" command, and older displays use proprietary commands. Atlona only supports displays that use the CEC command structure defined in HDMI 1.2a. It is recommended that dealers request an evaluation product from Atlona, before designing a system using the CEC protocol. If this is not possible, then other control methods will need to be considered, in order to control displays using Atlona products.*

1. Connect an HDMI cable from the **HDMI OUT** port on the AT-HDR-SW-52ED (or receiver) to the HDMI input on the display device.
2. Enable CEC on the display device. Refer to the documentation for the display device. It should be noted that different manufacturers will identify CEC with their own brand name. Refer to the table below.

Manufacturer	CEC Designation
Hitachi	HDMI-CEC
LG	SIMPLINK
Philips	EasyLink
Samsung	AnyNet+
Sony	BRAVIA Sync
Toshiba	CE Link / REGZA Link
Visio	HDMI-CEC

3. Log in to the web server.
4. Click **A/V Settings** in the menu bar.
5. Verify that the **Switching Mode** is set to **Mirrored**. Display control is *not supported* under **Matrix Mode**.

Mirrored Mode:

This mode is designed for applications where users want to route the same source on both outputs.

Note:

Once a matrix switch option is selected, the display control will no longer work.

Switching Mode

Mirrored ▼

Input Selection

Mirrored
Matrix Mode

- Click **Display** in the menu bar.
- Under **System Settings**, click the **Control Type** drop-down list and select **CEC**. This is the default control method.

System Settings

Display Auto Power	Active Video Presence ▾
Auto power off timer	15 Seconds ▾
Lamp cool down timer	10 Seconds ▾
Display Warm-Up Timer	10 Seconds ▾
Control Type	CEC ▾

- Under the **CEC** section, near the top of the page, test the CEC commands for power, volume, and input by clicking the associated buttons. The display should respond correctly to each of these commands.

CEC

CEC Command - HDBaseT Output

Power

Volume

Input

CEC Command - HDMI Output

Power

Volume

Input

- CEC on/off commands could be triggered with video presence or no video.

- CEC commands could also be triggered with APIs: TrigCEC on/off/vol+/vol-/input

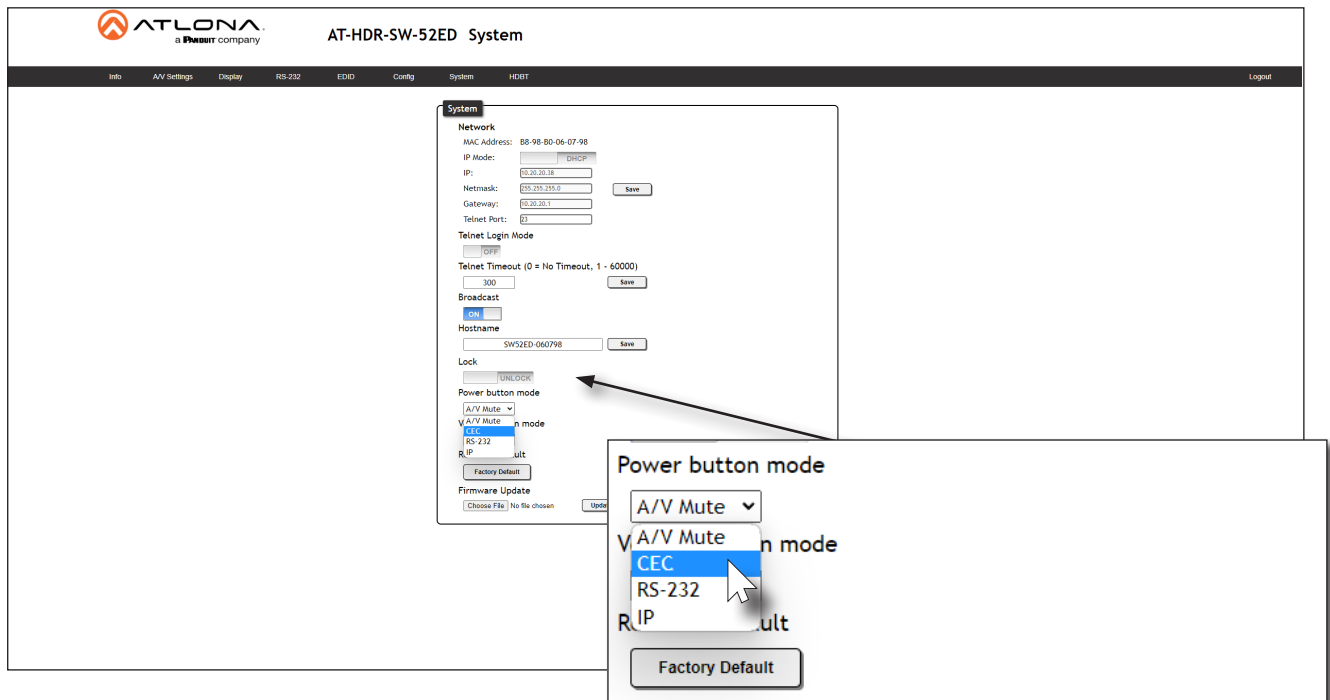
If the display does not respond, check the following:

- Verify that CEC is enabled on the display device.
- Verify the integrity of the HDMI cable. Try connecting a different cable between the AT-HDR-SW-52ED and the display device.
- If the display is connected to a receiver, such as the AT-HDR-EX-100CEA-RX, check both the HDMI cable from the receiver and the category cable between the **HDBaseT OUT** port on the AT-HDR-SW-52ED and the HDBaseT IN port on the receiver.
- Try connecting the HDMI cable to a different HDMI input on the display device.

Optional CEC Front Panel Button Control

To send power and volume commands to the display, using the **POWER** and **VOLUME** buttons on the front panel, following the instructions below:

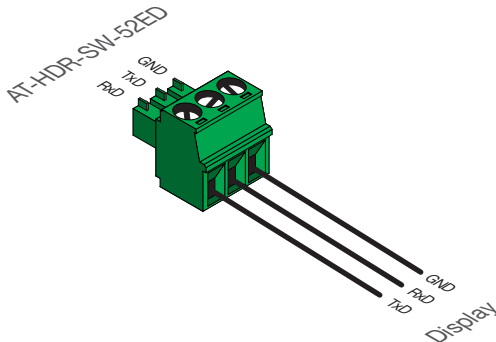
1. Click **System** in the menu bar.
2. Click the **Power button mode** drop-down list and select **CEC**.



3. To control volume on the display, click the **Volume button mode** drop-down list and select **CEC**.

RS-232 Configuration

1. Connect a serial cable from the **RS-232** port on the AT-HDR-EX-100CEA-RX, or compatible receiver, to the RS-232 port on the display. The included 3-pin captive screw connector should be wired as shown.



2. Log in to the web server.
3. Click **A/V Settings** in the menu bar.
4. Set the **Switching Mode** to **Mirrored**. Display control is *not supported* under **Matrix Mode**.

Mirrored Mode:

This mode is designed for applications where users want to route the same source on both outputs.

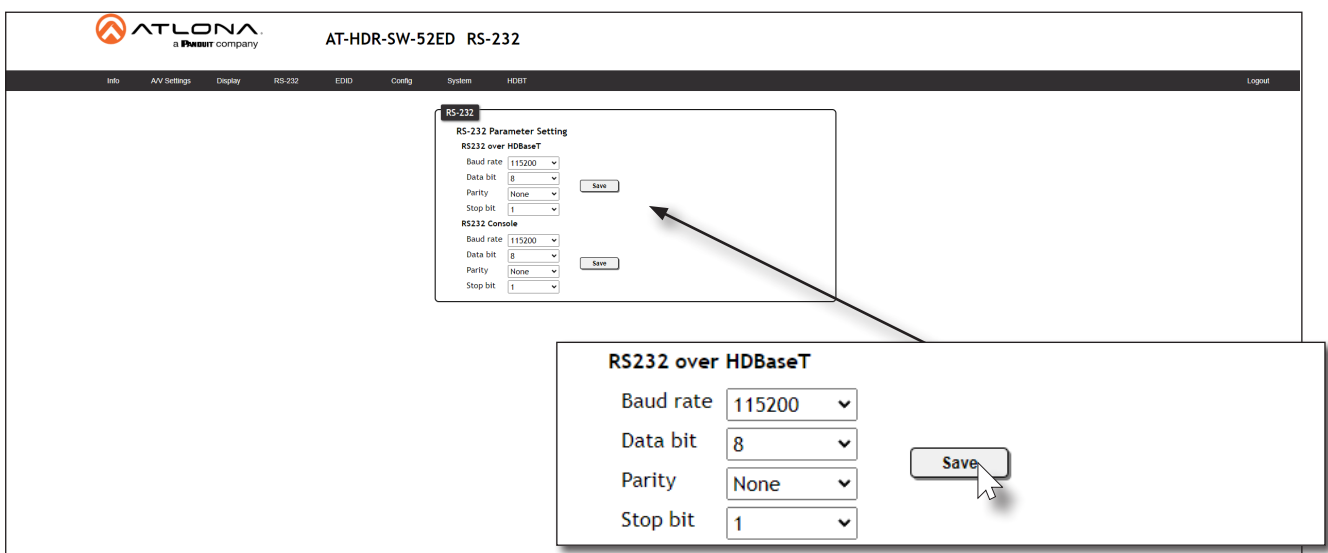
Note:

Once a matrix switch option is selected, the display control will no longer work.

Switching Mode Mirrored ▼

Input Selection Mirrored
Matrix Mode

5. Click **RS-232** in the menu bar.
6. Set the RS-232 settings for the display (sink) device, under the **RS232 over HDBaseT** section. These settings must match the device settings for the display. Refer to the User Manual of the display device for more information.



RS-232

RS-232 Parameter Setting

RS232 over HDBaseT

Baud rate: 115200 ▼

Data bit: 8 ▼

Parity: None ▼

Stop bit: 1 ▼

RS232 Console

Baud rate: 115200 ▼

Data bit: 8 ▼

Parity: None ▼

Stop bit: 1 ▼

RS232 over HDBaseT

Baud rate: 115200 ▼

Data bit: 8 ▼

Parity: None ▼

Stop bit: 1 ▼

Save

- Click **Display** in the menu bar.
- Under **System Settings**, click the **Control Type** drop-down list and select RS-232.

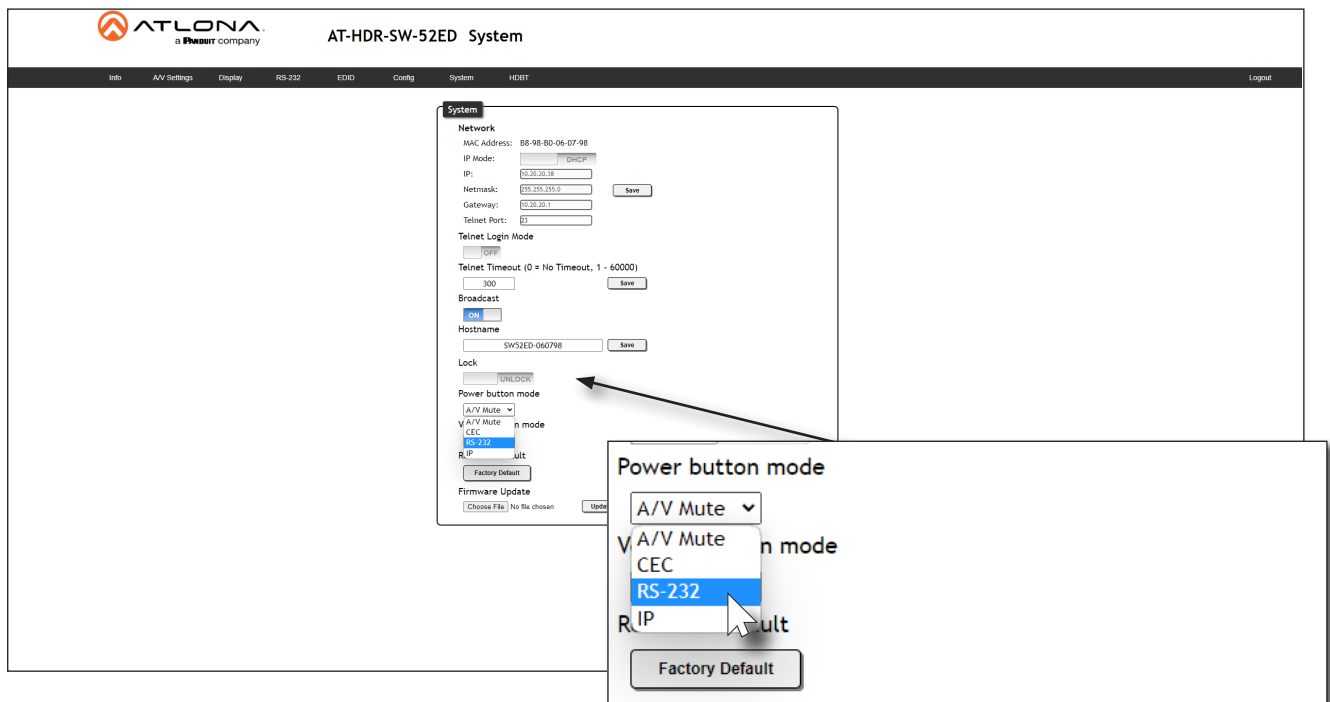
System Settings

Display Auto Power	Active Video Presence ▼
Auto power off timer	15 Seconds ▼
Lamp cool down timer	10 Seconds ▼
Display Warm-Up Timer	10 Seconds ▼
Control Type	RS-232 ▼

Optional RS-232 Front Panel Button Control

To send power and volume commands to the display, using the **POWER** and **VOLUME** buttons on the front panel, following the instructions below:

- Click **System** in the menu bar.
- Click the **Power button mode** drop-down list and select RS-232.



The screenshot shows the AT-LONA AT-HDR-SW-52ED System web interface. The 'System' settings page is displayed, with the 'Power button mode' dropdown menu open. The 'RS-232' option is selected. The 'Factory Default' button is also visible.

- To control volume on the display, click the **Volume button mode** drop-down list and select RS-232.

IP Configuration

Instead of using a serial cable to send commands, this method uses an Ethernet cable to send commands from the AT-HDR-SW-52ED to the display device over the network.

1. Connect the display to the LAN.
2. Log in to the web server.
3. Click **A/V Settings** in the menu bar.
4. Set the **Switching Mode** to *Mirrored*. Display control is *not supported* under *Matrix Mode*.
5. Click **Display** in the menu bar.
6. Under **System Settings**, click the **Control Type** drop-down list and select *IP*.

System Settings

Display Auto Power	<input type="text" value="Active Video Presence"/>
Auto power off timer	<input type="text" value="15 Seconds"/>
Lamp cool down timer	<input type="text" value="10 Seconds"/>
Display Warm-Up Timer	<input type="text" value="10 Seconds"/>
Control Type	<input type="text" value="IP"/>

7. Under **TCP/IP Settings of Controlled Device**, click the **IP Mode** drop-down list and select the desired mode. Selecting *Login* will display the **Username** and **Password** fields. If no login credentials are required, select the *Non-Login* option.
8. Enter the IP address of the display in the **IP Address** field.
9. Enter the port number in the **Port** field.
10. Enter the username and password in the **Username** and **Password** fields, respectively. This option is only required if the **IP Mode** is set to *Login*.

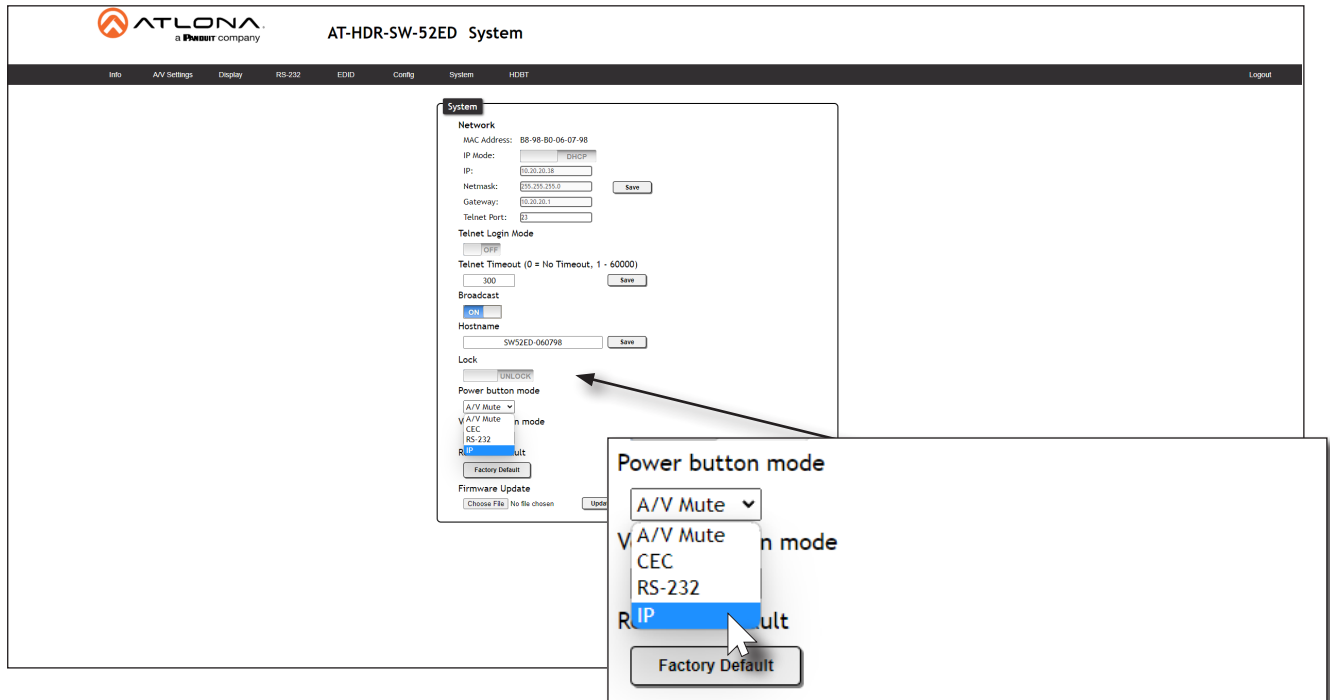
TCP/IP Settings of Controlled Device

IP Mode	<input type="text" value="Login"/>
IP Address	<input type="text" value="192.168.1.1"/>
Port	<input type="text" value="23"/>
Username	<input type="text" value="username"/>
Password	<input type="password" value="....."/>

Optional IP Front Panel Button Control

To send power and volume commands to the display, using the **POWER** and **VOLUME** buttons on the front panel, following the instructions below:

