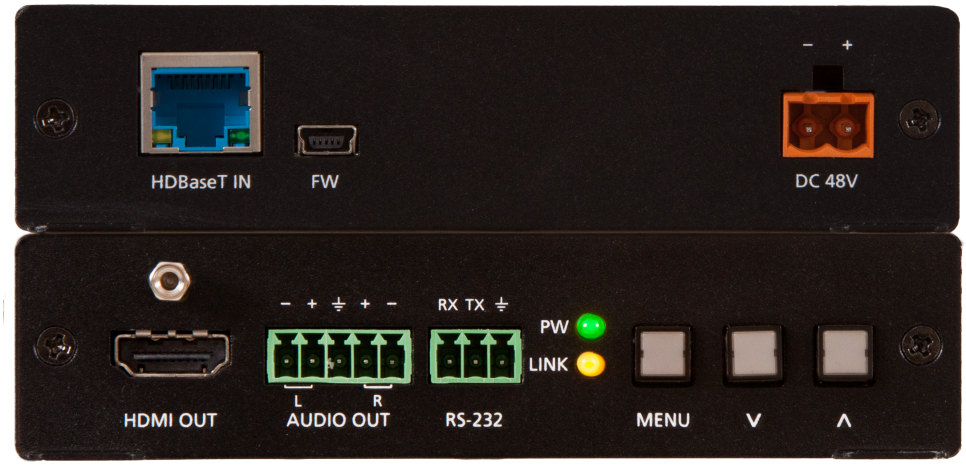
HDBaseT™ Scaler

with HDMI and Analog Audio Outputs



AT-HDVS-150-RX

Atlona Manuals
Scalers

Version Information

Version	Release Date	Notes
3	Apr 2024	Updated warranty information; new color format

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Operating Notes

IMPORTANT: Visit http://www.atlona.com/product/AT-HDVS-150-RX 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
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCT 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.

Copyright, Trademark, and Registration

Table of Contents

Introduction

The Atlona **AT-HDVS-150-RX** is an HDBaseT™ scaler receiver for HDMI transmission over category cable. It receives AV signals up to 1080p/60Hz or 1920×1200 video with embedded audio and control signals at distances up to 230 feet (70 meters). Features include balanced analog audio de-embedding, RS-232 control, and Power over Ethernet for compatible transmitting devices. The receiver offers advanced scaling capabilities including image adjustment capability and an Auto-set feature for matching incoming signals to the display's native resolution. Designed for use with the AT-HDVS-150-TX transmitter, the transmitter/receiver pair enables auto display on/off, auto-switching, third-party control, and other features. The built-in HD video scaler works with matrix switchers to optimize source signals with different resolutions to a display's native resolution. The AT-HDVS-RX is ideal for long distance transmission and display control in corporate or educational settings using analog and digital sources.

The HDVS-150 maintains all capabilities the HDVS series is known for and adds industry-standard Power over Ethernet for full HDBaseT certification. The HDVS-150 Series is a simple audio visual system with auto-switching for HDMI and VGA inputs, projector on/off control, analog audio de-embedding, volume control, and a scaler. Much more than an extender system, it provides a complete system for small spaces like huddle rooms and teaching spaces with 2 or 3 sources.

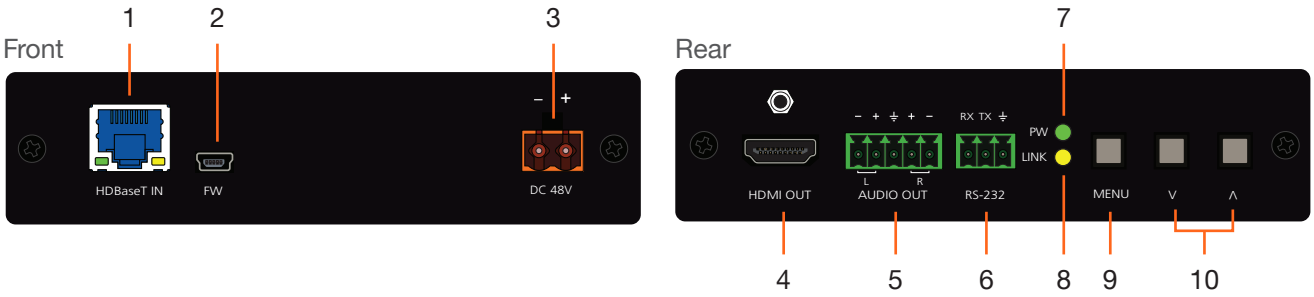
Features

- Receives HDMI and VGA/Audio signals up to 230 ft (70m) @ 1080p over CAT6a/7 and 197 feet (60 m) @ 1080p over CAT5e/6
- Scales output video signals up to 1080p/60Hz and1920x1200
- Uses Power-over-Ethernet (PoE) to transmitter, saving time and integration cost
- Two-channel audio de-embedding
- RS-232 scaler / display control
- Field-updateable firmware

Package Contents

1 x AT-HDVS-150-RX
1 x Phoenix terminal block, 2-pin
1 x Phoenix terminal block, 3-pin
1 x Phoenix terminal block, 5-pin
1 x 48V DC power supply
1 x Installation Guide

Panel Description



1 HDBaseT IN
Use an Ethernet cable to connect an HDBaseT PoE transmitter to this port.

2 FW
Connect a mini USB type-B cable to this port to update the firmware. Refer to Updating the Firmware (page 36) for more information.

3 DC 48V
Connect the included 48V DC power supply to this power receptacle.

4 HDMI OUT
Connect an HDMI cable from this port to a display or other sink device.

5 AUDIO OUT
Connect the included 5-pin Phoenix block from this connector to an audio amplifier.

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

7 PW
This LED indicator will glow bright green when the scaler is powered.

8 LINK
This LED indicator will glow bright amber when a link is established between the transmitter and receiver.

9 MENU
Press this button to display the built-in On-Screen Display (OSD).

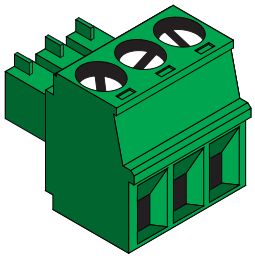
10 Cursor buttons
Press these buttons to select items within the OSD.

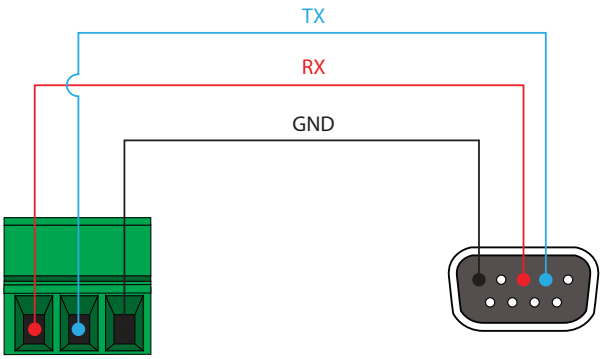
Installation

RS-232 Connector

The AT-HDVS-150-RX provides RS-232 control between an automation system and an RS-232 device. This step is optional and is used when connecting a computer that is running the control software. Refer to Display Control (page 30) for more information.

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, presss the orange tab, above the terminal, while inserting the exposed wire. Repeat this step for the TX, RX, and GND connections.

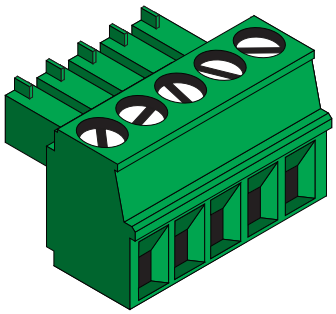


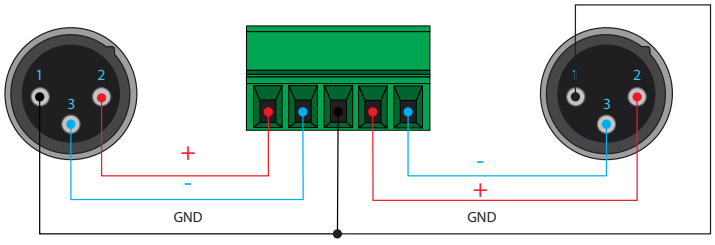


Audio Connector

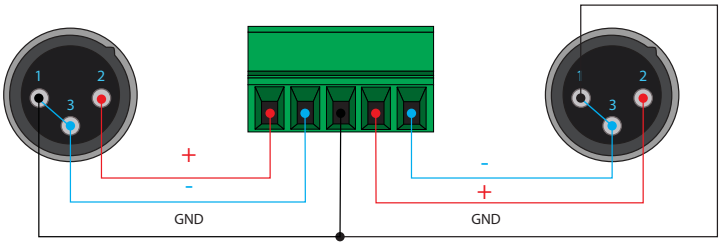
The **AUDIO OUT** connector on the AT-HDVS-150-RX provides the connection of either balanced or unbalanced audio outputs using XLR connectors. Use the included 5-pin Phoenix terminal block.

Balanced audio connections use two signal wires and a ground to minimize interference in audio signals. Unbalanced audio connections use one signal wire and a ground and are used if system components don't support balanced signals.





