

Three-Input Switcher for HDMI and VGA with HDBaseT™ Output



AT-HDVS-150-TX
AT-HDVS-150-TX-PSK

Atlona Manuals
Switchers

Version Information

Version	Release Date	Notes
1	09/16	Initial release
2	01/17	Combined TX and TX-PSK manual

Welcome to Atlona!

Thank you for purchasing this Atlona product. We hope you enjoy it and will take a 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>

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Operating Notes

- This product does not support multichannel audio.



IMPORTANT: Visit <http://www.atlona.com/product/AT-HDVS-150-TX> and <http://www.atlona.com/product/AT-HDVS-150-TX-PSK> for the latest firmware updates and User Manual.

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

- 3 years from proof of purchase date for all Refurbished (B-Stock) 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 www.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 www.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.

- 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.

Important Safety Information

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.

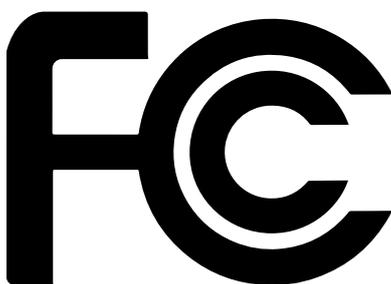


The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

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.

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Introduction

The Atlona **AT-HDVS-150-TX** is a 3x1 switcher with display control for HDMI and VGA transmission over HDBaseT™. It features two HDMI inputs plus a VGA input with 3.5mm audio connector. The AT-HDVS-150-TX combines the benefits of a switcher with built-in auto-switching and the advantages of long-distance HDBaseT signal extension over a single cable. HDMI signals up to 4K/UHD @ 60Hz with embedded audio, VGA input signals up to 1920x1200 video, and control signals can be extended up to 230 feet (70 meters). The switcher enables auto display on/off, auto-switching, along with other features. The switcher receives power from the AT-HDVS-150-RX using Power over Ethernet. The AT-HDVS-150-TX is ideal for long distance transmission and display control in corporate or educational settings using analog and digital sources.

The Atlona **AT-HDVS-150-TX-PSK** is identical to the AT-HDVS-150-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 HD-BaseT input. The AT-HDVS-150-TX can serve as the central component of a small, automated AV system through automatic input selection, and by sending RS-232 control commands to the display. With automatic display control capability, the AT-HDVS-150-TX can power the display on or off whenever a source is connected or disconnected from the unit.

Features

- Two HDMI inputs plus a VGA input with 3.5mm audio connector.
- Extends 1080p up to 230 feet (70 meters) and 4K/UHD up to 130 feet (40 meters) using CAT6a/7 cable.
- Automatically changes projector power state based on active or standby mode of the switcher (in conjunction with the AT-HDVS-150-RX). Control signals are transmitted via RS-232.
- Combines analog audio and VGA onto HDBaseT output.
- Field-upgradable via USB interface.
- Includes external power supply (AT-HDVS-150-TX-PSK only) – ideal for point-to-point installations with an HDBaseT-equipped display or projector.
- Front panel input select button.
- Automatic input selection using 5-volt detection.

Package Contents

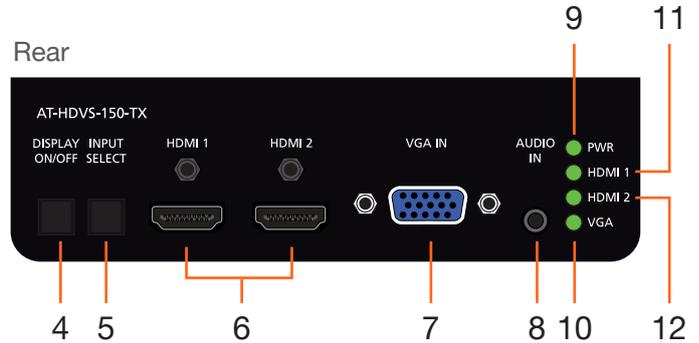
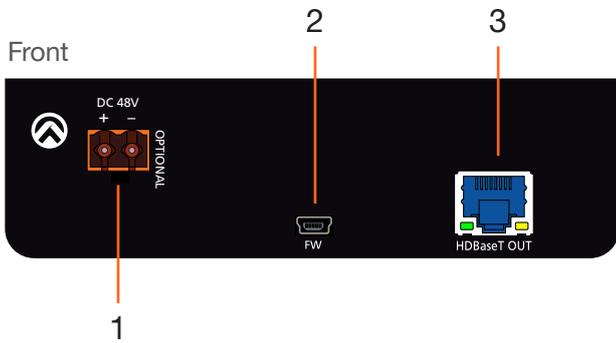
AT-HDVS-150-TX