1. Click **System** in the menu bar.
2. Click the **Power button mode** drop-down list and select **IP**.

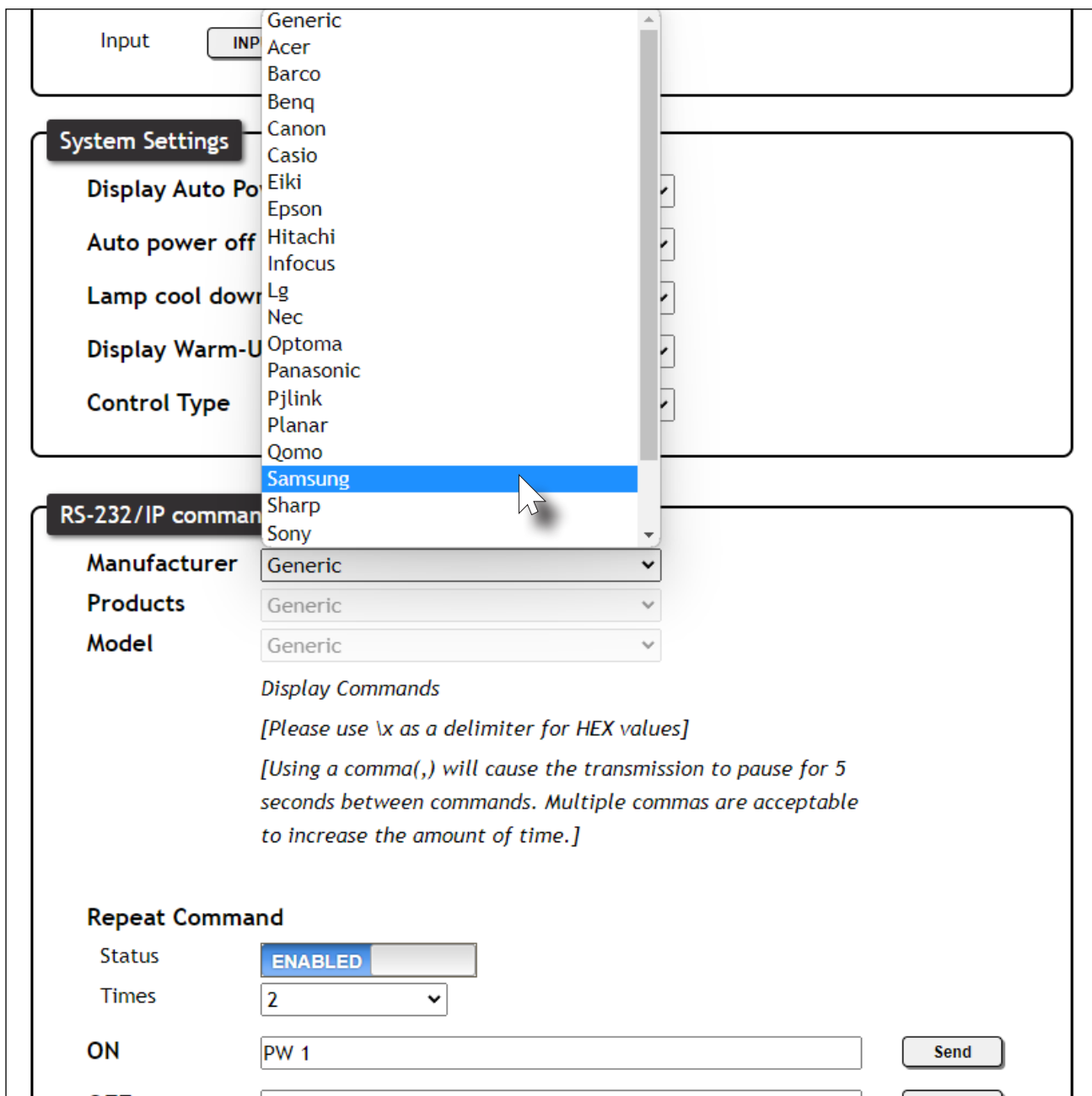


3. To control volume on the display, click the **Volume button mode** drop-down list and select **IP**.

Completing RS-232 or IP Configuration

Once RS-232 or IP control has been configured, the commands for power, volume, muting, and volume will need to be assigned.

1. Scroll down to the bottom of the page and locate the **RS-232 / IP commands** section.
2. Click the **Manufacturer** drop-down list and select the manufacturer of the device that is being controlled. In the example below, **Samsung** is selected.



The screenshot shows a web-based configuration interface. On the left, there are several sections: 'Input' (set to INP), 'System Settings' (with sub-sections for Display Auto Po, Auto power off, Lamp cool down, Display Warm-U, and Control Type), and 'RS-232/IP commands'. The 'Manufacturer' dropdown menu is open, showing a list of manufacturers including Generic, Acer, Barco, Benq, Canon, Casio, Eiki, Epson, Hitachi, Infocus, Lg, Nec, Optoma, Panasonic, Pjlink, Planar, Qomo, Samsung (highlighted in blue), Sharp, and Sony. Below the dropdown, the 'Manufacturer' field is set to 'Generic', and the 'Products' and 'Model' fields are also set to 'Generic'. The 'Repeat Command' section shows 'Status' as 'ENABLED' and 'Times' as '2'. At the bottom, there are input fields for 'ON' (containing 'PW 1') and 'OFF', and a 'Send' button.



NOTE: If the manufacturer is not listed in the drop-down list, then select **Generic**. When **Generic** is selected, the **Products** and **Model** drop-down lists will be disabled.

3. Continue fine-tuning the device selection by clicking the **Products** and **Model** drop-down lists. Once all fields have been set to the proper values, the AT-HDR-SW-52ED will populate the command fields with the proper values, based on the selected device.
4. Some devices may require that the command be sent multiple times before an acknowledge message is received from the display. Refer to the User Manual for the display device for more information. If the command must be repeated, continue with the following steps. Otherwise, skip to Step 5.
 - a. Under **Repeat Command**, click the **Status** toggle switch to the `ENABLED` position.
 - b. Click the **Times** drop-down list and select the number of times which the command must be sent to the device, before an acknowledge message is returned. The available values are 2, 3, and 4.

RS-232/IP commands

Manufacturer

Products

Model

Display Commands

[Please use \x as a delimiter for HEX values]

[Using a comma(,) will cause the transmission to pause for 5 seconds between commands. Multiple commas are acceptable to increase the amount of time.]

Repeat Command

Status **ENABLED**

Times

ON	<input type="text" value="01\xBB"/>	<input type="button" value="Send"/>
OFF	<input type="text" value="\xAA\x11\xFE\x01\x00\xBA"/>	<input type="button" value="Send"/>
Volume+	<input type="text"/>	<input type="button" value="Send"/>
Volume-	<input type="text"/>	<input type="button" value="Send"/>
Mute	<input type="text" value="\xAA\x13\xFE\x01\x00\xBC"/>	<input type="button" value="Send"/>
Mute on	<input type="text" value="\xAA\x13\xFE\x01\x01\xBD"/>	<input type="button" value="Send"/>
Mute off	<input type="text"/>	<input type="button" value="Send"/>

5. If **Generic** was selected as the manufacturer, then manually enter the required strings for each operation. Refer to the next page for information on formatting command strings.

HEX Command Strings

- a. Enter the hexadecimal command string in the correct field. An example *power-on* command for a display might be:

```
\xBE\xEF\x03\x06\x00\xBA\xD2\x01\x00\x00\x60\x01\x00\x0D
```

This command would be entered in the **ON** field. Consult the documentation for the display for the correct command strings.

- b. Make sure the command string is terminated correctly. In most cases, a CR (carriage return) should be specified. In the example above, `\x0D` is the hexadecimal value for a carriage return.

ASCII Command Strings

- a. Enter the ASCII command string in the correct field. An example *power-on* command for a display might be:

```
PWON
```

This command would be entered in the **ON** field. Consult the documentation for the display for the correct command strings.

6. Click the **Send** button to verify that each command works properly. If not, check the values entered for each command.
7. Click the **Save** button to commit all changes.

EDID Management

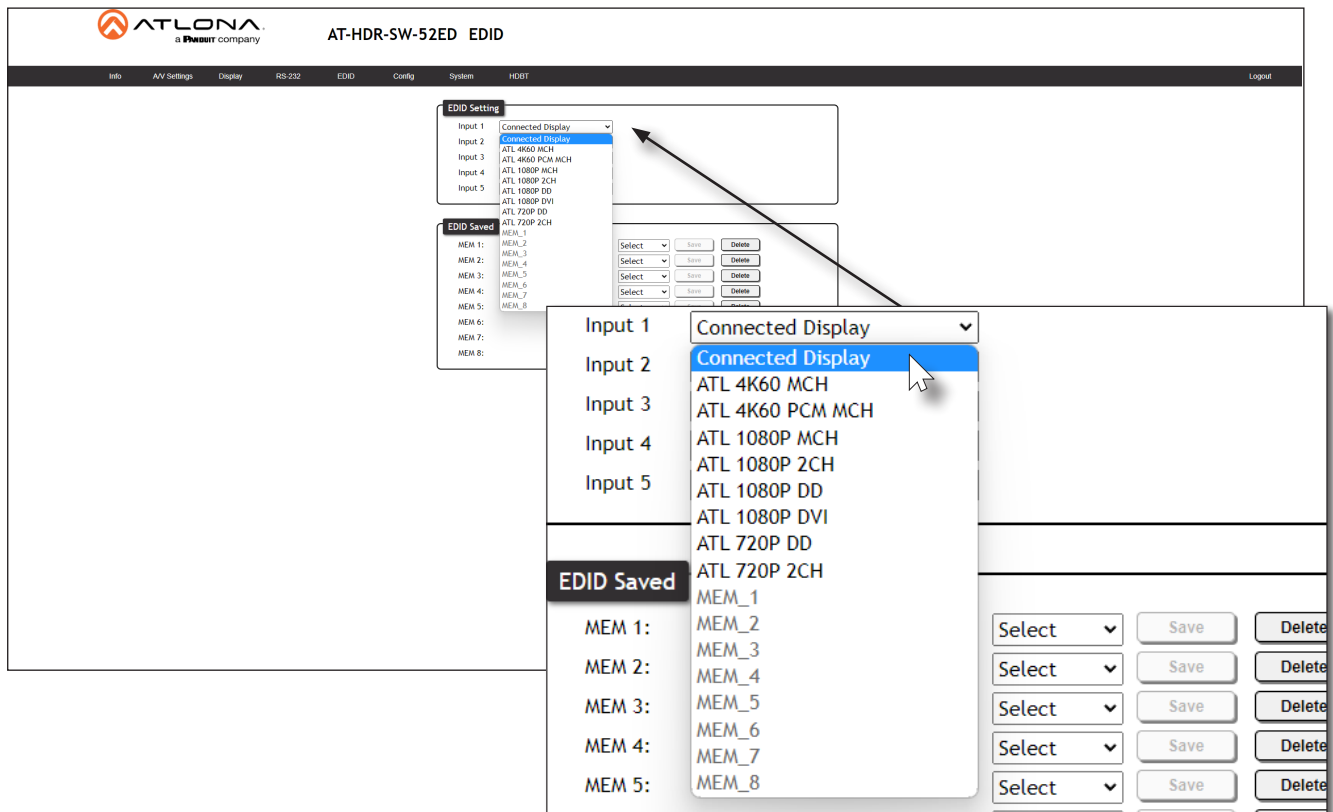
Before a source can send picture and sound to a display device, the source reads the EDID (Extended Display Identification Data) stored in the display. The EDID contains information about what type of video and audio formats are supported by the display. The AT-HDR-SW-52ED can use either the downstream EDID (from the display/sink) or use a built-in EDID preset. EDID data can also be stored in any of eight EDID presets. This section will cover each of the following topics:

- Using the Downstream EDID
- EDID Presets
- Storing EDID Data

Using the Downstream EDID

By default, the AT-HDR-SW-52ED will read the EDID from the display device. The term “downstream” is used to describe any device that receives a signal from another device. For example, if a Blu-ray player is connected to a display, the display is said to be “downstream” of the Blu-ray player.

1. Log in to the web server.
2. Click **EDID** in the menu bar.
3. Locate the **EDID Settings** section.
4. Click the drop-down list, next to the input that is connected to the source device, and select **Connected Display**. For example, if **HDMI IN 1** is connected to a source, click the **Input 1** drop-down list and select **Connected Display**. The source device will read the EDID of the connected display and determine all supported video and audio formats.



EDID Presets

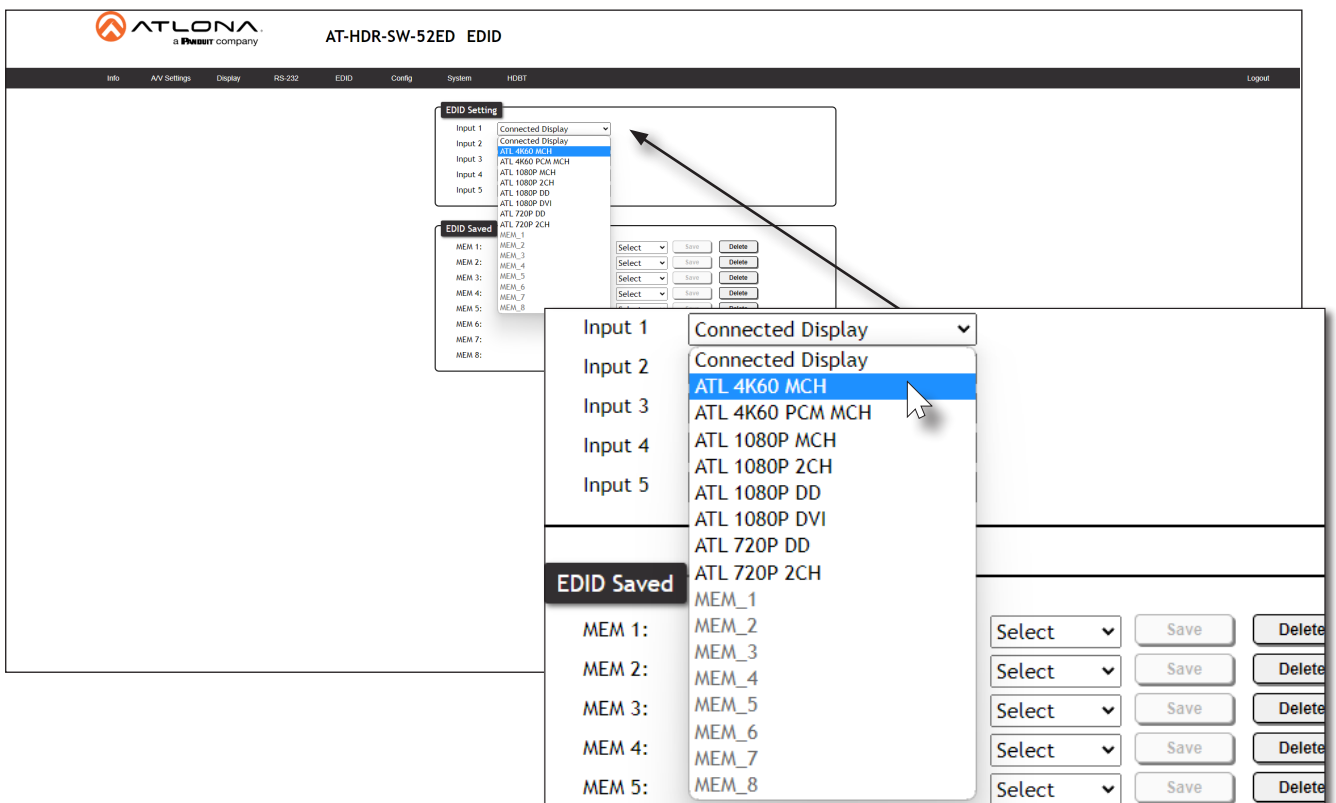
The AT-HDR-SW-52ED provides the option of selecting a preset EDID. The following presets are available.

EDID	Description
Connected Display (Default)	Uses the downstream EDID of the connected display
ATL 4K60 MCH	3840 x 2160 (UHD) with multichannel audio support
ATL 4K60 PCM MCH	3840 x 2160 (UHD) with PCM multichannel audio support
ATL 1080P MCH	1920 x 1080p with multichannel audio support
ATL 1080P 2CH	1920 x 1080p with two-channel audio support
ATL 1080P DD	1920 x 1080p with Dolby™ Digital audio support
ATL 1080P DVI	1920 x 1080p for DVI displays
ATL 720P DD	1280 x 720p with Dolby™ Digital audio support
ATL 720P 2CH	1280 x 720p with two-channel audio support

1. Log in to the web server.
2. Click **EDID** in the menu bar.
3. Locate the **EDID Settings** section.
4. Click the drop-down list, next to the port that is connected to the source device, and select the desired EDID preset. For example, if **HDMI IN 1** is connected to the source, click the **Input 1** drop-down list and select the desired EDID. The source device will use the selected EDID to determine all supported video and audio formats.



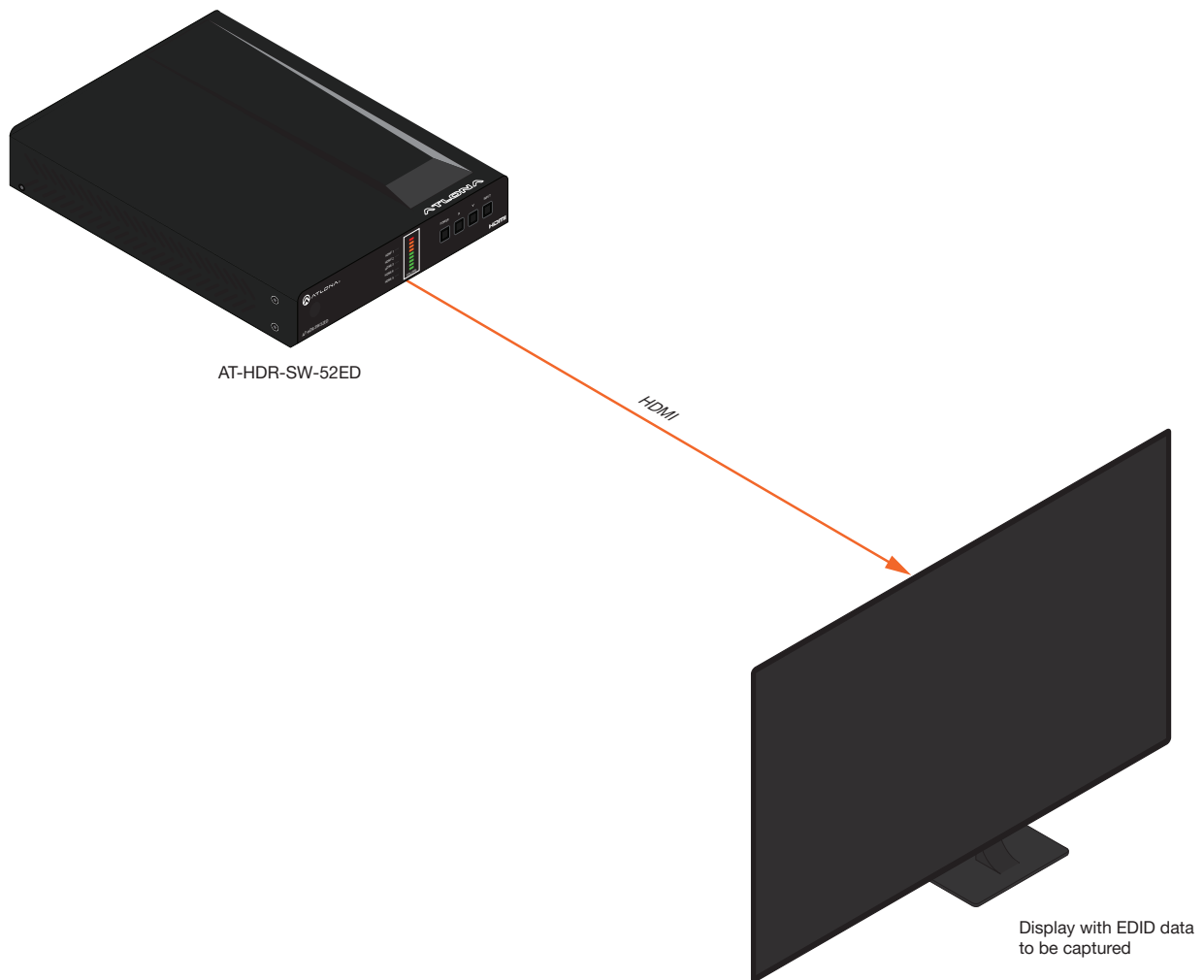
IMPORTANT: If problems are encountered when using an EDID preset, it is recommended that the input be set to *Connected Display*. Not all displays will support all video and audio formats in a given EDID preset.