Balanced

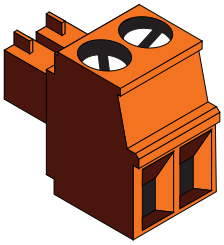


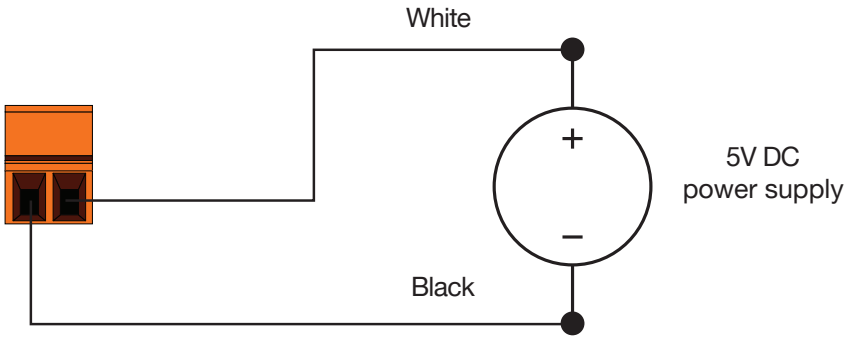
Unbalanced

Power Connector

Locate the included orange Phoenix terminal block and wire the included power supply to the block, as shown below. Do not use high-torque devices, when securing the wires to the Phoenix terminal block, as this may damage the screws and/or block.

1. Insert the wires into the correct terminal on the included Phoenix block, as shown below.
2. Tighten the screws to secure the wires. Do not use high-torque devices as this may damage the screws and/or connector block.

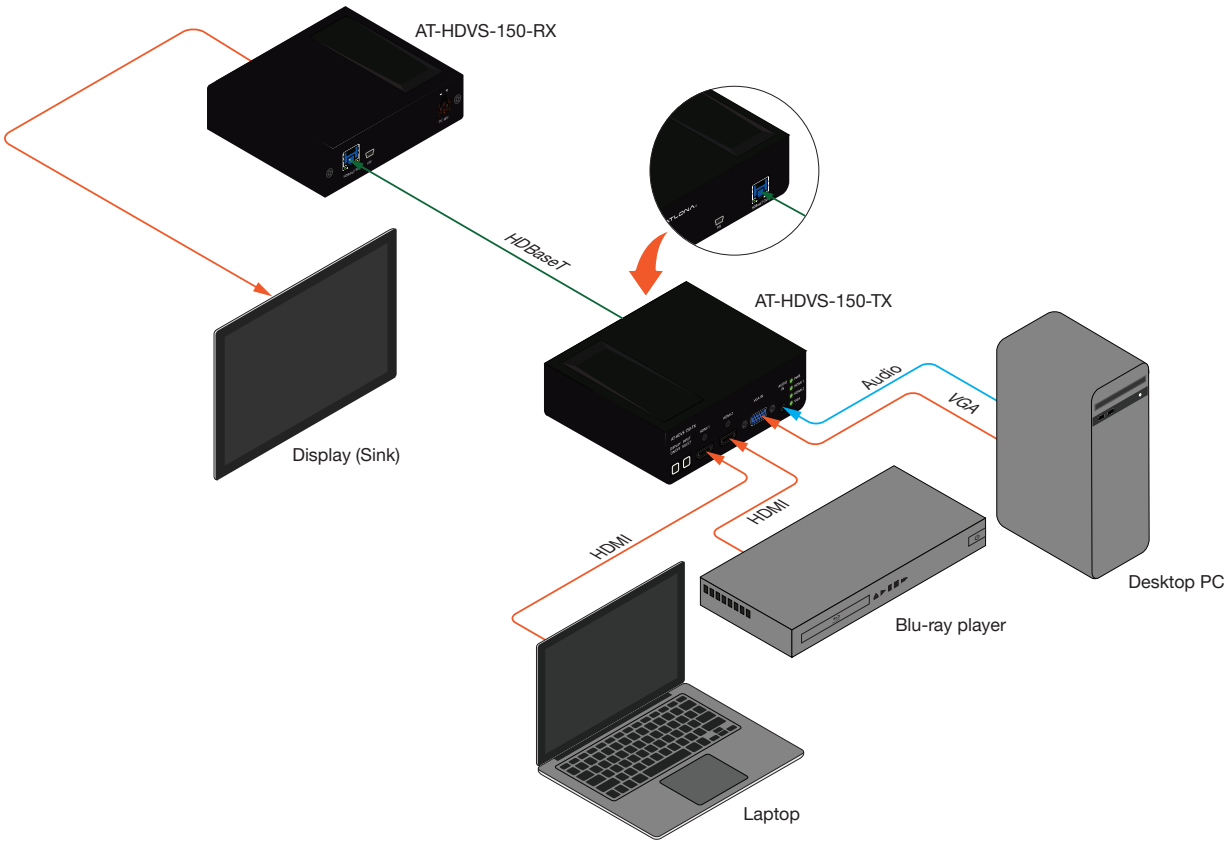




Connection Instructions

1. Use an HDMI cable to connect an HDMI display to the **HDMI OUT** port on the unit.
2. Connect an Ethernet cable, up to 230 feet (70 meters), from the **HDBaseT IN** port on the unit to a PoE-compatible transmitter (not included). Ethernet cables should use EIA/TIA-568B termination.
3. Connect the included power supply to the **DC 48V** port.

Connection Diagram



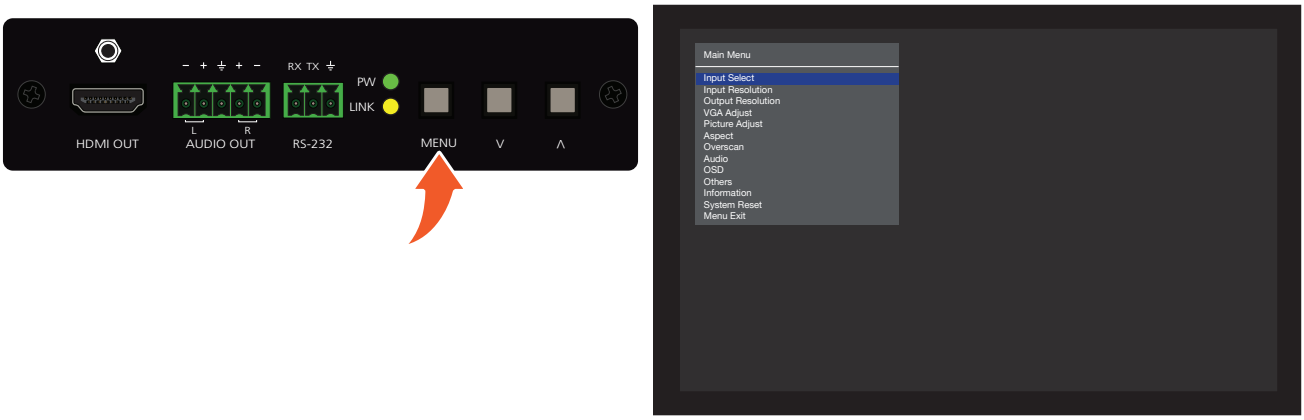
NOTE: The AT-HDVS-150-RX is designed to be used with the AT-HDVS-150-TX.

Configuration and Management Interfaces

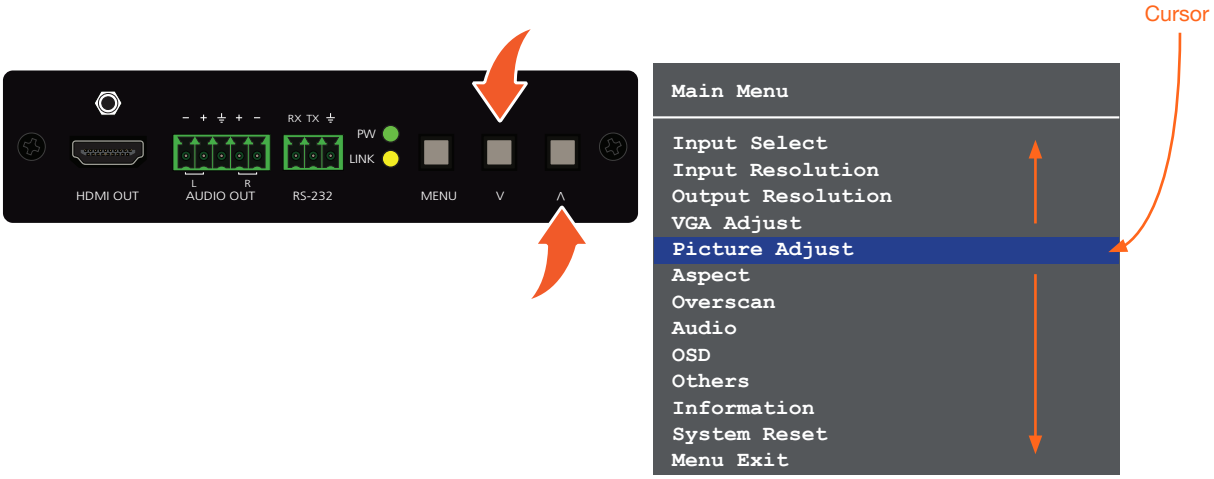
Accessing the On-Screen Display

The AT-HDVS-150-RX includes a built-in On-Screen Display (OSD) menu system to manage and control all video features.