1 x AT-HDVS-150-TX
1 x Mounting ears (pair)
1 x Installation Guide

AT-HDVS-150-TX-PSK

1 x AT-HDVS-150-TX-PSK
1 x 2-pin Phoenix connector
1 x 48V DC power supply
1 x Mounting ears (pair)
1 x Installation Guide

Panel Description



- 1 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-150-TX-PSK.
- 2 FW**
Connect a mini USB to USB-A type cable from this port to a computer to update the firmware. See [Updating the Firmware \(page 14\)](#) for more information.
- 3 HDBaseT OUT**
Use an Ethernet cable to connect an HDBaseT PoE receiver to this port.
- 4 DISPLAY ON/OFF**
Press this button to power-on the switcher, place it in standby mode, or control a connected display using the HDBaseT output.
- 5 INPUT SELECT**
Press this button to select the desired input.

- 6 HDMI 1 / HDMI 2**
Connect up to two HD sources using these HDMI ports.
- 7 VGA IN**
Connect a VGA source to this port.
- 8 AUDIO IN**
Connect a 3.5mm mini-stereo audio cable, from an analog audio source, to this port. See [Passing Analog Audio \(page 13\)](#) for more information.
- 9 PWR**
This LED indicator will glow bright green when the switcher is powered.
- 10 VGA**
This LED indicator will glow bright green when the VGA IN port is selected.
- 11 HDMI 1**
This LED indicator will glow bright green when the HDMI 1 port is selected.
- 12 HDMI 2**
This LED indicator will glow bright green when the HDMI 2 port is selected.

Installation

Connection Instructions

AT-HDVS-150-TX / AT-HDVS-150-TX-PSK

1. Use HDMI cables to connect up to two HD sources to the HDMI 1 and HDMI 2 ports on the switcher.
2. Connect a VGA cable from a VGA source to the **VGA IN** port on the switcher.
3. Connect a 3.5 mm mini-stereo cable from the **AUDIO IN** port on the switcher to the analog audio source. This port allows two-channel analog audio to be included when the VGA IN port is selected. See [Passing Analog Audio \(page 13\)](#) for more information.
4. Connect an Ethernet cable, up to 230 feet (70 meters), from the **HDBaseT OUT** port on the switcher to a PoE-compatible receiver (not included). Ethernet cables should use EIA/TIA-568B termination.