Storing EDID Data

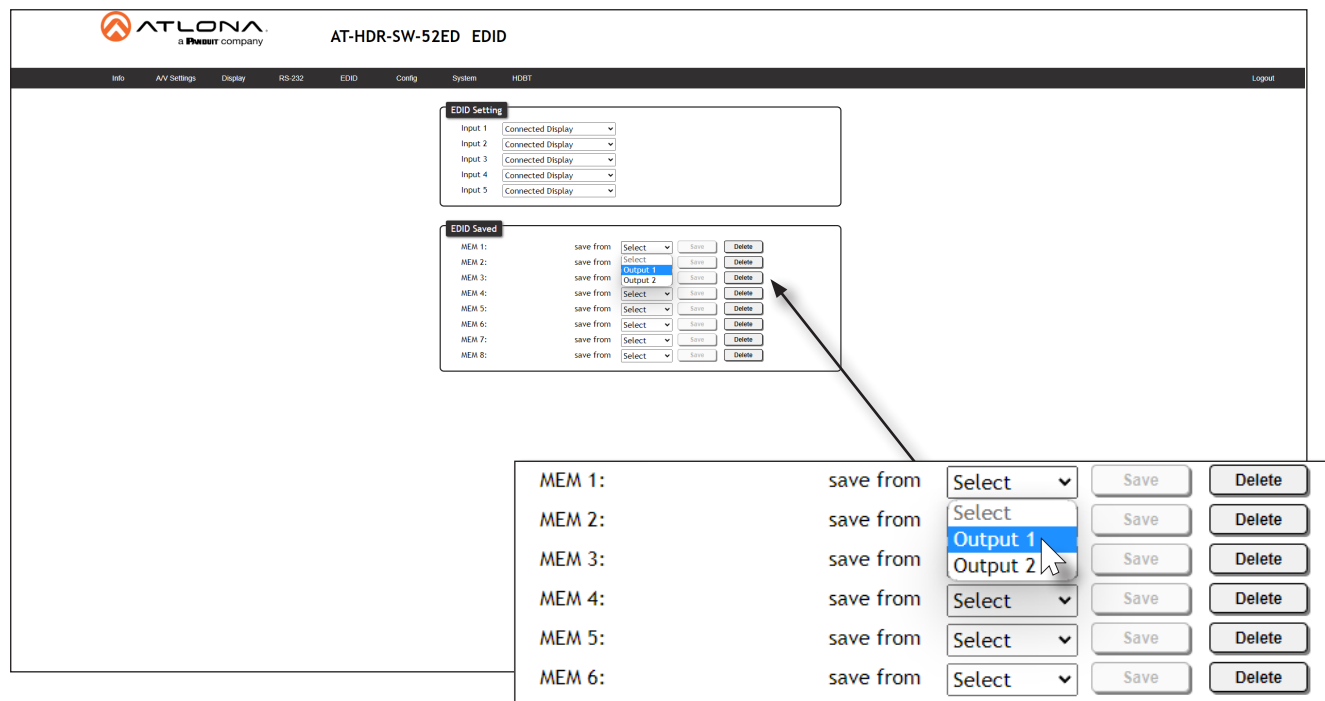
The AT-HDR-SW-52ED provides eight memory locations which can be used to store EDID data. Any downstream EDID can be captured and stored in these locations. Each memory location is non-volatile and captured EDID data is stored after power is disconnected from the unit.

1. Connect an HDMI cable from either **HDMI OUT** port on the AT-HDR-SW-52ED to the HDMI input on the display, containing the EDID to be stored.
2. Log in to the web server.



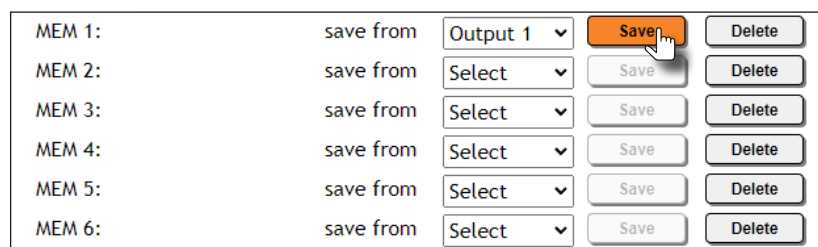
3. Click **EDID** in the menu bar.
4. Locate the **EDID Saved** section.
5. Click the drop-down list, next to the memory location to be used, and select the output which will be used to fetch the EDID. Refer to the next page for more information.

In this example, **MEM 1** (memory 1) will be used to store the EDID. Since the display is connected to the **HDMI OUT 1** port on the AT-HDR-SW-52ED, **Output 1** is selected from the **MEM 1** drop-down list.



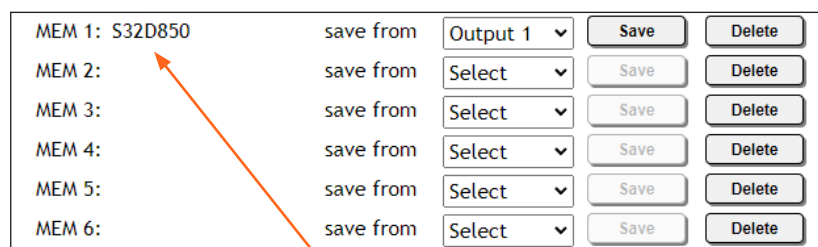
Memory	save from	Save	Delete
MEM 1:	Select	Save	Delete
MEM 2:	Select	Save	Delete
MEM 3:	Output 1	Save	Delete
MEM 4:	Output 2	Save	Delete
MEM 5:	Select	Save	Delete
MEM 6:	Select	Save	Delete
MEM 7:	Select	Save	Delete
MEM 8:	Select	Save	Delete

6. Click the **Save** button next to the drop-down list for the memory location.



MEM 1:	save from	Output 1	Save	Delete
MEM 2:	save from	Select	Save	Delete
MEM 3:	save from	Select	Save	Delete
MEM 4:	save from	Select	Save	Delete
MEM 5:	save from	Select	Save	Delete
MEM 6:	save from	Select	Save	Delete

7. The saved EDID will appear next to the memory location, as shown below.



MEM 1: S32D850	save from	Output 1	Save	Delete
MEM 2:	save from	Select	Save	Delete
MEM 3:	save from	Select	Save	Delete
MEM 4:	save from	Select	Save	Delete
MEM 5:	save from	Select	Save	Delete
MEM 6:	save from	Select	Save	Delete

Saved EDID

8. Click any of the input drop-down list boxes. Note that the stored EDID appears as an available EDID preset for each available input on the AT-HDR-SW-52ED.

Input 1	Connected Display	
Input 2	Connected Display	
Input 3	ATL 4K60 MCH	
Input 4	ATL 4K60 PCM MCH	
Input 5	ATL 1080P MCH	
	ATL 1080P 2CH	Saved EDID
	ATL 1080P DD	
	ATL 1080P DVI	
	ATL 720P DD	
	ATL 720P 2CH	
EDID Saved	S32D850	
MEM 1:	MEM_2	Output 1
MEM 2:	MEM_3	Select
MEM 3:	MEM_4	Select
MEM 4:	MEM_5	Select
MEM 5:	MEM_6	Select
MEM 6:	MEM_7	Select
	MEM_8	Select
	save from	
		Save
		Delete
		Save
		Delete
		Save
		Delete
		Save
		Delete
		Save
		Delete

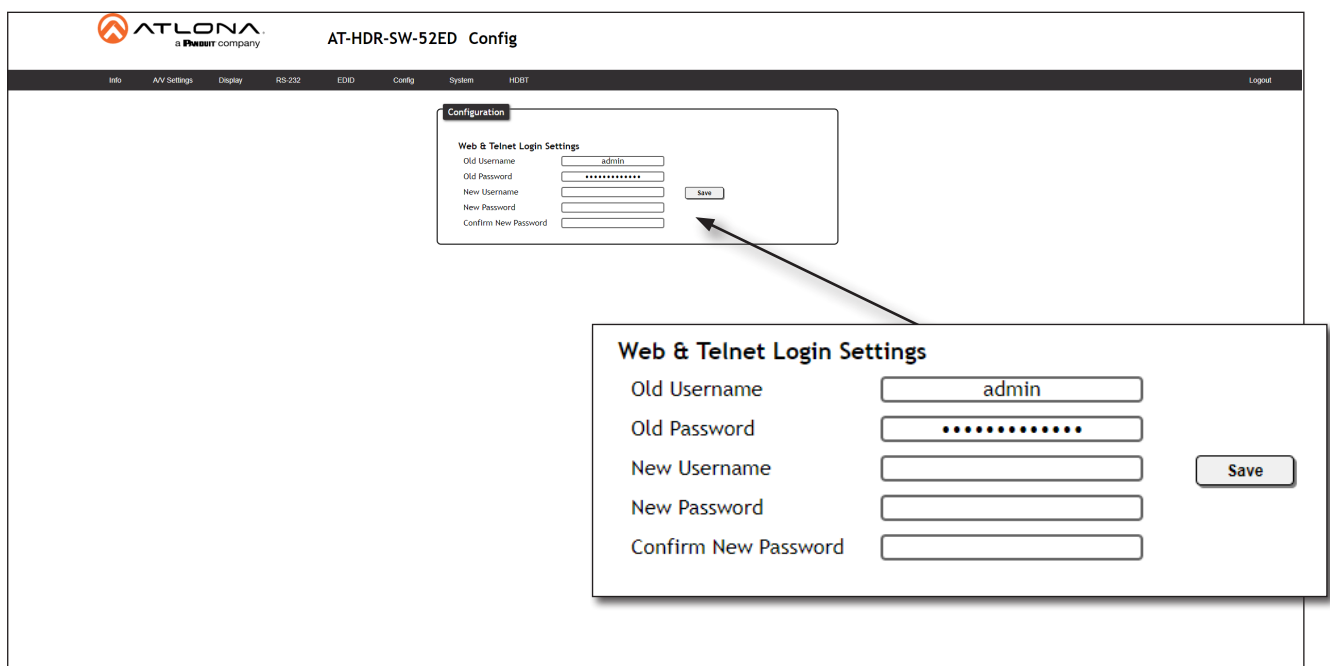


NOTE: Once an EDID is written to a memory location, it can be overwritten with a different EDID, when desired. To overwrite an EDID with a different EDID, repeat steps 5 through 7, above.

User Management

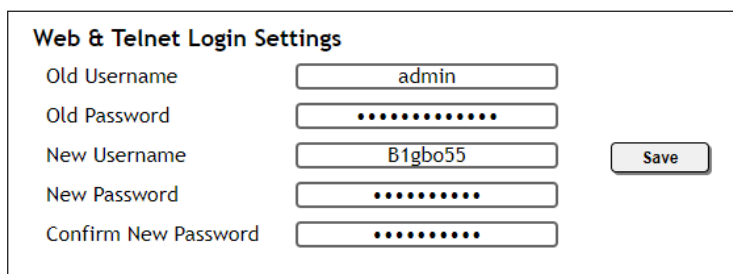
The AT-HDR-SW-52ED allows the login credentials to be changed. The username and password applies to both the web server and Telnet sessions.

1. Log in to the web server.
2. Click **Config** in the menu bar.
3. Click the **Old Username** field and enter the current username.
4. Click the **Old Password** field and enter the current password.



The screenshot shows the AT-HDR-SW-52ED Config page. The 'Web & Telnet Login Settings' form is highlighted. The fields are: Old Username (admin), Old Password (masked), New Username, New Password, and Confirm New Password. A 'Save' button is present. An arrow points from a larger, detailed view of the form to the main screenshot.

5. Enter the new username in the **New Username** field.
6. Enter the new password in the **New Password** field.
7. Retype the new password in the **Confirm New Password** field.



The detailed view of the 'Web & Telnet Login Settings' form shows the following values: Old Username: admin, Old Password: masked, New Username: B1gbo55, New Password: masked, and Confirm New Password: masked. A 'Save' button is visible.



NOTE: Password fields will always be masked for security purposes.

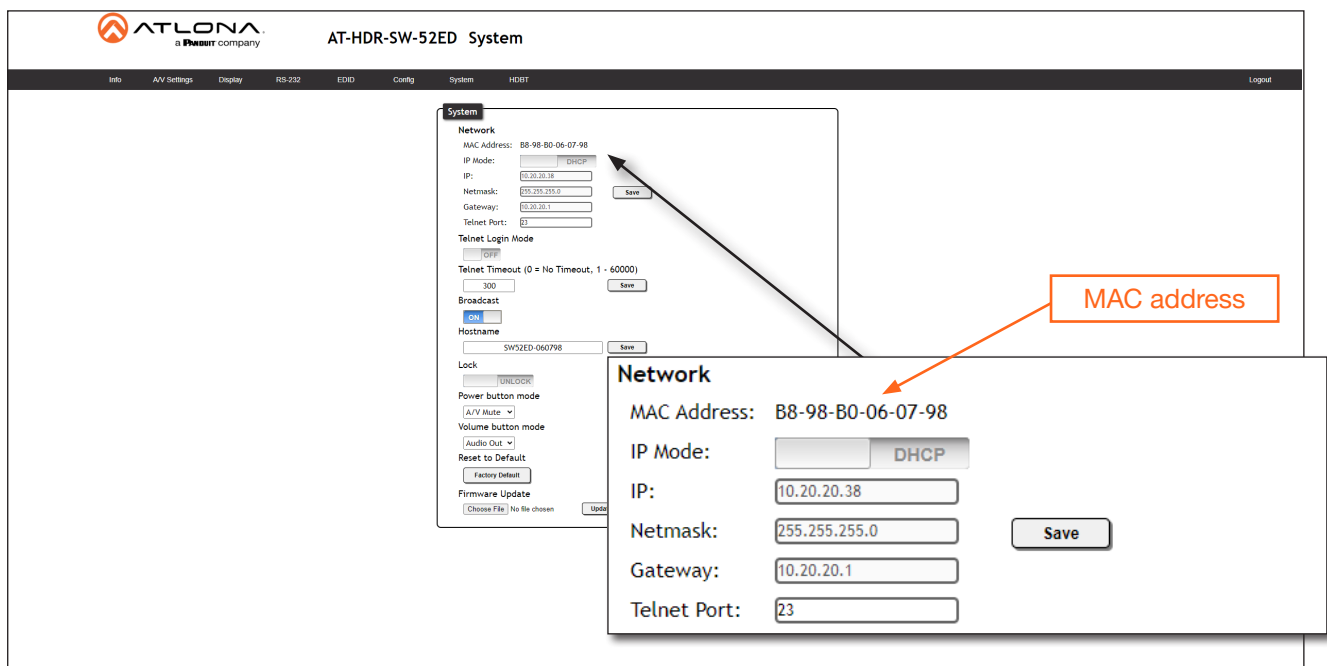
8. Click the **Save** button to commit changes. To login with the new username and password, click **Logout** in the upper-right corner of the screen, then enter the new login credentials on the **Login** page.

System Configuration

The AT-HDR-SW-52ED provides easy access to system configuration through the built-in web server, and is the recommended method to adjust network settings.

Getting the MAC Address

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Locate the MAC address field, as shown below. This is the hardware address of the AT-HDR-SW-52ED.



Changing the Network IP Mode

By default, the AT-HDR-SW-52ED is set to DHCP mode. Once connected to a network, and if a DHCP server is found (or available), the AT-HDR-SW-52ED will be assigned an IP address on the network, and no further network configuration is required. However, if the AT-HDR-SW-52ED is unable to detect a DHCP server within 15 seconds, then the unit will use a self-assigned IP address within the range of 169.254.xxx.xxx/16. The instructions below will focus on setting the AT-HDR-SW-52ED to static IP mode.



IMPORTANT: Before assigning a static IP address to the AT-HDR-SW-52ED, it is recommended to consult with the network or system administrator and obtain a available IP address. Assigning the AT-HDR-SW-52ED to an IP address which is already in use can result in network issues or difficulty in accessing the AT-HDR-SW-52ED.

1. Log in to the web server.
2. Click **System** in the menu bar.

3. Locate the **IP Mode** toggle switch. The default setting of this toggle switch is `DHCP`.
4. Click this toggle switch to set it to `STATIC IP`.
5. Enter the desired IP address for the AT-HDR-SW-52ED in the **IP** field.
6. Enter the subnet mask and gateway (router) address in the **Netmask** and **Gateway** fields, respectively.
7. Click the **Save** button to commit changes. Changes will take effect immediately.

Network

MAC Address: B8-98-B0-06-07-98

IP Mode: **STATIC IP** DHCP

IP:

Netmask:

Gateway:

Telnet Port:

Changing the Telnet Port

Typically, the Telnet service is assigned to TCP port 23. This is the default setting for the AT-HDR-SW-52ED. However, depending upon the network environment, the default Telnet port can be changed. The Telnet port can be changed independently of the IP mode.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Locate the **Telnet Port** field and enter the desired port in the field.
4. Click **Save** to commit changes.

Network

MAC Address: B8-98-B0-06-07-98

IP Mode: STATIC IP **DHCP**

IP:

Netmask:

Gateway:

Telnet Port:

Telnet Login Mode

When a Telnet session is requested, the AT-HDR-SW-52ED provides the option to prompt for user credentials or bypass authentication before the Telnet session begins. This credentials prompt option can be enabled or disabled. When prompting for user credentials, use the same login information required by the built-in web server.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Click the **Telnet Login Mode** toggle switch. Set this toggle switch to **ON** to prompt for user credentials. Set this toggle switch to **OFF** to bypass the request for user credentials request.
4. Click **Save** to commit changes.

Network

MAC Address: B8-98-B0-06-07-98

IP Mode: **DHCP**

IP:

Netmask:

Gateway:

Telnet Port:

Telnet Login Mode

OFF

Telnet Timeout

If there is no activity within a specified amount of time, during a Telnet session, the session can automatically be closed. By default, the AT-HDR-SW-52ED will close a Telnet session after 300 seconds of inactivity. If this field is set to 0, then the timeout interval is infinite.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Enter the desired timeout value, in seconds. The following integer values can be specified: 0 - 60000.
4. Click **Save** to commit changes.

Network

MAC Address: B8-98-B0-06-07-98

IP Mode: **DHCP**

IP:

Netmask:

Gateway:

Telnet Port:

Telnet Login Mode

OFF

Telnet Timeout (0 = No Timeout, 1 - 60000)

Broadcast

This feature determines whether or not systems changes are announced over TCP/IP connections to any listening devices.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Click the **Broadcast** toggle switch to the desired setting.

Setting	Description
ON	System changes will be announced over TCP/IP connections to any device that has a TCP/IP connection to the AT-HDR-SW-52ED. This is the default setting.
OFF	Only the device that is sending the commands will receive feedback from the commands or any system changes. Read queries, such as the <code>IPCFG</code> and <code>Type</code> commands, are not announced and will only return information to the requester.

