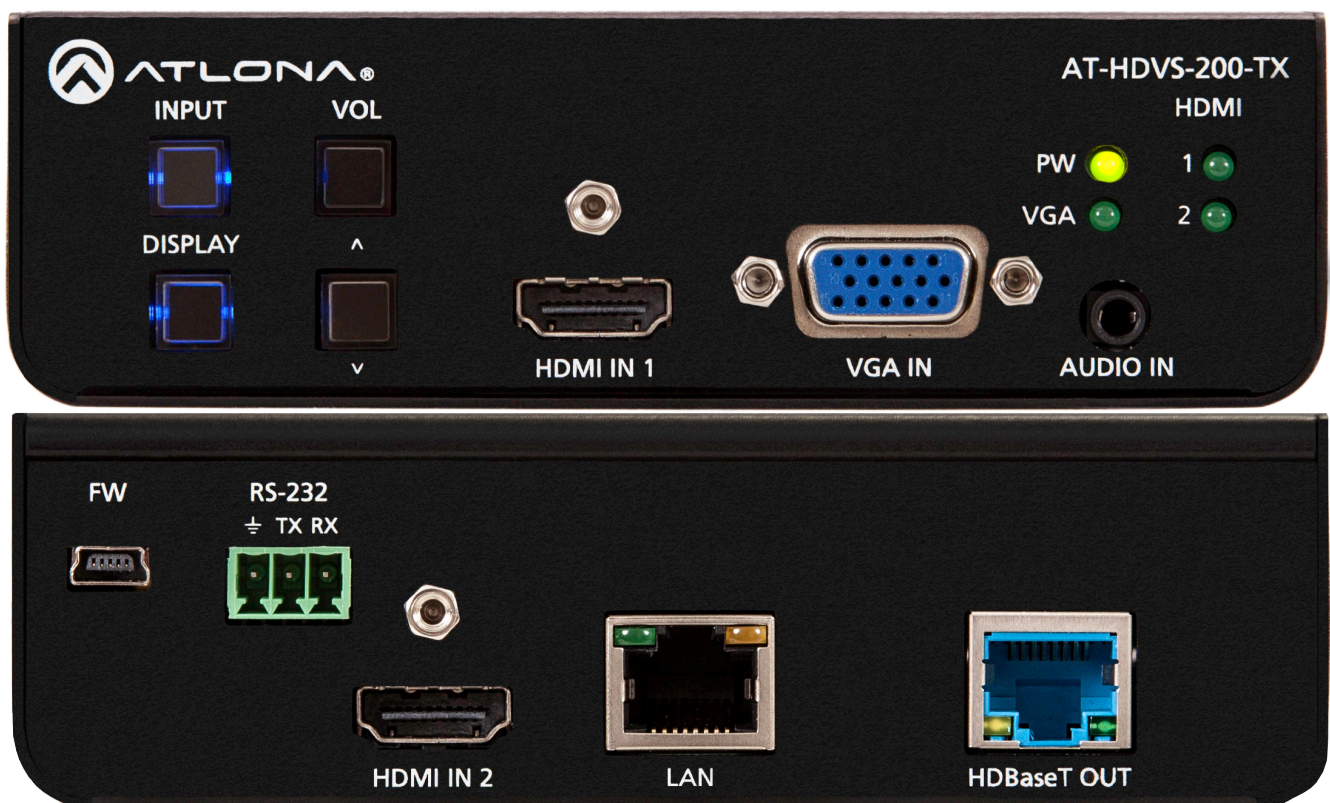![Atlona - Connecting Technology]

Three-Input Switcher for HDMI and VGA Sources with Automatic Display Control and Ethernet-Enabled HDBaseT Output

AT-HDVS-200-TX
User Manual

Please check http://www.atlona.com/products/AT-HDVS-200-TX for the most recent **firmware update** or **manual**.

Table of Contents

Note: To ensure compatibility, please be certain both transmitter and receiver have blue HDBaseT ports. This ensures both products are PoE (48V) compliant. The HDVS-200-TX is not compatible with PoCC (black RJ45, 24V) devices

Introduction

The AT-HDVS-200-TX is a 3×1 switcher for HDMI and VGA Inputs with HDBaseT Output. It features two HDMI inputs, a VGA input, and an always on 3.5mm audio connector. The AT-HDVS-200-TX can be the central component of a small, automated A/V system. Automatic display control turns on the display automatically whenever a source is connected. When the source is removed, the display is turned off. Volume is controlled by using the front panel buttons. Automatic input selection on the AT-HDVS-200-TX works by sensing the presence of any video signal. With automatic input selection, manual control systems can be eliminated.

The AT-HDVS-200-TX combines the benefits of a switcher and the advantages of Ethernet-enabled HDBaseT signal transmission over a single cable. The switcher enables input selection from the front panel, RS-232, or TCP/IP commands. HDMI signals up to 4K/UHD @ 60Hz with embedded audio, VGA input signals up to 1920×1200, and control signals can be extended up to 328 feet (100 meters).

> **Note:** To ensure compatibility, please be certain both transmitter and receiver have blue HDBaseT ports. This ensures both products are PoE (48V) compliant. The HDVS-200-TX is not compatible with PoCC (black RJ45, 24V) devices

Package Contents

- 1 x AT-HDVS-200-TX
- 1 x Captive screw connector (3 pin: RS-232)
- 1 x Pair of mounting brackets
- 1 x User Manual

Features

- 2 HDMI (accepts DVI and DisplayPort with adaptors) and 1 VGA/analog audio inputs
- Auto display control when using TCP/IP, RS-232, or CEC*
- Auto switching with video detection technology (activated through RS-232, IP, or webGUI)
    - Device priority - Option to return to a specific port when receiving no signal from the current source
- Control audio volume for HDBaseT output or display
    - Adjust volume through front panel, RS-232, or TCP/IP control
    - **Note:** Together, CEC and HDBaseT output audio control provide a simple solution for complete audio and video control, without the need for IP, RS-232, or spending extra programming time.
- Analog audio embedding
    - Stand alone audio option - pass analog audio input with no video
- Supports up to 4K @ 60Hz 4:2:0 (when used with 4K compatible receivers/switchers **e.g.** UHD-CLSO series)
- Ethernet pass through for configuration, upgrading, and device management/control
- Supports Dolby TrueHD and DTS-HD Master Audio when using HDMI for audio input and output
- HDCP management
- EDID management for better compatibility
- Firmware upgrade via USB or webGUI for easy field service

with AT-HDVS-200-RX

- Scales incoming signals at a variety of common resolutions up to 1080p or 1920x1200
- Dry contact closure control capabilities for up to two devices
- Complete control of video brightness, contrast, saturation, hue, and more
- Projector control through RS-232, IP, or webGUI
- Dual RS-232 port for control systems in addition to projector control

*Note: Consumer Electronics Control (CEC): Atlona does not guarantee the function of CEC with all televisions. We can confirm proper operation with many current Samsung, Panasonic, and Sony TVs. Many manufacturers do not support the CEC "Off" command when sent from a source and older TVs use proprietary commands. Atlona only supports those TVs that follow CEC command structure from HDMI 1.2a and support the "off" command when issued by a source. We encourage any dealer to get evaluation product from Atlona prior to designing a system around this control technology or be prepared to use other methods to control their displays if Atlona CEC is not compatible with the installed displays.