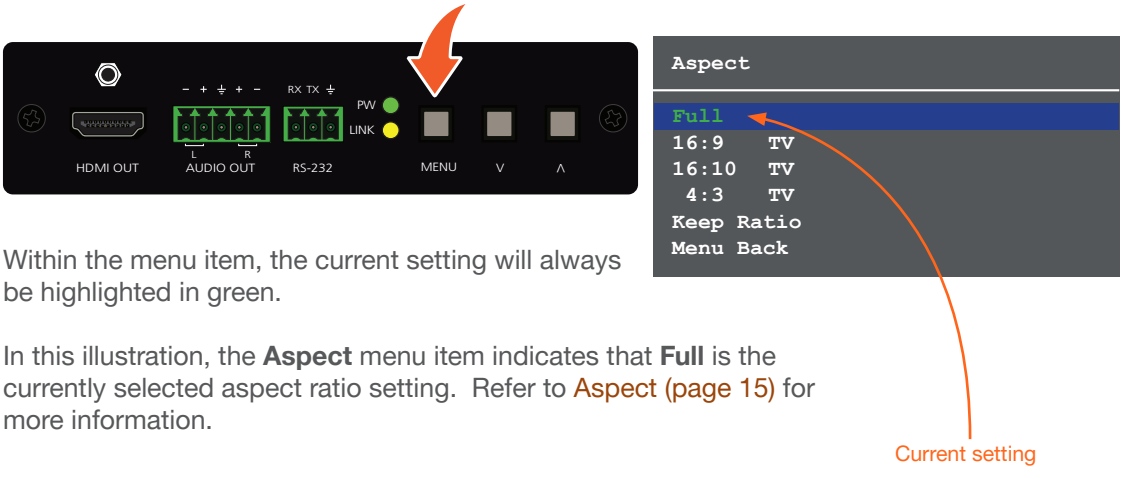
1. Press and release the **MENU** button to display the OSD.



2. Press the **UP/DN** buttons to highlight the various menu options. The currently selected menu item will be highlighted with a blue cursor bar. Press the **UP** button to move the cursor up through the menu system and press the **DN** button to move down.



3. Once the desired menu item is highlighted, press the **MENU** button to access its settings.



Within the menu item, the current setting will always be highlighted in green.

In this illustration, the **Aspect** menu item indicates that **Full** is the currently selected aspect ratio setting. Refer to Aspect (page 15) for more information.

Input Select

Selects the desired input.

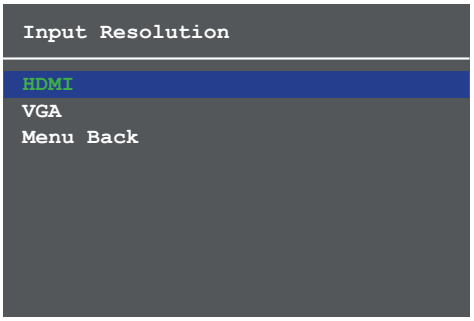
1. Under the **Main Menu**, highlight the **Input Select** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Input Select** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired input.

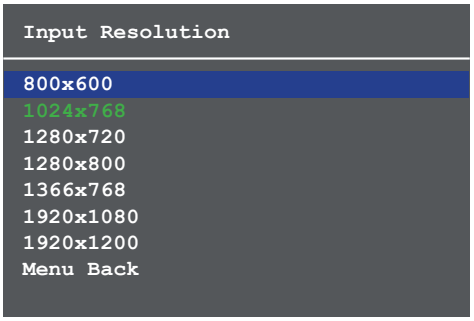
5. Press the **MENU** button to confirm the selection.
6. Press the **Menu Back** option to return to the **Main Menu**.

Input Resolution

Selects the desired input resolution.

1. Under the Main Menu, highlight the **Input Select** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Input Resolution** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired input.
5. Press the **MENU** button to confirm the selection and display the list of available input resolutions.



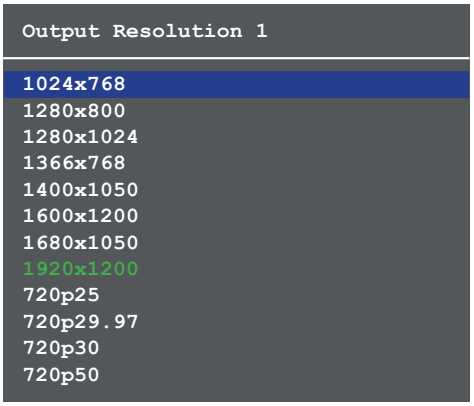


6. Press the **UP/DN** buttons to select the desired resolution.
7. Press the **MENU** button to confirm the selection.
8. Press the **Menu Back** option to return to the **Main Menu**.

Output Resolution

Selects the desired output resolution. The default output resolution is 720p (1280x720). The **Output Resolution** menu consists of three pages.

1. Under the **Main Menu**, highlight the **Output Resolution** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Output Resolution** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired resolution.

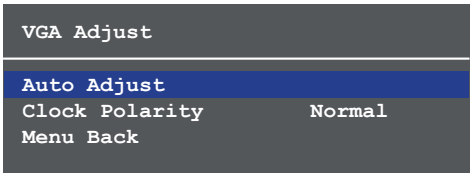


5. Press the **MENU** button to confirm the selection.
6. Scroll down and select the **Menu Back** option, under **Output Resolution 3**, then press the **MENU** button to return to the **Main Menu**.

VGA Adjust

Provides adjustment of the VGA signal. This menu option is only available if using the VGA input on the transmitter.

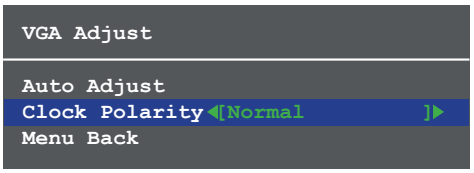
1. Under the **Main Menu**, highlight the **VGA Adjust** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **VGA Adjust** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired option.



5. Press the **MENU** button to confirm the selection.

Setting	Description
Auto Adjust	Automatically tunes the phase and clock of the VGA signal.
Clock Polarity	Sets the VGA clock polarity. • **Normal** - The default setting. Unless it is required, the clock polarity should be set to **Normal**. • **Inverse** - Inverts the clock polarity, shifting it by 180°.

6. When selecting the **Clock Polarity** option, the current value will be highlighted in green and surrounded by brackets and two arrowheads.

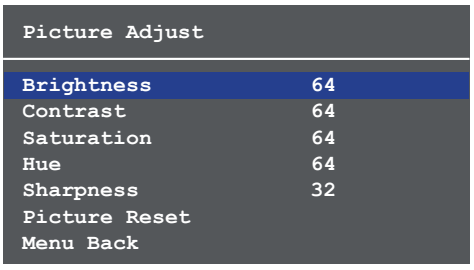


7. Press the **UP/DN** buttons to select the desired value.
8. Press the **MENU** button to confirm the value.
9. Highlight the **Menu Back** option, then press the **MENU** button to return to the **Main Menu**.

Picture Adjust

Provides custom adjustment of picture brightness, contrast, saturation, hue, sharpness, and color space.

1. Under the **Main Menu**, highlight the **Output Resolution** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Picture Adjust** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired option.

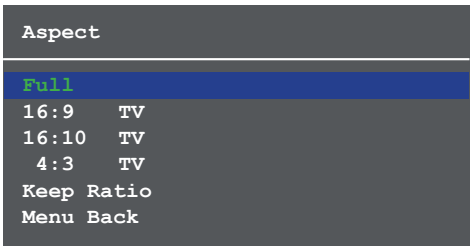


5. Press the **MENU** button to confirm the selection.
6. The current value will be highlighted in green and surrounded by brackets and two arrowheads.

Aspect

Allows the aspect ratio of the output image to be changed.

1. Under the **Main Menu**, highlight the **Output Resolution** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Aspect** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired aspect ratio.
5. Press the **MENU** button to confirm the selection.



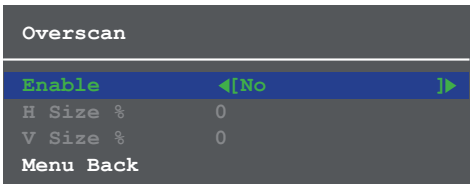
Setting	Description
Full	The output signal will be scaled to fill the screen.
16:9 TV	The output signal will be scaled to fit as 16:9.
16:10 TV	The output signal will be scaled to fit as 16:10.
4:3 TV	Output signal will be set to 4:3. If the input is HD, approximately 35% of the total horizontal resolution will be lost.
Keep Ratio	The input aspect ratio is preserved on the output.

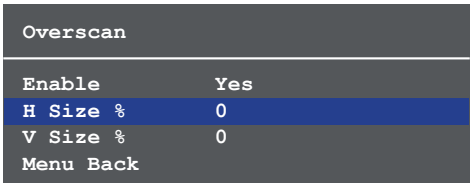
6. Select the **Menu Back** option, then press the **MENU** button, to return to the **Main Menu**.

Overscan

Adjusts the overscan setting of the output video signal. By default, overscan is *disabled*.

1. Under the **Main Menu**, highlight the **Overscan** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Overscan** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the **Enable** option.
5. Press the **MENU** button to change the **Enable** value



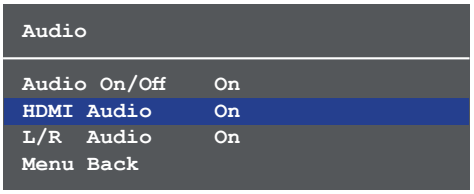


6. When overscan is *enabled*, the **H Size %** and **V Size %** fields can be adjusted. Press the **UP/DN** buttons to highlight the desired field.
7. Press the **MENU** button to select the field.
8. Press the **UP/DN** buttons to change the value. Press the **UP** button to *increase* the value; press the **DN** button to *decrease* the value.
9. Press the **MENU** button to confirm the change.
10. Highlight the **Menu Back** option, then press the **MENU** button to return to the **Main Menu**.

Audio

The Audio menu allows adjustment of all audio settings.

1. Under the **Main Menu**, highlight the **Audio** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Audio** menu will be displayed.



