

Three-Input Switcher for HDMI and VGA with Ethernet-Enabled HDBaseT Output



Version Information

Version	Release Date	Notes
1	Jan 2016	Initial release
2	May 2017	Updated
3	Jul 2017	New format
4	Jul 2019	Moved API commands to separate document.

Welcome to Atlona!

Thank you for purchasing this Atlona product. We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration only takes a few minutes and protects this product against theft or loss. In addition, you will receive notifications of product updates and firmware. Atlona product registration is voluntary and failure to register will not affect the product warranty.

To register your product, go to <http://www.atlona.com/registration>

Sales, Marketing, and Customer Support

Main Office

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

Office: +1.877.536.3976 (US Toll-free)
Office: +1.408.962.0515 (US/International)

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

<http://www.atlona.com/>

International Headquarters

Atlona International AG
Ringstrasse 15a
8600 Dübendorf
Switzerland

Office: +41 43 508 4321

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

Operating Notes



IMPORTANT: Visit <http://www.atlona.com/product/AT-HDVS-200-TX> and <http://www.atlona.com/product/AT-HDVS-200-TX-PSK> for the latest firmware updates and User Manual.

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.

Atlona, Inc. (“Atlona”) Limited Product Warranty

Coverage

Atlona warrants its products will substantially perform to their published specifications and will be free from defects in materials and workmanship under normal use, conditions and service.

Under its Limited Product Warranty, Atlona, at its sole discretion, will either:

- repair or facilitate the repair of defective products within a reasonable period of time, restore products to their proper operating condition and return defective products free of any charge for necessary parts, labor and shipping.

OR

- replace and return, free of charge, any defective products with direct replacement or with similar products deemed by Atlona to perform substantially the same function as the original products.

OR

- refund the pro-rated value based on the remaining term of the warranty period, not to exceed MSRP, in cases where products are beyond repair and/or no direct or substantially similar replacement products exist.

Repair, replacement or refund of Atlona products is the purchaser’s exclusive remedy and Atlona liability does not extend to any other damages, incidental, consequential or otherwise.

This Limited Product Warranty extends to the original end-user purchaser of Atlona products and is non-transferrable to any subsequent purchaser(s) or owner(s) of these products.

Coverage Periods

Atlona Limited Product Warranty Period begins on the date of purchase by the end-purchaser. The date contained on the end-purchaser’s sales or delivery receipt is the proof purchase date.

Limited Product Warranty Terms – New Products

- 10 years from proof of purchase date for hardware/electronics products purchased on or after June 1, 2013.
- 3 years from proof of purchase date for hardware/electronics products purchased before June 1, 2013.
- Lifetime Limited Product Warranty for all cable products.

Limited Product Warranty Terms – Refurbished (B-Stock) Products and Discontinued Products

- 3 years from proof of purchase date for all Refurbished (B-Stock) and Discontinued hardware and electronic products purchased on or after June 1, 2013.

Remedy

Atlona recommends that end-purchasers contact their authorized Atlona dealer or reseller from whom they purchased their products. Atlona can also be contacted directly. Visit atlona.com for Atlona’s contact information and hours of operation. Atlona requires that a dated sales or delivery receipt from an authorized dealer, reseller or end-purchaser is provided before Atlona extends its warranty services. Additionally, a return merchandise authorization (RMA) and/or case number, is required to be obtained from Atlona in advance of returns.

Atlona requires that products returned are properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization or case number will be refused. Atlona, at its sole discretion, reserves the right to reject any products received without advanced authorization. Authorizations can be requested by calling 1-877-536-3976 (US toll free) or 1-408- 962-0515 (US/international) or via Atlona’s website at atlona.com.

Exclusions

This Limited Product Warranty excludes:

- Damage, deterioration or malfunction caused by any alteration, modification, improper use, neglect, improper packaging or shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature.

Atlona, Inc. (“Atlona”) Limited Product Warranty

- Damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Atlona to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.
- Equipment enclosures, cables, power supplies, batteries, LCD displays, and any accessories used in conjunction with the product(s).
- Products purchased from unauthorized distributors, dealers, resellers, auction websites and similar unauthorized channels of distribution.

Disclaimers

This Limited Product Warranty does not imply that the electronic components contained within Atlona’s products will not become obsolete nor does it imply Atlona products or their electronic components will remain compatible with any other current product, technology or any future products or technologies in which Atlona’s products may be used in conjunction with. Atlona, at its sole discretion, reserves the right not to extend its warranty offering in instances arising outside its normal course of business including, but not limited to, damage inflicted to its products from acts of god.

Limitation on Liability

The maximum liability of Atlona under this limited product warranty shall not exceed the original Atlona MSRP for its products. To the maximum extent permitted by law, Atlona is not responsible for the direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

To the maximum extent permitted by law, this limited product warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied. To the maximum extent permitted by law, Atlona specifically disclaims all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If Atlona cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering its products including warranties of merchantability and fitness for a particular purpose, shall provide to its products under applicable law. If any product to which this limited warranty applies is a “Consumer Product” under the Magnuson-Moss Warranty Act (15 U.S.C.A. §2301, ET SEQ.) or other applicable law, the foregoing disclaimer of implied warranties shall not apply, and all implied warranties on its products, including warranties of merchantability and fitness for the particular purpose, shall apply as provided under applicable law.

Other Conditions

Atlona’s Limited Product Warranty offering gives legal rights, and other rights may apply and vary from country to country or state to state. This limited warranty is void if (i) the label bearing the serial number of products have been removed or defaced, (ii) products are not purchased from an authorized Atlona dealer or reseller. A comprehensive list of Atlona’s authorized distributors, dealers and resellers can be found at www.atlona.com.

Safety and Certification

CAUTION
 RISK OF ELECTRIC SHOCK
 DO NOT OPEN

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.

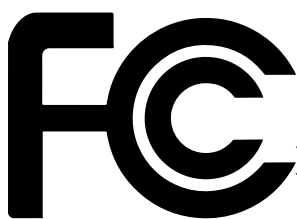


The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

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 Statement



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.



The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI licensing Administrator, Inc.

Table of Contents

Introduction	8
Features	8
Package Contents	8
Panel Description	9
Installation	10
RS-232 Connector	10
Connection Instructions	10
Connection Diagram	11
IP Configuration	12
Using the Front Panel	12
Using Commands	12
Using the Web GUI	13
Basic Operation	14
Defining the Front-Panel Buttons	14
The Web GUI	16
Introduction to the Web GUI	16
Menu Bar	17
Toggles	18
Sliders	18
Buttons	18
Info page	19
Video page	20
Audio page	21
Display page	23
CEC	23
System Settings	24
TCP/IP Settings of Controlled Devices	25
RS-232 / IP Commands	26
RS-232 page	27
EDID page	28
Config page	29
System page	30
HDBT page	32
Kit Mode	33
Video	33
Audio	35
RS-232	36
Appendix	37
Updating the Firmware	37
Using the Web GUI	37
Using USB	38
Default Settings	40
Specifications	41
Index	43

Introduction

The Atlona **AT-HDVS-200-TX** is a 3x1 switcher and HDBaseT transmitter with two HDMI inputs and a VGA input with audio. Video signals up to 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling, plus embedded audio, control, and Ethernet can be transmitted up to 330 feet (100 meters). The two-channel audio input can be assigned to any of the video inputs and embedded for HDBaseT transmission. The HDVS-200-TX is designed for use with the AT-HDVS-200-TX receiver and HD scaler, but can also be used with the AT-UHD-EX-100CE-RX-PSE receiver for 4K/UHD extension, as well as Atlona switchers and matrix switchers with HDBaseT inputs. This transmitter can serve as an integral component of a fully automated AV system, with the convenience of automatic input selection and display control. It is remotely powered by the HDVS-200-RX or other Atlona HDBaseT-equipped devices through Power over Ethernet (PoE).

The Atlona **AT-HDVS-200-TX-PSK** is identical to the AT-HDVS-200-TX, with the addition of local powering capability and an external power supply. This makes it ideal for extending AV and control directly to a projector with an HDBaseT input. The HDVS-200-TX-PSK can serve as the central component of a compact, fully automated AV system with the convenience of automatic input selection, and by sending RS-232 or Ethernet control commands to the projector. With automatic display control capability, the HDVS-200-TX-PSK can power the projector on or off whenever a source is connected or disconnected from the unit.

Features

- 3x1 HDBaseT™ switcher with two HDMI® inputs and one VGA input
- Ideal for the AT-HDVS-200-TX scaling receiver and Atlona HDBaseT-equipped switchers
- HDBaseT transmitter for A/V, Ethernet, power, and control up to 330 feet (100 meters)
- 4K/UHD capability @ 60 Hz with 4:2:0 chroma subsampling (with the AT-UHD-EX-100CE-RX-PSE receiver)
- Includes external power supply (AT-HDVS-200-TX-PSK only) – ideal for point-to-point installations with an HDBaseT-equipped display or projector.
- Automatic input selection and automatic display control
- Front panel input selection, display on/off, and volume control
- TCP/IP and RS-232 control

Package Contents

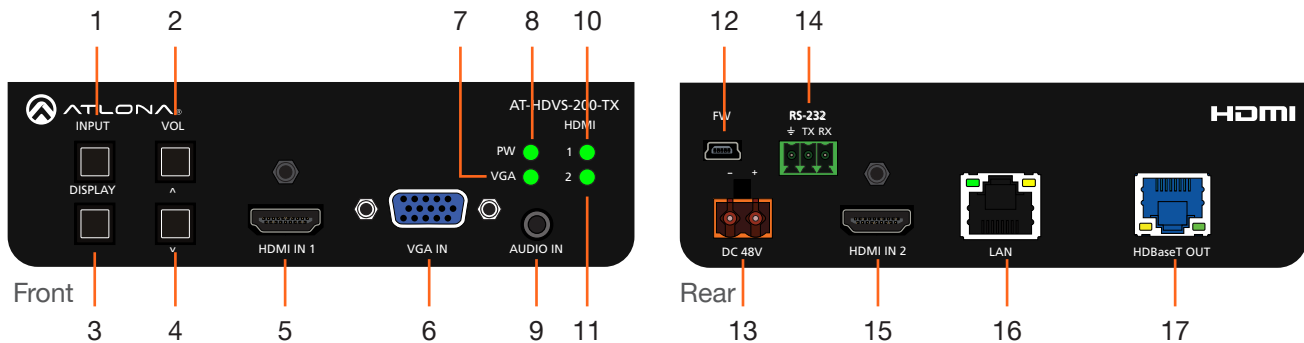
AT-HDVS-200-TX

1 x AT-HDVS-200-TX
1 x Captive screw connector, 3-pin
1 x Mounting brackets
1 x Installation Guide

AT-HDVS-200-TX-PSK

1 x AT-HDVS-200-TX-PSK
1 x Captive screw connector, 3-pin
1 x 48V DC power supply
1 x Mounting brackets
1 x Installation Guide

Panel Description



1 INPUT

Press this button to cycle through each of the available inputs: **HDMI IN 1**, **HDMI IN 2**, and **VGA IN**.

2 VOL (up)

Press this button to adjust the volume on the connected display. Refer to [Defining the Front-Panel Buttons \(page 14\)](#) for more information.

3 DISPLAY

Press this button to trigger user-defined RS-232/CEC/IP display control commands. Refer to [Defining the Front-Panel Buttons \(page 14\)](#) for more information.

4 VOL (down)

Press this button to adjust the volume on the connected display. Refer to [Defining the Front-Panel Buttons \(page 14\)](#) for more information.

5 HDMI IN 1

Connect an HDMI cable from this port to an HD source.

6 VGA IN

Connect a VGA cable from this port to a VGA source.

7 VGA

This LED indicator will glow bright green when the VGA IN port is selected.

8 PW

This LED indicator will glow bright green when the switcher is powered.

9 AUDIO IN

Connect a 3.5mm mini-stereo audio cable, from an analog audio source, to this port.

10 HDMI 1

This LED indicator will glow bright green when the **HDMI IN 1** port is selected.

11 HDMI 2

This LED indicator will glow bright green when the **HDMI IN 2** port is selected.

12 FW

Connect a mini USB to USB-A type cable from this port to a computer to update the firmware. Refer to [Updating the Firmware \(page 37\)](#) for more information.

13 DC 48V

Connect the power supply to this port to power an HDBaseT receiver, projector, or other PoE device.



NOTE: The **DC 48V** port is only available on the AT-HDVS-200-TX-PSK.

14 RS-232

Connect the included 3-pin Phoenix block from this connector to an RS-232 control device.

15 HDMI IN 2

Connect an HDMI cable from this port to an HD source.

16 LAN

Connect an Ethernet cable from this port to the network.

17 HDBaseT OUT

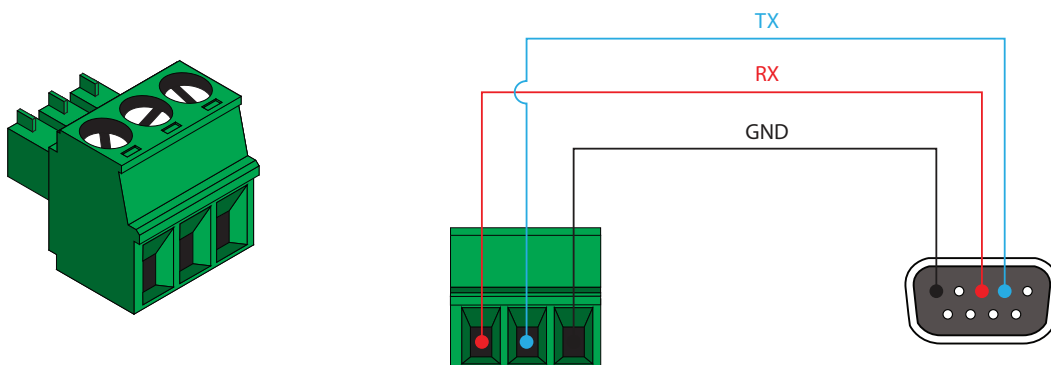
Use an Ethernet cable to connect an HDBaseT PoE receiver to this port.