4. Click **Save** to commit changes.

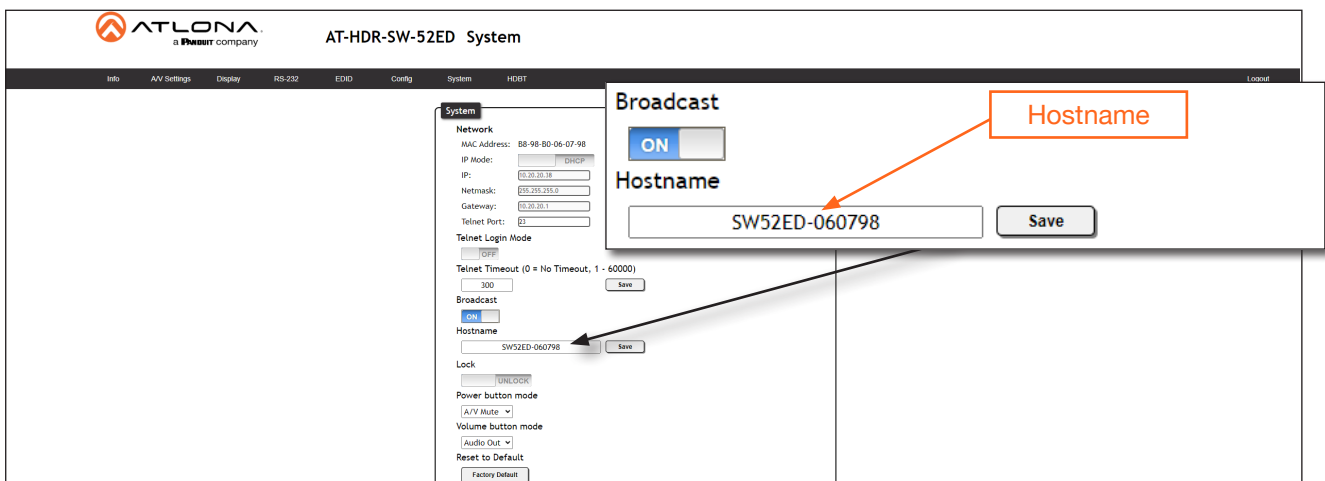
Setting the Host Name

By default, the AT-HDR-SW-52ED is assigned a hostname, which is constructed as follows:

SW52ED-[last six digits of MAC address]

For example, a default hostname might look like this: SW52ED-074431. This value can be changed to easily identify the AT-HDR-SW-52ED within Velocity Device Manager or on a network. The hostname cannot exceed 15 characters in length.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Click the **Hostname** field and enter the desired name.
4. Click **Save** to commit changes.

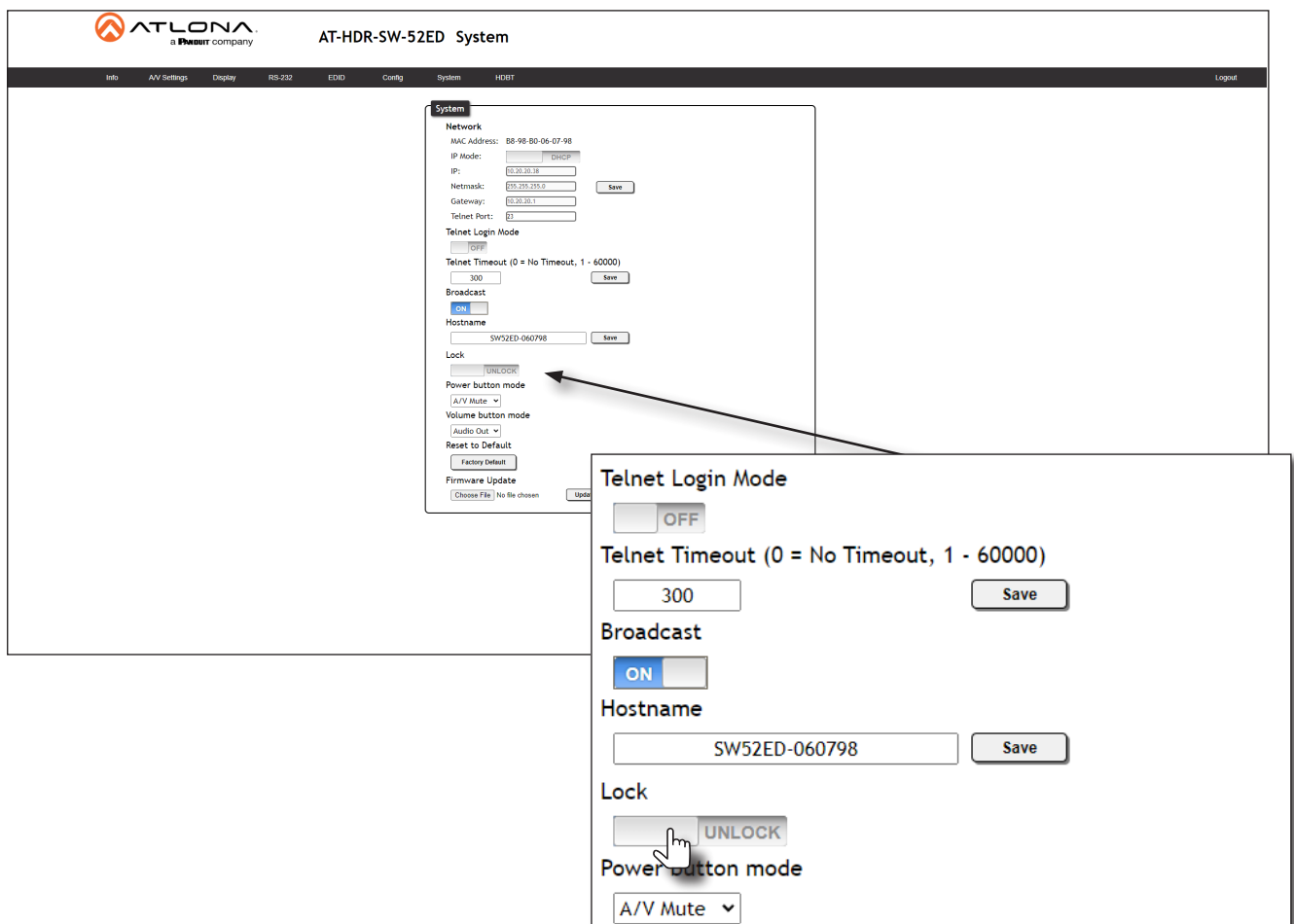


The screenshot shows the AT-HDR-SW-52ED System configuration page. The 'System' menu is selected, and the 'Broadcast' and 'Hostname' settings are highlighted with a red box. The 'Broadcast' toggle is set to 'ON'. The 'Hostname' field contains the value 'SW52ED-060798'. A red arrow points from the 'Hostname' label to the text field, and another red arrow points from the 'Save' button to the 'Save' button. The 'Save' button is highlighted with a red box.

Locking / Unlocking the Front Panel

To prevent accidental pressing of the front panel buttons, the front panel buttons can be locked. This may be desirable if, for example, the AT-HDR-SW-52ED is installed in a rack environment. By default, the front panel buttons are unlocked.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Click the **Lock** toggle switch to toggle between values. When set to **LOCK**, all buttons on the front panel will remain disabled until the toggle switch is set to **UNLOCK**.



The screenshot displays the web interface for the AT-HDR-SW-52ED System. The main configuration area is titled "System" and includes several sections:

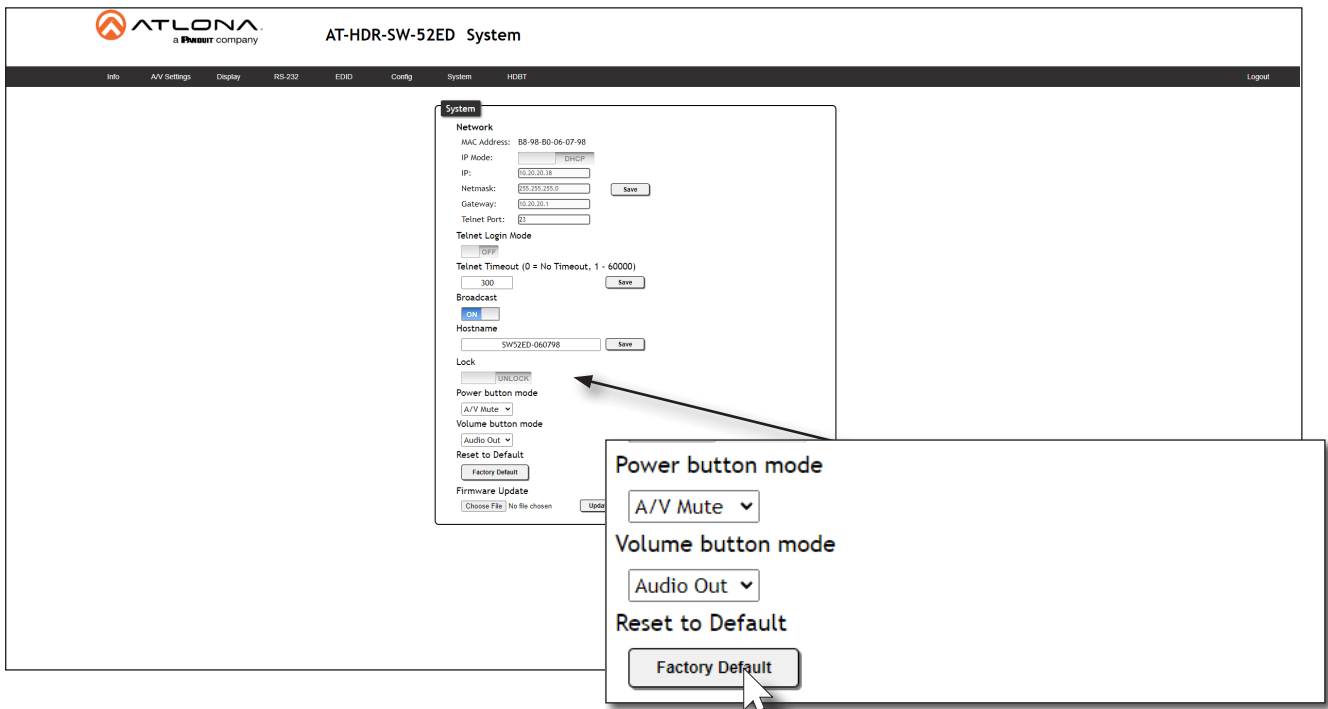
- Network:** MAC Address: 88-98-80-06-07-98, IP Mode: DHCP, IP: 192.168.1.8, Netmask: 255.255.0.0, Gateway: 192.168.1.1, Telnet Port: 23.
- Telnet Login Mode:** OFF, Telnet Timeout (0 = No Timeout, 1 - 60000): 300.
- Broadcast:** ON.
- Hostname:** SW52ED-060798.
- Lock:** UNLOCK (highlighted by a callout box).
- Power button mode:** A/V Mute.
- Volume button mode:** Audio Out.
- Reset to Default:** Factory Default.
- Firmware Update:** Choose File, No file chosen, Update.

A callout box titled "Telnet Login Mode" is overlaid on the interface, showing a detailed view of the "Lock" toggle switch. The toggle is currently set to "UNLOCK", and a hand cursor is pointing at it. Other settings visible in the callout include "Telnet Login Mode" (OFF), "Telnet Timeout (0 = No Timeout, 1 - 60000)" (300), "Broadcast" (ON), "Hostname" (SW52ED-060798), and "Power button mode" (A/V Mute).

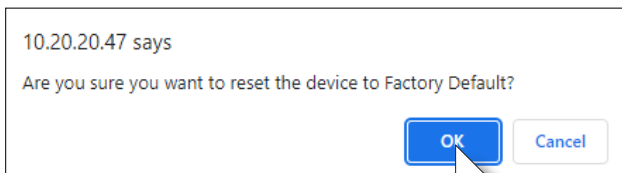
Resetting to Factory-Default Settings

The following procedure will reset the AT-HDR-SW-52ED to factory-default settings. The network IP mode will be set to DHCP mode.

1. Log in to the web server.
2. Click **System** in the menu bar.
3. Click the **Factory Default** button.



4. The following message will be displayed at the top of the screen. Click **OK** to continue with the factory-default reset procedure. Click **Cancel** to abort the process.



5. Once the factory-default process is complete, the web server **Login** screen will be displayed.

Configuration and Management Interfaces

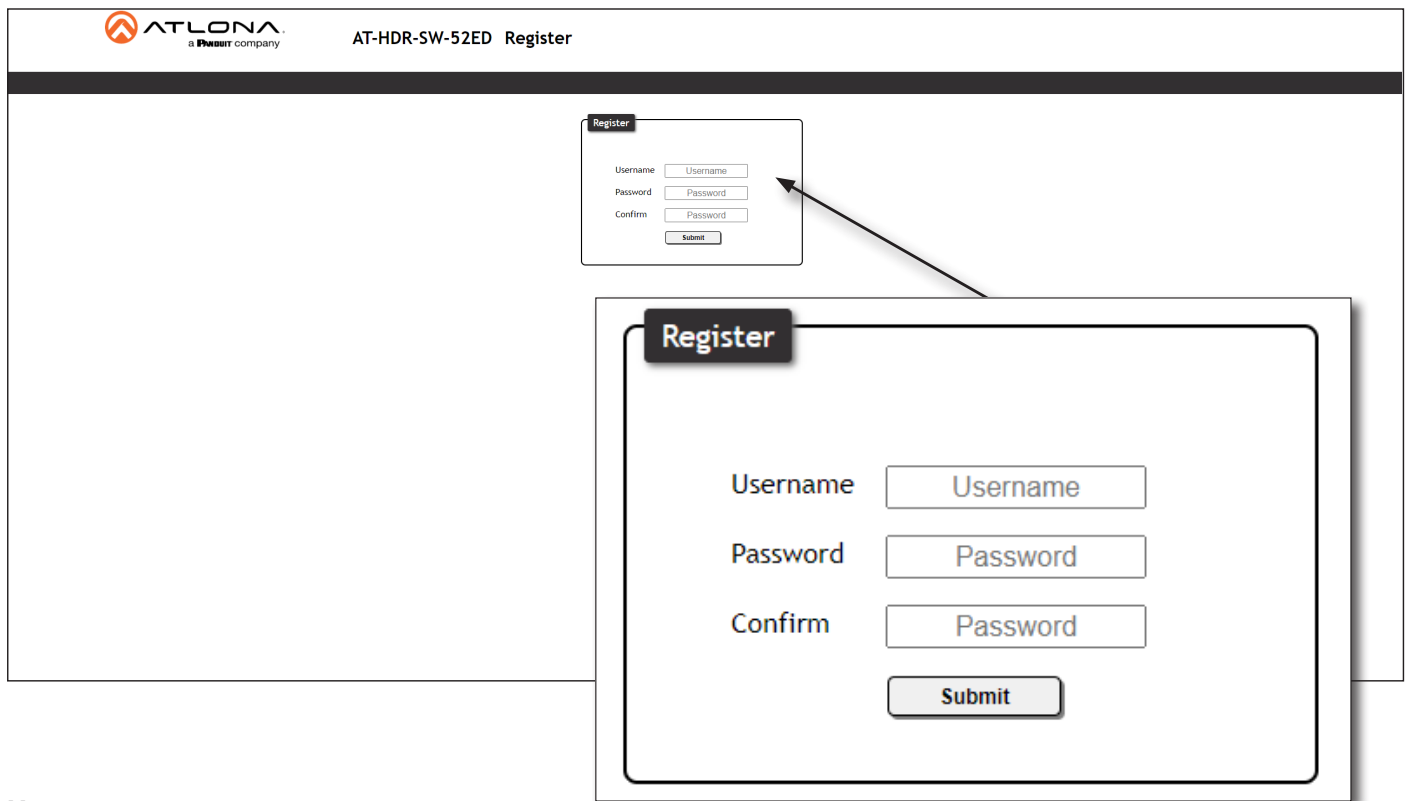
Web Server

The AT-HDR-SW-52ED includes a built-in web server. Atlona recommends that the web server be used to set up the AT-HDR-SW-52ED, as it provides intuitive management of all features. Refer to [Logging in after Registration \(page 17\)](#) for more information.

The AT-HDR-SW-52ED is shipped with DHCP enabled. Once connected to a network, the DHCP server will automatically assign an IP address to the unit. Use an IP scanner to determine the IP address of the AT-HDR-SW-52ED. If a DHCP server cannot be located within 15 seconds, the AT-HDR-SW-52ED will be placed in [Automatic Private IP Addressing \(APIPA\) Mode \(page 14\)](#). If a static IP address is desired, refer to [IP Configuration \(page 12\)](#).

Register page

This page is displayed when the AT-HDR-SW-52ED web server is launched for the first time.



Username

Enter the desired username in this field.

Password

Enter the desired password in this field.

Confirm

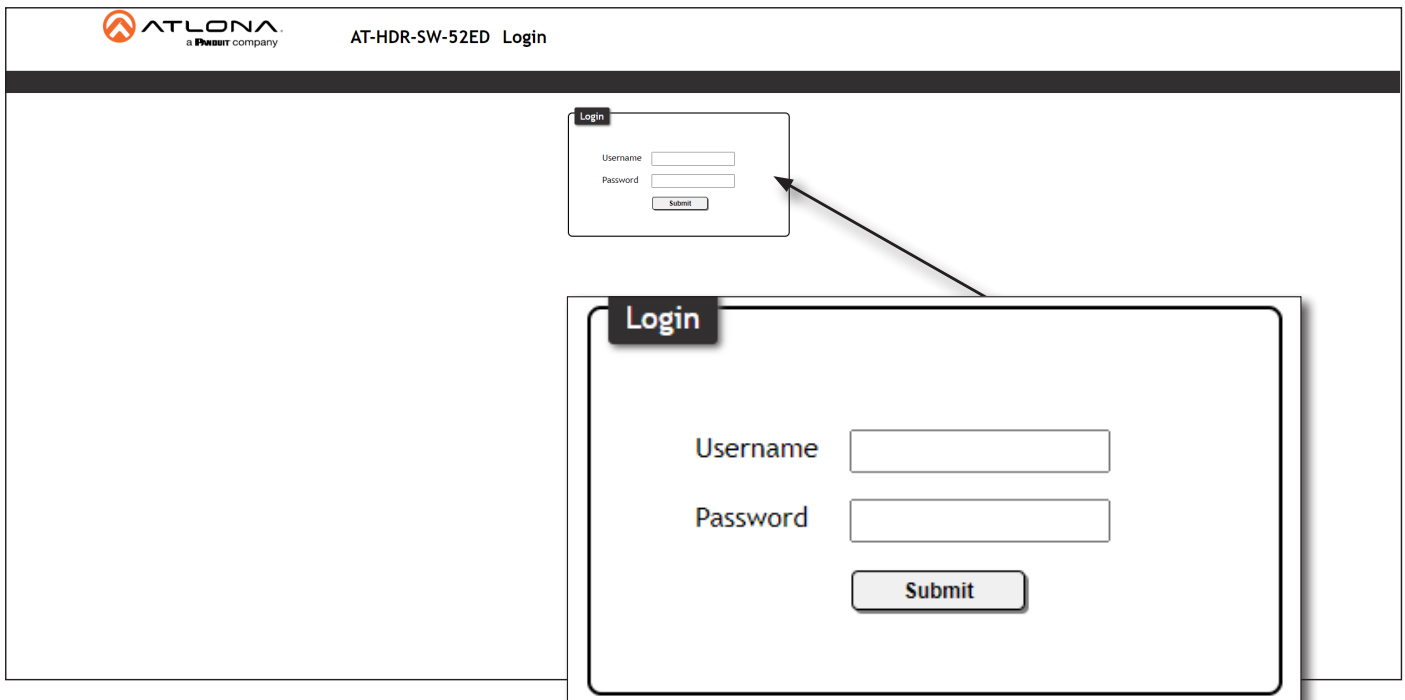
Re-enter the desired password in this field.

Submit

Click this button to register the username and password with the AT-HDR-SW-52ED.

Configuration and Management Interfaces

Login page



The screenshot shows the login page for AT-HDR-SW-52ED. The page header includes the ATLONA logo and the text "AT-HDR-SW-52ED Login". The main content area contains a login form with the following elements:

- Login** (tab)
- Username
- Password
-

A callout box highlights the login form, showing a larger view of the fields and the Submit button.

Username

Enter the username in this field.