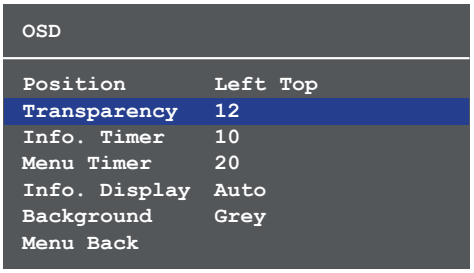
Setting	Description
Audio On Off	Provides muting of both HDMI and analog audio outputs. Set this value to Off to mute all audio.
HDMI Audio	Controls the HDMI audio, only. Set to Off to mute the HDMI audio.
L R Audio	Toggles the analog audio output On or Off. Set to Off to mute the analog audio output.

4. Press the **UP/DN** buttons to highlight the desired option.
5. Press the **MENU** button to confirm the selection.
6. The current value will be highlighted in green and surrounded by brackets and two arrowheads.
7. Press the **UP/DN** buttons to select the desired value. Press the **UP** button to increase the value; press **DN** to decrease the value.
8. Press the **MENU** button to confirm the value.
9. Highlight the **Menu Back** option, then press the **MENU** button to return to the **Main Menu**.

OSD

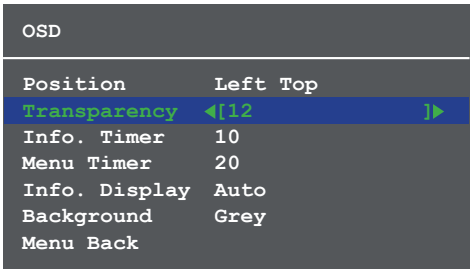
Adjusts the appearance and position of the On-Screen Display (OSD) on the screen.

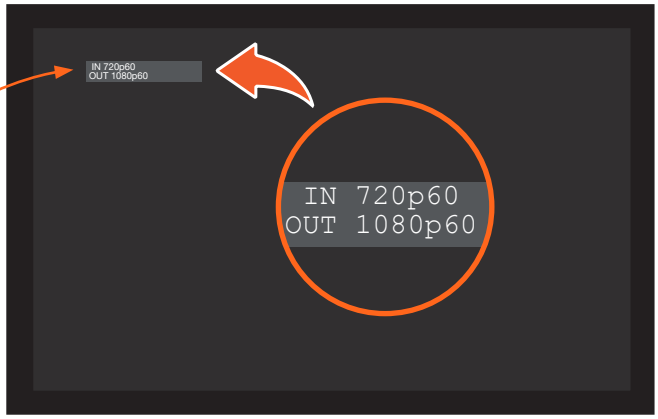
1. Under the **Main Menu**, highlight the **Audio** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **OSD** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired option.



Setting	Description
Position	Sets the position of the OSD on the display. The following options are available: • **Left Top** • **Right Top** • **Right Bottom** • **Left Bottom** • **Center**
Transparency	Adjusts the transparency setting of the OSD. • **Range:** 5 to 100
Info. Timer	The duration, in seconds, of how long the **Info Display** screen is displayed. • **Range:** 5 to 100
Menu Timer	The duration, in seconds, of how long the OSD remains on the screen, after no activity. • **Range:** 5 to 100
Info. Display	Adjusts the display settings of the Info Display screen, which indicates the input and output resolution. Refer to the illustration below for an example of the **Info Display** screen. The following options are available: • **Auto** - Automatically displays the **Info Display** screen when a change is made to the input or output signal. The screen will automatically be hidden after approximately five seconds. • **Off** - Prevents the **Info Display** screen from being displayed. • **On** - The **Info Display** screen is always displayed.
Background	Sets the background color of the OSD. The following options are available: • **Grey** • **Cyan** • **Magenta** • **Yellow**

5. Press the **MENU** button to confirm the selection.
6. The current value will be highlighted in green and surrounded by brackets and two arrowheads.
7. Press the **UP/DN** buttons to change the value. For settings that contain a value, press the **UP** button to *increase* the value; press the **DN** button to *decrease* the value.





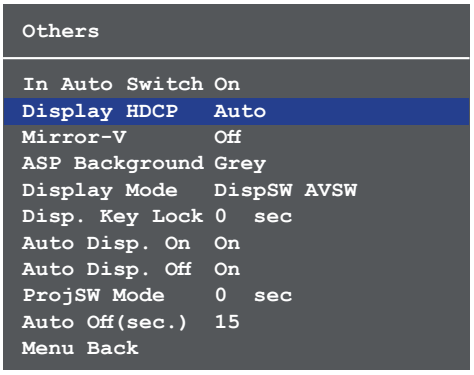
Info Display screen

8. Press the **MENU** button to confirm the change.
9. Highlight the **Menu Back** option, then press the **MENU** button to return to the **Main Menu**.

Others

This menu provides control for various other settings, such as auto-switching, HDCP, and vertical mirroring.

1. Under the **Main Menu**, highlight the **Others** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Others** menu will be displayed.
4. Press the **UP/DN** buttons to highlight the desired option.



Setting	Description
In Auto Switch	Enables or disables auto-switching. The following options are available: • **On** - Enables auto-switching. • **Off** - Disables auto-switching.

Configuration and Management Interfaces

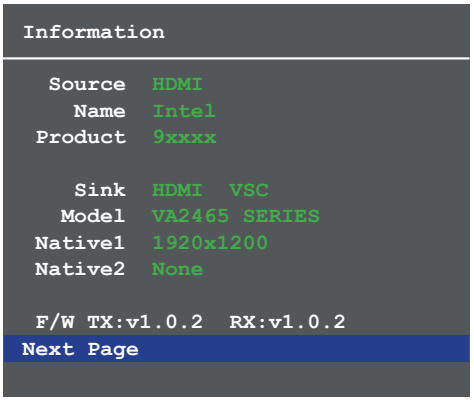
Setting	Description
Display HDCP	Provides control over the transmission of HDCP content for the HDMI IN port on the transmitter (TX). The following options are available: • **Compliant** - Forces detection of HDCP-compliant sink devices. If the sink device is not HDCP-compliant, then no content will 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:** Some source devices will enable HDCP if an HDCP-compliant display (sink) is detected. However, there may be applications where sending HDCP content is not desired. This feature does ***not*** provide decryption of HDCP content to non-HDCP sink devices
Mirror-V	Vertically flips the output signal. The default setting is Off. The following options are available: • **On** - Vertically flips the output image. • **Off** - The output image is unaltered.
ASP Background	Changes the color of background bars when changing the aspect ratio of the output image. The default color is Black. The following options are available: • **Black** • **Grey**
Display Mode	Controls how the display behaves when connected to a source device. • **DispSW AVSW** - Display switches on/off, source audio/video signal switches on/off. • **DispSW AVon** - Display switches on/off, source audio/video signal always on. • **Always ON** - Display is always on, source audio/video signal always on. • **AV SW** - Display is always on, source audio/video signal switches on/off.
Disp. Key Lock	Allows the **MENU** button to be locked, preventing accidental operation when the product is in use. Define the time interval using the Warm Up Timer option, below. The following options are available: • **On** - Enables the feature. • **Off** - Disables the feature.
Auto Disp. On	Sends the command to power-on the display when an A/V signal is detected. The following options are available: • **On** - Enables the feature. • **Off** - Disables the feature.
Auto Disp. Off	Sends the command to power-off the display when an A/V signal is no longer present. The following options are available: • **On** - Enables the feature. • **Off** - Disables the feature.

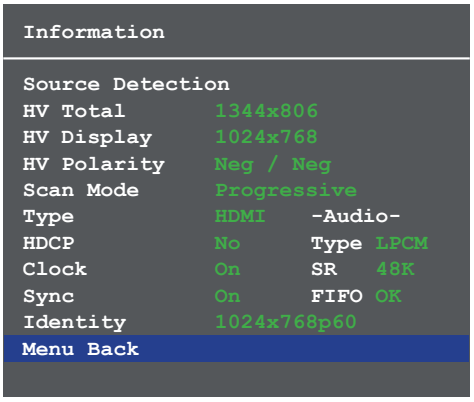
Setting	Description
ProjSW Mode	Used with a projector whose lamp cannot be turned on for up to 5 minutes after being shut off. Keeps control in same state as projector. Match settings with lamp delay on projector in 5 to 300 seconds. The LED will blink for the full amount of the delay time (ex. 40 seconds).
Auto Off(sec.)	Adjusts period of time before scaler goes into standby following loss of signal. The default is 0 seconds (standby off). When set to 0 seconds, the **Auto Off** value will be displayed as **Always On**. The available settings are **2**, **5**, **10**, **15**, **30**, **45**, **60**, **100**, **150**, **300**, and **600**. Note that this option is only applicable if **Auto Disp. Off** is set to **On**.

Information

The **Information** menu displays current information about the AT-HDVS-150-RX. The **Information** menu consists of two pages. None of the fields within this menu can be edited.

1. Under the **Main Menu**, highlight the **Information** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **Information** menu will be displayed.
4. Press the **MENU** button to view the next page.
5. Press the **MENU** button again to return to the **Main Menu**.





Setting	Description
Source	The current input source that is displayed. The source will be displayed as HDMI or VGA.
Name	The name of the source, if available.
Product	The product name, if available.
Sink	Contains the manufacturer's abbreviation of the sink.
Model	Displays the model of the display.
Native1	The native (preferred) timing for the display.
Native2	Displays any detailed (alternate) timing information for the display.