Installation

RS-232 Connector

The AT-HDVS-200-TX provides RS-232 control between an automation system and an RS-232 device. This step is optional.

1. Use wire strippers to remove a portion of the cable jacket.
2. Remove at least 3/16" (5 mm) from the insulation of the RX, TX, and GND wires.
3. Insert the TX, RX, and GND wires into correct terminal on the included Phoenix block. If using non-tinned stranded wire, press the orange tab, above the terminal, while inserting the exposed wire. Repeat this step for the TX, RX, and GND connections.



Connection Instructions

AT-HDVS-200-TX / AT-HDVS-200-TX-PSK

1. Connect an HDMI cable between the HD source and the **HDMI IN 1** port on the switcher.
2. Connect another HDMI cable between another HD source and the **HDMI IN 2** port on the switcher.
3. Connect a VGA cable from a VGA source to the **VGA IN** port on the switcher.
4. Connect a 3.5 mm mini-stereo cable from the **AUDIO IN** port on the switcher to the analog audio source. The AT-HDVS-200-TX can pass audio either with or without a video signal. Refer to the **Audio Freerun Status** option under the [Audio page \(page 21\)](#).
5. Connect an Ethernet cable, up to 330 feet (100 meters), from the **LAN** port on the switcher to a Local Area Network (LAN). Refer to the [System page \(page 30\)](#) for information on switching between DHCP and static IP modes.



IMPORTANT: If EZ RJ-45 connectors are being used to terminate Ethernet cable, make sure that each twisted pair does not extend beyond the RJ-45 connector. Exposed twisted-pair wires may cause a short when connected to the **LAN** port.

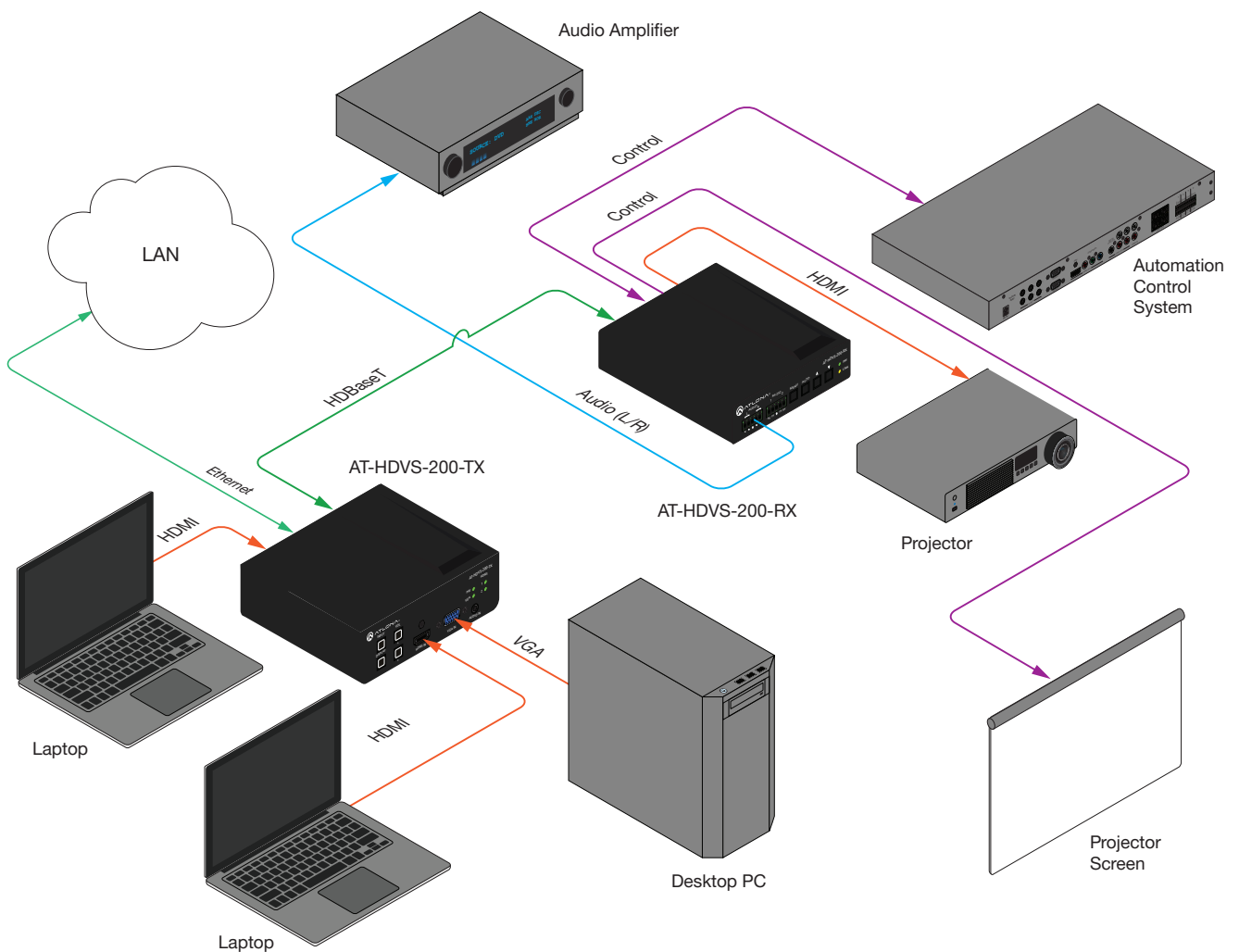
6. Connect an Ethernet cable, up to 230 feet (70 meters), from the **HDBaseT OUT** port on the switcher to a PoE-compatible transmitter (not included). Ethernet cables should use EIA/TIA-568B termination.
7. **OPTIONAL:** Connect an RS-232 control device to the **RS-232** port on the switcher. This port is used to control functions of the AT-HDVS-200-TX, such as volume up/down, display on/off, etc.

No power supply is required for the AT-HDVS-200-TX. This unit will be powered over the Ethernet cable, from an HDBaseT receiver.

AT-HDVS-200-TX-PSK Only

9. Connect the included power supply to the **DC 48V** port. Powering the AT-HDVS-200-TX-PSK will provide power to other HDBaseT receivers or projectors that require power.
10. Connect the power supply to an available AC outlet.

Connection Diagram

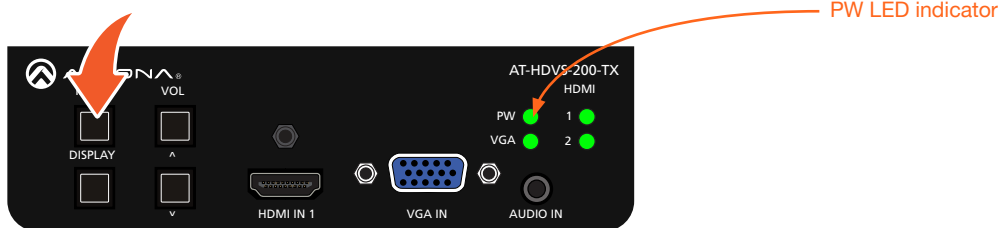


IP Configuration

The AT-HDVS-200-TX is shipped with DHCP enabled. Once connected to a network, the DHCP server (if available), will automatically assign an IP address to the unit. Use an IP scanner, along with the MAC address on the bottom of the unit, to identify both the unit and its IP address on the network. If a static IP address is desired, the unit can be switched to static IP mode. Use one of the following procedures to switch between DHCP and static IP mode. The default static IP address of the AT-HDVS-200-TX is 192.168.1.254.

Using the Front Panel

1. Make sure the AT-HDVS-200-TX is powered.
2. Press and hold the **INPUT** button for approximately 15 seconds.



3. Release the **INPUT** button once the **PW** LED indicator begins to flash. The number of flashes will indicate the currently selected IP mode.

PW LED flashes	Description
Two	Static IP mode
Four	DHCP mode

Using Commands

Use the **IPStatic** and **IPDHCP** commands to switch between DHCP and IP mode through RS-232 or Telnet. Refer to **Commands (page 3)**, for more information. All commands and their arguments are case-sensitive.

- **Setting static IP mode**

1. Connect to the AT-HDVS-200-TX using RS-232 or Telnet.
2. At the command line, execute the **IPDHCP** command using the off argument, as shown.

```
IPDHCP off
```