Panel Description
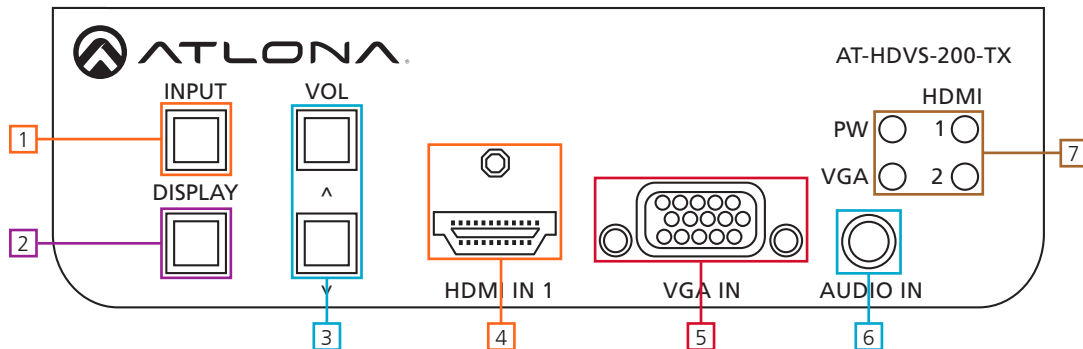
1. **INPUT** button**:** Use to switch between VGA and HDMI sources
2. **DISPLAY** button**:** Can be programmed to perform different functions
   Default action will turn video output on/off for the switcher
   Send on/off command to CEC, RS-232, or TCP/IP controllable displays or other connected devices
   Sends RS-232 or TCP/IP trigger command when used with a compatible switcher
   (**e.g.** CLSO PoE series)
3. **VOLUME** buttons**:** Adjust output volume of the switcher or connected device when programmed
   Note: To mute or unmute output audio, press both volume buttons together. LED will turn red when muted
4. **HDMI 1** port**:** Connect first HDMI source here
5. **VGA IN** port**:** Connect VGA source here
6. **AUDIO IN** port**:** Connect analog audio here
7. **PW** LED**:** Will illuminate when receiving power
   VGA LED**:** Illuminates when VGA input selected
   HDMI 1 LED**:** Lights up when HDMI input 1 is selected
   **HDMI 2** LED**:** Turns on when the second HDMI input is selected
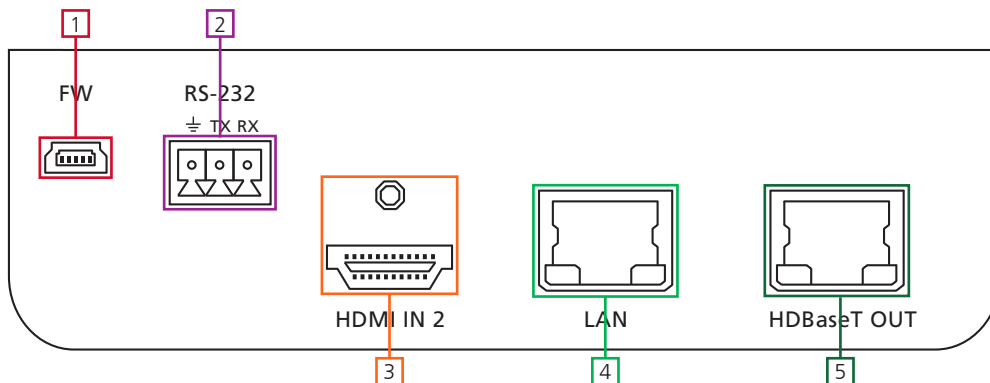
1. **FW** port**:** Firmware update port, connect a mini USB to USB A cable to a computer
   Firmware is downloadable through http://www.atlona.com/products/AT-HDVS-200-TX/
2. **RS-232** port**:** Connect control system to RS-232 port
   Note: RS-232 port is for switcher control only, it is not a pass-through for device control
3. **HDMI 1** port**:** Connect second HDMI source here
4. **LAN** (black) port**:** Connect network switch or router to this port for Ethernet, TCP/IP, or webGUI control
5. **HDBaseT OUT** (blue) port**:** Connect to an HDBaseT PoE receiver
   e.g. AT-HDVS-200-RX or UHD-CLSO PoE series switcher/scalers

   Note: To ensure compatibility, please be certain both transmitter and receiver have blue HDBaseT ports. This ensures both products are PoE (48V) compliant. The HDVS-200-TX is not compatible with PoCC (black RJ45, 24V) devices

Category Cable

For the category cables used in the installation of these products, please be sure to use a 568B termination as pictured below:

1. White - Orange
2. Orange
3. White - Green
4. Blue
5. White - Blue
6. Green
7. White - Brown
8. Brown
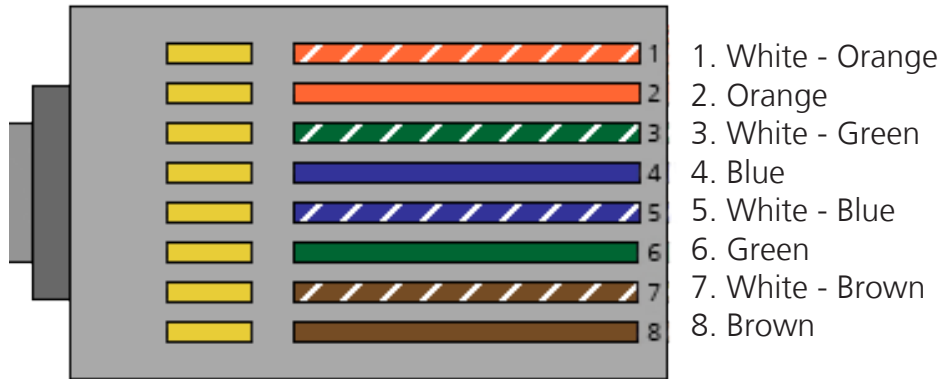
Use the table below to verify the best category cable for the installation.