Setting	Description
F/W	Indicates the firmware version of both the transmitter (TX) and receiver (RX). If the TX is not connected, then “Unknown” will be listed next to the TX field.
HV Total	The total number of horizonal and vertical pixels.
HV Display	The display resolution.
HV Polarity	Polarity of both the horizontal and vertical sync pulse.
Scan Mode	The scan mode - either progressive or interlaced.
Type	The type of video signal.
HDCP	Indicates whether or not if HDCP content is present.
Clock	Indicates whether the source status of the TMDS clock is detected (On) or has been lost (Off).
Sync	Indicates whether the source status of the TMDS sync is detected (On) or has been lost (Off).
Identity	Displays the detected resolution of the source.
Type (Audio)	Displays the audio format.
SR (Audio)	Displays the sampling rate of the audio signal.
FIFO (Audio)	Displays the status of the FIFO audio buffer.

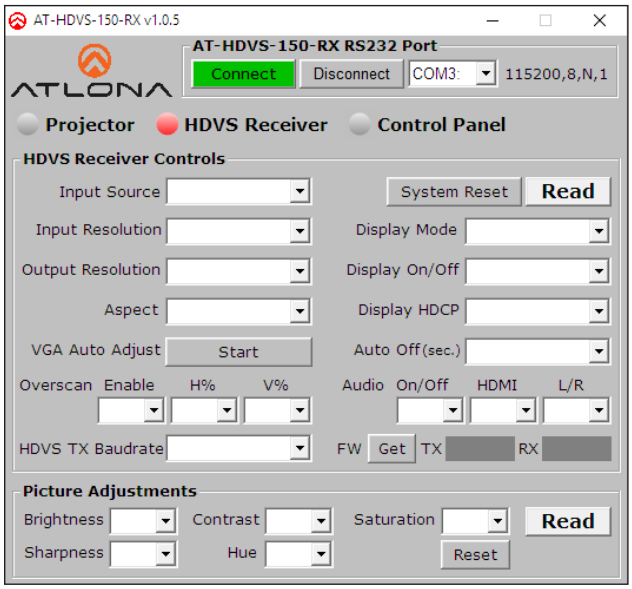
System Reset

The **System Reset** menu provides the ability to reset the AT-HDVS-150-RX to factory-default settings.

1. Under the **Main Menu**, highlight the **System Reset** menu item using the **UP/DN** buttons on the front panel.
2. Press the **MENU** button.
3. The **System Reset** menu will be displayed.

4. Press the **UP/DN** buttons to highlight the desired option.
5. Press the **MENU** button to confirm the selection.
6. Highlight the **Menu Back** option, then press the **MENU** button to return to the **Main Menu**.

Control Software



Connect
Click this button to attempt to connect to the select COM port in the drop-down list. When successfully connected, this button will be highlighted in green.

Disconnect
Click this button to disconnect from the COM port. When successfully disconnected, this button will be highllighted in red. This button will also be highlighted in red if the control software is unable to connect to the selected COM port.

COM port selection
Click this drop-down list to select the correct COM port.

HDVS Receiver Controls

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

Setting	Description
Hdmi	Receiver will use the HDMI IN input on the transmitter as the source.
Vga	Receiver will use the VGA IN input on the transmitter as the source.

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

Input Resolutions			
800x600	1280x720	1366x768	1920x1200
1024x768	1280x800	1920x1080	

Output Resolution
Click this button to select the output resolution on the AT-HDVS-150-RX.

Output Resolutions			
1024x768	720p25	1080i59.94	1080p50
1280x800	720p29.97	1080i60	1080p59.94
1280x1024	720p30	1080p23.98	1080p60
1366x768	720p50	1080p24	Native
1400x1050	720p59.94	1080p25	
1600x1200	720p60	1080p29.97	
1680x1050	1080i50	1080p30	

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

Aspect	Description
Full	The input signal is adjusted to fill the screen.
16:9 TV	Set the aspect ratio to 16:9; common aspect ratio for HD and widescreen formats; also notated as 1:77.1
16:10 TV	Set the aspect ratio to 16:10; typical aspect ratio for computer and tablet displays.
4:3 TV	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.

VGA Auto Adjust
In most situations, adjustment of the VGA signal should not necessary. However, if the VGA signal does not appear correctly, click the **Start** button to automatically correct the clock and phase. This feature only applies to VGA input signals.

Enable (Overscan)
Click this drop-down list to enable or disable overscan.

Setting	Description
Yes	Enables overscan.
No	Disables overscan.

H% (Overscan)
Click this drop-down list to select the percentage of horizontal overscan to be applied to the output image. The **Enable** drop-down list (above) must be set to **Yes**, in order to apply this feature.

V% (Overscan)
Click this drop-down list to select the percentage of vertical overscan to be applied to the output image. The **Enable** drop-down list (above) must be set to **Yes**, in order to apply this feature.

HDVS TX Baudrate
Click this drop-down list to select the required baud rate: 9600 or 115200.

System Reset
Click this button to reset the AT-HDVS-150-RX to factory-default settings.

Read
Click this button to populates all fields with the current settings of the AT-HDVS-150-RX.

Display Mode
Click this drop-down list to select how the DISPLAY button functions on the transmitter.

Setting	Description
DispSW AVon	Turns the display on or off; the source is unaffected.
DispSW AVSW	Turns the display on/off and blocks/unblocks the AV source.
AV SW	Blocks/unblocks the source; display control is unaffected.
Always ON	Pressing the DISPLAY button will have no affect on the display or the source.

Display On/Off
Click this drop-down list to block or unblock the video signal on the connected display.

Setting	Description
On	Video signal is displayed
Off	Video signal is blocked

Display HDCP
Click this drop-down list to control how HDCP content is handled.

Setting	Description
Compliant	Forces detection of HDCP-compliant sink devices. If the sink device is not HDCP-compliant, then no content will be transmitted.
Non-compliant	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.

Standby (Min.)
Click this drop-down list to select the time interval, in minutes, before the receiver is placed in standby mode. The available range is 1 to 30. This feature must be set to a value greater than zero, when specifiing the **Display Power Off** option. Refer to the Projector Controls (page 27) section for more information.

Audio On/Off
Click this drop-down list to block the audio signal. This applies to both HDMI and analog audio.

Setting	Description
On	Allows the audio signal on both HDMI and analog to pass.
Off	Blocks both HDMI and analog audio signals.

HDMI
Click this drop-down list to block the audio signal on the HDMI output. The analog audio signal is unaffected.

Setting	Description
On	Allows the audio signal to pass.
Off	Blocks the audio on the HDMI signal.

L/R
Click this drop-down list to block the analog output audio signal. The HDMI audio is unaffected.

Setting	Description
On	Allows the analog audio signal to pass.
Off	Blocks the analog audio output signal.

Get
Click this button to retrieve the firmware versions for both the transmitter and receiver. Note that is the transmitter is not connected to the AT-HDVS-150-RX, then only the firmware for the receiver will be displayed.

Picture Controls

Brightness
Click this drop-down list to select the desired brightness applied to the output image. Range: 0 to 100. The default setting is 64.

Sharpness
Click this drop-down list to select the desired picture sharpness. Range: 0 to 100. The default setting is 32.

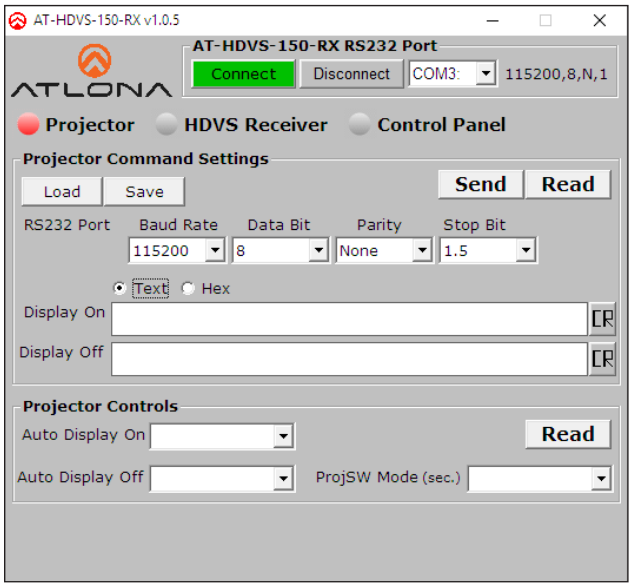
Contrast
Click this drop-down list to select the desired contrast applied to the output image. Range: 0 to 100. The default setting is 64.

Hue
Click this drop-down list to select the desired picture hue applied to the output image. Range: 0 to 100. The default setting is 64.

Saturation
Click this drop-down list to select the desired picture saturation applied to the output image. Range: 0 to 100. The default setting is 64.

Reset
Click this button to reset the picture settings to their default settings. This function does not reset the AT-HDVS-150-RX to factory-default settings.

Read
Click this button to populate the Picture Controls fields with the current settings.



Projector Command Settings

Load
Click this button to load a saved projector settings file. The settings file is in .ini format and is created using the **Save** button.

Save
Click this button to save the current projector settings to a file.

Send
Click this button to send the current projector settings to the projector.

Read
Click this button to populate all fields under the **Projector Command Settings** group with the current settings.

Baud Rate
Click this drop-down list to select the required baud rate: 2400, 9600, 19200, 38400, 56000, 57600, or 115200.

Data Bit
Click this drop-down list to select the number of data bits: 5, 6, 7, or 8.

Parity
Click this drop-down list to select the parity bit: None, Odd, Even, Mark, or Space.

Stop Bit
Click this drop-down list to select the number of stop bits: 1, 1.5, or 2.