Password

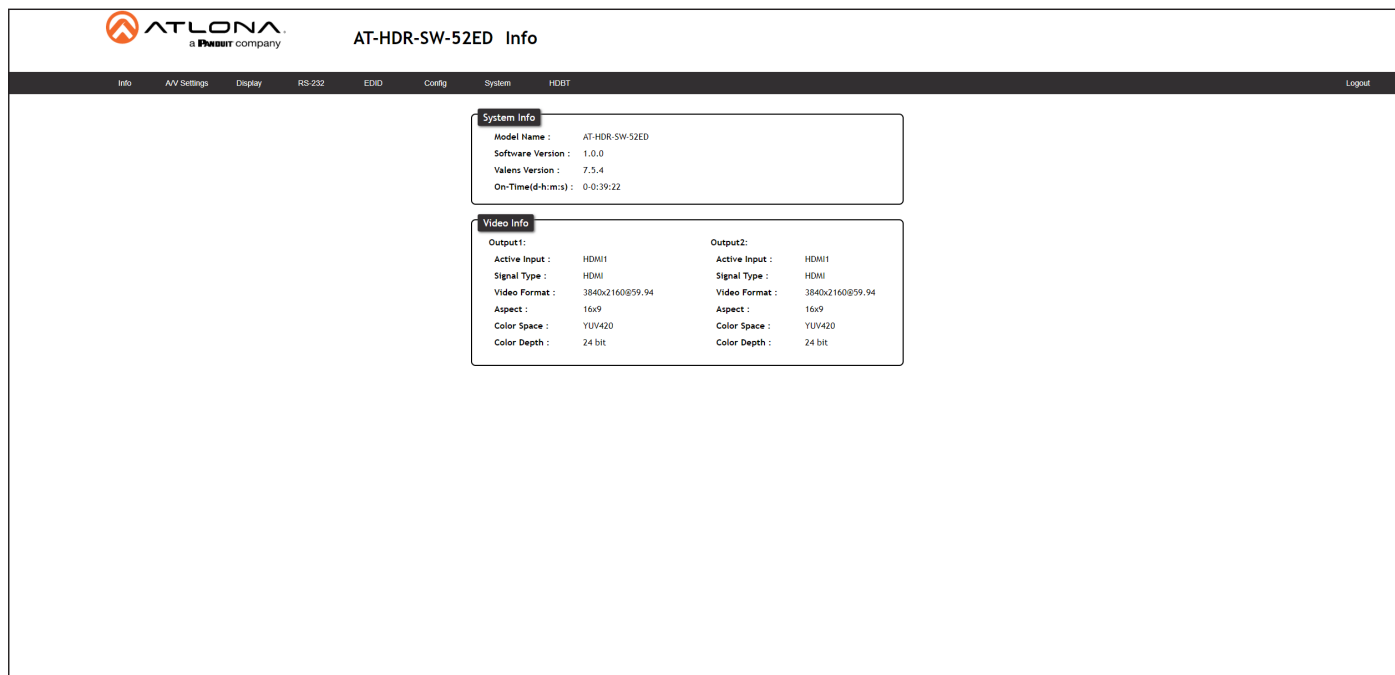
Enter the password in this field.

Submit

Click this button to log in.

Configuration and Management Interfaces

Info page



The screenshot shows the 'AT-HDR-SW-52ED Info' page. It features a navigation bar with tabs: Info, AV Settings, Display, RS-232, EDID, Config, System, and HDBT. The main content area is divided into two sections:

- System Info:**
 - Model Name : AT-HDR-SW-52ED
 - Software Version : 1.0.0
 - Valens Version : 7.5.4
 - On-Time(d-h:m:s) : 0-0:39:22
- Video Info:**

Output1:		Output2:	
Active Input :	HDMI1	Active Input :	HDMI1
Signal Type :	HDMI	Signal Type :	HDMI
Video Format :	3840x2160@59.94	Video Format :	3840x2160@59.94
Aspect :	16x9	Aspect :	16x9
Color Space :	YUV420	Color Space :	YUV420
Color Depth :	24 bit	Color Depth :	24 bit

System Info

Model Name

The model SKU of this product.

Software Version

The version of firmware that the AT-HDR-SW-52ED is running. Always make sure to check the AT-HDR-SW-52ED product page, on the Atlona web site, for the latest version of firmware.

Valens Version

The version of Valens firmware for the HDBaseT chip.

On-Time (d-h:m:s)

Displays the amount of time elapsed since the unit was powered.

Video Info

Displays signal information for both the HDMI output (Output 1) and HDBaseT output (Output 2).

Active Input

The input signal port name.

Signal Type

The type of input signal.

Video Format

The input resolution of the source device.

Aspect

Aspect ratio of the input signal.

Color Space

Displays the color space and chroma sub-sampling of the input signal.

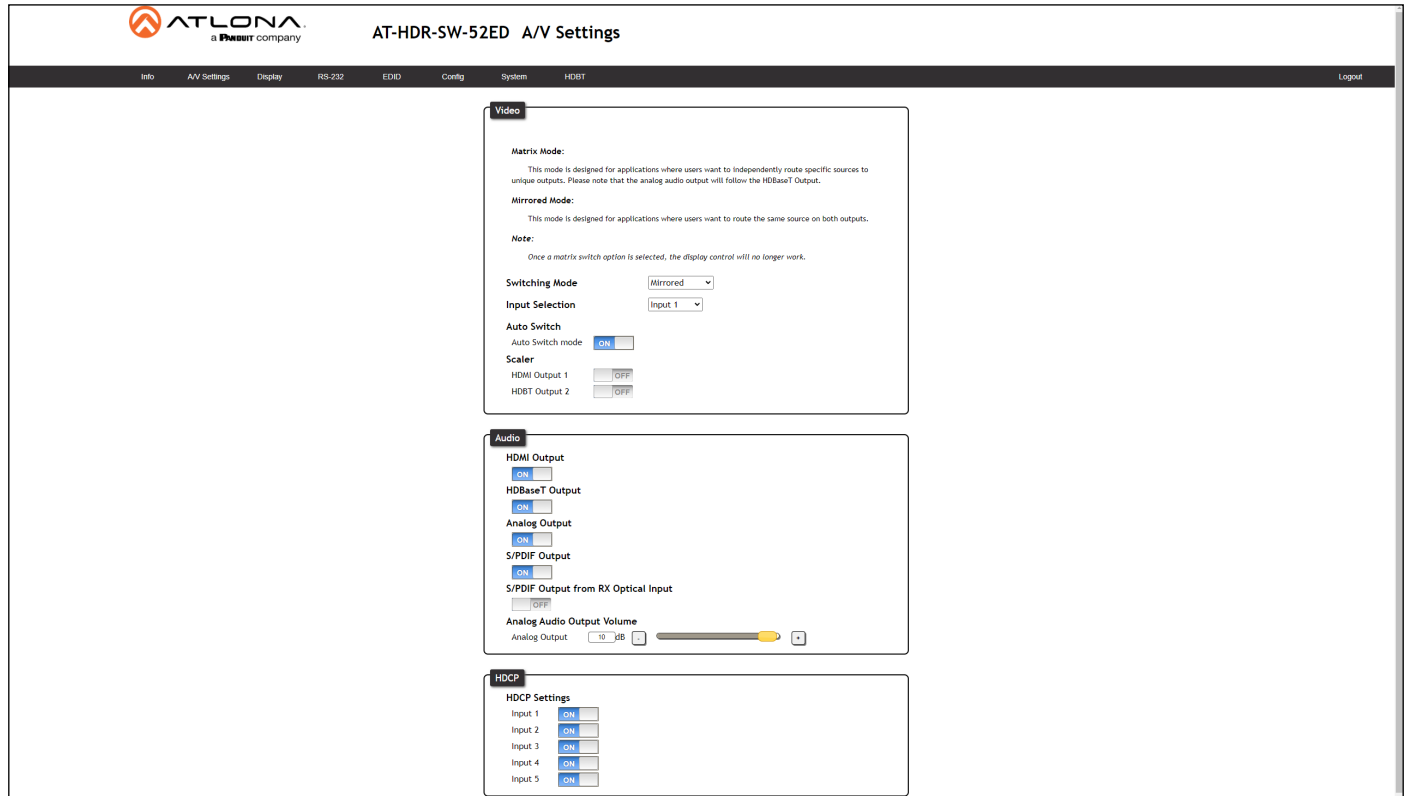
Color Depth

The color depth of the input signal.

Configuration and Management Interfaces

A/V Settings page

The **A/V Settings** page is divided into three sections: **Video**, **Audio**, and **HDCP**. The **Video** section provides controls for switching modes and input selection. The **Audio** section provides options to control the output audio volume and de-embedding. The **HDCP** section controls whether or not HDCP content is allowed to pass.



Video

Switching Mode

Click this drop-down list to manually select the switching mode. Refer to [Switching Modes \(page 18\)](#) for more information.

Setting	Description
Mirrored	This is the default switching mode. Once video is detected on any of the input ports, the output signal will be displayed on <i>both</i> HDMI OUT and HDBaseT OUT ports.
Matrix Mode	This mode allows the AT-HDR-SW-52ED to independently switch between any input to any output.

Input Selection

Click this drop-down list to manually select the desired input.

Setting	Description
Input 1	Sets HDMI IN 1 as the active input.
Input 2	Sets HDMI IN 2 as the active input.
Input 3	Sets HDMI IN 3 as the active input.
Input 4	Sets HDMI IN 4 as the active input.
Input 5	Sets HDMI IN 5 as the active input.

Configuration and Management Interfaces

Auto Switch

Click this toggle switch to enable or disable Auto Switching. When enabled, the AT-HDR-SW-52ED will automatically switch to the another input, if the signal is disrupted on the currently active input.



NOTE: Auto Switching is only available when the **Switching Mode** is set to **Mirrored**.

Scaler

Click these toggle switches to enable or disable the scaler pass-through feature for the HDMI outputs. When set to the **ON** position, 4K content will be down-scaled to 1080p. When set to the **OFF** position, the output resolution / timing will be the same as the input source. The default setting is **OFF**.

Audio

HDMI Output

Set this toggle to the **OFF** position to mute the audio on the **HDMI OUT** port.

HDBaseT Output

Set this toggle to the **OFF** position to mute the audio on the **HDBaseT OUT** port.

Analog Output

Click this toggle switch enable or disable audio output on the **L/R** port.

S/PDIF Output

Click this toggle switch enable or disable audio output on the **S/PDIF OUT** port.

S/PDIF Output from RX Optical Input

Click this toggle switch enable or disable audio output on the **S/PDIF OUT**, received from the optical input on the receiver.

Analog Audio Output Volume

Click and drag this slider to adjust the audio volume on the **L/R** port.

HDCP

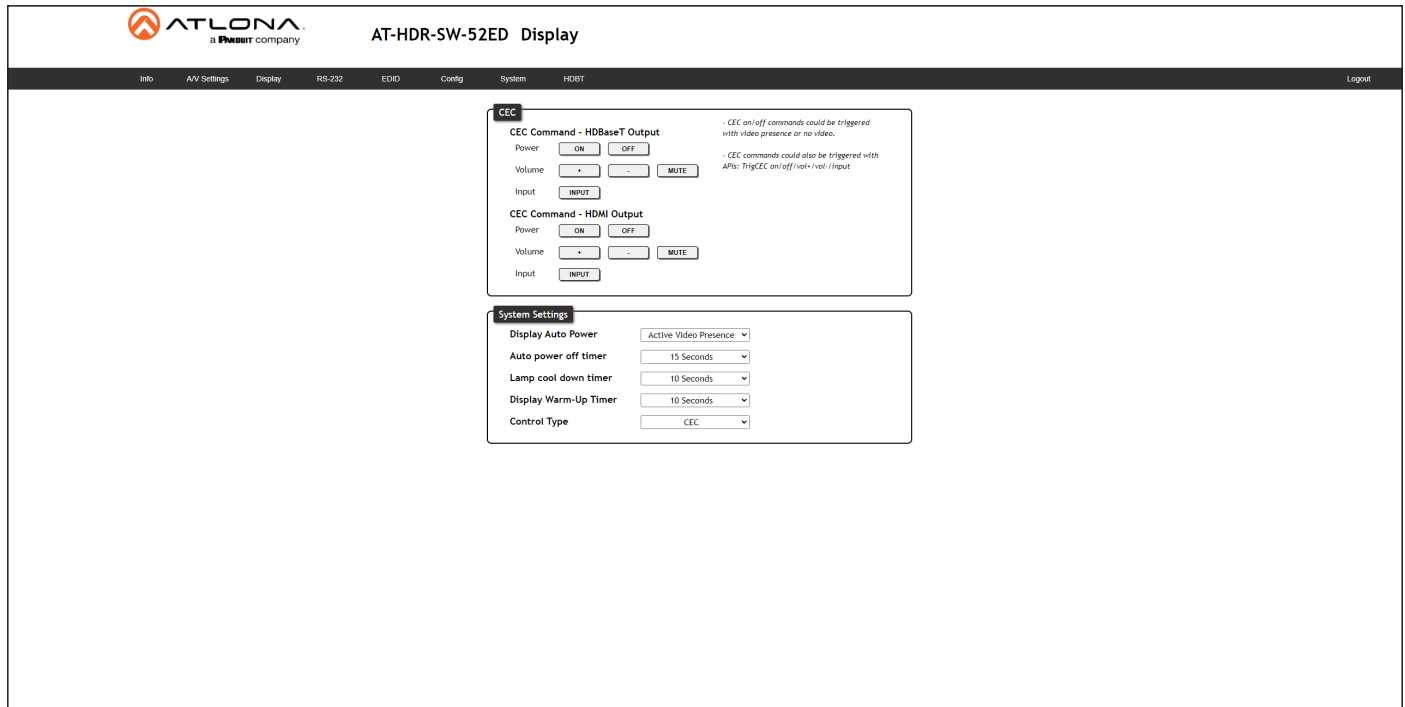
Each input provides control of how HDCP content is handled. Some source devices will send HDCP content if an HDCP-compliant display (sink) is detected. However, there may be applications where sending HDCP content is not desired. Setting the port to the **OFF** position, will instruct the source to send non-HDCP content to the display. Note that not all sources have this capability. When set to **ON**, the source will have the ability to transmit HDCP content to the AT-HDR-SW-52ED.



NOTE: Setting this feature to **OFF**, for any source, does *not* provide decryption of HDCP content to non-HDCP compliant sink devices. Sources such as Mac® computers and the Sony PlayStation® will *always* transmit HDCP content.

Configuration and Management Interfaces

Display page



CEC

CEC Command - HDBaseT Output / HDMI Output

Power: Click the **ON** button to send the power-on command to the display device. Click the **OFF** button to toggle the power state to off.

Volume: Click the **+** and **-** buttons to adjust the volume. Click the **MUTE** button to test the volume muting function.

Input: Click the **INPUT** button to cycle between each input.

Consumer Electronics Control (CEC): Atlona has confirmed proper CEC functionality with several current models of Samsung, Panasonic, and Sony displays. However, it is not guaranteed that CEC will work with all displays. Many manufacturers do not support the CEC "off" command, and older displays use proprietary commands. Atlona only supports displays that use the CEC command structure defined in HDMI 1.2a. It is recommended that dealers request an evaluation product from Atlona, before designing a system using the CEC protocol. If this is not possible, then other control methods will need to be considered, in order to control displays using Atlona products.

System Settings

Display Auto Power On

Select **Active Video Presence** from this drop-down list to allow the AT-HDR-SW-52ED to send the power-on command to the display when an A/V signal is detected. When the AV signal is no longer present, the AT-HDR-SW-52ED will send the power-off command to the display. If this feature is not desired, then set to **Disabled**. The default settings is **Active Video Presence**.

Auto power off timer

Click this drop-down list to set the time interval before the command to power-off the display is sent, when an A/V signal is no longer present. The default value is **15 Seconds**.

Lamp cool down timer

Click this drop-down list to set the projector lamp cool-down timer, in seconds. This value specifies the time interval that must elapse, after the display control "off" command is sent, before the display "power on" command can be sent. This feature is used to prevent the projector from missing a "power on" command while the lamps are cooling. The default setting is **10 Seconds**.

Configuration and Management Interfaces

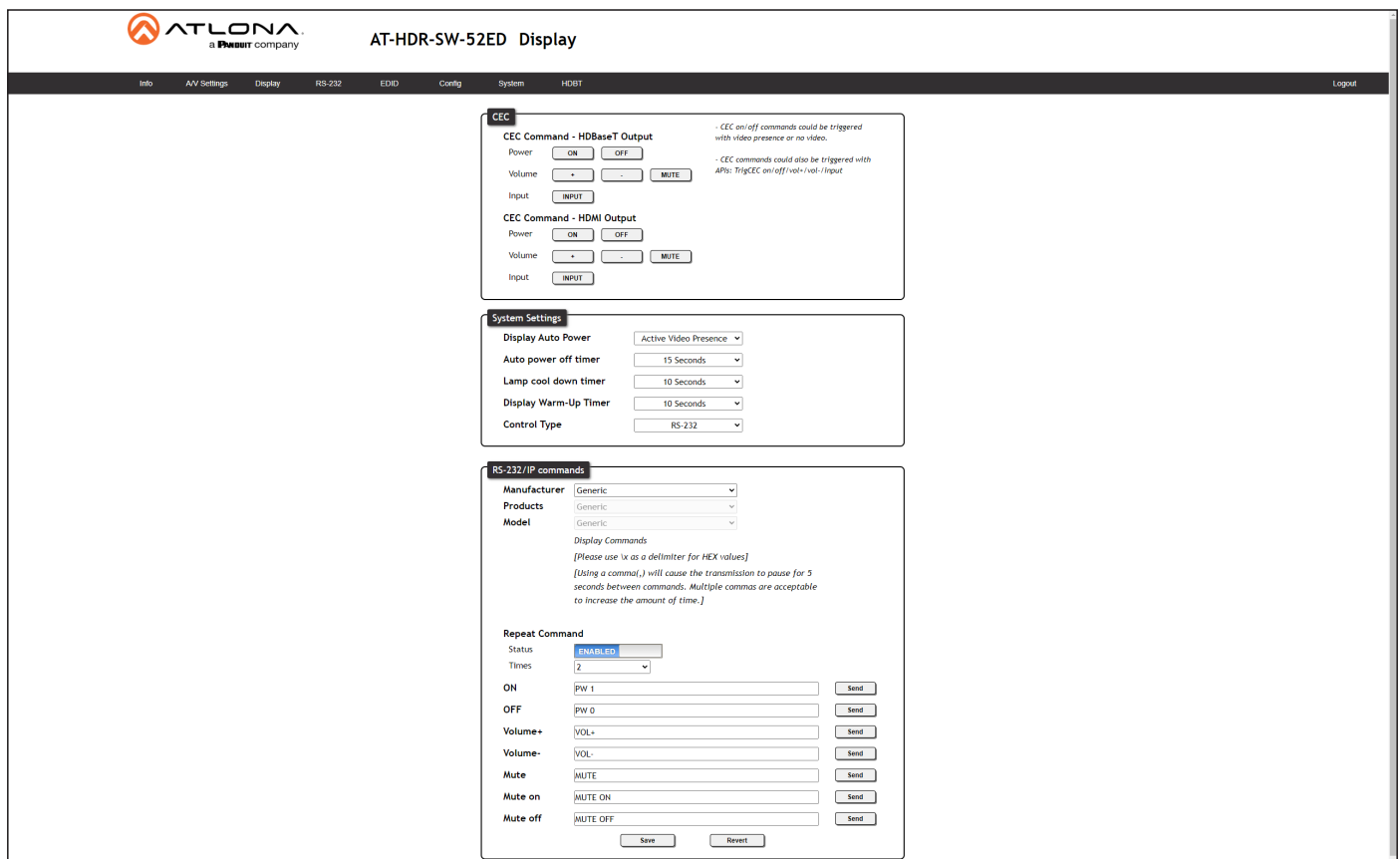
Display Warm-Up Timer

Click this drop-down list to set the projector lamp warm-up timer, in seconds. During the warm-up interval, the AT-HDR-SW52ED will not start the auto power-off timer. This value specifies the time interval that must elapse, after the display control “on” command is sent, before the display “power off” command can be sent. This feature is used to prevent a “power off” command from being sent while the lamps are warming up. The default setting is 10 Seconds.