3. Execute the **IPStatic** command. This command requires three arguments: the desired IP address of the AT-HDVS-200-TX, 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
```

- **Setting DHCP mode**

1. Connect to the AT-HDVS-200-TX using RS-232 or Telnet.
2. At the command line, execute the **IPDHCP** command using the on argument, as shown. All characters are case-sensitive.

IPDHCP on

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

Using the Web GUI

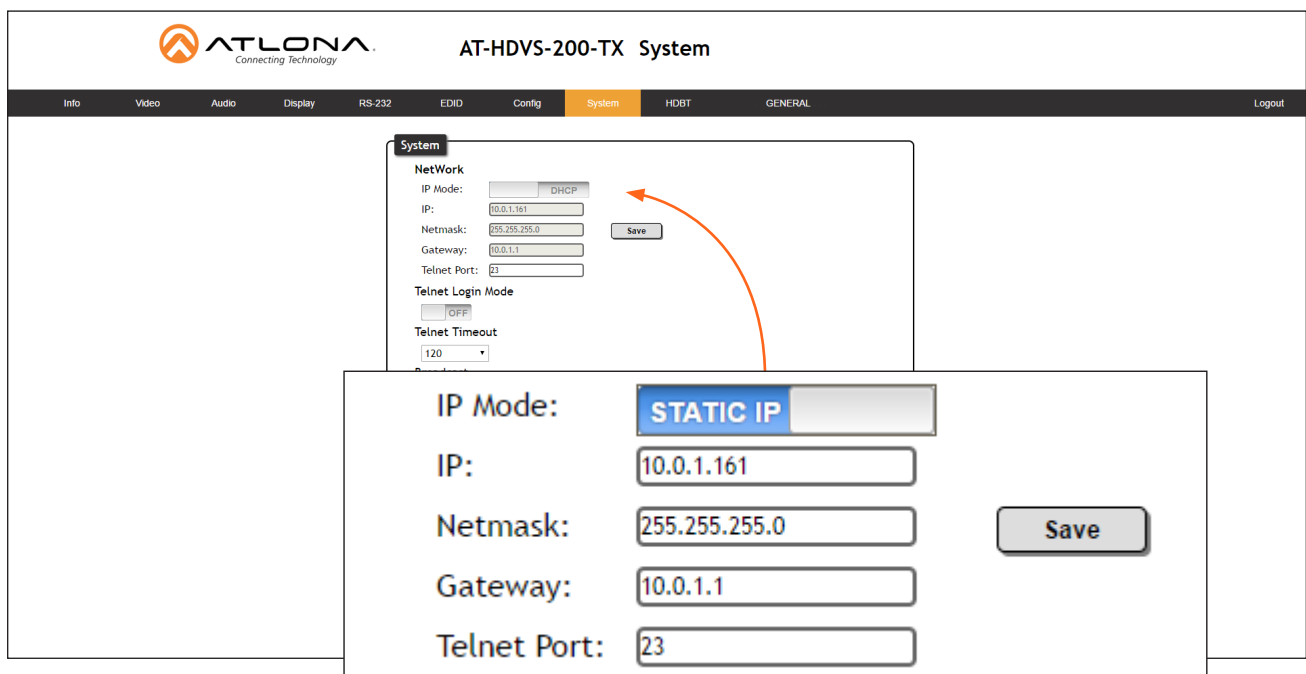
The **System** page (page 30), in the web GUI, allows the AT-HDVS-200-TX to use either DHCP or static IP mode. In order to access the web GUI, the IP address of the AT-HDVS-200-TX must be known.

1. Open the desired web browser and enter the IP address of the AT-HDVS-200-TX.
2. Log in, using the required credentials. The factory-default username and password are listed below:

Username: root

Password: Atlona

3. Click the **System** tab.



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.

Basic Operation

Defining the Front-Panel Buttons

The **DISPLAY** and **VOL (up/dn)** buttons, on the front panel, are user-defined. The factory-default setting of these buttons have no function. For example, pressing the **DISPLAY** button, will toggle the backlit LED on or off. This section covers how to assign a button to a function to control the display using CEC, RS-232, or IP protocols.

1. Login to the web GUI. Refer to [Introduction to the Web GUI \(page 16\)](#) for more information, if necessary.
2. Click **Display** in the menu bar to access the Display page.
3. Scroll down to the **RS-232/IP commands** section. The AT-HDVS-200-TX provides the following types of display control.

RS-232/IP commands

Display commands

Send Mode ASCII

ON Test

Set command None ▼

Feedback None ▼

OFF Test

Set command None ▼

Feedback None ▼

Volume+ Test

Set command None ▼

Volume- Test

Set command None ▼

Mute Test

Set command None ▼

Feedback None ▼

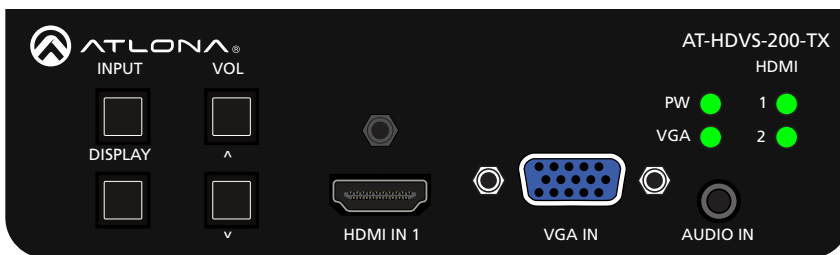
Save
Load Parameters

The AT-HDVS-200-TX provides the following types of display control.

Command	Description	Button Used
ON	Power-on the display device	DISPLAY
OFF	Power-off the display device	DISPLAY
Volume+	Increase the output volume of the display	VOL UP
Volume-	Decrease the output volume of the display	VOL DN
Mute	Mutes the audio output of the display	DISPLAY or VOL buttons

* Note that a button can only be defined for one function at a time. For example, if the **DISPLAY** button is already defined to turn-on or turn-off the display, this button cannot be used to mute the volume of the display device.

4. Locate the command sections (ON, OFF, Volume+, Volume-, and Mute). Each command will have a **Set command** field.
5. Click the **Send Mode** toggle switch to **ASCII** or **HEX**, depending upon the format of the command.
6. Enter the required command for each function, in the **Set command** fields. Consult the documentation of the display device to obtain the correct command string.
7. Click the drop-down list, to the right of each **Set command** field, to append any required carriage return or line feed characters that may be required by the display device.
8. Enter the feedback string in the **Feedback** field and click the drop-down list, directly to the right to select any required characters to append to the feedback string. This step is optional.
9. Test the operation of each command by clicking the **Test** buttons for each command.
10. Once each command string is functioning correctly through the web GUI, test each command using the buttons on the front panel.



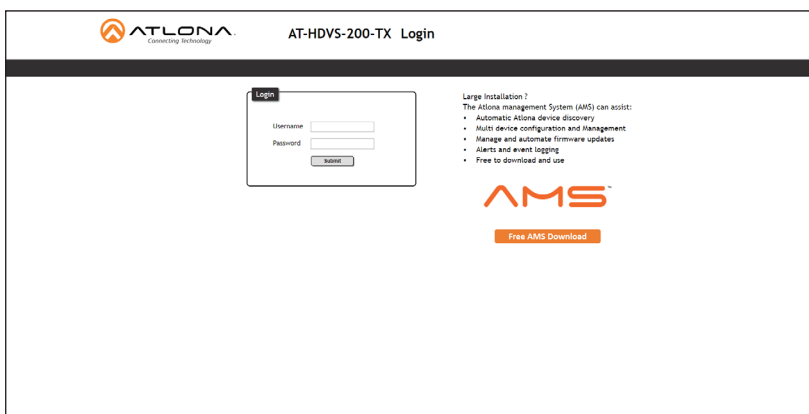
The Web GUI

Introduction to the Web GUI

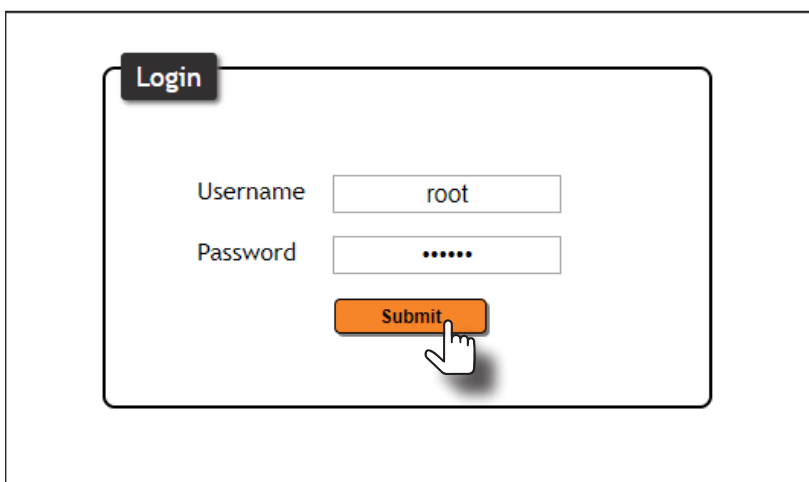
The AT-HDVS-200-TX includes a built-in web GUI. Atlona recommends that the web GUI be used to set up the AT-HDVS-200-TX, as it provides intuitive management of all features.

The AT-HDVS-200-TX 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-HDVS-200-TX. If a static IP address is desired, refer to [IP Configuration \(page 12\)](#). The default static IP address of the AT-HDVS-200-TX is 192.168.1.254.

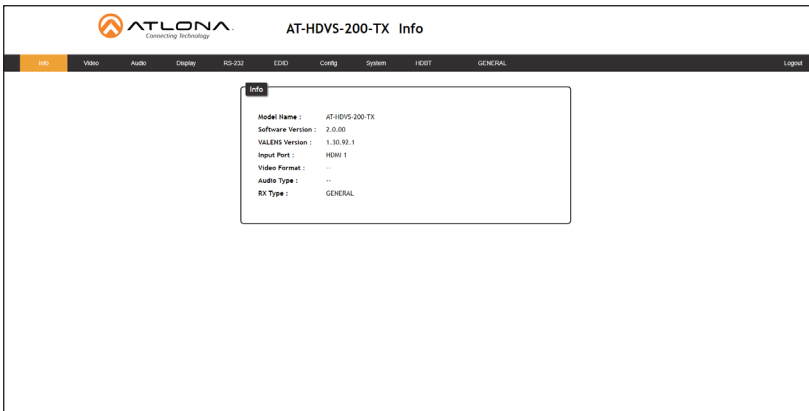
1. Launch a web browser.
2. In the address bar, type the IP address of the AT-HDVS-200-TX.
3. The **Login** page will be displayed.



4. Type root, using lower-case characters, in the **Username** field.
5. Type Atlona in the **Password** field. This is the default password. The password field is case-sensitive. When the password is entered, it will be masked. The password can be changed, if desired. Refer to the [Config page \(page 29\)](#) for more information.
6. Click the **Submit** button or press the ENTER key on the keyboard.

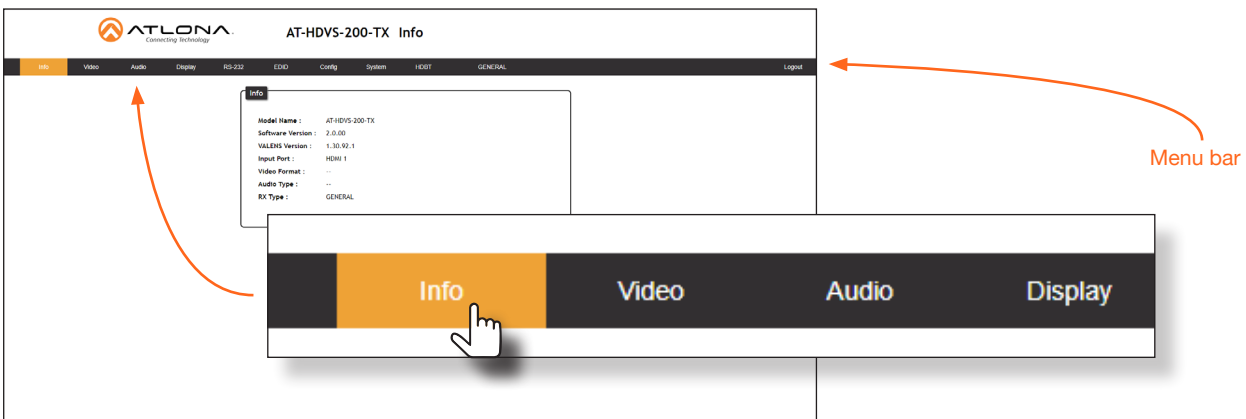


7. The **Info** page will be displayed.

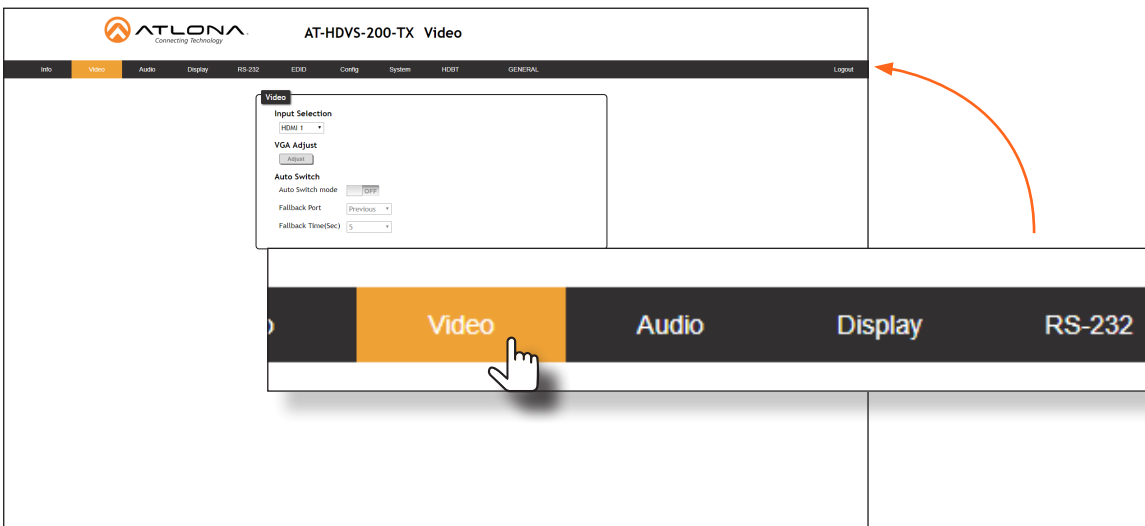


Menu Bar

The dark-colored bar, near the top of the screen, is the menu bar. When the mouse is moved over each menu element, it will be highlighted in light orange. Once the desired menu element is highlighted, click the left mouse button to access the settings within the menu.

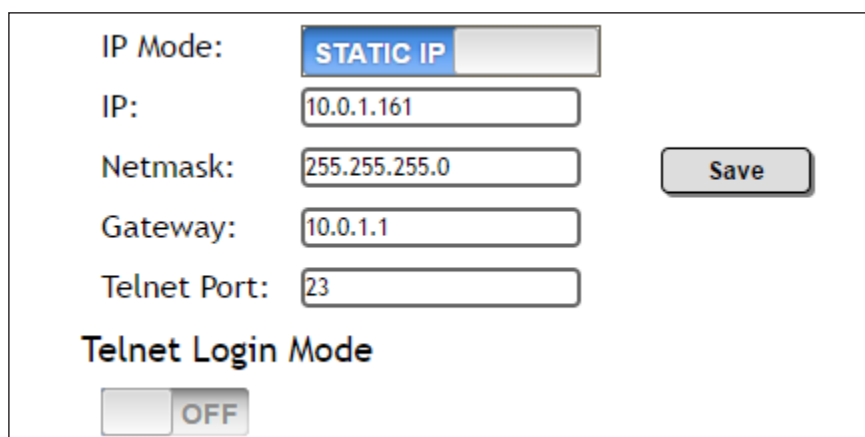