Display On
Enter the “Display On” command in this field. When entering the command, specify the format by clicking the **Text** or **Hex** radio button. If a carriage-return is required, click the **CR** button at the end of the field. Each click of the **CR** button will add a single carriage-return character to the end of the command string.

Display Off
Enter the “Display On” command in this field. When entering the command, specify the format by clicking the **Text** or **Hex** radio button. If a carriage-return is required, click the **CR** button at the end of the field. Each click of the **CR** button will add a single carriage-return character to the end of the command string.

Projector Controls

Auto Display On
Click this drop-down list to select when the display will be powered-on, based on the detection of a source.

Setting	Description
On	Powers-on the display when a source is detected.
Off	Display is not powered-on when a signal is detected.

Auto Display Off
Click this drop-down list to select when the display will be powered-off, based on the detection of a source.

Setting	Description
On	Power-off the display when no signal is detected for the time interval specified in the **Standby (Min.)** drop down list.
Off	Display is not powered-off when no signal is detected.

Read
Click this button to populate all fields under the **Projector Controls** group with the current settings.

ProjSW Mode (Sec.)
Sets the time interval, in seconds, before the front panel buttons are locked, after a power-off command is sent to the projector. Range: 0 to 300.

Solution Setup and Configuration Guide

The following sections provide step-by-step instructions for the following topics:

- Input Auto-Switching
- Display Control

Input Auto Switching

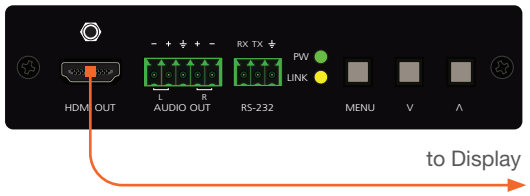
The AT-HDVS-150-TX provides auto-switching capability between HDMI IN 1 and HDMI IN 2, which will automatically switch the input to the most recently-connected or powered source when a source is disconnected. For example, if the connection sequence is **HDMI 2** > **HDMI 1**, and a source is disconnected from **HDMI 1**, then the AT-HDVS-150-TX will automatically switch to the **HDMI 2**. Auto-switching mode is enabled or disabled through the on-screen display (OSD) menu system, and is enabled (On), by default.

NOTE: Auto-switching is triggered by a Hot-Plug Detect (HPD) event. If HPD is not detected, then AT-HDVS-150-TX will not switch inputs. VGA does not support HPD. Therefore, the **VGA** port cannot be used in the auto-switching cycle.

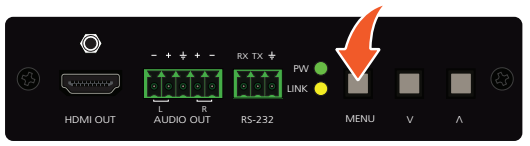
1. Connect a category cable from the **HDBaseT OUT** port on the AT-HDVS-150-TX to the **HDBaseT IN** port on the AT-HDVS-150-RX using a category cable (CAT-5e or better). The category cable should not exceed 230 feet (70 meters) in length.

   The AT-HDVS-150-RX must be connected to the AT-HDVS-150-TX, in order to manage auto switching.

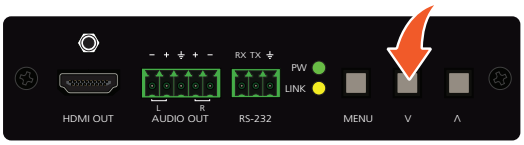
2. Connect an HDMI cable from the **HDMI OUT** port on the AT-HDVS-150-RX to a display.



3. Press the **MENU** button on the front panel of the AT-HDVS-150-RX to display the on-screen display (OSD) menu system.



4. Press and release the **VOL DN** button until the **Others** menu is highlighted in blue.




```
Main Menu

Input Select
Input Resolution
Output Resolution
Picture Adjust
Aspect
Overscan
Audio
OSD
Control Settings
Others
Information
System Reset
Menu Exit
```

5. Press and release the **MENU** button to enter the **Others** menu. The **In Auto Switch** option will be highlighted in blue.

6. Press and release the **MENU** button. The **In Auto Switch** text will be displayed in green, indicating that the option can be changed.

7. Press and release the **VOL DN** buttons to change the value to the **On** setting.

```
Others

In Auto Switch Off
Display HDCP   Auto
Mirror-V       Off
ASP Background Grey
Display Mode   DispSW AVSW
Disp. Key Lock 0  sec
Auto Disp. On  On
Auto Disp. Off On
ProjSW Mode    0  sec
Auto Off(sec.) 15
Menu Back
```

```
Others

In Auto Switch On
Display HDCP   Auto
Mirror-V       Off
ASP Background Grey
Display Mode   DispSW AVSW
Disp. Key Lock 0  sec
Auto Disp. On  On
Auto Disp. Off On
ProjSW Mode    0  sec
Auto Off(sec.) 15
Menu Back
```

8. Press and release the **MENU** button to commit changes. The **In Auto Switch** option will be displayed in white.

9. Highlight the **Menu Back** option, then press the **MENU** button to return to the **Main Menu**.

10. Select the **Menu Exit** option, in the **Main Menu**, and press and release the **MENU** button to exit the menu system.

Display Control

The AT-HDVS-150-RX features a control interface which can be used to program connected transmitters, allowing them to power-on/off displays as well as adjust the appearance of the output image.

In order to configure display control, the control software should be downloaded and installed. The control software is available for download, under the AT-HDVS-150-RX page on the Atlona web site, and supports programming of the following transmitters.

Supported Transmitters		
AT-HDVS-150-TX	AT-HDVS-150-TX-WP	AT-HDVS-150-TX-WP-UK

Installing the Software

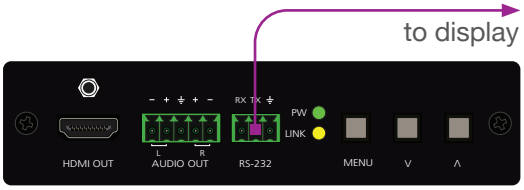
1. Download the control software from the Atlona web site.
   a. Go to http://atlona.com/product/at-hdvs-150-rx/.
   b. Scroll down the page and locate the **Resources** tab.
   c. Click on the **Control Software Version** hyperlink to begin downloading the software.
2. Extract the files from the .zip file.
3. Double-click the setup.exe to run the installation wizard. Follow the directions on each screen to install the software.

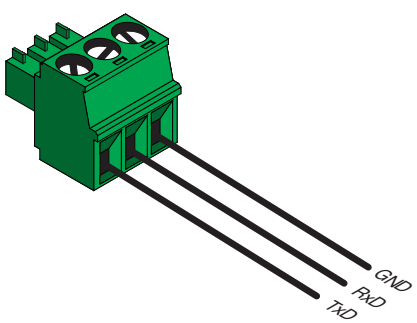
IMPORTANT: Note the folder/directory where the control software is being installed on the computer. This information will be necessary, later. The default installation directory is \Program Files (x86)\AT_HDVS_RX.

Connecting RS-232

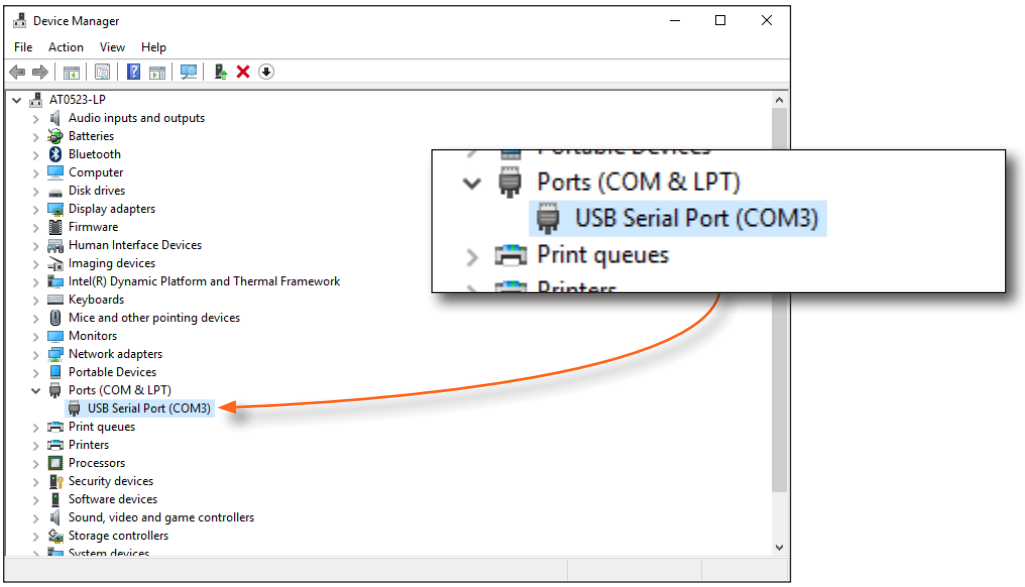
1. Connect a serial cable from the **RS-232** port on the AT-HDVS-150-RX, to the RS-232 port on the display. The included 3-pin captive screw connector should be wired as shown. If a DE-9 port is not available on the computer, a DE-9 to USB cable may be used.

NOTE: DE-9 to USB cables usually require a driver. Refer to any documentation that was provided with the cable to ensure correct functionality.