Control Type

Click this drop-down list to set the control protocol for the connected display. Click this drop-down to select the control type. Available settings are RS-232, IP, and CEC. The default setting is CEC. If IP or RS-232 are selected, then more fields will be displayed.

If the **Control Type** is set to RS-232, then the following fields will be available.



The screenshot shows the configuration interface for the AT-HDR-SW-52ED projector. It is divided into three main sections:

- CEC:** Contains two sub-sections: "CEC Command - HDBaseT Output" and "CEC Command - HDMI Output". Each has "Power" (ON/OFF), "Volume" (+, -, MUTE), and "Input" (INPUT) controls.
- System Settings:** Includes "Display Auto Power" (Active Video Presence), "Auto power off timer" (15 Seconds), "Lamp cool down timer" (10 Seconds), "Display Warm-Up Timer" (10 Seconds), and "Control Type" (RS-232).
- RS-232/IP commands:** Features dropdowns for "Manufacturer", "Products", and "Model". It includes a "Repeat Command" section with "Status" (ENABLED), "Times" (2), and a list of commands (ON, OFF, Volume+, Volume-, Mute, Mute on, Mute off) with "Send" buttons. A "Save" and "Revert" button are at the bottom.

RS-232/IP commands

Manufacturer

Click this drop-down list to select the manufacturer of the sink device. If the product manufacturer for the device is not listed, select Generic.

Generic	Eiki	Optoma	Sharp
Acer	Epson	Panasonic	Sony
Barco	Hitachi	Pjlink	Toshiba
Benq	Infocus	Planar	Viewsonic
Canon	Lg	Qomo	Vivtek
Casio	Nec	Samsung	

Configuration and Management Interfaces

Products

Click this drop-down list to select the product, based on the value set in the **Manufacturer** drop-down list.

Model

Click this drop-down list to select the model, based on the value set in the **Products** drop-down list.

Repeat Command > Status

Click this toggle switch to enable or disable the repeat command feature. Some devices may require that the command be sent multiple times before an acknowledge message is received from the display. Refer to the User Manual for the display device for more information. The default setting is `ENABLED`.

Repeat Command > Times

If the **Status** toggle switch is set to `ENABLED`, then this drop-down list will be available. Click this drop-down list to select the number of times to send the command. Available values are 2, 3, and 4.

ON/OFF/Volume+/Volume-/Mute/Mute on/Mute off

These fields are used to enter the required commands for each operation, if the Manufacturer drop-down list is set to `Generic`. Both Hexadecimal and ASCII formats are permitted. If a manufacturer, product, and model is selected from the above drop-down lists, then these fields will be filled in, automatically, based on the product that was selected.

Send

Click these buttons to send the command string to the device.

Save

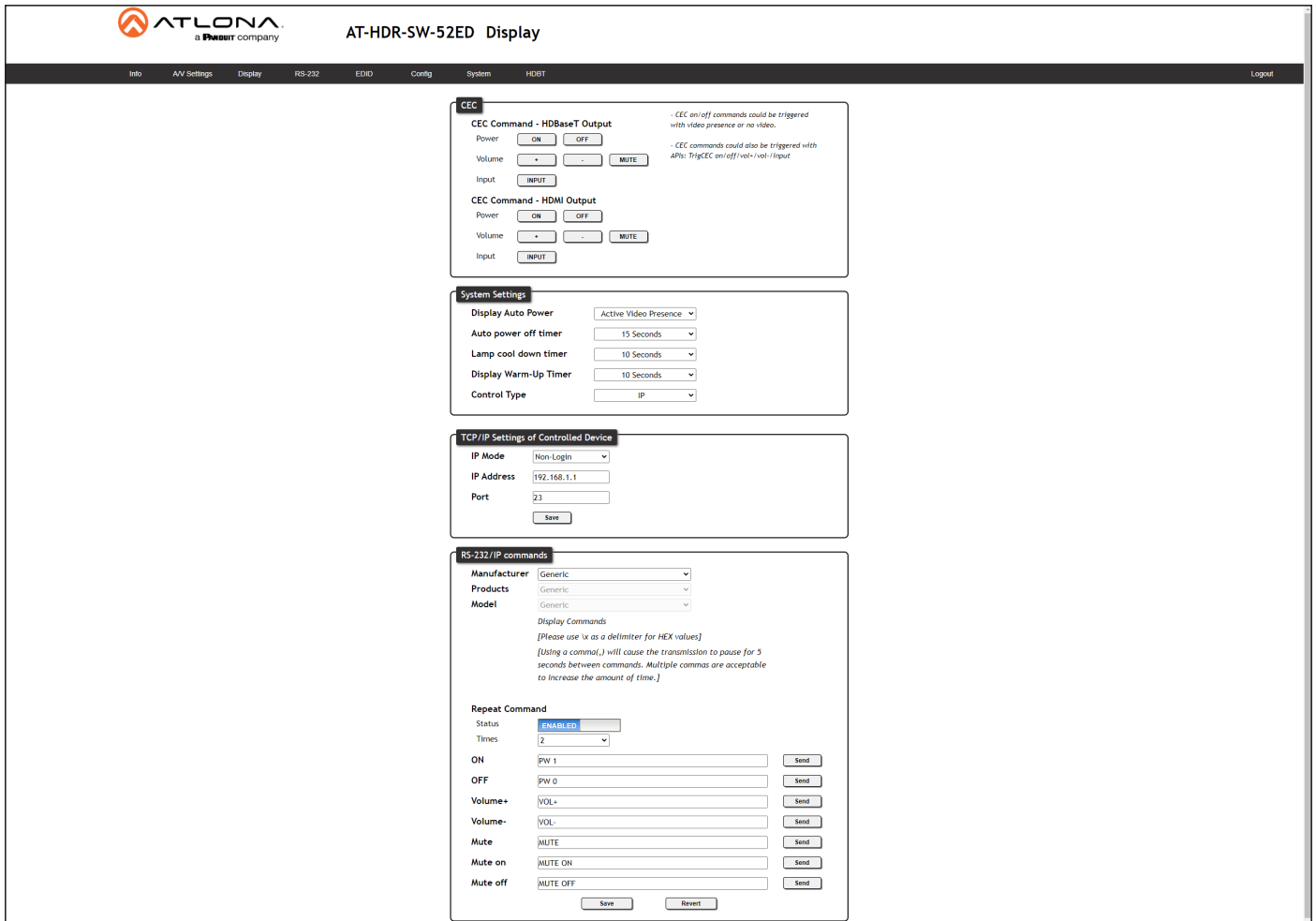
Click this button to commit changes.

Revert

Click this button to reset all fields and set the **Manufacturer** drop-down list to `Generic`.

Configuration and Management Interfaces

If the **Control Type** is set to **IP**, then the following fields will be available.



The screenshot shows the configuration interface for the AT-HDR-SW-52ED Display. The interface is divided into several sections:

- CEC:** Contains two sub-sections: "CEC Command - HDBaseT Output" and "CEC Command - HDMI Output". Each sub-section has "Power" (ON/OFF), "Volume" (+, -, MUTE), and "Input" (INPUT) controls.
- System Settings:** Includes "Display Auto Power" (Active Video Presence), "Auto power off timer" (15 Seconds), "Lamp cool down timer" (10 Seconds), "Display Warm-Up Timer" (10 Seconds), and "Control Type" (IP).
- TCP/IP Settings of Controlled Device:** Includes "IP Mode" (Non-Login), "IP Address" (192.168.1.1), and "Port" (23).
- RS-232/IP commands:** Includes "Manufacturer", "Products", and "Model" dropdowns. It also has a "Repeat Command" section with "Status" (ENABLED) and "Times" (2). Below this are fields for "ON", "OFF", "Volume+", "Volume-", "Mute", "Mute on", and "Mute off", each with a "Send" button.

TCP/IP Settings of Controlled Device

IP Mode

Click this drop-down list to select **Login** or **Non-Login**. When set to **Non-Login**, the login credential fields (**Username** and **Password**) will be hidden. The default setting is **Non-Login**.

IP Address

Enter the IP address of the device in this field.

Port

Enter the port number for the device in this field.

Username

This field is only available if the **IP Mode** is set to **Login**. Enter the username in this field.

Password

This field is only available if the **IP Mode** is set to **Login**. Enter the password in this field.

Configuration and Management Interfaces

RS-232/IP commands

Manufacturer

Click this drop-down list to select the manufacturer of the sink device. If the product manufacturer for the device is not listed, select `Generic`.

Generic	Eiki	Optoma	Sharp
Acer	Epson	Panasonic	Sony
Barco	Hitachi	Pjlink	Toshiba
Benq	Infocus	Planar	Viewsonic
Canon	Lg	Qomo	Vivtek
Casio	Nec	Samsung	

Products

Click this drop-down list to select the product, based on the value set in the **Manufacturer** drop-down list.

Model

Click this drop-down list to select the model, based on the value set in the **Products** drop-down list.

Repeat Command > Status

Click this toggle switch to enable or disable the repeat command feature. Some devices may require that the command be sent multiple times before an acknowledge message is received from the display. Refer to the User Manual for the display device for more information. The default setting is `ENABLED`.

Repeat Command > Times

If the **Status** toggle switch is set to `ENABLED`, then this drop-down list will be available. Click this drop-down list to select the number of times to send the command. Available values are 2, 3, and 4.

ON/OFF/Volume+/Volume-/Mute/Mute on/Mute off

These fields are used to enter the required commands for each operation, if the Manufacturer drop-down list is set to `Generic`. Both Hexadecimal and ASCII formats are permitted. If a manufacturer, product, and model is selected from the above drop-down lists, then these fields will be filled in, automatically, based on the product that was selected.

Send

Click these buttons to send the command string to the device.

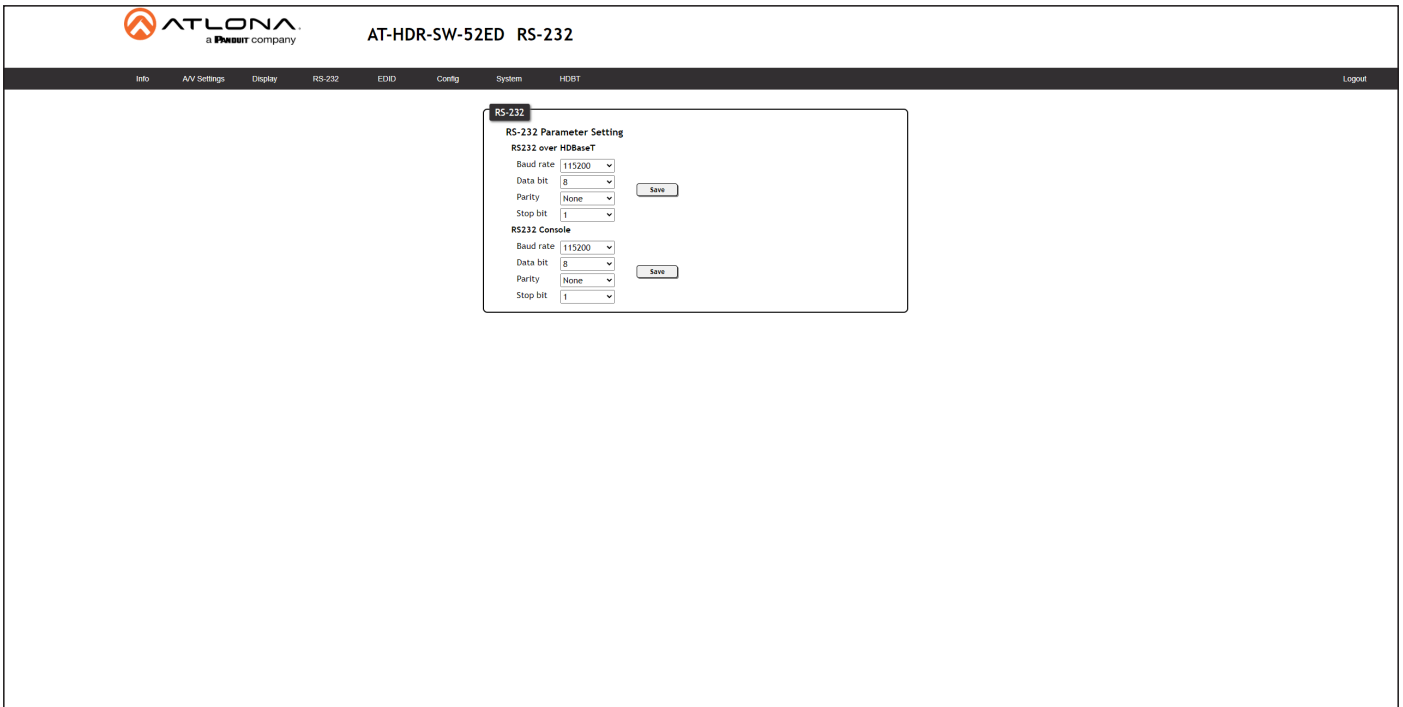
Save

Click this button to commit changes.

Revert

Click this button to reset all fields and set the **Manufacturer** drop-down list to `Generic`.

RS-232 page



The screenshot shows the AT-LONA AT-HDR-SW-52ED RS-232 configuration interface. It features a navigation menu at the top with options like 'Info', 'AV Settings', 'Display', 'RS-232', 'EDID', 'Config', 'System', and 'HDMI'. The main content area is titled 'RS-232 Parameter Setting' and is divided into two sections: 'RS232 over HDBaseT' and 'RS232 Console'. Each section contains four dropdown menus for 'Baud rate', 'Data bit', 'Parity', and 'Stop bit', with a 'Save' button to the right of each set of settings.

RS-232

RS-232 Parameter Setting

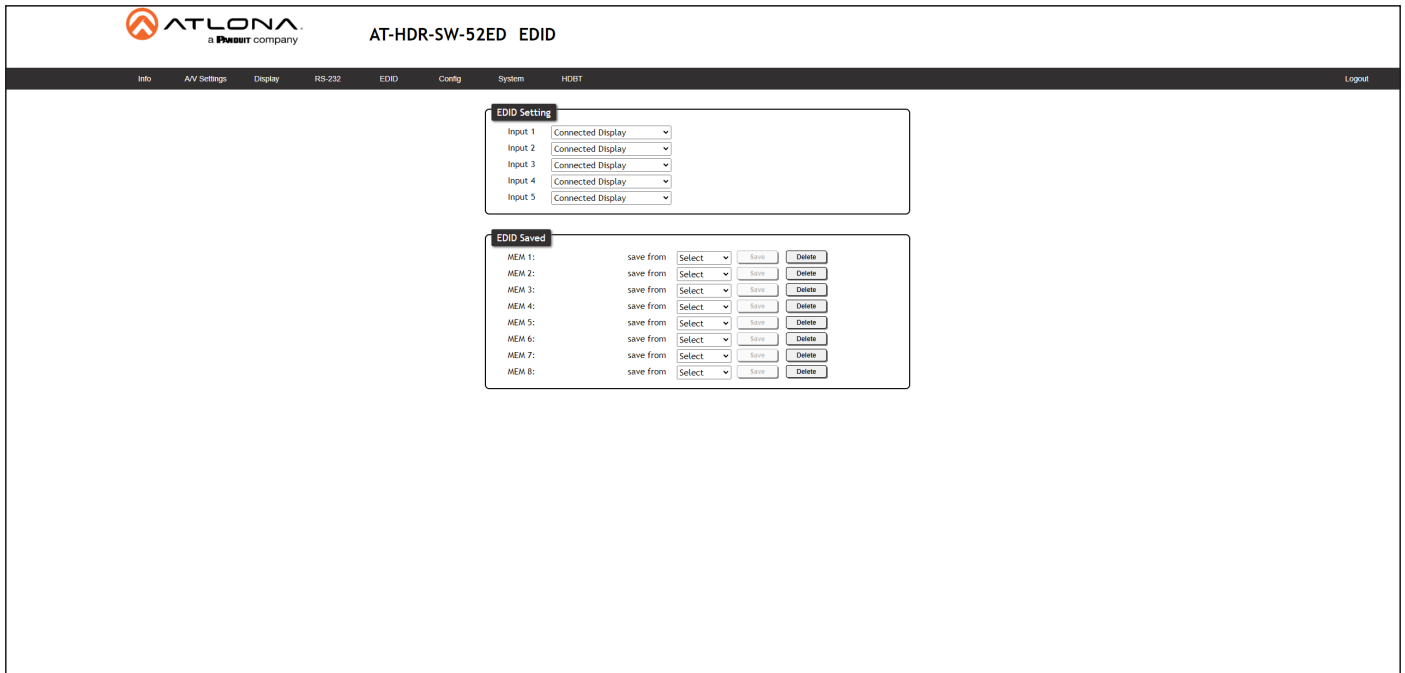
RS-232 settings for local or HDBaseT RS-232 control.

- RS232 over HDBaseT**
 Sets the RS-232 port settings when controlling a display, over HDBaseT, using a control system. Refer to [RS-232 Control \(page 30\)](#) for more information.
- RS232 Console**
 Sets the RS-232 port settings used for local control by a third-party control system.
- Save**
 Click this button to commit all changes.

Setting	Description
Baud rate	Sets the baud rate. The following options are available: 2400, 4800, 9600, 19200, 38400, 56000, 57600, 115200.
Data bit	Sets the number of data bits used to represent each character of data. The following options are available: 7 or 8.
Parity	Sets the parity bit, which can be included with each character to detect errors during the transmission of data. The following options are available: None, Odd, or Even.
Stop bit	Sets the stop bit. Stop bits are sent at the end of each character, allowing the client to detect the end of a character stream. The following options are available: 1 or 2.

Configuration and Management Interfaces

EDID page



EDID Settings

Click these drop-down lists to select the desired EDID to be used for each input. The following EDID presets are available. When selecting an EDID, make sure that the display/sink device is capable of supporting the resolution/timing. If the sink device is not able to support a feature, then the source will not be displayed. Selecting the **Connected Display** EDID will provide the most compatible settings for most displays. In addition, eight memory locations are available for storing captured EDID data. If an EDID is stored in a memory location, it will also be added to the list available EDID selections.