Performance Rating		Type of LAN cable	
Wiring	Shielding	CAT5e/6	CAT6a/7
Solid	Shielded (STP/FTP)	***	****
	Unshielded (UTP)	**	N/A
Stranded - Patch cable (Not recommended)	Unshielded (UTP)	*	N/A
	Shielded (STP/FTP)	*	N/A
Termination		Please use EIA/TIA-568-B termination	

Important! 4K (UHD) signals are sensitive to cable quality and installation technique. It is recommended to use CAT6a/7 solid core cables for best results.
Note: For cable distances see the specifications on page 20

Connector

Connector type and size is very important to ensure extenders work correctly. Please use the matching cable type with the correct RJ45 connector.

CAT5e cables should use only CAT5e RJ45 connectors
CAT6 cables should use only CAT6 connectors
CAT6a cables should use only CAT6a connectors
CAT7 cables should use only CAT7 connectors

Using the wrong size connectors may result in interference causing loss of signal.

Important! "EZ RJ45 connectors" are not recommended with HDBaseT extenders. Doing so may result in interference with audio and video transmission.

Note: To ensure compatibility, please be certain both transmitter and receiver have blue HDBaseT ports. This ensures both products are PoE (48V) compliant. The HDVS-200-TX is not compatible with PoCC (black RJ45, 24V) devices

Network Connections

For convenience, the HDVS-200 comes with DHCP on. This enables the switcher to be connected to a network without knowing available IP addresses. If your network does not allow dynamic IP addresses or if you are using the switcher with a TCP/IP control system, this feature may be turned off and the IP address set using RS-232 commands or the webGUI.
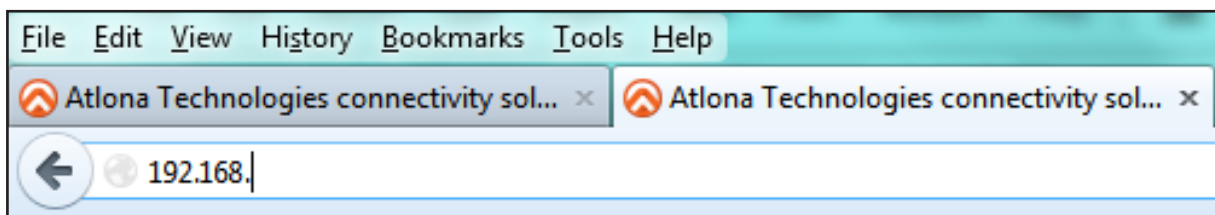
WebGUI

Atlona has created an easy to use webGUI for setup and changes to the configuration of the HDVS-200.

To begin, plug a LAN cable into the LAN port of the HDVS-200 and the network switch, then type the IP address of the unit into a web browser of a PC connected to the same network (as seen below).

To find the switcher IP: use RS-232 command "IPCFG".

    Note: IP addresses may also be found using common free IP scanner software such as "Advanced IP Scanner"
    *Atlona does not assume responsibility for damage caused by other programs installed onto a computer, verify programs before installing*****

Important: If any stability issues are experienced, disable any anti-virus or firewall that may interfere with network communication to the switcher. Once set up is done and the switcher webGUI is no longer being used, the firewall and anti-virus can be re-enabled.
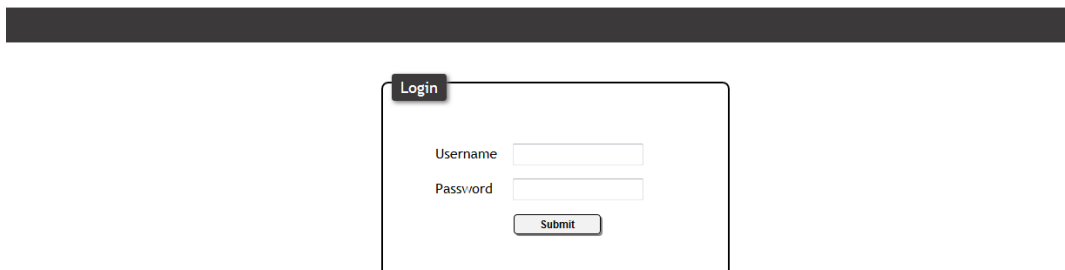
A login screen will appear (this is the same log in for admin and general users). For the first log in (and future admin changes) the username is "root" and password is "Atlona".

    Note: Only the admin password can be changed (see page 13). The username will always remain "root".

The Info Page displays general system information.

    Note: When connected to a receiver other than the HDVS-200-RX it will display GENERAL in the navigation bar.

When the HDVS-200-RX is connected, the navigation will display AT-HDVS-200-RX in the bar. Clicking on the SKU will launch the webGUI of the RX.

Note: Opening the webGUI for the RX will navigate the user out of the TX webGUI

The Video Page enables input selection, VGA timing, and auto-switch configuration.

Video:

Input Selection - Choose between HDMI 1, HDMI 2, and VGA inputs
VGA Adjust - Adjusts the VGA timing on the display
Auto-Switch mode - Turn auto switching on/off. Default is off
Fallback Port - Select the input the switcher will default to when signal is lost
Fallback Time (sec) - Determines how long the switcher will go without video signal before switching to the fallback port

When used with the HDVS-200-RX, additional options will appear on the Video Page.