2. Go to the Windows Device Manager and verify the installed COM port, under Ports (COM & LPT).

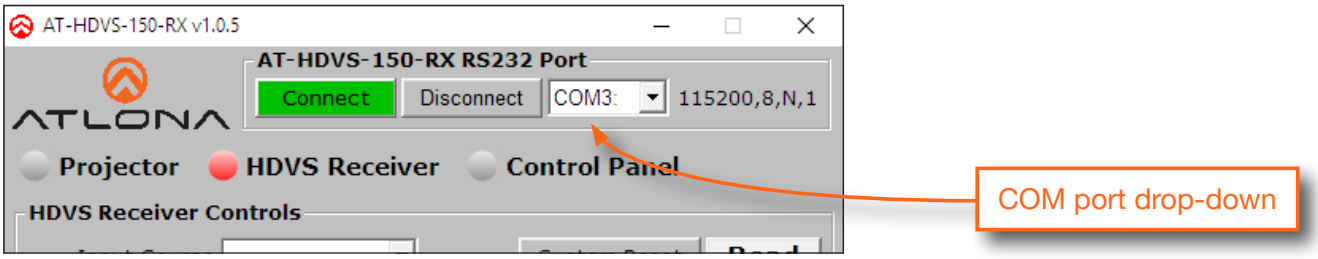


3. If running **Windows 10**, perform the step 3a. Otherwise, continue with step 4.

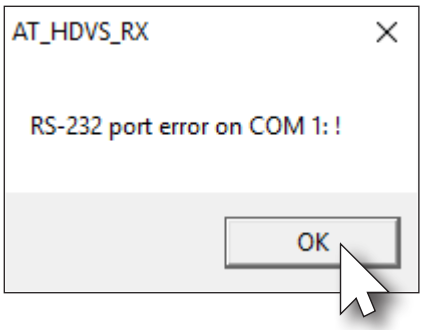
   a. Install the **gulim.ttc** font file by double-clicking it. This file must be installed, if running the software under Windows 10.

4. Open Windows Explorer and locate the folder/directory where the AT-HDVS-150-RX Control Software is installed. The default installation directory is \Program Files (x86)\AT_HDVS_RX.

5. Double-click the **AT_HDVS_150_RX_AP.exe** file to launch the control software and select the correct COM port from the COM port drop-down list.



If a message box, similar to the following, is displayed, then click the **OK** button and check the following:



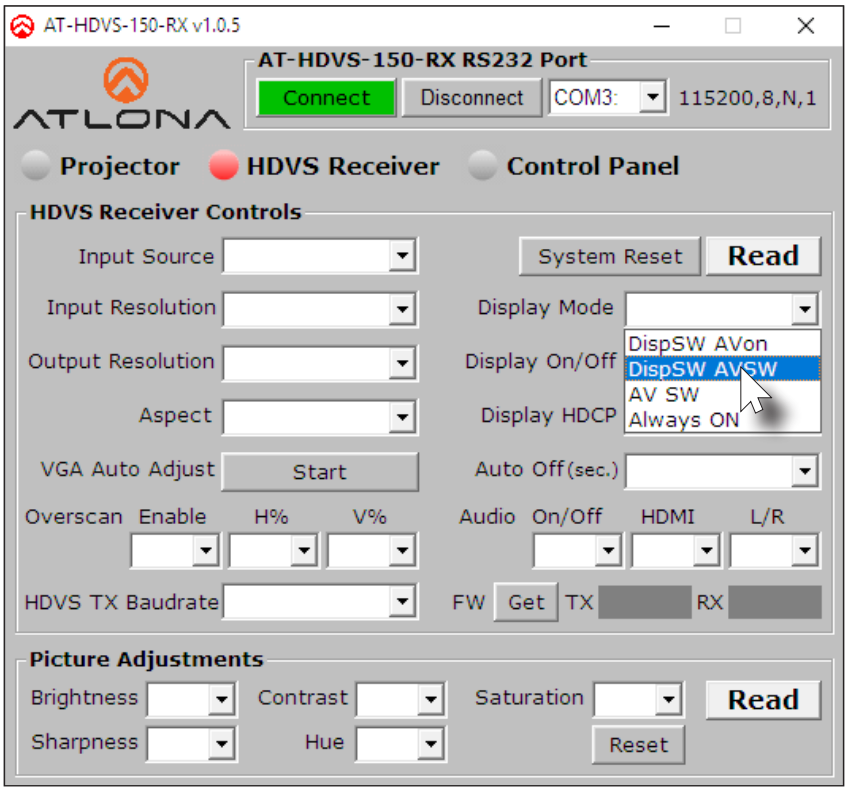
- The incorrect COM port is selected in the control software. Select another COM port from the drop-down list, next to the Connect and Disconnect buttons.
- Windows was unable to install the COM port. Check the connection between the computer and the AT-HDVS-150-RX. In addition, verify that the captive screw terminal block is wired correctly to the DE-9 interface. After verifying the connection, check that the COM port is available under the Device Manager. If the problem persists, contact an Atlona Technical Support Engineer for assistance.

Programming the AT-HDVS-150-RX

Once the control software is running, it can be used to program the AT-HDVS-150-RX to affect the behavior of the connected display. For example, the display can automatically be turned on, when the source device is turned on. Conversely, when the source is turned off (or disconnected), then display is automatically turned off.

Controlling Display Power

1. Click the **Display Mode** drop-down list, in the control software.
2. Select the desired mode. In this example, **DispSW AVSW** is selected. This will instruct the display to "follow" the power-on / power-off state of the source device.
3. Refer to the table below, for a list of available settings and a brief description.
4. Refer to the AT-HDVS-150-RX User Manual for more information on other settings.



Setting	Description
DispSW AVon	Turns the display on or off; the source is unaffected.
DispSW AVSW	Display switches on/off, source audio/video signal switches on/off.
AV SW	Display is always on, source audio/video signal switches on/off
Always ON	Pressing the DISPLAY button will have no affect on the display or the source.

Projector Control

If a projector is being controlled by the AT-HDVS-150-RX, then click the **Projector** radio button in the top-portion of the screen, as shown below. This section of the control software is similar to the HDVS Receiver section. In addition, this area also provides two fields for RS-232 “Display On” and “Display Off” commands.

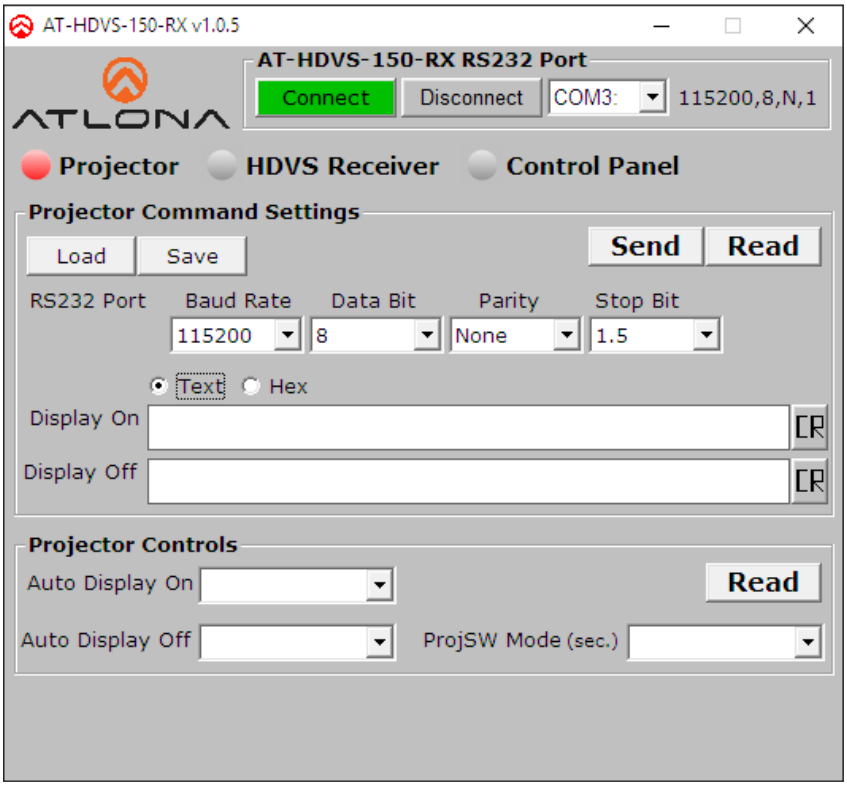
1. Click the **Projector** radio button in the top-portion of the screen.
2. Click the Read button to fetch the RS-232 settings from the projector’s RS-232 port. The **Baud Rate**, **Data Bit**, **Parity**, and **Stop Bit** fields will be filled in automatically.

   NOTE: If the RS-232 command cannot be read from the projector system, the **Baud Rate**, **Data Bit**, **Parity**, and **Stop Bit** fields will need to be entered manually. Click each of the drop-down lists to specify the required values.

3. Once the projector’s RS-232 settings are known, they can be saved to a local .ini file. Click the **Save** button to save the RS-232 settings to the desired file. It is recommended that the name of the file be descriptive of the projector manufacturer / model. This way, if multiple projectors are used, the proper file can be loaded.
4. Click on the **Text** or **Hex** radio button to specify the type of command string that will be sent to the projector. Refer to the projector’s User Manual for a list of commands.
5. Enter the command for the “display on” and “display off” in the **Display On** and **Display Off** fields, respectively.

   An example of a power-on command, might be:

   PWON // text format
   BEEF030600BAD20100006001000D // hex format



6. Once the proper command strings have been entered, refer to the tables below for information on setting the Auto Display On and Auto Display Off features.

Auto Display On
Click this drop-down list to select when the display will be powered-on, based on the detection of a source.