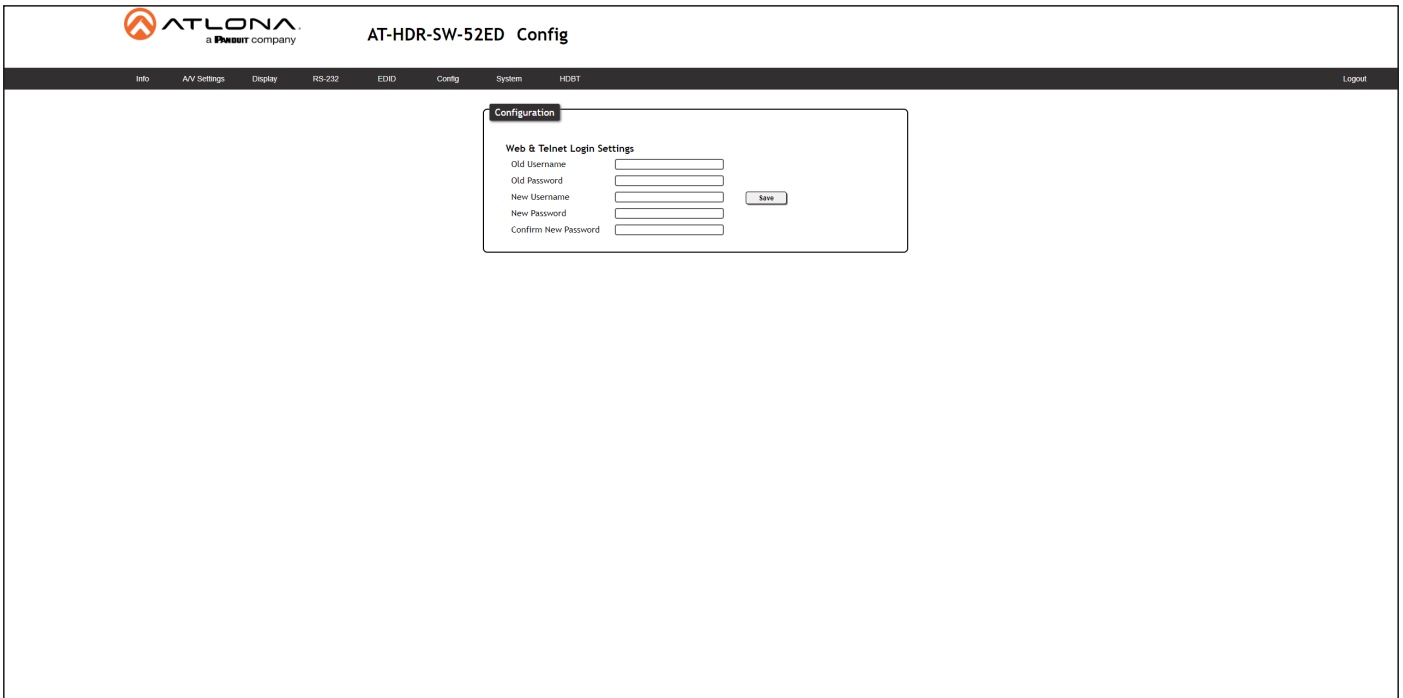
EDID	Description
Connected Display	Uses the downstream EDID of the connected display
ATL 4K60 MCH	3840 x 2160 (UHD) with multichannel audio support
ATL 4K60 PCM MCH	3840 x 2160 (UHD) with PCM multichannel audio support
ATL 1080P MCH	1920 x 1080p with multichannel audio support
ATL 1080P 2CH	1920 x 1080p with two-channel audio support
ATL 1080P DD	1920 x 1080p with Dolby™ Digital audio support
ATL 1080P DVI	1920 x 1080p for DVI displays
ATL 720P DD	1280 x 720p with Dolby™ Digital audio support
ATL 720P 2CH	1280 x 720p with two-channel audio support

EDID Saved

The AT-HDR-SW-52ED provides eight memory locations used for storing captured EDID data. Click these drop-down lists to select the desired output and press Save to store the EDID. Press the Delete button to erase the EDID data. Refer to [EDID Management \(page 44\)](#) for more information.

Configuration and Management Interfaces

Config page



The screenshot shows the AT-LONA AT-HDR-SW-52ED Config page. The page has a header with the AT-LONA logo and the title "AT-HDR-SW-52ED Config". Below the header is a navigation menu with tabs: Info, AV Settings, Display, RS-232, EDID, Config, System, and HDBT. The "Config" tab is selected. The main content area contains a "Configuration" section with the following form:

Web & Telnet Login Settings

Old Username	<input type="text"/>
Old Password	<input type="password"/>
New Username	<input type="text"/>
New Password	<input type="password"/>
Confirm New Password	<input type="password"/>

Configuration

Old Username

Enter the current username in this field.

Old Password

Enter the current password in this field.

New Username

Enter the new username in this field.

New Password

Enter the new password in this field.

Confirm New Password

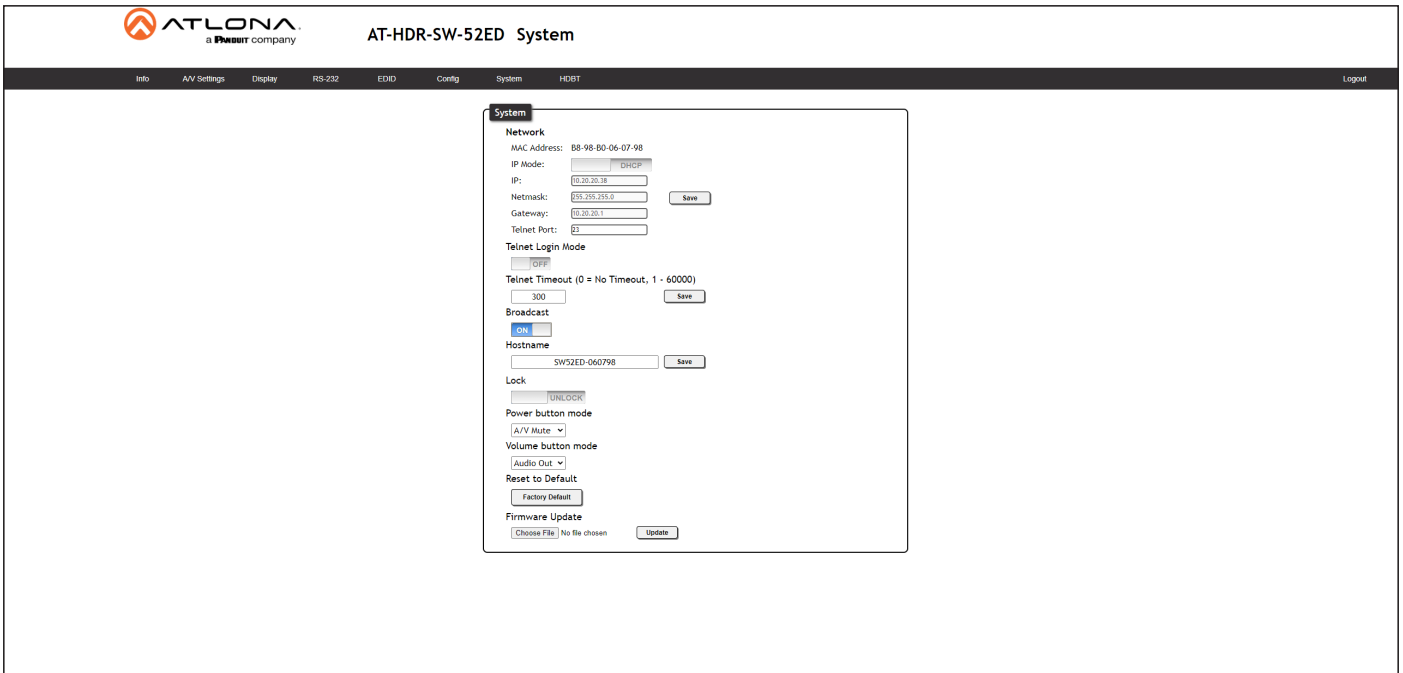
Verify the new password by retying it in this field.

Save

Click this button to apply all changes.

Configuration and Management Interfaces

System page



The screenshot displays the 'System' configuration page for the AT-HDR-SW-52ED device. The page is titled 'AT-HDR-SW-52ED System' and includes a navigation menu with options like 'Info', 'AV Settings', 'Display', 'RS-232', 'EDID', 'Config', 'System', and 'HDMI'. The main content area is divided into several sections:

- Network:** Shows the MAC Address (88-98-80-06-07-98) and IP Mode (DHCP). Below this are input fields for IP (10.20.20.18), Netmask (255.255.255.0), and Gateway (10.20.20.1), each with a 'Save' button.
- Telnet Port:** An input field set to 83.
- Telnet Login Mode:** A toggle switch currently set to OFF.
- Telnet Timeout:** A dropdown menu set to '0 = No Timeout, 1 - 60000' and an input field set to 300, with a 'Save' button.
- Broadcast:** A toggle switch currently set to ON.
- Hostname:** An input field set to SW52ED-060798, with a 'Save' button.
- Lock:** A toggle switch currently set to UNLOCK.
- Power button mode:** A dropdown menu set to A/V Mute.
- Volume button mode:** A dropdown menu set to Audio Out.
- Reset to Default:** A button labeled 'Factory Default'.
- Firmware Update:** A section with a 'Choose File' button (No file chosen) and an 'Update' button.

System

MAC address

Displays the MAC address of the AT-HDR-SW-52ED.

IP Mode

Click this toggle to set the IP mode of the AT-HDR-SW-52ED.

Setting	Description
DHCP	Uses an available DHCP server to assign an IP address.
STATIC IP	Allows the IP address, subnet mask, and gateway IP address to be entered manually.

IP

Enter the IP address of the AT-HDR-SW-52ED in this field. This field will only be available if **IP Mode** is set to `STATIC IP`.

Netmask

Enter the subnet mask in this field. This field will only be available if **IP Mode** is set to `STATIC IP`.

Gateway

Enter the gateway (router) address in this field. This field will only be available if **IP Mode** is set to `STATIC IP`.

Telnet Port

Enter the Telnet listening port in this field.

Telnet Login Mode

Click this toggle to set the login mode to either `ON` or `OFF`. If this feature is set to `ON`, then use the same login credentials as the web server.

Setting	Description
ON	The AT-HDR-SW-52ED will prompt for both the username and password at the start of a Telnet session.
OFF	No username and password is required for Telnet sessions.

Configuration and Management Interfaces

Telnet Timeout

Sets the Telnet timeout interval, after no activity, in seconds. Acceptable integer values are: 0 - 60000. The default setting is 300. Once the interval has expired, the Telnet session will be closed. If this field is set to 0, then the timeout interval is infinite. Click the **Save** button to commit changes.

Broadcast

This option determines whether or not systems changes are announced over TCP/IP connections to any listening devices.

Setting	Description
ON	System changes will be announced over TCP/IP connections to any device that has a TCP/IP connection to the AT-HDR-SW-52ED. This is the default setting.
OFF	Only the device that is sending the commands will receive feedback from the commands or any system changes. Read queries, such as the <code>IPCFG</code> and <code>Type</code> commands, are not announced and will only return information to the requester.

Hostname

Displays the hostname of the AT-HDR-SW-52ED, as it would appear on a network. To change the hostname, type the new hostname in this field and click the **Save** button. Refer to [Setting the Host Name \(page 53\)](#) for more information.

Lock

Click to lock or unlock the buttons on the front panel. Locking the front panel buttons is useful in preventing accidental button activation within rack environments.

Setting	Description
LOCK	Locks the front panel buttons.
UNLOCK	Unlocks the front panel button, allowing them to be functional.

Power button mode

Click this drop-down list to select the desired function of the power button. Refer to [Display Control \(page 34\)](#) for more information.

Setting	Description
A/V Mute	Toggles the AT-HDR-SW-52ED between standby mode and normal operating mode. This is the default setting.
CEC	When a sink device (display) is connected to the AT-HDR-SW-52ED, pressing the POWER button will toggle the power state of the display using the CEC protocol. The power state of the AT-HDR-SW-52ED is unaffected. Power-on and power-off commands are sent over both the HDBaseT OUT and HDMI OUT ports.
RS-232	POWER button will send RS-232 commands over HDBaseT to compatible receivers and displays.
IP	POWER button will send the commands over Ethernet using either the LAN port.

Configuration and Management Interfaces

Volume button mode

Click this drop-down list to select the desired function of the volume up/down buttons. Refer to [Display Control \(page 34\)](#) for more information.

Setting	Description
Audio Out	VOLUME buttons control the output volume on the AT-HDR-SW-52ED. This is the default setting.
CEC	When a sink device (display) is connected to the AT-HDR-SW-52ED, pressing the VOLUME buttons will adjust the volume of the display using the CEC protocol. The output volume of the AUDIO ports on the AT-HDR-SW-52ED is unaffected. Volume commands are sent over both the HDBaseT OUT and HDMI OUT ports.
RS-232	VOLUME buttons will send RS-232 commands over HDBaseT to compatible receivers and displays.
IP	VOLUME buttons will send the commands over Ethernet using either the LAN port.

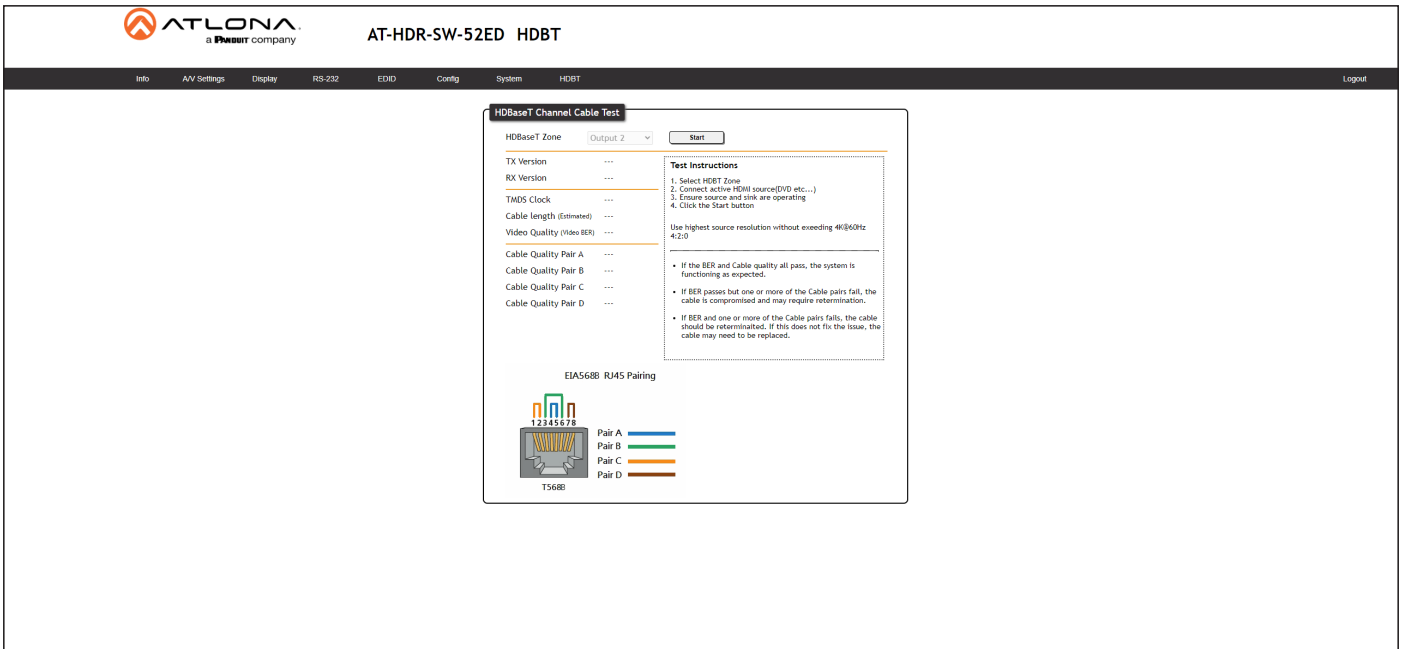
Reset to Default

Click the **Factory Default** button to set the AT-HDR-SW-52ED to factory-default settings.

Firmware Update

Click the **Choose File** button to select the firmware file, when upgrading the firmware on the AT-HDR-SW-52ED. Once the firmware file is selected, click the **Update** button. Refer to [Updating the Firmware \(page 73\)](#) for more information.

HDBT page



HDBaseT Channel Cable Test

HDBaseT Zone

There is only one zone. The value in the drop-down list cannot be changed.

Start

Click the **Start** button to begin the HDBaseT testing process. During testing, the button text will change to **Stop**. Click the **Stop** button to halt the HDBaseT testing process. HDBaseT testing can be performed at any time, while the unit is powered. Refer to the instructions on this web page for information on how to interpret the Bit Error Rate (BER) and cable test results.

TX Version

The version of the Valens chip on the transmitter.

RX Version

The version of the Valens chip on the receiver.

TMD5 Clock

Displays the pixel clock speed. If no source is connected, then this field will display as **None**.

Cable length (Estimated)

This field indicates the approximate length of the category cable connected between the HDBaseT port on the AT-HDR-SW-52ED and the receiver. If the cable length is less than 15 feet, then this value will be displayed as 0 (zero).

Video Quality (Video BER)

The Bit Error Rate (BER). This field displays either **PASS** or **FAIL** during a test.

Cable Quality Pair (A, B, C, D)

Each of these fields will display either **PASS** or **FAIL** during a test.

Appendix

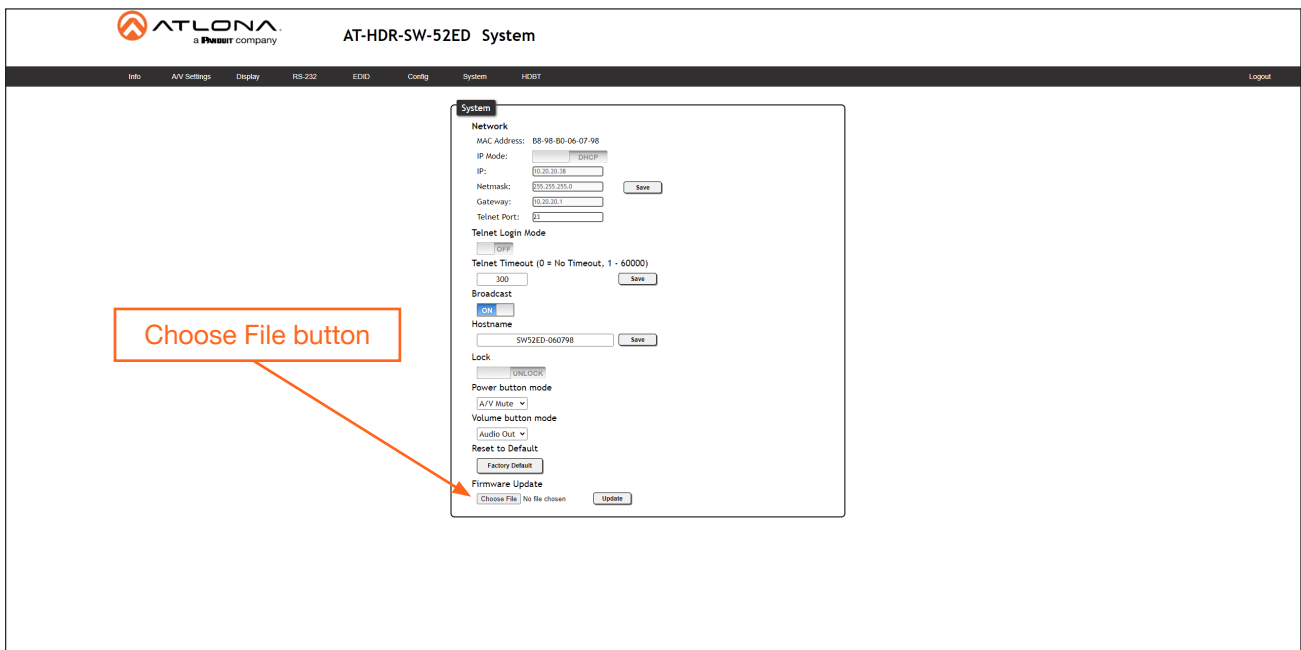
Updating the Firmware

Updating the firmware can be completed using either the USB interface or the web server. Atlona recommends using the web server for updating the MCU firmware. However, if a network connection is not available, the AT-HDR-SW-52ED firmware can be updated using a USB-A to mini-USB cable. USB update is not supported under macOS®.

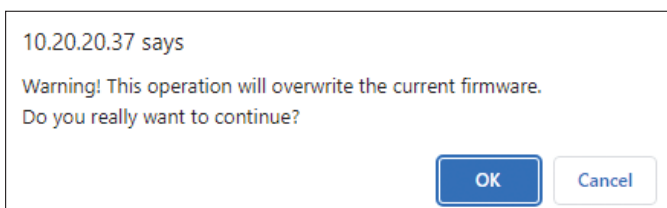
Using the Web Server

Requirements:

- AT-HDR-SW-52ED
 - Firmware file
 - Computer
1. Connect an Ethernet cable from the computer, containing the firmware, to the same network where the AT-HDR-SW-52ED is connected.
 2. Log in to the web server and go to the [System](#) page (page 69).