   Output Resolution - Select the output resolution for the HDMI output (see resolution list below)
        Note: The RX will scale all sources to the chosen resolution
   Aspect - Adjusts the height and width of the image (see aspect list below)

Output Resolution -

0 800x600p60   **1** 1024x768p60   **2** 1280x800p60   **3** 1280x1024p60   **4** 1366x768p60

5 1400x1050p60   **6** 1600x900p60RB   **7** 1600x1200p60   **8** 1680x1050p60   **9** 1920x1200pRB

10 1280x720p25   **11** 1280x720p29   **12** 1280x720p30   **13** 1280x720p50   **14** 1280x720p59

15 1280x720p60   **16** 1920x1080i50   **17** 1920x1080i59   **18** 1920x1080i60   **19** 1920x1080p23

20 1920x1080p24   **21** 1920x1080p25   **22** 1920x1080p29   **23** 1920x1080p30   **24** 1920x1080p50

25 1920x1080p59   **26** 1920x1080p60   **27** Input   **28** Native

Aspect Ratio -

1 Full   **2** 16:9   **3** 16:10   **4** 4:3   **5** Keep Ratio

        Note: Keep ratio maintains the aspect ratio of the source, even if it does not match connected display's
              aspect ratio

The Audio Page enables adjustments of volume, bass, and treble

Output Mute
   ON/OFF - Mute/Unmute all audio output of the switcher
Output Volume
   Output - Adjust the output volume
   Output Bass - Adjust the bass of the output
   Output Treble - Adjust the treble of the output

The Control Page includes settings which enable display controls by the switcher. It provides a way to program button functions, display control, and type of control commands (TCP/IP or RS-232) sent out.

Button Control Selection:

Power -
> None: Display button will turn the HDVS-200 on and off
> RS-232: Display button will send power on/off command over HDBaseT using RS-232 to compatible receivers and displays
> IP: Display button will send power on/off command over Ethernet using either the LAN connection or the HDBaseT connection

Volume/Mute -
> Audio Out: Volume and mute buttons will control volume level of the HDBaseT output
> RS-232: Volume/Mute buttons will send the commands over HDBaseT using RS-232 to compatible receivers and displays
> IP: Volume/Mute buttons will send the commands over Ethernet using either the LAN connection or the HDBaseT connection

CEC Control:

Power -
> On: Sends a command over HDBaseT to the HDMI output of the connected receiver to turn the connected display on
> Off: Sends a command over HDBaseT to the HDMI output of the connected receiver to turn the connected display off

Note: Consumer Electronics Control (CEC): Atlona does not guarantee the function of CEC with all televisions. We can confirm proper operation with many current Samsung, Panasonic, and Sony TVs. Many manufacturers do not support the CEC "Off" command when sent from a source and older TVs use proprietary commands. Atlona only supports those TVs that follow CEC command structure from HDMI 1.2a and support the "off" command when issued by a source. We encourage any dealer to get evaluation product from Atlona prior to designing a system around this control technology or be prepared to use other methods to control their displays if Atlona CEC is not compatible with the installed displays.

Note: Together, CEC and HDBaseT output audio control provide a simple solution for complete audio and video control, without the need for IP, RS-232, or spending extra programming time.

System Settings	
Display Auto Power On	OFF
Display Auto Power Off	OFF
Power Button Lock	OFF
Lamp cool down timer(Sec.)	0
Auto power off timer(Sec.)	10
Power on delay timer(Sec.)	0
Control Type	RS-232
Feedback Verify	ON

System Settings

<u>Display Auto Power On</u> - When enabled, the unit will send the programmed (RS-232, IP, or CEC) command to the display to turn on after detecting an A/V signal

<u>Display Auto Power Off</u> - When enabled, the unit will send the programmed command to the display to turn off after not detecting an A/V signal

<u>Power Button Lock</u> - Lock or unlock the display button on the front panel to enable/disable display on/off commands

<u>Lamp cool down timer</u> (10-300) - Used with a projector whose lamp cannot be turned on for up to 5 minutes after being shut off. Match settings with lamp delay on projector

<u>Auto power off timer</u> (1-240) - Sets the period of time between the loss of A/V signal and when the "Display Off" command is sent

Note: All functionality remains, only the HDBaseT output is turned off

<u>Power on delay timer</u> (10-300) - Sets the period of time after the display is turned on, that the power button will be locked

Note: LED will blink blue for the warm up timer period and then stay solid

Note: When timers are set to 0 seconds, they will disable the timer's functions

<u>Control Type</u> - Select whether the display auto on/off commands are sent using RS-232, TCP/IP, or CEC

<u>Feedback Verify</u>

On: If receiving no feedback, the product will send the command up to 4 times

Off: The command will only be sent once, whether feedback is received or not

TCP/IP Settings of Controlled Device:

This option programs the IP parameters for display control. The static IP address set here should match the display's static IP address. To set or view the display's address, check the display's user manual.

> **Note:** The switcher and the display must be on the same network for these commands to work
> **Note:** Be sure the static IP address set for the display does not match any other device on the network

IP Mode -
Non-login: Does not require a username and password when using TCP/IP to control the display
Login: Requires a username and password to control the display through TCP/IP
IP Address & Port - Set to match the display's static IP
Username & Password - Required when in login mode
Save - Saves the IP settings for accessing the controlled device

RS-232/IP Commands:

ASCII/Hex - Set which type of commands are sent to the display
On/Off/Volume+/Volume-/Mute - Enter the specific commands and feedback that will be sent/received when using any of the control options
> **Note:** Individual commands will be found in the display's manual
End of line symbols - None, CR, LF, CR-LF, Space, STX, ETX, Null - Select the appropriate symbol from the drop down list. Carriage return, line feed, and carriage return with line feed are the most commonly used symbols.
> **Note:** Be sure to check the display's manual for the correct symbol
Feedback - Feedback commands can be set by typing in the field or will auto fill after pressing the test button.
> **Note:** If the command is incorrect, you will get a red 'Timeout!' message at the top of the RS-232 field

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

RS-232

RS-232 Parameter Setting

Zone

Baud rate   115200

Data bit   8

Parity   None   [Save]

Stop bit   1

Console

Baud rate   115200

Data bit   8

Parity   None   [Save]

Stop bit   1

RS-232 Parameter Setting

<u>Zone</u> -

Adjust the RS-232 parameters of the HDBaseT output of the HDVS-200

Note: When connected to the HDVS-200-RX the baud rate must be 115200 or communications will not pass

<u>Console</u> -

Adjust the RS-232 parameters of the HDVS-200 to make it compatible with control systems.

<u>Save</u> -

Once the RS-232 parameters are changed, press the save button to make it live on the unit.

The EDID Page enables the preferred input timing to be selected and HDCP compliance reporting to be set.