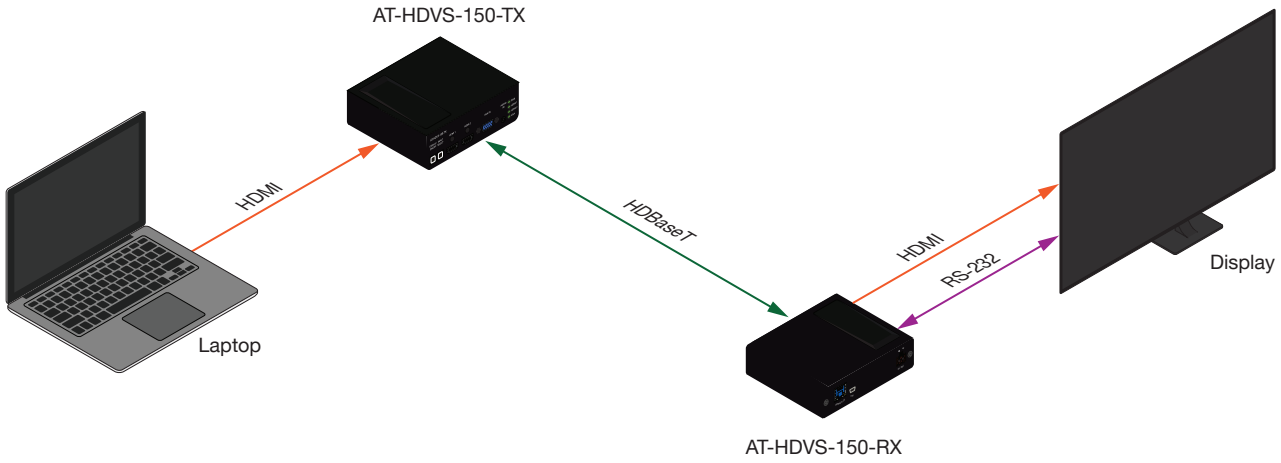
Setting	Description
On	Powers-on the display when a source is detected.
Off	Display is not powered-on when a signal is detected.

Auto Display Off
Click this drop-down list to select when the display will be powered-off, based on the detection of a source.

Setting	Description
On	Power-off the display when no signal is detected for the time interval specified in the **ProjSW Mode (sec.)** drop down list.
Off	Display is not powered-off when no signal is detected.

Connecting the AT-HDVS-150-RX to the Display

Once programming is completed, connect the RS-232 cable from the AT-HDVS-150-RX to the RS-232 port on the display or projector device, as shown in the illustration below. The display / projector will now function based on the programming which was performed in the control software. If a change to the display behavior is desired, then disconnect the RS-232 cable from the display, reconnect the RS-232 computer to the AT-HDVS-150-RX, launch the control software, and make the necessary changes.



Appendix

Default Settings

The following tables list the factory-default settings for the AT-HDVS-150-RX.

Feature	Settings	
Input Select	HDMI	
Input Resolution	1280x800	
Output Res	720p60	
VGA Clock Polarity	Normal	
Picture Adjust	Brightness Contrast Saturation Hue Sharpness	64 64 64 64 32
Aspect	Full	
Overscan	Disabled	
Audio	Audio On / Off HDMI Audio L / R Audio	On On On
OSD	Position Transparency Info Timer Menu Timer Info Display Background	Left Top 12 10 20 Auto Grey
Others	In Auto Switch Display HDCP Mirror-V ASP Background Display Mode Disp. Key Lock Auto Disp. On Auto Disp. Off ProjSW Mode Auto Off (sec)	On Compliant Off Grey DispSW AVon 0 sec. On On 0 sec. Always On

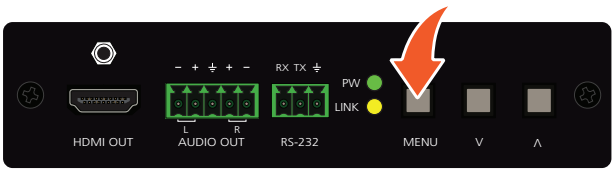
Updating the Firmware

The following procedure is used for updating the firmware on the AT-HDVS-150-RX.

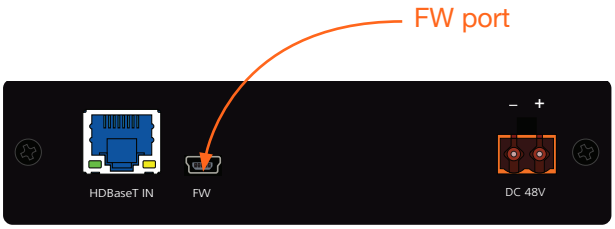
Requirements

- AT-HDVS-150-RX
- Firmware file: `AT-HDVS-150-RX_[version].bin`
- USB Type A to Mini-USB Type B cable
- Computer with USB port

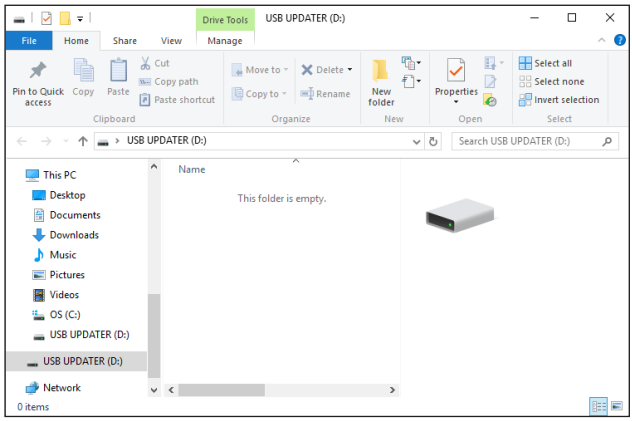
1. Download the latest firmware from the Atlona web site.
2. Disconnect the power supply from the AT-HDVS-150-RX.
3. Press and hold the **MENU** button.



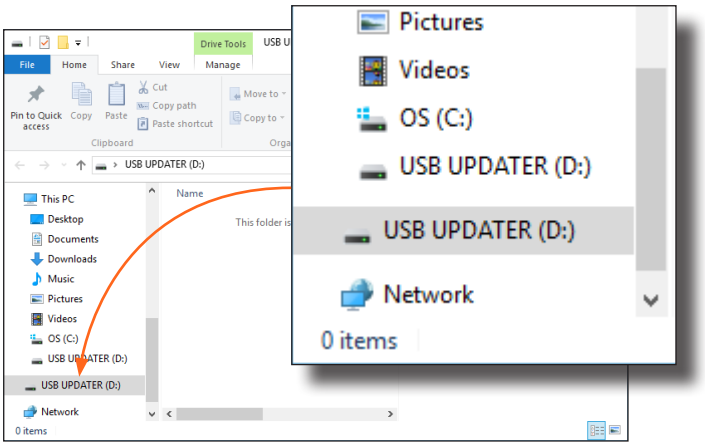
4. While pressing the **MENU** button, connect the USB cable from the computer to the **FW** port on the AT-HDVS-150-RX. When the USB cable is connected, the **PWR** LED indicator will glow solid green.



5. After a few seconds, a folder with the name USB UPDATER, will be displayed. Release the **MENU** button.



If the folder is not displayed, open Windows Explorer and locate the drive named USB UPDATER.



7. Delete all files from the USB drive, if any are present.
8. Drag-and-drop the `AT-HDVS-150-RX_[version].bin` firmware file to the drive.
9. After the file has been copied, disconnect the USB cable from both the computer and the AT-HDVS-150-RX.
10. Reconnect the power supply to the AT-HDVS-150-RX.
11. The update process is complete.

Specifications

Video	
HD/SD	1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@50/59.94/60Hz, 720p@25/29/30/50/59.94/60Hz, 576p, 576i, 480p, 480i, 1920×1200RB, 1680×1050, 1600×1200, 1600×900, 1440×900, 1400×1050, 1366×768, 1280×1024, 1280×960, 1280×800, 1280×768, 1152×854, 1024×768, 800×600, 720×400, 640×480
VESA	1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@50/59.94/60Hz, 720p@25/29/30/50/59.94/60Hz, 1920×1200, 1680×1050, 1680×1200, 1400×1050, 1366×768, 1280×1024, 1280×800, 1024×768
Color Space	YUV, RGB
Chroma Subsampling	4:4:4, 4:2:2
Color Depth	8-bit, 10-bit, 12-bit

Audio	
Analog	PCM 2Ch (de-embedded)
HDMI OUT & HDBaseT IN	PCM 2Ch
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Bit Rate	24-bit (max.)

Cable	Feet	Meters
CAT5e/6	200	60
CAT6a/7	230	70
HDMI IN / OUT	30	10

Cable	Feet	Meters
CAT5e/6	200	60
CAT6a/7	230	70
HDMI IN / OUT	30	10

Signal	
Bandwidth	6.75 Gbps
CEC	No
HDCP	Compliant - 1.4

Temperature	Fahrenheit	Celsius
Operating	32 to 104	0 to 40
Storage	-4 to 140	-20 to 60
Humidity (RH)	20% to 90%, non-condensing	

Power	
Consumption	15 W (varies per paired transmitter)
BTU/h	51.15
Supply	Input: 100 - 240 V AC, 50/60 Hz Output: 48 V DC, 0.83 A

Dimensions	Inches	Millimeters
H x W x D	1.18 x 4.8 x 4.92	30 x 122 x 125

Appendix

Weight	Pounds	Kilograms
Device	0.67	0.31

Certification		
Unit	CE, FCC	
Power Supply	CE, FCC, cULus, RoHS, CCC, RCM	

Compliance		
NDAA-889	Yes	
TAA	Yes	

Warranty		
3 years	View the full warranty information here: https://atlona.com/warranty	