3. Click the **Choose File** button, under **Firmware Update**.
4. Browse to the location of the firmware file, select it, and click the **Open** button.
5. Click the **Update** button to begin the update process. The following message box will be displayed.



6. Click the **OK** button to begin the firmware update process. Click the **Cancel** button to cancel the process.
7. After the firmware update process is complete, the **Login** screen will be displayed, indicating that the update process is complete.

Using USB

Required items:

- AT-HDR-SW-52ED
- Computer containing the firmware file.
- USB-A to mini-USB cable

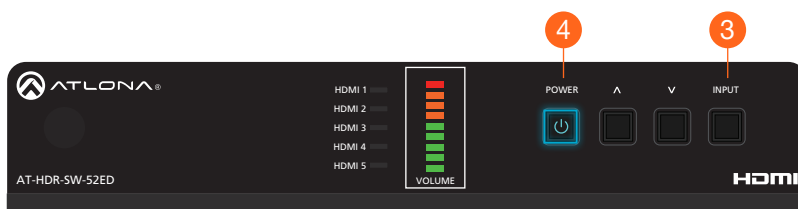


NOTE: USB update is not supported on macOS®.

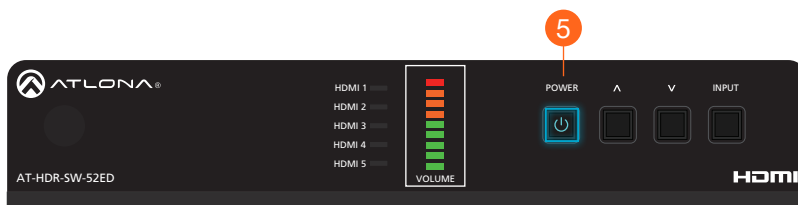
1. Disconnect power from the AT-HDR-SW-52ED.
2. Connect the USB-A to mini-USB cable between the computer and the **FW** port on the AT-HDR-SW-52ED.



3. Press and hold down the **INPUT** button on the front panel, while connecting the power supply to the AT-HDR-SW-52ED. Once the power supply has been connected, release the **INPUT** button.
4. The **POWER** button will begin flashing slowly, indicating that the AT-HDR-SW-52ED is in *Update Mode*.



5. A virtual USB drive will be displayed in a pop-up window on the computer. Drag-and-drop the firmware file to the virtual drive. During the firmware update procedure, the **POWER** button will flash more rapidly.



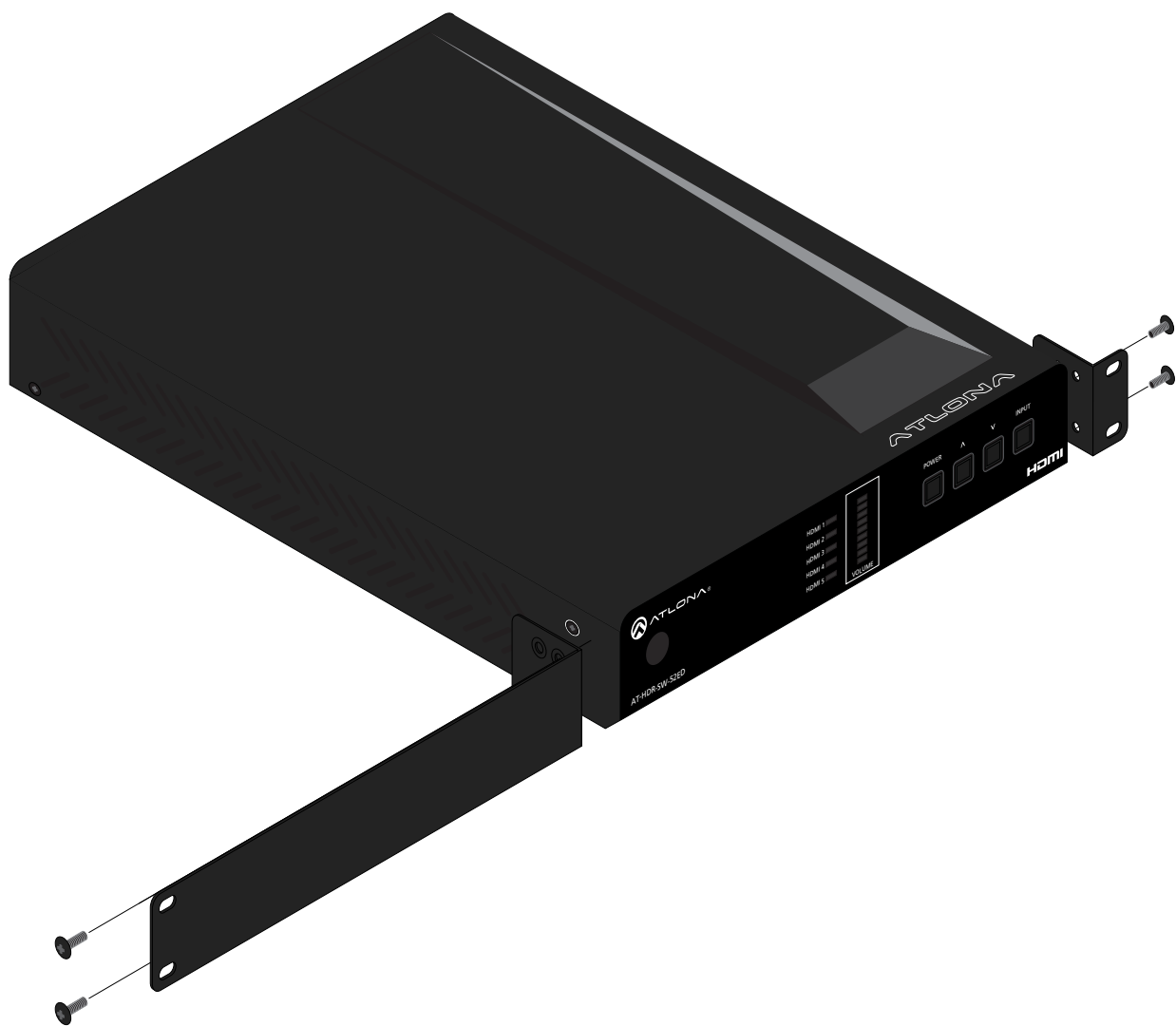
6. After the file has been copied, disconnect the USB cable from both the computer and the AT-HDR-SW-52ED.
7. The firmware update process is complete.

Mounting Instructions

The AT-HDR-SW-52ED includes two mounting brackets, which can be used to attach the unit to any flat surface. Use the two enclosure screws, on the sides of the unit to attach the mounting brackets.

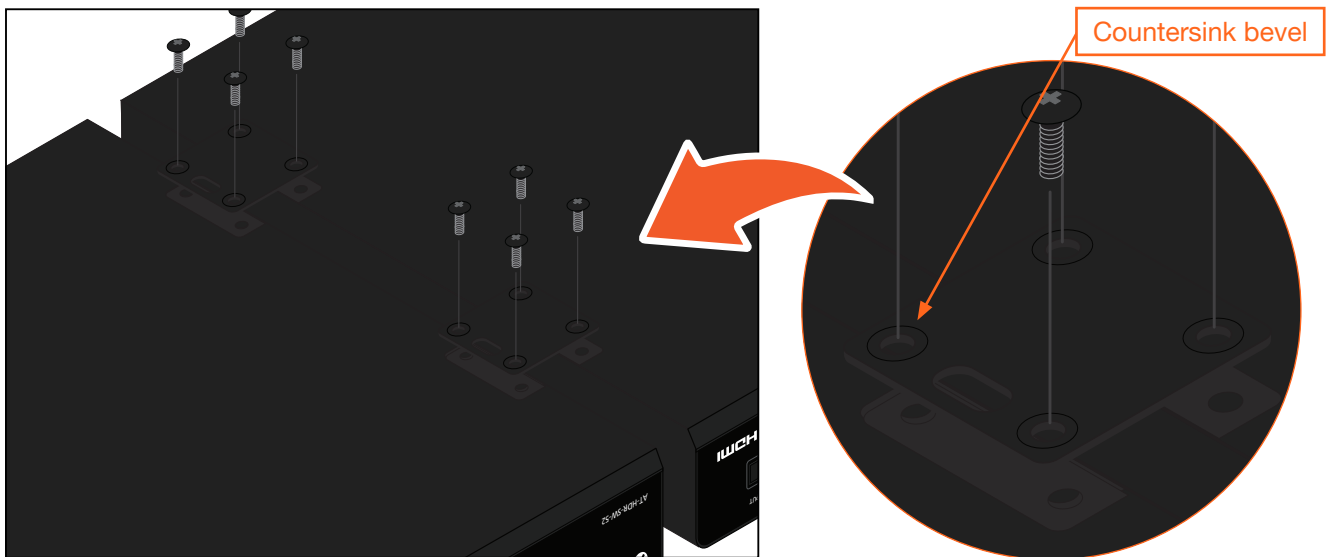
Single Unit Rack Installation

1. Attach the included small rack ear to one side of the AT-HDR-SW-52ED, using the included screws.
2. Attach the included longer rack ear to the opposite side of the AT-HDR-SW-52ED using the included screws.

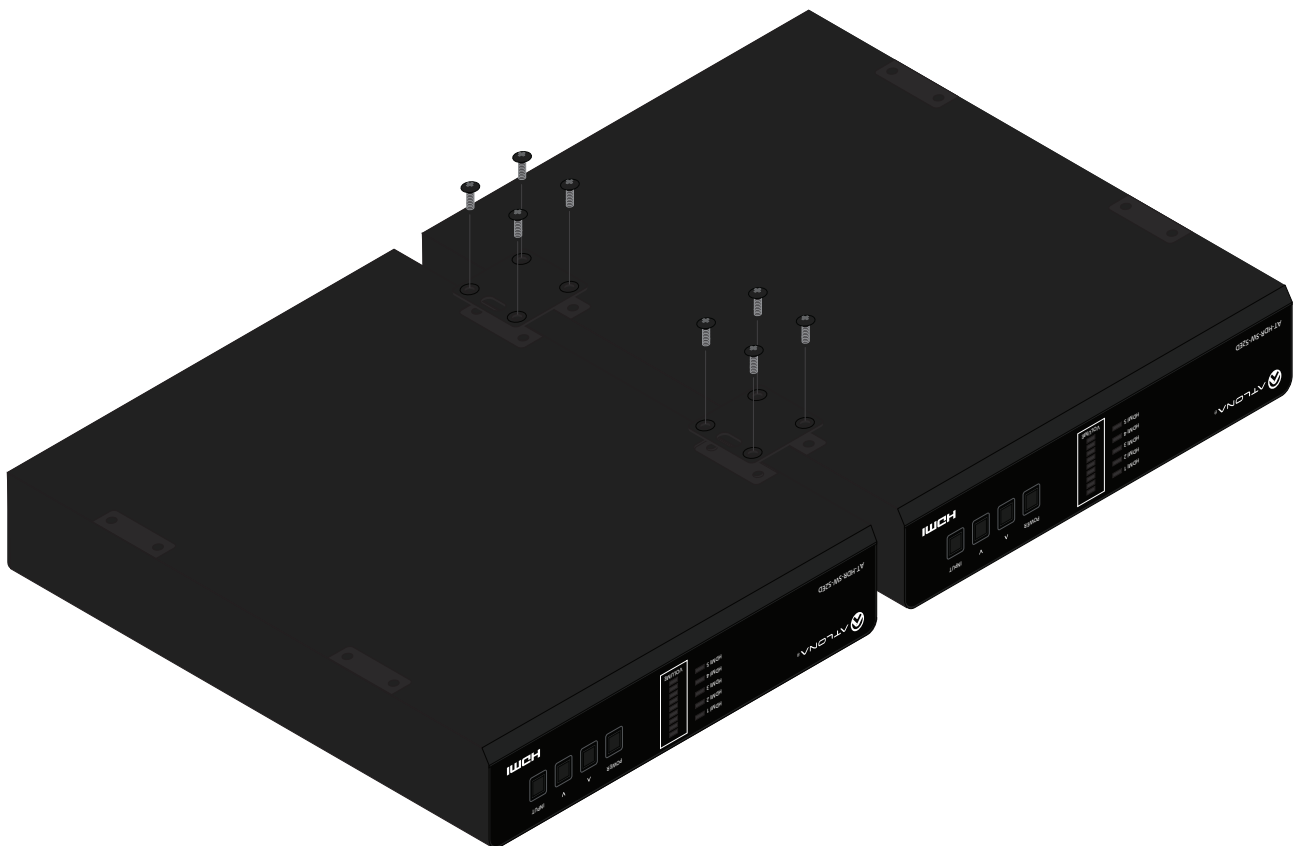


Dual Unit Rack Installation

1. Turn both units upside-down on a flat surface, next to each other, as shown.
2. Position the included mounting plate over the pre-drilled holes on the bottom of the enclosure. When attaching the mounting plate, the countersink bevels on the mounting plate should face upward.

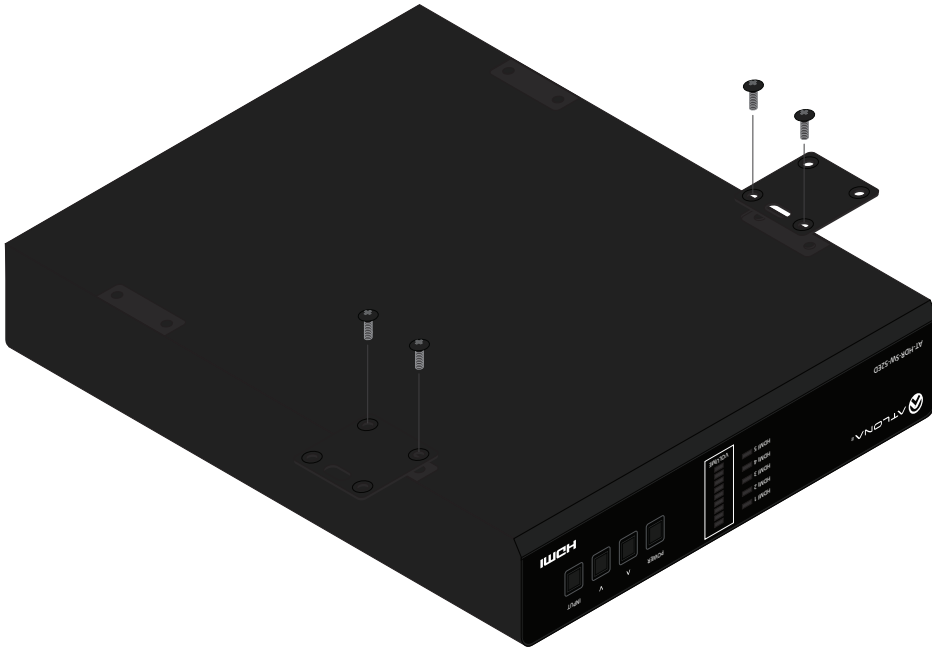


3. Turn the attached units over and install the rack ears (sold separately) to one side of each enclosure using the included screws.



Flat Surface

1. Turn the unit upside down, on a flat surface.
2. Position the included mounting plates over the pre-drilled holes on the bottom of the enclosure. When attaching mounting plates, the countersink bevels on the mounting plates should face upward.



3. Mount the unit using the circular holes, on each mounting plate. If using a drywall surface, a #6 drywall screw is recommended. Mounting screws are not included.



NOTE: The unit can also be mounted under a flat surface, such as a table, by turning the unit upside down.

Specifications

Video		
Signal	Input - HDMI Output - HDMI, HDBaseT	
Copy Protection	HDCP 2.2	
Pixel Clock	600 MHz	
UHD/HD/SD	4096x2160 (DCI) @ 24/25/30/50/60 Hz 720x576p @ 50 Hz 3840x2160 (UHD) @ 24/25/30/50/60 Hz 720x576i @ 25/50 Hz 1920x1080p @ 720x480p @ 60 Hz 23.97/24/25/29.97/30/50/60 Hz 640x480p @ 60 Hz 1920x1080i @ 50/60 Hz 640x480i @ 60 Hz 1280x720p @ 30/50/60 Hz	
VESA All resolutions are 60 Hz	2560x2048 2560x1600 2048x1536 1920x1200 1680x1050 1600x1200 1600x900 1440x900 1400x1050	1366x768 1360x768 1280x1024 1280x800 1280x768 1152x768 1024x768 800x600 640x480
Color Space	YUV, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	
HDR	HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ 60 Hz	

Audio			
HDMI Pass-Through Formats	LPCM 2.0 LPCM 5.1 LPCM 7.1	Dolby® Digital Dolby Digital Plus™ Dolby TrueHD Dolby Atmos®	DTS® Digital Surround™ DTS-HD Master Audio™ DTS:X®
S/PDIF	LPCM 2.0	Dolby® Digital	DTS® Digital Surround™
Bit Depth	Up to 24 bits		
Analog Audio			
Format	Stereo 2-Channel		
Balanced Output	+4 dBu nominal gain, +19 dB headroom		
Frequency Response	20 Hz to 20 kHz, ± 0.5 dB		
THD+N	< 0.006% at 20 Hz to 20 kHz		
SNR	> 105 dB at 1 kHz, zero clipping @ 0 dBFS, unweighted		
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		

Ethernet	
Port	1 x RJ45
Standards and Protocols	HTTP, Telnet
Speeds	10/100 Mbps
Addressing	DHCP, Static – selectable through built-in web server and Telnet commands

RS-232	
Port	1 x 3-pin captive screw
Use	Unit and external device control and configuration
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 115200
Data Flow	Bidirectional

IR	
Port	1 x 5-pin captive screw
Use	Unit and external device control and configuration
Carrier Frequency Range	30 kHz - 60 kHz
Data Flow	Bidirectional

CEC	
Ports	1 x HDMI OUT, Type A, 19-pin female 1 x HDBaseT OUT, RJ45
Triggering	Through HDMI and/or HDBaseT

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI IN/OUT	15	5	30	10
CAT5e	295	90	330	100
CAT6/6a/7	330	100	330	100

Buttons and Indicators	
Buttons: POWER, UP, DOWN, INPUT	4 x momentary, tact-type
Indicators: POWER HDMI 1 - HDMI 5, VOLUME	1 x LED, blue 5 x LED, blue 9 x LED, green, amber, red

Connectors	
HDMI IN	5 x Type A, 19-pin female
HDMI OUT	1 x Type A, 19-pin female
HDBaseT OUT	1 x RJ45
LAN	1 x RJ45
L/R	1 x 5-pin captive screw
S/PDIF OUT	1 x RCA, female
RS-232	1 x 3-pin captive screw
IR IN / OUT	1 x 5-pin captive screw
FW	1 x mini-USB
DC 48V	1 x 2-pin captive screw

Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +122	0 to +50
Storage Temperature	-4 to +140	-20 to +60
Operating Humidity (RH)	20% to 90%, non-condensing	

Appendix

Power	
Consumption	22.4 W 37.4 W (with PoE)
BTU/h	76.4
External Power Supply	100 - 240 V AC, 50/60 Hz Output: 48 V / 0.83 A DC

Dimensions (H x W x D)	Inches	Millimeters
Unit	1.34 x 8.19 x 4.41	34 x 208 x 112
Power Supply (AT-PS-48083-C)	1.42 x 1.81 x 4.41	36 x 46 x 112

Weight	Pounds	Kilograms
Device	1.44	3.15

Certification	
Device	CE, RoHS, FCC
Power Supply	CE, FCC, UL, CUL, TUV-GS, CB, PSE, CCC

Compliance	
NDA-889	Yes
TAA	Yes

Warranty	
Device	3 years