HDMI Prefer Timing: Select the best resolution to ensure compatibility with the input & output
VGA Prefer Timing: Select the best resolution to ensure compatibility with the input & output
HDMI 1 HDCP: Switch the HDCP reporting between compliant or non-compliant
HDMI 2 HDCP: Switch the HDCP reporting between compliant or non-compliant

The HDVS-200-TX has two HDCP reporting modes: compliant and non-compliant.
Note: HDVS-200-TX does not alter the signal in any way
Note: HDVS-200-TX will not pass HDCP compliant content to a non-HDCP device or display

Compliant -
Reports to the source it is connected to an HDCP compliant device
Note: Will pass all HDCP compliant and non-compliant source signals to an HDCP compliant display

Non-Compliant -
Reports to the source it is connected to an HDCP non-compliant device
Note: Some Apple products (and other PCs) will encrypt non-HDCP content, stopping non-HDCP compliant displays from receiving even personal files such as: PowerPoint, Excel, or Word files. Use this mode to pass non-HDCP content (**e.g.** to codecs or video streaming devices)
Note: Blu-Ray content, Apple TV, and other HDCP compliant source signals will not pass when set to non-compliant

Preferred Timings (HDMI) -

0 Default	**1** 1280x800	**2** 1920x1080	**3** 1024x768	**4** 1280x720
5 1920x1200	**6** 1366x768	**7** 800x600	**8** 1600x900	**9** 2560x1440
10 3840x2160	**sta**			

Preferred Timings (VGA) -

0 Default	**1** 1280x800	**2** 1920x1080	**3** 1024x768	**4** 1280x720
5 1920x1200	**6** 1366x768	**7** 800x600	**8** 1600x900	**sta**

The Configuration Page allows non-admin users to be added or the admin password to be changed.

Only 3 non-admin users can be added. Press the add button. A pop up screen will appear (see below). Fill in the username and password than press save changes. Users will not have the ability to access this page.

Admin password can also be changed. Be sure to write this information down as admin is the only profile allowed to add/remove users.

Note: Default username= "root" and password= "Atlona"

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

System

NetWork

IP Mode: DHCP
IP: 10.0.1.83
Netmask: 255.255.255.0   Save
Gateway: 10.0.1.1
Telnet Port: 23

Telnet Login Mode
OFF

Telnet Timeout
120

Broadcast
ON

Reset to Default
Factory Default

Firmware Update
Browse... No file selected.   Update

Valens Update
Browse... No file selected.   Update
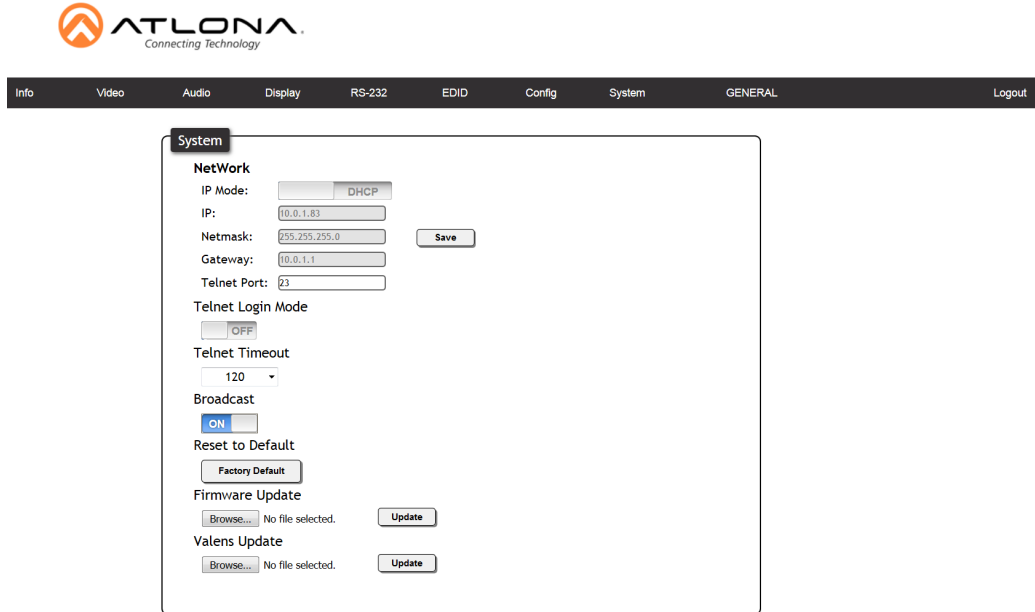
Network: IP address, netmask, gateway, and telnet port can be set to any settings compatible with your network. The Netmask and Gateway must match your existing network settings

IP Mode -

Static: Set a fixed IP address

Note: For a stable connection when using a control system, it is best to set up a static IP. As you select an IP address, make certain no other devices on your network are using that IP address

DHCP: Dynamic Host Configuration Protocol will automatically select an IP address on the network that is not already in use

Telnet Login Mode - Turn on/off - requires a password to adjust settings

Telnet Timeout - Set the auto log-off time between 1 and 3600 seconds

Broadcast - Turn on and off the feedback through all control ports

Reset to Default - Reset the device to factory settings

Firmware Update - Use this feature to find and load the MCU firmware to the switcher

Note: Firmware can be found and downloaded from http://www.atlona.com/products/AT-HDVS-200-TX/ page under the firmware tab

Valens Update - Use this feature to find and load the HDBaseT chip firmware to the switcher

RS-232

Connection

RS-232 pin out is determined by the connected device and connects as RX (receiver), TX (transmitter), and ⏚ (ground). (See picture 1)

> **Note:** Be sure to follow the connect order above as the female captive screw connector connects \ to the unit upside down.
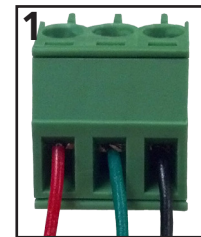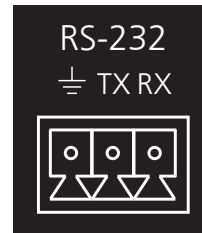
RS-232
⏚ TX RX

Wire color differs by cable manufacturer.

RS-232 is often connected through a DB 9-pin to captive screw connector. The pins have specific signals associated with them, some are unassigned.

> **Note:** Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices, the functions of pins 2 and 3 are reversed.
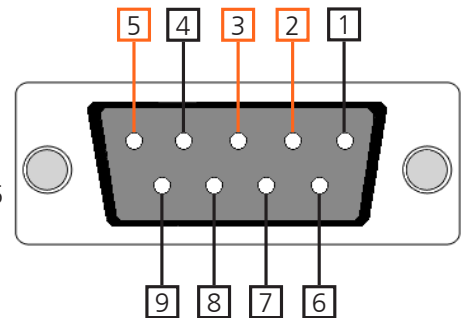
Set Up

To set up the RS-232 terminal (if not using 3rd party software) use the following steps:

1. Connect the HDVS-200 to a PC using a DB9 to DB9 and DB9 to USB adaptor cable

> **Note:** A gender changer and/or null modem may be needed between some connections

   a. Remove the DB9 connector, strip and connect the wires to the included captive screw connector (as explained above), then connect the captive screw connector to the switcher

2. Go to the Device Manager folder (see picture A)
3. Find the HDVS-200 COM port and right click with a mouse and select properties (see picture B)

> **Note:** If unsure which COM port is the HDVS-200, unplug the cable and plug it back in. It will disappear and reappear on the COM port list.