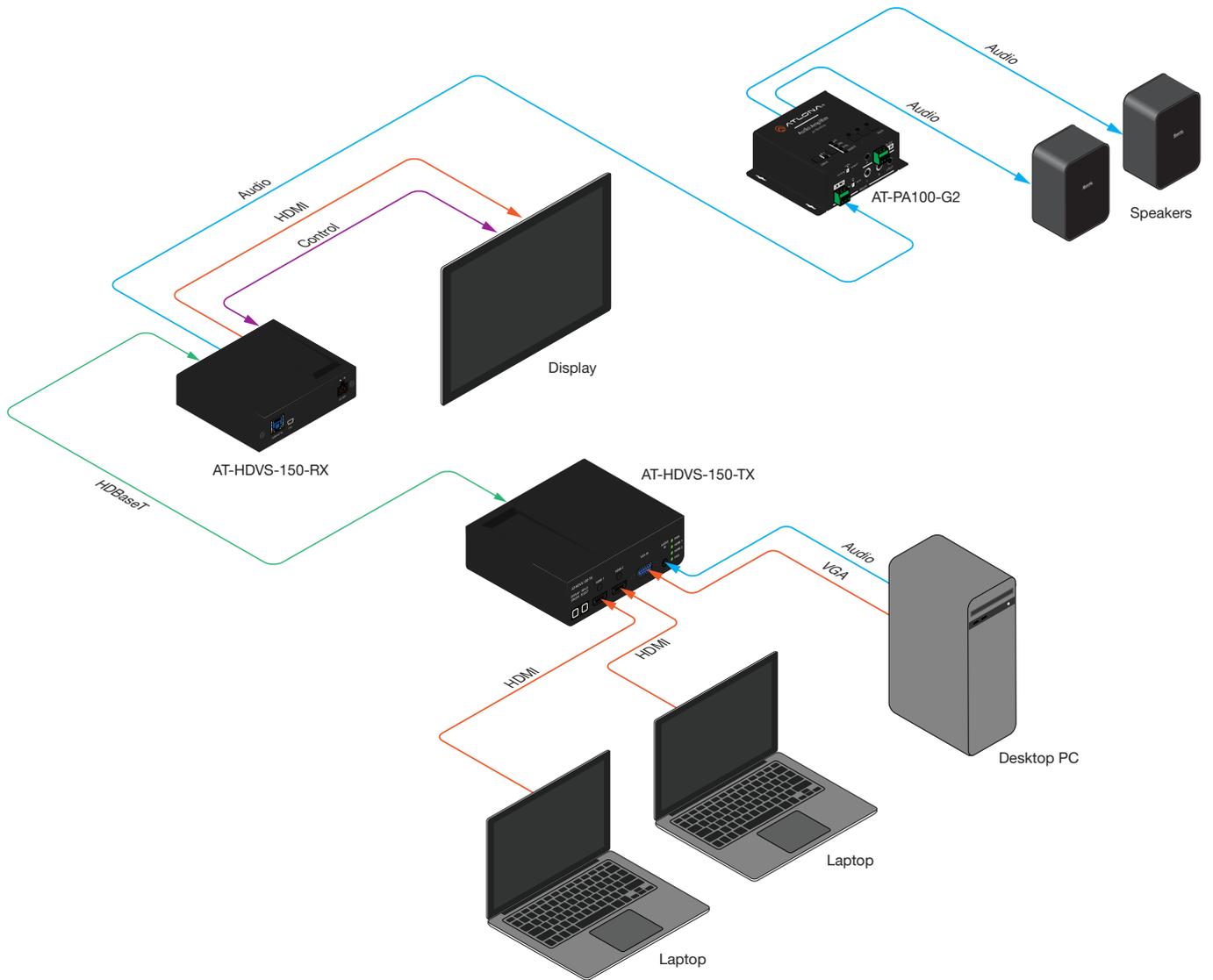
IMPORTANT: Using EZ RJ-45 connectors are being used, make sure that each twisted pair does not extend beyond the RJ-45 connector. Exposed twisted-pair wires may cause a short when connected to the **HDBaseT OUT** port.

No power supply is required for the AT-HDVS-150-TX. This unit will be powered over the Ethernet cable, from an HDBaseT receiver.

AT-HDVS-150-TX-PSK Only

5. Connect the included power supply to the **DC 48V** port. Powering the AT-HDVS-150-TX-PSK will provide power to other HDBaseT receivers or projectors that require power.
6. Connect the power supply to an available AC outlet.

Connection Diagram



Basic Operation

Powering the Display

When the unit is connected to a compatible receiver and display, pressing the **DISPLAY ON/OFF** button will send a toggle or trigger command to set the display power state. This is a programmable button and requires a compatible Atlona receiver.

1. Press the **DISPLAY ON/OFF** button.



2. The power state of the display, which is connected to the receiver, will be toggled.

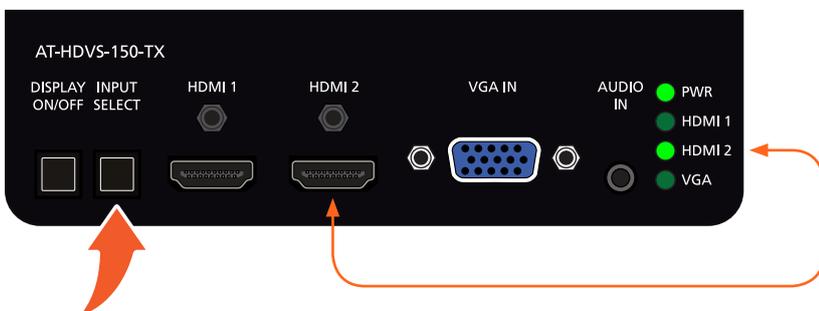
Selecting the Input

Press the **INPUT SELECT** button to cycle through each of the available inputs on the unit. The unit will always retain the last selected input when the unit is powered-off.

1. Below, the **HDMI 1** LED indicator is bright green, indicating that **HDMI 1** is the active input.



2. Press the **INPUT SELECT** button, to select HDMI 2. The **HDMI 2** LED indicator will turn bright green.



3. Press the **INPUT SELECT** button a third time, to select the **VGA IN** port. The **VGA** LED indicator will turn bright green.
4. Press the **INPUT SELECT** button again to return to **HDMI 1**.