In this example, clicking **Video**, in the menu bar, will display the **Video** page.



Toggles

Several settings within the Web GUI use *toggles*, which enable, disable, or assign one of two settings. Generally, when the *toggle* is blue, it means that the feature is *enabled* or ON. If a feature is *disabled*, then the *toggle* will appear gray and be labeled as OFF. Toggle buttons may also indicate its current setting and, when enabled or set to a particular state, may also provide access to another set of controls or text fields within the Web GUI, as shown with the **IP Mode** toggle.



IP Mode: **STATIC IP**

IP: 10.0.1.161

Netmask: 255.255.255.0

Gateway: 10.0.1.1

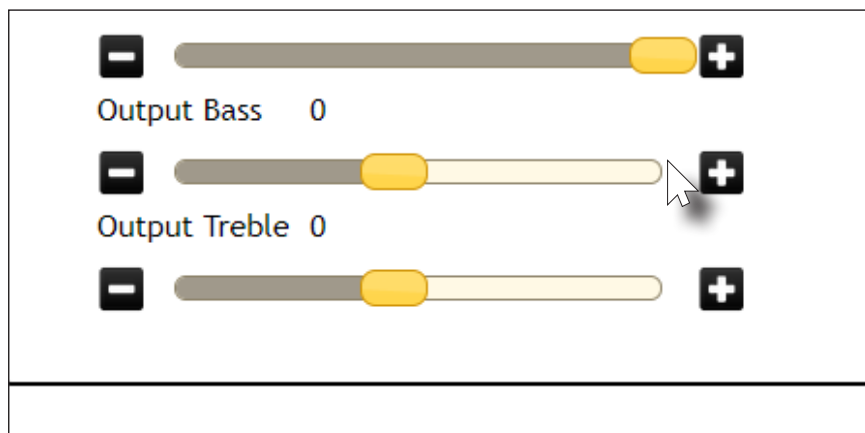
Telnet Port: 23

Telnet Login Mode

OFF

Sliders

Click and drag slider controls to change their value.

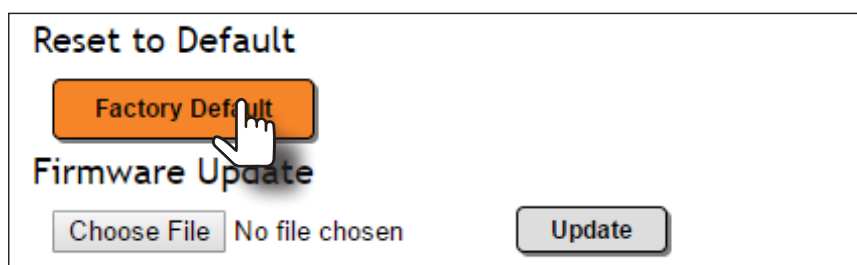


Output Bass 0

Output Treble 0

Buttons

Buttons are used to execute an action or setting. Several pages within the Web GUI include a **Save** button. Clicking the **Save** button will apply and save all settings in the current page. Other buttons, such as the **Factory Defaults** button, under the **System** page, will reset the AT-HDVS-200-TX to factory-default settings.



Reset to Default

Factory Default

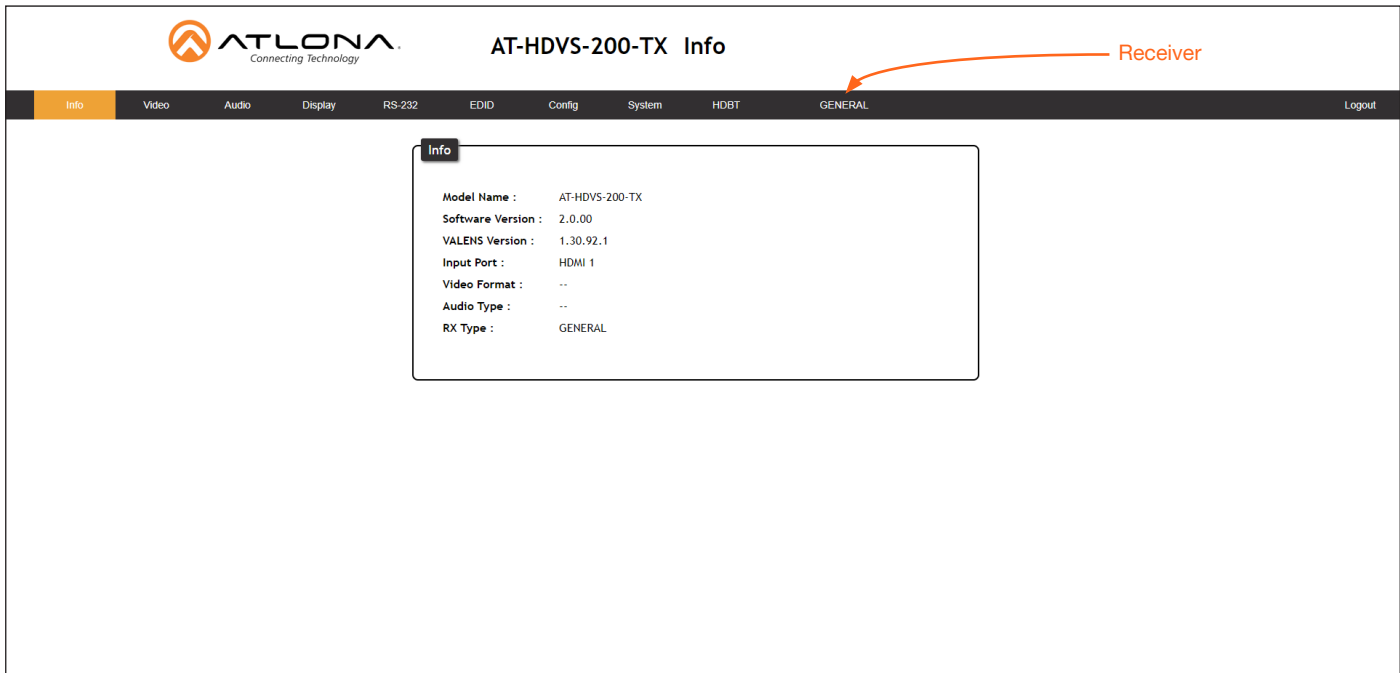
Firmware Update

Choose File No file chosen

Update

Info page

After logging in, the Info page will be displayed. The **Info** page provides basic information about the receiver, including the model name, software version, input video timing, and the device being using as the transmitter.



ATLONA Connecting Technology

AT-HDVS-200-TX Info

info Video Audio Display RS-232 EDID Config System HDBT **GENERAL** Logout

Info

Model Name : AT-HDVS-200-TX
 Software Version : 2.0.00
 VALENS Version : 1.30.92.1
 Input Port : HDMI 1
 Video Format : --
 Audio Type : --
 RX Type : GENERAL

Receiver

Model Name

The model SKU of this product.

Software Version

The version of firmware that the AT-HDVS-200-TX is running. Always make sure to check the AT-HDVS-200-TX product page, on the Atlona web site, for the latest version of firmware.

VALENS Version

The version of firmware used by the Valens chipset.

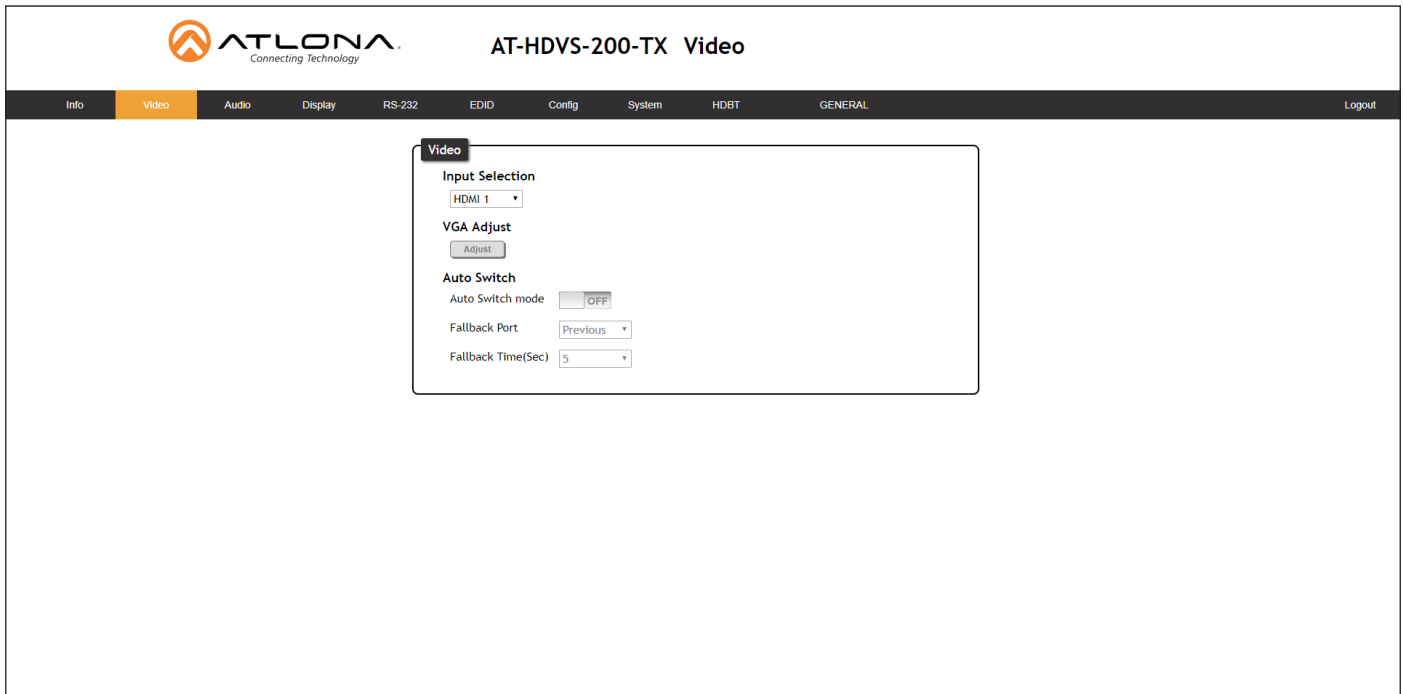
Video Format

Displays the input resolution of the source device.

RX Type

The model of the connected PoE-compatible receiver unit. If the AT-HDVS-200-TX is connected to a receiver, other than the AT-HDVS-200-RX, then the text “GENERAL” will be displayed here, and in the menu ribbon. However, if connected to the AT-HDVS-200-RX (using the **HDBaseT** port), this text will change to the name of the device and acts as a hyperlink to the AT-HDVS-200-RX web GUI. When the AT-HDVS-200-TX is connected to the AT-HDVS-200-RX, the system will be placed in *kit mode*. In *kit mode*, additional options will be available under the **Video** page and the **RS-232** page. Refer to [Kit Mode \(page 33\)](#) for more information.

Video page



Input Selection

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

VGA Adjust

In most situations, adjustment of the VGA signal should not necessary. However, if the VGA signal does not appear correctly, click the **Adjust** button to automatically correct the clock and phase.

Auto Switch

Three controls are available under the Auto Switch feature.

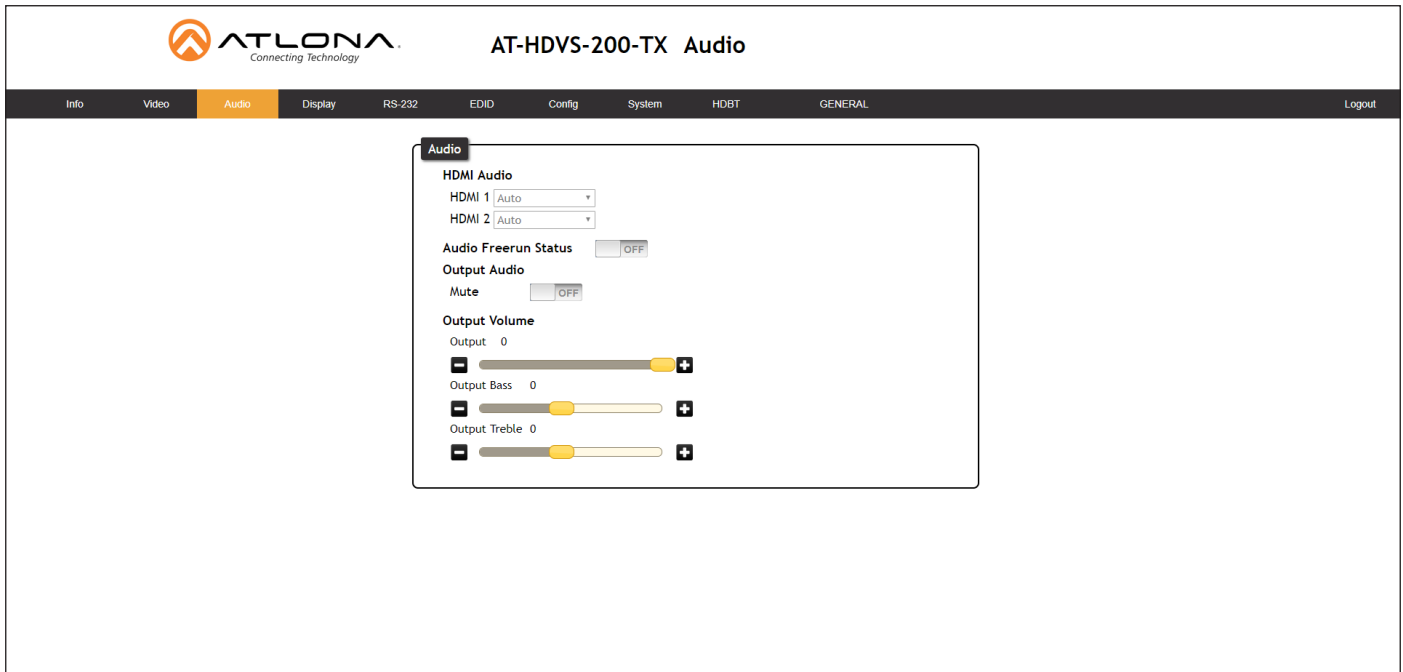
- Click the **Auto Switch** mode toggle to enable or disable auto-switching.
- Click the **Fallback Port** drop-down list to select the fallback port. If the source is disconnected from the active port, then the switcher can be configured to automatically switch to the desired port. Click the **Auto Switch** mode toggle to enable or disable auto-switching.

Setting	Description
HDMI 1	Automatically switches to HDMI 1.
HDMI 2	Automatically switches to HDMI 2.
VGA	Automatically switches to VGA.
Previous	The switcher will return to the previous (last connected) input. If no input is found, then it will attempt to switch to a ternary port.

- Click the **Fallback Time (Sec)** drop-down list and select the time interval before the switcher attempts to search for the next port. Range: 3 to 600.

When the system is in *kit mode*, additional options will be available. Refer to [Kit Mode \(page 33\)](#) for more information.

Audio page



HDMI Audio

These drop-down lists are only available when the system is in kit mode. Refer to [Kit Mode \(page 33\)](#) for more information.

Audio Freerun Status

Audio can be passed, without the presence of a video signal. To enable this functionality, click the **Audio Freerun Status** toggle to the ON position. To pass both video and audio, this toggle must be set to the OFF position.



IMPORTANT: Setting the **Audio Freerun Status** to ON is not recommended. When set to ON, both video auto switching and display control are disabled.

Mute

Click this toggle to the **OFF** position to mute all audio on the output.

HDMI Audio

Click this toggle to the **OFF** position to mute only the HDMI audio.

Output

Click and drag this slider bar to adjust the output audio volume. Range: -80 to 0.

Output Bass

Click and drag this slider bar to adjust the bass of the audio output. Range: -12 to 15.