4. Under the properties menu select the port settings tab and update the menu to the **HDVS-200 default settings of**: Bits Per Second: 115200, Data Bits: 8, Parity: None, Stop Bits: 1 and Flow Control: None. (see picture C)

Set up is done and any terminal program may be used to control the HDVS-200 now.
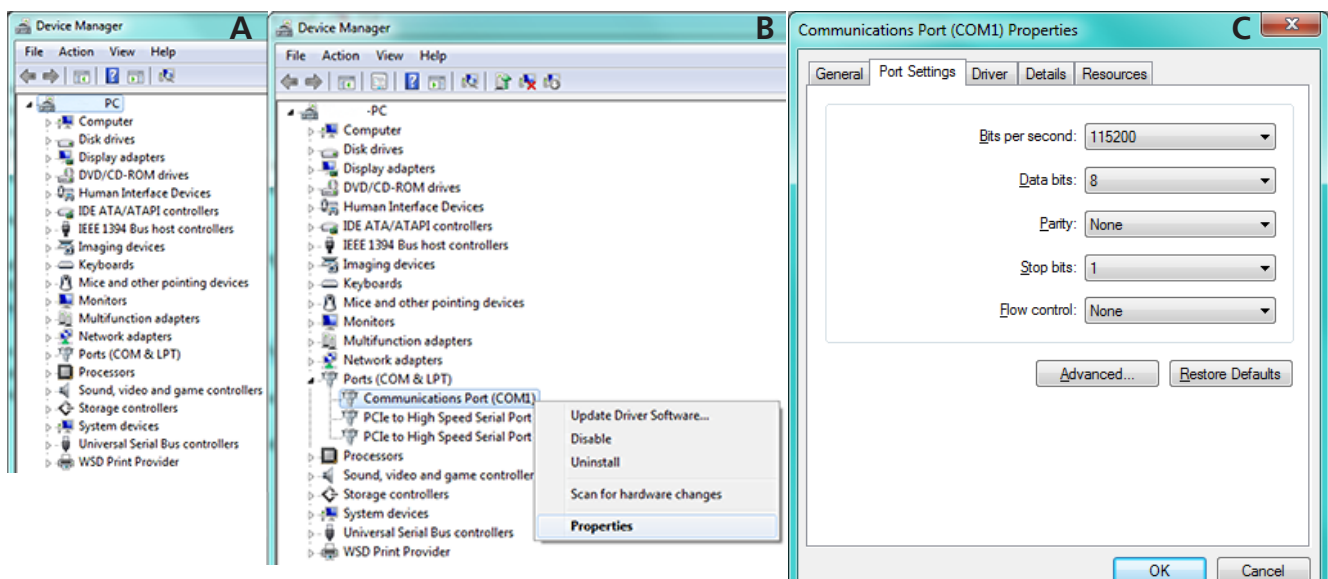
Commands

Command	Feedback	Description
Type	Type	Displays the model number of the unit
Version	Version	Displays the bootcode and firmware version
Mreset	Mreset	Reset the unit to factory settings and restarts the switcher
Update X	Update X	Sets the unit into update mode X= MCU (unit) or VSTX (Valens)
Input X **e.g.** Input HDMI 1	Input X **e.g.** Input HDMI 1	Select the input device. X= HDMI 1, HDMI 2, VGA, or sta **e.g.** Set the input to HDMI 1
AutoSW X **e.g.** AutoSW on	AutoSW X **e.g.** AutoSW on	Enable/Disable auto switching or display auto switching status **e.g.** Turns auto switching on
ASwPrePort X	ASwPrePort X	Sets input the switcher defaults to when losing AV signal X= 1-3, Prev
ASwOutTime X **e.g.** ASwOutTime 60	ASwOutTime X **e.g.** ASwOutTime 60	Sets the delay time for how long the auto switching receives no signal from the input before switching ports x= 1-600 (default is 1 second) **e.g.** Sets the delay time to 1 minute with no signal before changing ports
ASwFstTime X **e.g.** ASwFstTime 10	ASwFstTime X **e.g.** ASwFstTime 10	Sets the delay time of switching when a new device is powered on X=10-600 **e.g.** HDVS will switch to the new source after 10 seconds of signal
VGAAuto	VGAAuto	Adjusts VGA picture to the center of the display **Note:** Only valid when VGA is selected
HDCPSet1 X **e.g.** HDCPSet1 on	HDCPSet1 X **e.g.** HDCPSet1 on	Set HDCP reporting for HDMI IN 1 X= on, off, sta **e.g.** Set HDCP reporting for HDMI IN to compliant
HDCPSet2 X **e.g.** HDCPSet2 off	HDCPSet2 X **e.g.** HDCPSet2 off	Set HDCP reporting for HDMI IN 1 X= on, off, sta **e.g.** Set HDCP reporting for HDMI IN to non-compliant
PrefTimg X	PrefTimg X	Set preferred timing to EDID. X= 0-10 & sta
VGAPrefT X	VGAPrefT X	Set preferred VGA timing to EDID X= 0-8 & sta
VOUT1 + **e.g.** VOUT1 +	VOUT1 XX **e.g.** VOUT1 -5	Increase the volume output by 1 **e.g.** Increases the volume output by 1
VOUT1 - **e.g.** VOUT1 -	VOUT1 XX **e.g.** VOUT1 -20	Decrease the volume output by 1 **e.g.** Decreases the volume output by 1
VOUT1 X **e.g.** VOUT1 -10	VOUT1 X **e.g.** VOUT1 -10	Set the volume to a specific level from -80 to 0 **e.g.** Set the volume to -10
VOUTMute1 X **e.g.** VOUTMute1 on	VOUTMute1 X **e.g.** VOUTMute1 on	Mute/unmute all audio output X= on, off, sta **e.g.** Mute all audio output
Bass X **e.g.** Bass +	Bass X **e.g.** Bass 5	Adjusts the bass of the audio output X= +, -, sta, -12 to 15 **e.g.** Increases the bass by 1
Treble X **e.g.** Treble -5	Treble X **e.g.** Treble -5	Adjusts the treble of the audio output X= +, -, sta, -12 to 15 **e.g.** Sets the treble to -5
FreeRun X **e.g.** FreeRun on	FreeRun X **e.g.** FreeRun on	Sets whether analog audio will pass on without video X= on, off, sta **e.g.** Sets the analog audio to pass through without video