Auto Switching

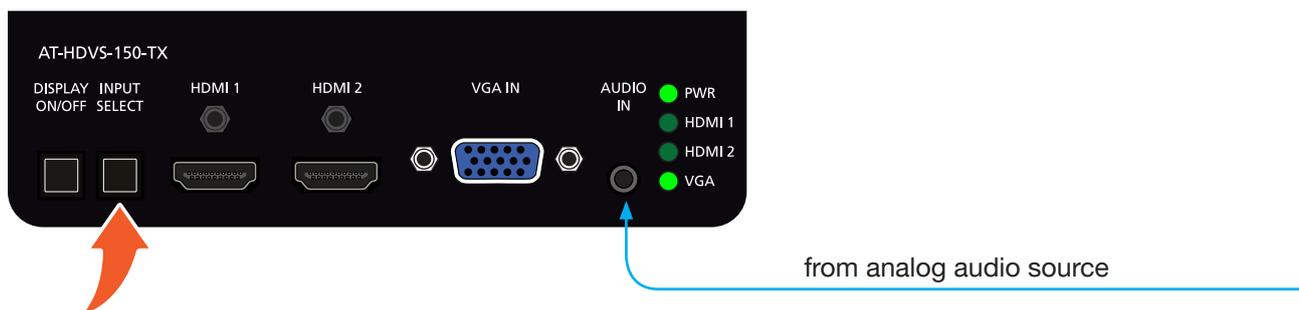
Both products have auto-switching capability. The default setting is OFF and can be set using a compatible receiver. The unit will automatically switch to the most recently-connected or powered source when a source is disconnected. For example, if the connection sequence is **HDMI 2 > HDMI 1 > VGA**, then disconnecting the source from **HDMI 1** will result in the product automatically switching to the **VGA** port.

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.

Passing Analog Audio

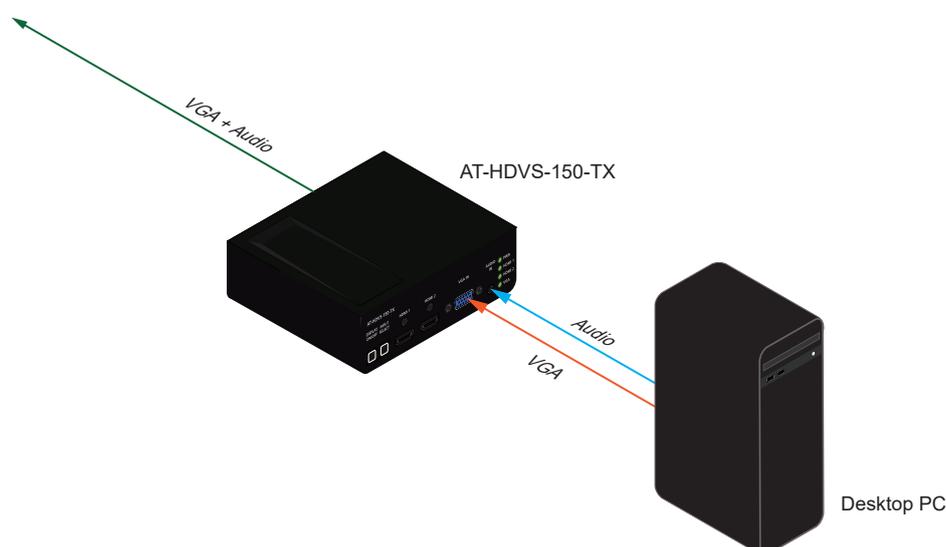
Both products can pass two-channel analog audio with the VGA signal. In order for the audio to be passed to the receiver, an active VGA source must be connected to the **VGA IN** port and the port must be selected. Analog audio *cannot* be embedded on an HDMI signal.

1. Connect a VGA source to the **VGA IN** port on the transmitter.
2. Connect a 3.5 mm mini-stereo cable from the **AUDIO IN** port to the analog audio source.
3. Press the **INPUT SELECT** button until the **VGA** indicator turns bright green.



IMPORTANT: The **AUDIO IN** port will pass audio only when both the **VGA IN** port is selected *and* when the **VGA IN** port is connected to an active VGA source. Audio cannot be passed without video.

The example below, shows a desktop PC providing both the audio and video source. However, these signals may be connected to separate sources.



Appendix

Updating the Firmware

The following procedure is used for both the AT-HDVS-150-TX and the AT-HDVS-150-TX-PSK. The firmware file for the AT-HDVS-150-TX is used for both models.