Output Treble

Click and drag this slider bar to adjust the treble of the audio output. Range: -12 to 15.

L/R Audio

Click this toggle to the **OFF** position to mute only the analog audio.

Output

Click and drag this slider bar to adjust the output audio volume. Range: -80 to 0.

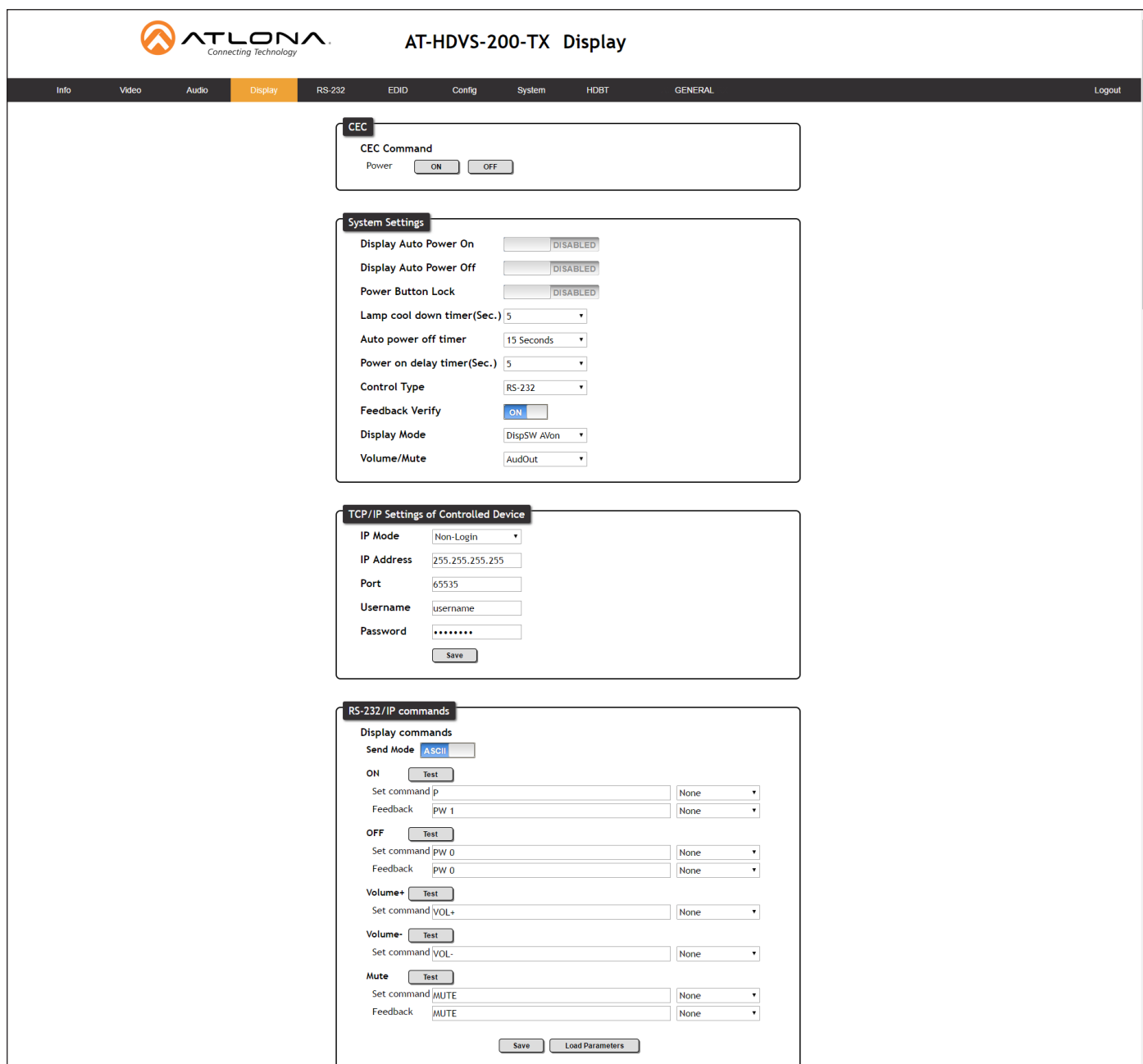
Output Bass

Click and drag this slider bar to adjust the bass of the audio output. Range: -12 to 15.

Output Treble

Click and drag this slider bar to adjust the treble of the audio output. Range: -12 to 15.

Display page



The screenshot shows the AT-HDVS-200-TX Display web GUI. The top navigation bar includes: Info, Video, Audio, Display (selected), RS-232, EDID, Config, System, HDBT, GENERAL, and Logout. The main content area is divided into four sections:

- CEC:** CEC Command Power
- System Settings:**
 - Display Auto Power On:
 - Display Auto Power Off:
 - Power Button Lock:
 - Lamp cool down timer(Sec.): 5
 - Auto power off timer: 15 Seconds
 - Power on delay timer(Sec.): 5
 - Control Type: RS-232
 - Feedback Verify:
 - Display Mode: DispSW AVon
 - Volume/Mute: AudOut
- TCP/IP Settings of Controlled Device:**
 - IP Mode: Non-Login
 - IP Address: 255.255.255.255
 - Port: 65535
 - Username: username
 - Password: *****
 -
- RS-232/IP commands:**
 - Display commands
 - Send Mode:
 - ON:**
 - Set command p: [text box] None
 - Feedback PW 1: [text box] None
 - OFF:**
 - Set command pw 0: [text box] None
 - Feedback PW 0: [text box] None
 - Volume+:**
 - Set command |VOL+: [text box] None
 - Volume-:**
 - Set command |VOL-: [text box] None
 - Mute:**
 - Set command |MUTE: [text box] None
 - Feedback MUTE: [text box] None
 -

CEC

CEC Command

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.

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

Sends the command to power-on the display when an A/V signal is detected. Click the toggle to enable or disable this feature. Otherwise, set to DISABLED.

Display Auto Power Off

Sends the command to power-off the display when an A/V signal is no longer present. Click the toggle to enable or disable this feature. Otherwise, set to DISABLED.

Power Button Lock

Allows the **DISPLAY** button, on the front panel, to be locked, preventing accidental operation when the product is in use. Click the toggle to enable or disable this feature.

Lamp Cool Down Timer

Sets the cool-down interval, in seconds, before the projector can be powered-off. During this time interval, the projector will not accept any commands until the “power off” command has been processed and the projector lamp has completed the cool-down cycle. Range: 0 to 300.

Display Warm Up Timer

Sets the time interval, in seconds, between when the display is powered on and when the **DISPLAY** button, on the front panel, will be locked. Range: 0 to 300.

Auto Power Off Timer

Sets the time interval, in seconds, between when the loss of A/V signal is detected and when the “Display Off” command is sent. Range: 5 seconds to 1 hour.

Control Type

Sets the control method for sending commands. The following options are available: RS-232, IP, CEC.

Setting	Description
RS-232	RS-232 is used to send commands.
IP	Commands are sent over IP.
CEC	Uses CEC to send commands.

Feedback Verify

Sets the feedback verification state. Click the toggle to enable or disable this feature. The following options are available.

Setting	Description
On	This is the default setting. The AT-HDVS-200-TX will make four attempts to send the command, if the feedback string is not acknowledged. After the fourth attempt, the process will fail.
Off	Sends the command and ignores the feedback string.

Display Mode

Click this drop-down list to select the display mode.

Setting	Description
DispSW AVon	Display switches on/off, source audio/video signal always on.
DispSW AVSW	Display switches on/off, source audio/video signal switches on/off.
AV SW	Display is always on, source audio/video signal switches on/off

Volume / Mute

Click this drop-down list to select the control method for volume and muting.

Setting	Description
AudOut	Volume and mute buttons will control volume level of the output.
RS-232	Volume/Mute buttons will send the commands using RS-232 to compatible extenders and displays.
IP	Volume/Mute buttons will send the commands over Ethernet using the LAN connection.

TCP/IP Settings of Controlled Devices

IP Mode

Click this drop-down list to select the login mode.

Setting	Description
Non-login	Does not require a username and password when using TCP/IP to control the display.
RS-232	Requires a username and password to control the display through TCP/IP.

IP Address

Enter the IP address of the device in this field.

Port

Enter the listening port of the device in this field.

Username

Enter the username for login. If the **IP Mode** is set to Non-Login, then this information will not be required.

Password

Enter the password for login. If the **IP Mode** is set to Non-Login, then this information will not be required.

Save

Click this button to save all changes in this window group.

RS-232 / IP Commands

Send Mode

Sets the type of commands that are sent to the display, either **ASCII** or **Hex**.