Each command is terminated with a carriage return.
Feedback is terminated with a carriage return and line feed.
      Note: If the command fails or is incorrect the feedback should be "Command FAILED"

Preferred Timings (HDMI) -

0 Default	**1** 1280x800	**2** 1920x1080	**3** 1024x768	**4** 1280x720
5 1920x1200	**6** 1366x768	**7** 800x600	**8** 1600x900	**9** 2560x1440
10 3840x2160	**sta**			

Preferred Timings (VGA) -

0 Default	**1** 1280x800	**2** 1920x1080	**3** 1024x768	**4** 1280x720
5 1920x1200	**6** 1366x768	**7** 800x600	**8** 1600x900	**sta**

SetCmd X[Y] **e.g.** SetCmd on[PWR ON]	SetCmd X[Y] **e.g.** SetCmd on[PWR ON]	Sets the RS-232 or IP command for the selected button or function X= on, off, vol+, vol-, and mute Y= command **e.g.** Set the on command to send the command PWR ON
SetStrgType X	SetStrgType X	Sets the command string type X= ascii, hex, sta
SetEnd X[Y] **e.g.** SetEnd off[CR-LF]	SetEnd X[Y] **e.g.** SetEnd off[CR-LF]	Sets the line termination for the chosen command X= on, off, vol+, vol-, mute, fbkon, fbkoff, fbkmute Y= None, CR, LF, CR-LF, Space, STX, ETX, and null **e.g.** Set the command off to have a carriage return and line feed
SetFbVerify X e.g. SetFbVerify on	SetFbVerify X e.g. SetFbVerify on	Verifies the device is receiving commands X= on, off, sta **e.g.** Sends command up to 4 times until feedback verifies command was received with feedback
TrigCEC X **e.g.** TrigCEC on	TrigCEC X **e.g.** TrigCEC on	Triggers the stored CEC command to turn the display on and off X= on, off
TrigRS X **e.g.** TrigRS vol+	TrigRS X **e.g.** TrigRS vol+	Triggers the RS-232 command from RS-232 or IP X= on, off, vol+, vol-, and mute
TrigIP X **e.g.** TrigIP vol-	TrigIP X **e.g.** TrigIP vol-	Triggers the IP command from RS-232 or IP X= on, off, vol+, vol-, and mute
CtlType X **e.g.** CtlType rs-232	CtlType X **e.g.** CtlType rs-232	Sets the control type X= ip, rs-232, cec **e.g.** Set the control type to RS-232
CliMode X **e.g.** CliMode non-login	CliMode X **e.g.** CliMode non-login	Sets the control device's IP mode X= sta, login, non-login **e.g.** Sets the IP mode to non-login
CliUser X **e.g.** CliUser	CliUser X **e.g.** CliUser admin	Sets the IP username for login X= username, (blank) **e.g.** Display the IP username by leaving x blank
CliPass X **e.g.** CliPass AtlonA	CliPass X **e.g.** CliPass AtlonA	Sets the IP password for login X= password, (blank) **e.g.** Set the IP password to AtlonA
CliIPAddr X **e.g.** CliIPAddr sta	CliIPAddr X **e.g.** CliIPAddr 192.168.0.23	Sets the IP address of the controlled device X= ip, sta **e.g.** Display the IP address of the controlled device
CliPort X **e.g.** CliPort 24	CliPort X **e.g.** CliPort 24	Sets the IP port of the controlled device X= port, sta **e.g.** Set the IP port to 24
AutoDispOff X	AutoDispOff X	Enable or disable display auto off X= on, off, sta
AutoDispOn X	AutoDispOn X	Enable or disable display auto on X= on, off, sta
APwrOffTime X	APwrOffTime X	Sets how long after receiving no signal to trigger auto display off X= 1-240, sta
ProjSWMode X	ProjSWMode X	Set delay time for the display on command to be sent X= 0-300, sta **Note:** Match the timing to the projector's delay settings
ProjWarmUpT X	ProjWarmUpT X	Set period of time after the display is turned on that the power command will not send X= 0-300, sta
VolKeyOPT X	VolKeyOPT X	Set the control type/device the volume button sends out X= 0-2
DispKeyOPT X	DispKeyOPT X	Set the control type/device the display button sends out X=0-3
DispKeyLock X	DispKeyLock X	Locks/unlocks the front panel display key X= on, off, sta
DispRS X	DispRS X	Sets the display command type to RS-232 X= on, off, sta
DispCEC X	DispCEC X	Sets the display command type to CEC X= on, off, sta
DispIP X	DispIP X	Sets the display command type to TCP/IP X= on, off, sta
Display X **e.g.** Display on	Display X **e.g.** Display on	Triggers the currently set command type to send display commands **e.g.** if RS-232 is selected the RS-232 on command will send

Each command is terminated with a carriage return.
Feedback is terminated with a carriage return and line feed.
> **Note:** If the command fails or is incorrect the feedback should be "Command FAILED"

Volume Key

0 HDVS	**1** RS-232	**2** IP

Display Key

0 HDVS	**1** RS-232	**2** CEC	3 IP

Commands with HDVS-200-RX

Command	Feedback	Description
VidOutRes X **e.g.** VidOutRes 22	VidOutRes X **e.g.** VidOutRes 22	Set the output resolution x=0-27, sta **e.g.** Set the output resolution to 1920x1080p29
Aspect X **e.g.** Aspect 2	Aspect X **e.g.** Aspect 2	Set the output aspect ratio x=0-4 **e.g.** Set the output aspect ratio to 16:10

Each command is terminated with a carriage return.
Feedback is terminated with a carriage return and line feed.
> **Note:** If the command fails or is incorrect the feedback should be "Command FAILED"