Requirements

- AT-HDVS-150-TX or AT-HDVS-150-TX-PSK
- Firmware file: AT-HDVS-150-TX_[version].bin
- USB Type A to Mini-USB Type B cable
- Computer with USB port

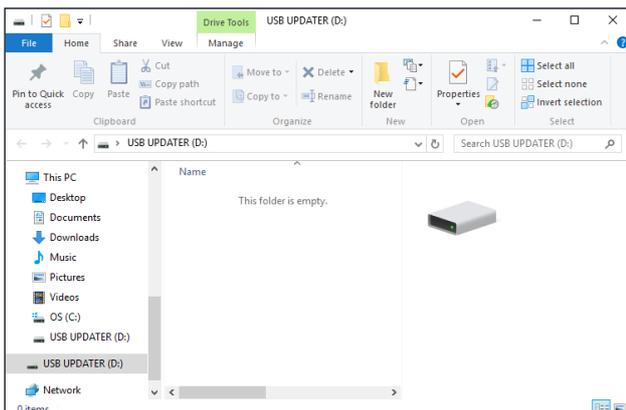
1. Download the latest firmware from the Atlona web site.
2. Connect the USB cable to the computer. Make sure that the AT-HDVS-150-TX is powered.
3. Disconnect the Ethernet cable from the **HDBaseT OUT** port on the AT-HDVS-150-TX. It is unnecessary to disconnect the AT-HDV-150-TX from the system.
4. Press and hold the **DISPLAY ON/OFF** button.



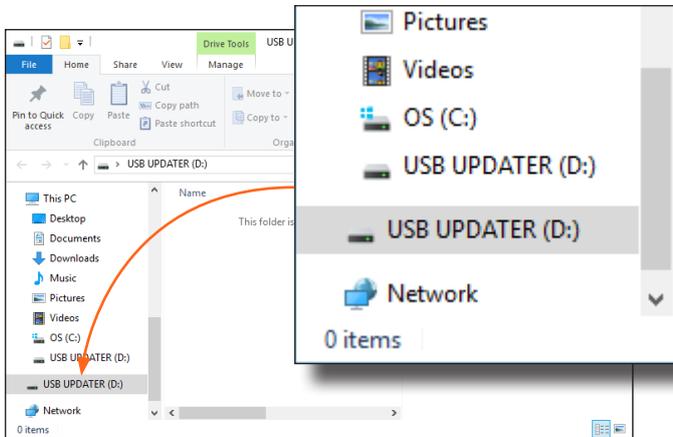
5. While pressing the **DISPLAY ON/OFF** button, connect the USB cable from the computer to the **FW** port on the AT-HDVS-150-TX.



6. After a few seconds, a folder with the name USB UPDATER, will be displayed. Release the **DISPLAY ON/OFF** 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-TX_[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-TX.
10. Reconnect the Ethernet cable to the **HDBaseT OUT** port on the AT-HDVS-150-TX.
11. The update process is complete.

Specifications

Video	
HD/SD	4096x2160@24/25/30/50*/60Hz*, 3840x2160@24/25/30/50*/60Hz* (UHD), 2048x1080p, 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	2560x2048, 2560x1600, 2048x1536, 1920x1200, 1680x1050, 1600x1200, 1600x900, 1440x900, 1400x1050, 1366x768, 1360x768, 1280x1024, 1280x800, 1280x768, 1152x864, 1024x768, 800x600, 640x480
Color Space	YUV, RGB
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0*
Color Depth	8-bit, 10-bit, 12-bit

Audio	
Analog In	PCM 2Ch
HDMI In / HDBaseT Out	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.)

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI	15	5	30	10
CAT-5e / CAT-6	115	35	197	60
CAT-6a / CAT-7	130	40	230	70

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	AT-HDVS-150-TX	AT-HDVS-150-TX-PSK
Consumption	18.7 W (when paired)	18.7 W (when paired)
Idle Consumption	N/A	22 W
Supply	N/A	Input: 100 - 240 V AC, 50/60 Hz Output: 48 V DC, 3.125 A

Dimensions	Inches	Millimeters
H x W x D	1.50 x 5.00 x 4.02	38 x 127 x 102

Weight	Pounds	Kilograms
Device	5.16	2.34

Certification	
Unit	CE, FCC

*4096x2160 @ 50/60 Hz and 3840x2160 @ 50/60 Hz supports 8-bit 4:2:0 chroma subsampling, only.

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