On/Off/Volume+/Volume-/Mute

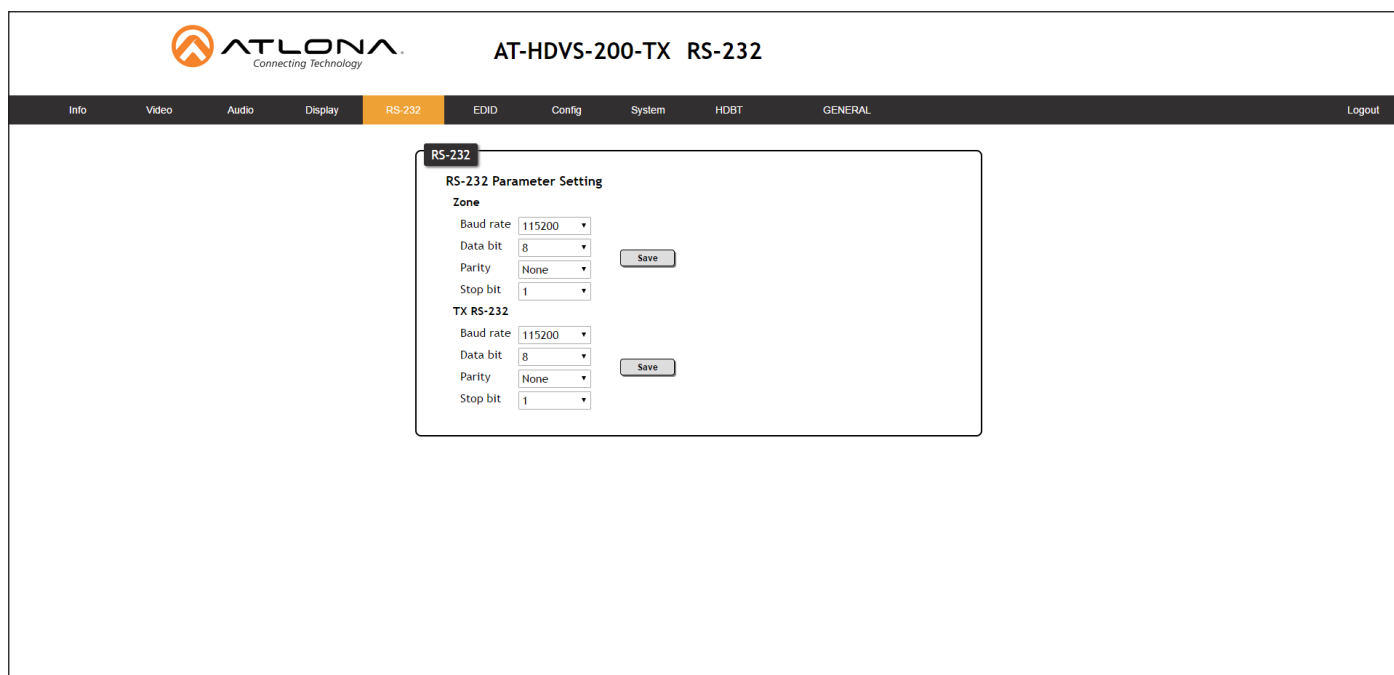
- **Set command**
Enter the command in this field.
- **Feedback**
Enter the feedback string in this field.
- **CR-LF**
Click this drop-down list to select the desired end-of-line characters to be sent.
- **Test**
Click this button to test the command line and/or feedback.

Setting	Description
None	No end-of-line characters included
CR	Carriage return
LF	Line feed
CR-LF	Carriage return + Line feed
Space	Space character
STX	Start-of-text character
ETX	End-of-text character
Null	Null character (binary zero)

Save

Click this button to save all changes in this window group.

RS-232 page



Zone

When the AT-HDVS-200-TX is connected to the AT-HDVS-200-RX, the system is placed in *kit mode*. In this mode, the drop-down list boxes will be disabled and the HDBaseT baud rate will be locked at 115200.

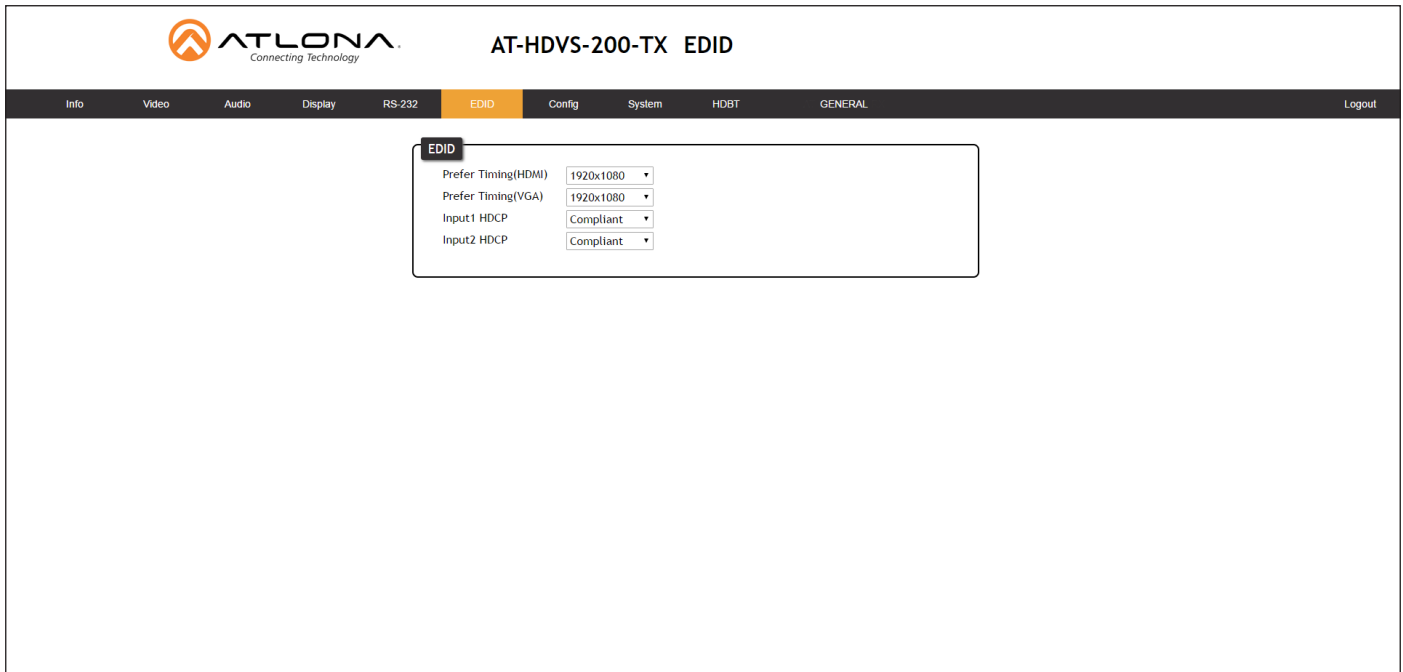
If the AT-HDVS-200-TX is connected to another HDBaseT device, such as the AT-UHD-CLSO-824, each of these drop-down list boxes can be set to the baud rate of the HDBaseT RS-232 settings on the corresponding device.

TX RS-232

The RS-232 settings of the RS-232 port on the AT-HDVS-200-TX. Click the **Save** button to save the settings.

Setting	Description
Baud rate	Sets the baud rate. The following options are available: 2400, 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.

EDID page



Prefer Timing (HDMI)

Click this drop-down list to select the preferred timing for the HDMI signal.

Prefer Timing (VGA)

Click this drop-down list to select the preferred timing for the VGA signal.

Input1 HDCP / Input2 HDCP

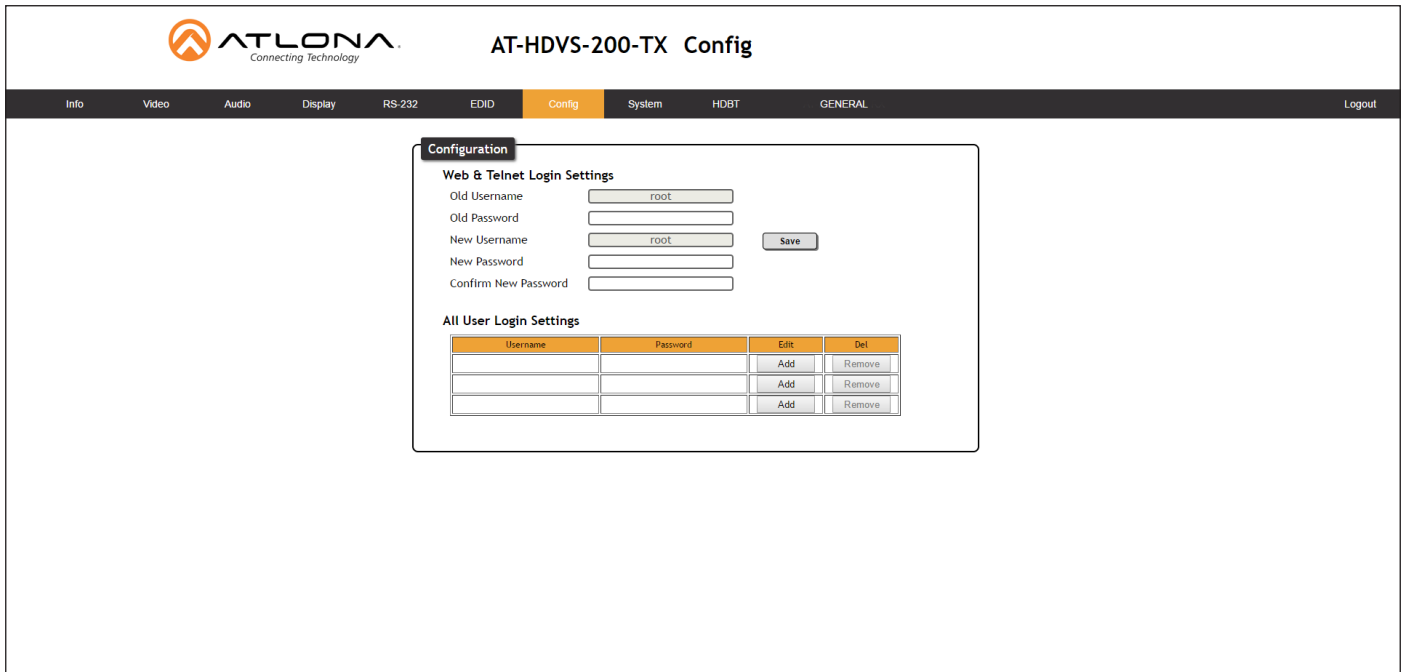
Provides control over the transmission of HDCP content for the **HDMI IN 1** and **HDMI IN 2** ports. The following options are available:

- **Compliant** - Forces detection of HDCP-compliant sink devices. If the sink device is not HDCP-compliant, then no content will be transmitted.
- **Noncompliant** - Suppresses detection of HDCP-compliant sink devices, allowing non-HDCP content to be transmitted.
- **Auto** - Automatically detects the presence of HDCP-compliant sink devices. If an HDCP-compliant display is detected, then HDCP content will be sent. Otherwise, non-HDCP content will be sent.



NOTE: The HDCP control feature does **not** provide decryption of HDCP content to non-HDCP sink devices.

Config page



Old Username

This field cannot be changed. “root” is the administrator user.

Old Password

Enter the current password for the “root” username in this field. The default password is “Atlona”.

New Username

This field cannot be changed.

Save

Click this button to save all changes.

New Password

Enter the new password for the “root” username in this field.

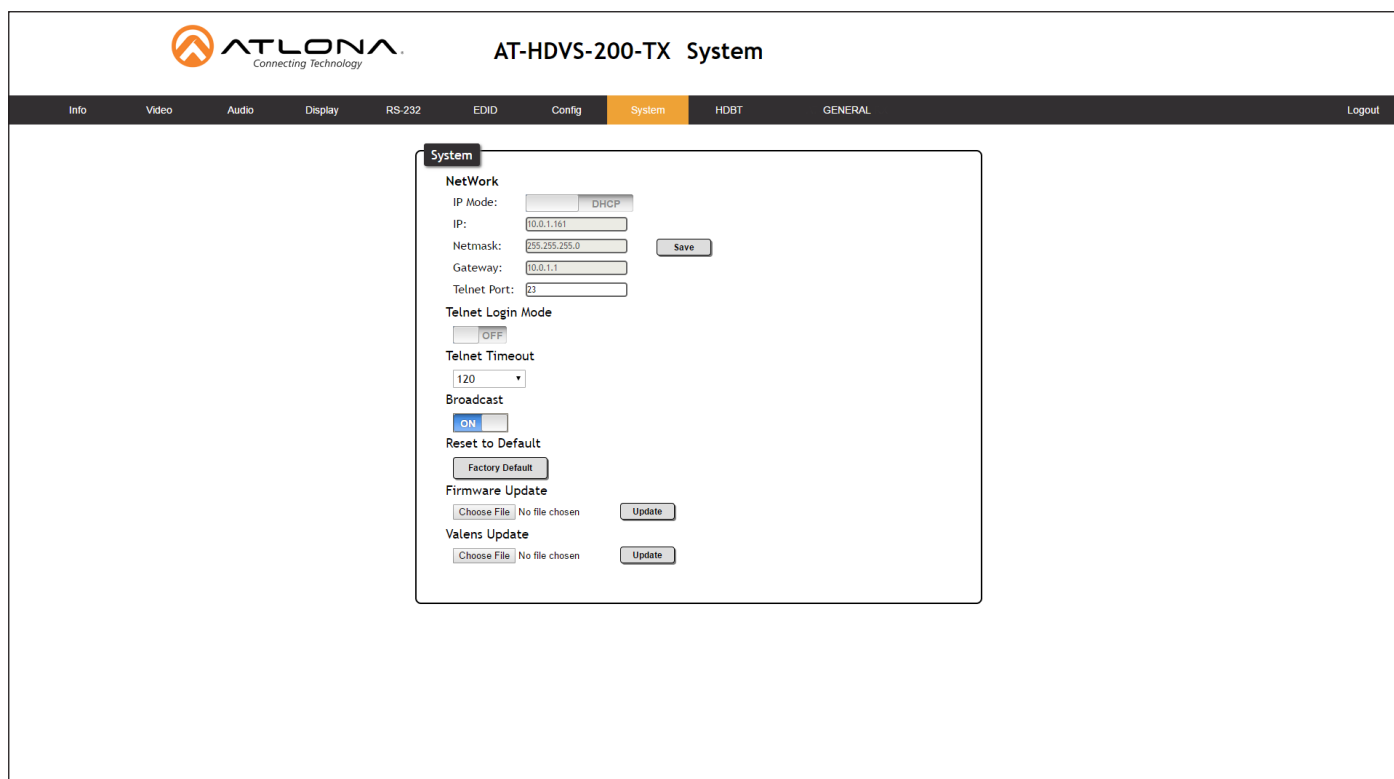
Confirm New Password

Verify the new password by retyping it in this field.

All User Login Settings

- **Username**
Displays the username.
- **Password**
Displays the password for the associated username.
- **Edit**
Click the **Add** button, in this column, to edit the username and password in the row.
- **Del**
Click the **Remove** button to delete the user in the row. This button will only be available if a username and password have been created.

System page



IP Mode

Click this toggle to set the IP mode of the AT-HDVS-200-TX. By default, the AT-HDVS-200-TX is set to DHCP mode. Available settings: STATIC IP, DHCP.

IP

Enter the IP address of the AT-HDVS-200-TX in this field. This field will only be available if **IP Mode** is set to STATIC IP. The default IP address is 192.168.1.254.

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 port in this field.

Telnet Login Mode

Click this toggle to set the login mode to ON or OFF. If this feature is set to ON, then the AT-HDVS-200-TX will prompt for both the username and password. Use the same credentials as the web GUI.

Telnet Timeout

Click this drop-down list to select the timeout interval, in seconds, before the Telnet connection is automatically closed after no activity. Range: 1 to 3600 (seconds).

Broadcast

By default, broadcast mode is set to off. When set to on, changes in the web GUI will also be affected on the control system (if connected), via TCP/IP. To separate control between web GUI and Telnet, set this feature off.

Reset to Default

Click the **Factory Default** button to set the AT-HDVS-200-TX to factory-default settings.


Firmware Update

Click the **Choose File** button to select the firmware file, when upgrading the firmware on the AT-HDVS-200-TX. Once the firmware file is selected, click the **Update** button. Refer to [Updating the Firmware \(page 37\)](#) for more information.

Valens Update

Click the **Choose File** button to select the Valens firmware file, when upgrading the Valens chip on the AT-HDVS-200-TX. Once the firmware file is selected, click the **Update** button.

HDBT page



AT-HDVS-200-TX HDBT

Info
Video
Audio
Display
RS-232
EDID
Config
System
HDBT
GENERAL
Logout

HDBaseT Channel Cable Test

HDBaseT Zone Output 1 Start

TX Version ---

RX Version ---

TMD5 Clock ---

Cable length (Estimated) ---

Video Quality (Video BER) ---

Cable Quality Pair A ---

Cable Quality Pair B ---

Cable Quality Pair C ---

Cable Quality Pair D ---

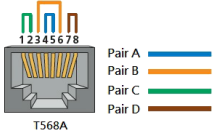
Test Instructions

1. Select HDBT Zone
2. Connect active HDMI source(DVD etc...)
3. Ensure source and sink are operating
4. Click the Start button

Use highest source resolution without exceeding 4K@60Hz 4:2:0

- If the BER and Cable quality all pass, the system is functioning as expected.
- If BER passes but one or more of the Cable pairs fail, the cable is compromised and may require retermination.
- If BER and one or more of the Cable pairs fails, the cable should be reterminated. If this does not fix the issue, the cable may need to be replaced.

EIA568A RJ45 Pairing



T568A

HDBaseT Channel

The AT-HDVS-200-TX has only a single HDBaseT output. Therefore, this drop-down list is disabled.

Start / Stop

Click the **Start** button to begin the HDBaseT testing. During testing, the button text will change to “Stop”. Click the **Stop** button to halt the HDBaseT testing process.

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 Ethernet cable connected between the HDBaseT ports on the transmitter 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.

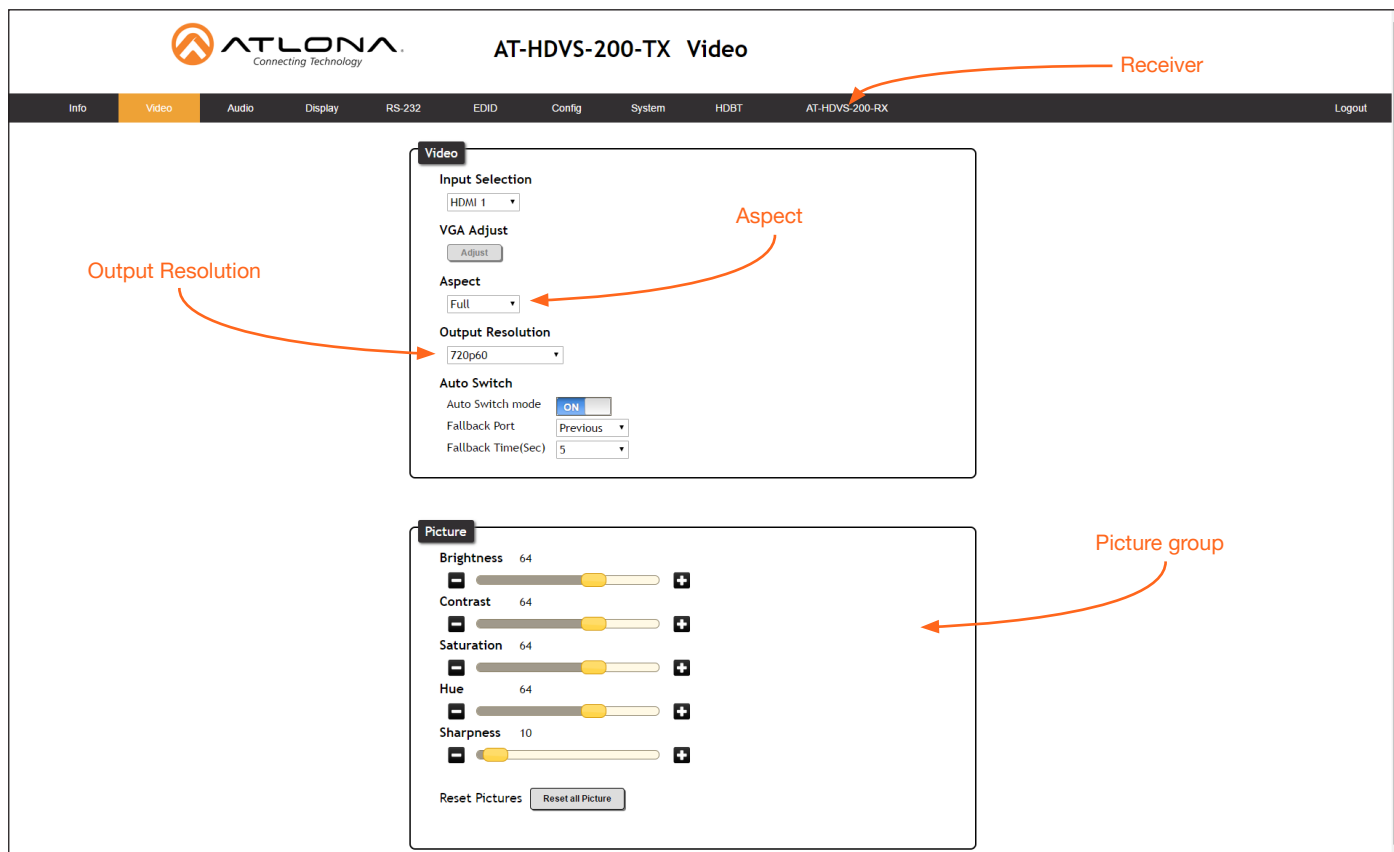
Cable Quality Pair (A, B, C, D)

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

Kit Mode

If the AT-HDVS-200-TX is connected to the AT-HDVS-200-TX, the system will be placed in *kit mode*. This section covers features only available in *kit mode*. Note that the text “GENERAL” has been replaced with the name of receiver (AT-HDVS-200-TX).

Video



Aspect

Click the **Aspect** drop-down list and select the desired aspect ratio.

Aspect Ratio	Description
Full	The input signal is adjusted to fill the screen.
16:9	Set the aspect ratio to 16:9; common aspect ratio for HD and widescreen formats; also notated as 1:1.77:1
16:10	Set the aspect ratio to 16:10; typical aspect ratio for computer and tablet displays.
4:3	Sets the aspect ratio to 4:3; if the input signal is 16:9 or 16:10, up to 30% of the vertical resolution is lost.
Keep Ratio	The output aspect ratio is the same as the input.

Output Resolution

Click the **Output Resolution** drop-down list and select the desired resolution. The default resolution is 720p.

Output Resolutions			
800x600@60	1024x768@60	1280x800@60	1280x1024@60
1366x768@60	1400x1050@60	1600x900@60RB	1600x1200@60
1680x1050@60	1920x1200@60RB	720p25	720p29.97
720p30	720p50	720p59.94	720p60
1080i50	1080i59.94	1080i60	1080p23.98
1080p24	1080p25	1080p29.97	1080p30
1080p50	1080p59.94	1080p60	Input
Native			

Brightness

Adjusts the brightness setting of the output signal. Range: 0 - 128

Contrast

Adjusts the contrast setting of the output signal. Contrast is the difference between the lightest and darkest area of an image. Range: 0 - 128

Saturation

Adjusts the color saturation of the output signal. Range: 0 - 128

Hue

Adjusts the hue of the output signal. Range: 0 - 128

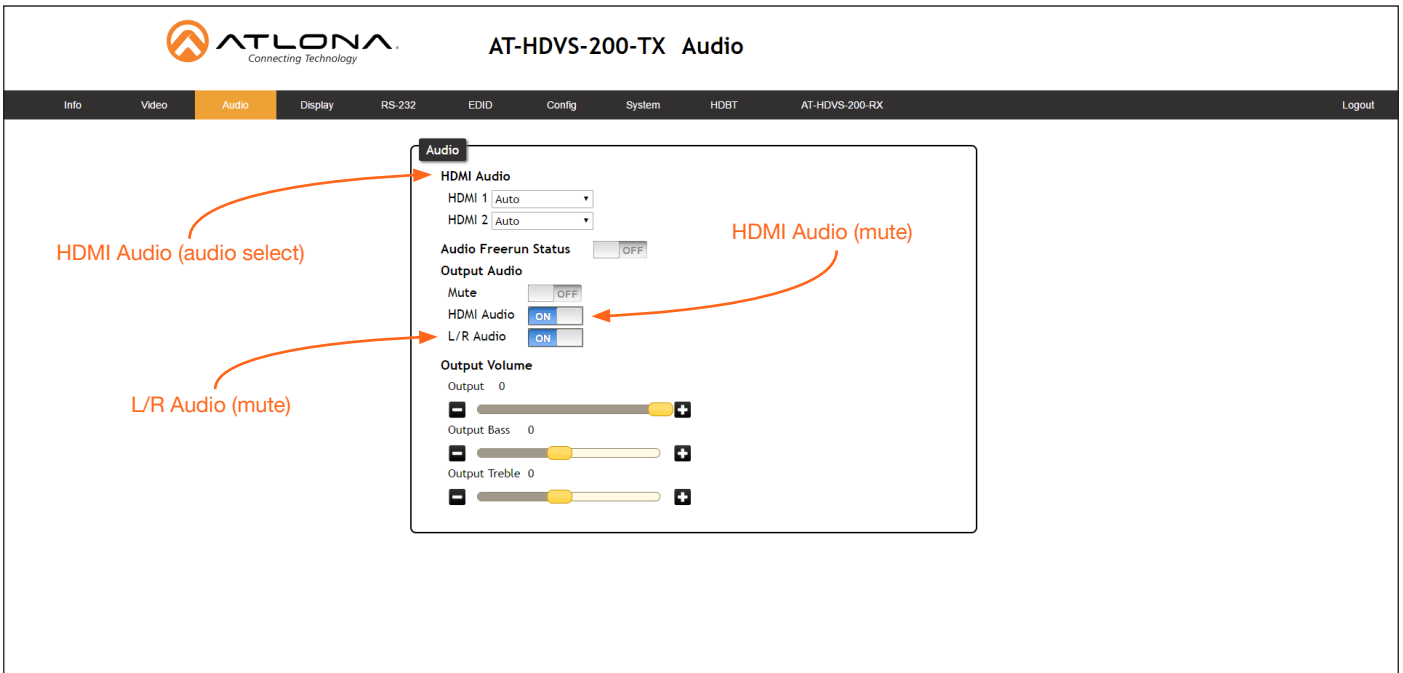
Sharpness

Adjusts the sharpness of the output signal. Range: 0 - 128

Reset all Picture

Click this button to reset the above picture settings to their factory-default settings.

Audio


HDMI Audio

Click the drop-down list for HDMI 1 and HDMI 2 to select the input audio source used by each HDMI input.

Setting	Description
Auto	Automatically detects the audio source. If an HDMI cable with embedded audio is connected, the system will use the digital audio on the HDMI cable. If a cable, which does not support audio (such as a DVI cable) is connected to the HDMI port, then the analog audio from the AUDIO IN port will be used.
Digital	The HDMI audio will be used as the source.
Analog	The analog source, connected to the AUDIO IN port, will be used.

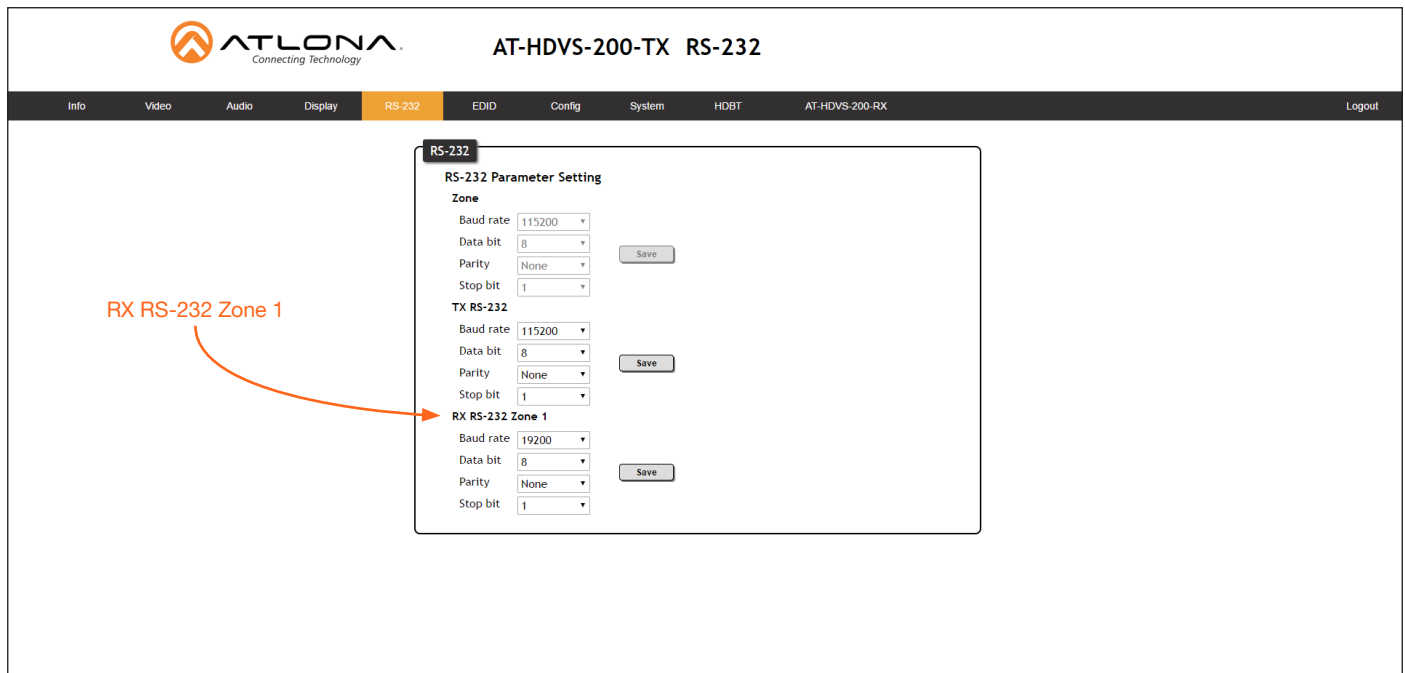
HDMI Audio

Click this toggle to the **OFF** position to mute only the HDMI audio.

L/R Audio

Click this toggle to the **OFF** position to mute all audio on the output.

RS-232



RX RS-232 Zone 1

Each of these drop-down lists refer to the setting for the **RS-232 1** port on the receiver. Click the **Save** button to save the settings.

Setting	Description
Baud rate	Sets the baud rate. The following options are available: 2400, 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.

NOTE: In the illustration above, note that the **Zone** RS-232 settings are “locked” because the system is in *kit mode*.

Appendix

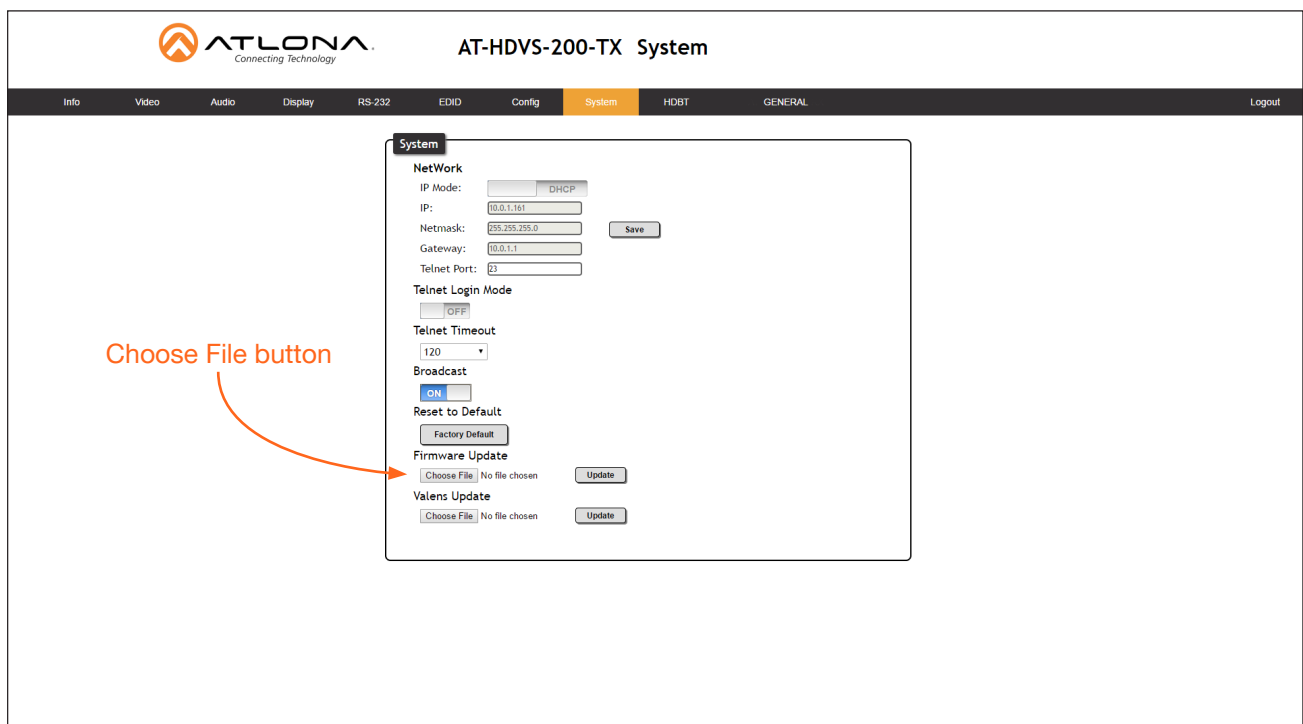
Updating the Firmware

Updating the firmware can be completed using either the USB interface or the web GUI. Atlona recommends using the web GUI for updating the firmware. However, if a network connection is not available, the AT-HDVS-200-TX firmware can be updated using a USB-A to USB mini-B cable

Using the Web GUI

Requirements

- AT-HDVS-200-TX
 - Firmware file
 - Computer
1. Connect an Ethernet cable from the computer, containing the firmware, to the same network where the AT-HDVS-200-TX is connected.
 2. Go to the [System page \(page 30\)](#) in the web GUI.



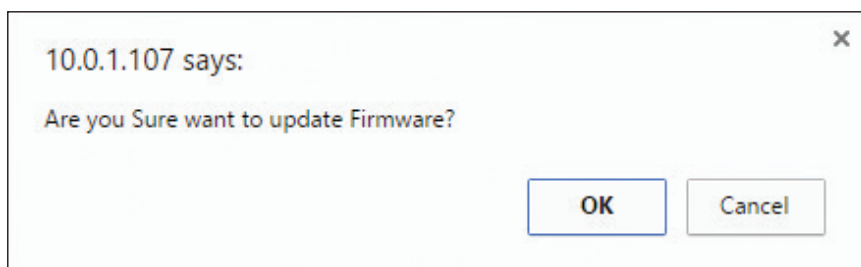
3. Click the **Choose File** button, under the **Firmware Update** section.



IMPORTANT: When updating the firmware, make sure to select the **Choose File** button under **Firmware Update**. The **Valens Update** section does not apply to this procedure.

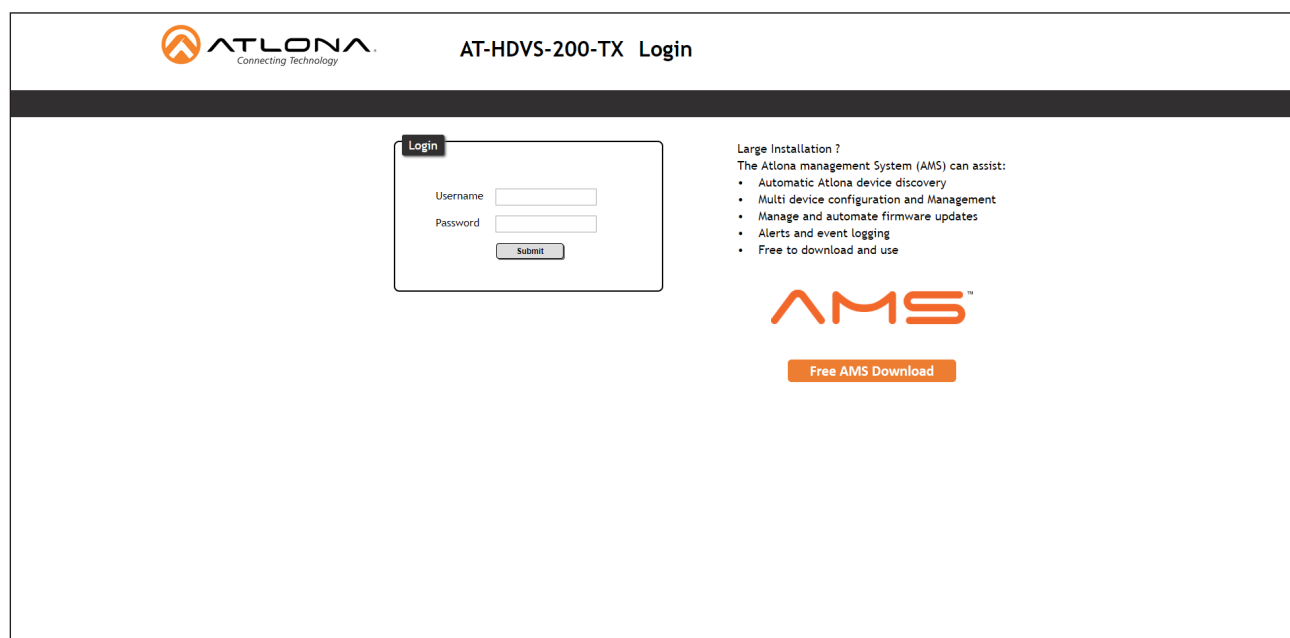
4. Browse to the location of the firmware file, select it, and click the **Open** button.
5. Click the **Update** button, under the **Firmware Update** section.

6. The following message box will be displayed.



7. Click the **OK** button to begin the firmware update process. Click the **Cancel** button to cancel the process.

8. After the firmware update process is complete, the **Login** screen will be displayed.

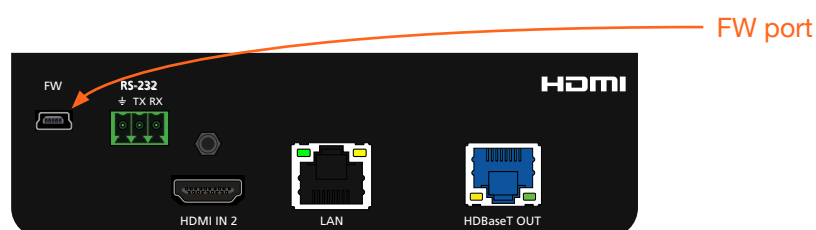


Using USB

Requirements

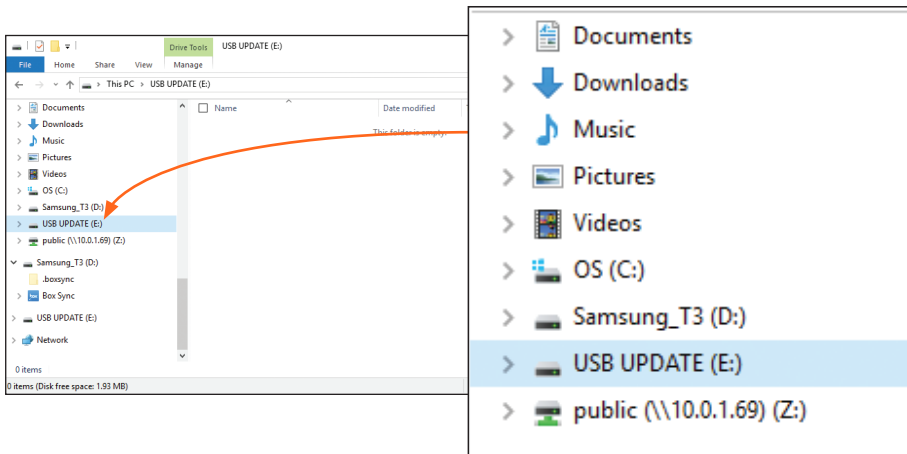
- AT-HDVS-200-TX
- Firmware file
- Computer running Windows
- USB-A to USB mini-B cable

1. Disconnect power from the AT-HDVS-200-TX.
2. Connect the USB-A to USB mini-B cable from the computer to the **FW** port on the AT-HDVS-200-TX.



3. Press and hold the **INPUT** button, on the front panel, while connecting power to the AT-HDVS-200-TX.
4. The USB UPDATE folder will be displayed.

If this folder is not displayed, automatically, select the USB UPDATE drive from Windows Explorer.



7. Delete all files from the USB UPDATE drive, if any are present.
8. Drag-and-drop the firmware file to the drive.
9. After the file has been copied, disconnect the USB cable from both the computer and the AT-HDVS-200-TX.
10. Power-cycle the AT-HDVS-200-TX by disconnecting then reconnecting the power supply.
11. The firmware update process is complete.

Default Settings

The following tables list the factory-default settings for the AT-HDVS-200-TX.

Feature	Settings	
Video	Input Selection	HDMI 1
	Aspect	Full
	Auto Switch mode	OFF
	Fallback Port	Previous
	Fallback Time (Sec)	5
Audio	HDMI 1	Auto
	HDMI 2	Auto
	Audio Freerun Status	OFF
	Mute	OFF
	Output Volume	0
	Output Bass	0
	Output Treble	0
Display	Display Auto Power On	DISABLED
	Display Auto Power Off	DISABLED
	Power Button Lock	DISABLED
	Lamp cool down timer (sec)	5
	Auto power off timer (sec)	15
	Power on delay time (sec)	5
	Control Type	RS-232
	Feedback Verify	ON
	Display Mode	DispSW AVon
	Volume / Mute	AudOut
RS-232	Zone	115200, 8, N, 1
	TX RS-232	115200, 8, N, 1
EDID	Prefer Timing (HDMI)	1920x1080
	Prefer Timing (VGA)	1920x1080
	Input1 HDCP	Compliant
	Input2 HDCP	Compliant
Config	Username (default)	root
	Password (default)	Atlona
System	IP Mode	DHCP
	Static IP Address (default)	192.168.1.254
	Netmask	255.255.255.0
	Gateway	192.168.1.1
	Telnet Port	23
	Telnet Login Mode	Off
	Telnet Timeout	120 (seconds)
	Broadcast	On

Specifications

Video	
HD/SD	4096×2160@24/25/30/50*/60Hz*, 3840×2160@24/25/30/50*/60Hz*, 2048×1080p, 1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@50/59.94/60Hz, 720p@50/59.94/60Hz, 576p, 576i, 480p, 480i
VESA	2560×2048, 2560×1600, 2048×1536, 1920×1200, 1680×1050, 1600×1200, 1600×900, 1440×900, 1400×1050, 1366×768, 1360×768, 1280×1024, 1280×800, 1280×768, 1152×768, 1024×768, 800×600, 640×480
Color Space	YUV, RGB
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0*
Color Depth	8-bit, 10-bit, 12-bit

Audio	
Analog IN	PCM 2Ch
HDMI IN / HDBaseT OUT	PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby® Digital, DTS® 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio™
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Bit Rate	24-bit (max.)

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI IN / OUT	15	5	30	10
CAT-5e / CAT-6	230	70	330	100
CAT-6a / CAT-7	230	70	330	100

Signal	
Bandwidth	10.2 Gbps
CEC	Yes
HDCP	1.4

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

Power	
Consumption	12 W; 30 W (when paired)

Dimensions	Inches	Millimeters
H x W x D	1.5 x 5 x 4.02	38 x 127 x 102

Weight	Pounds	Kilograms
Device	0.64	0.29

Certification	
Unit	CE, FCC

Index

- A**
 - Aspect ratio** 33
 - Audio**
 - passing only audio 21
- B**
 - Bass**
 - adjusting 21, 22
 - Brightness** 34, 36
- C**
 - CEC**
 - compatibility 3, 23
 - ON/OFF 23
 - Configuration**
 - IP. See IP configuration
 - Connection**
 - diagram 10
 - instructions 10
 - Contents**
 - package 8
 - Contrast** 34
 - Customer support** 3
- D**
 - DC 48V**
 - port 9
 - Default settings** 40
 - Description**
 - front / rear panel 9
 - DHCP** 30
- F**
 - FCC statement** 6
 - Features** 8
 - Firmware**
 - displaying 19
 - updating
 - using the web GUI 37
 - using USB 38
- G**
 - Gateway** 30
- H**
 - HDBT**
 - monitoring 32
 - Hue** 34
- I**
 - Installation** 10
 - IP configuration**
 - using commands 12
 - using the front panel 12
 - using the web GUI 13
 - adjusting** 21, 22
- K**
 - Kit mode** 33
- N**
 - Netmask** 30
- O**
 - Operating notes** 3
- P**
 - Panel descriptions** 9
 - Password**
 - default 16
 - setting 29
 - Power**
 - port 9
- R**
 - Resolution**
 - output 34
- S**
 - Safety information** 6
 - Saturation** 34
 - Sharpness** 34
 - Specifications** 41
 - Static IP** 30
 - Subnet mask** 30
 - Switching**
 - auto 20
- T**
 - Telnet**
 - listening port 30
 - login mode 30
 - timeout 30
 - Timer**
 - auto power-off 24
 - display warm-up 24
 - lamp cool down 24
 - Treble**
- U**
 - Users**
 - adding 29
 - editing 29
 - primary user name 16
 - removing 29
- V**
 - VGA**
 - signal adjustment 20
- W**
 - Warranty** 4
 - Web GUI** 16