Output Resolution -

0 800x600p60	**1** 1024x768p60	**2** 1280x800p60	**3** 1280x1024p60	**4** 1366x768p60
5 1400x1050p60	**6** 1600x900p60RB	**7** 1600x1200p60	**8** 1680x1050p60	**9** 1920x1200pRB
10 1280x720p25	**11** 1280x720p29	**12** 1280x720p30	**13** 1280x720p50	**14** 1280x720p59
15 1280x720p60	**16** 1920x1080i50	**17** 1920x1080i59	**18** 1920x1080i60	**19** 1920x1080p23
20 1920x1080p24	**21** 1920x1080p25	**22** 1920x1080p29	**23** 1920x1080p30	**24** 1920x1080p50
25 1920x1080p59	**26** 1920x1080p60	**27** Input	**28** Native	**sta**

Aspect Ratio -

1 Full	**2** 16:9	**3** 16:10	**4** 4:3	**5** Keep Ratio

> **Note:** Incorrect aspect ratio will display with horizontal or vertical bars to fill the excess space

RS-232 Parameters

Default baud rate to control the switcher is 115200.
> **Note:** For the display's actual baud rate, refer to the owner's manual

To change the baud rate of the switcher (for switcher control) or the zone output (for display/projector control), the commands below will be needed:

Switcher parameter command

CSpara[baudrate,data-length,parity,stop-bit] (data-length, parity, and stop-bit for switcher must be 8,0,1)

e.g. To change the baud rate to 38400 use **CSpara[38400,8,0,1]**

> **Note:** Use this command if the connected control system does not output 115200

Zone output parameter commands **(for display control)**

RS232para[baudrate,data-length,parity,stop-bit]

e.g. To change the output baud rate to 19200 use RS232para[19200,8,0,1]

> **Note:** Use this command if the connected display uses a different baud rate

RS232zone[command]

Once the switcher and zone output have been set up for the best communication, commands can be sent to control the display. The commands will come from the user manual of the display or projector. The commands and any carriage returns/line feeds in the commands will need to be placed in the bracket.

e.g. To turn the display or projector on if the command is PWRON carriage return, use the command:

RS232zone[PWRON**CR**]**CR**
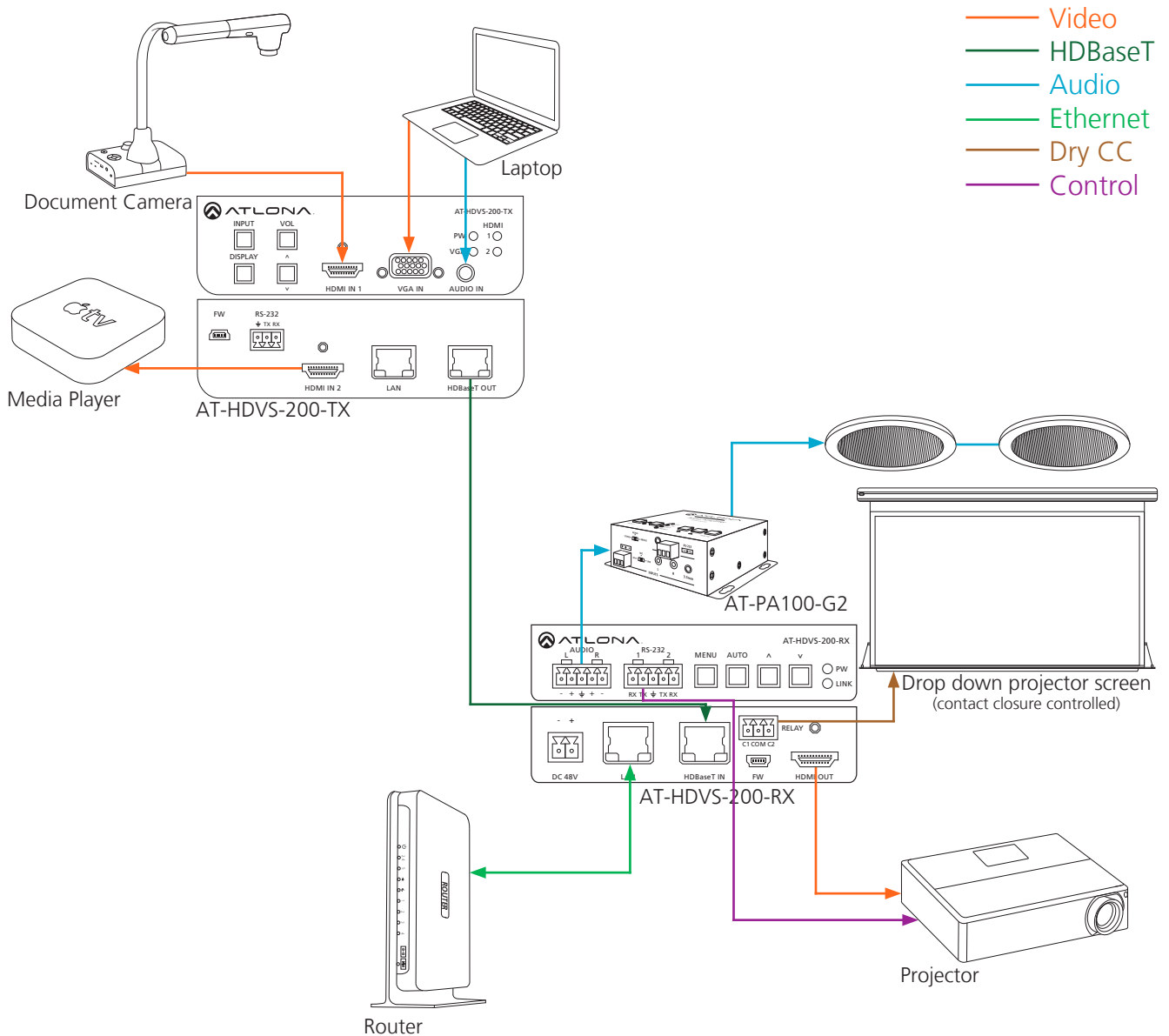> **Note**: **CR** = carriage return

IP Commands

Command	Feedback	Description
IPCFG	IP Addr : x.x.x.x Netmask : x.x.x.x Gateway : x.x.x.x IP Port: x.x.x	Displays IP address configuration
IPTimeout XX **e.g.** IPTimeout 120	IPTimeout XX **e.g.** IPTimout 120	Determines amount of seconds of inactivity before TCP/IP disconnects
IPQuit	IPQuit	Logs out of TCP/IP
IPAddUser	TCP/IP username & password list: - user password - user password - user password	Will display a list of users
IPAddUser X Y	TCP/IP user was added	Add a user for TCP/IP control. X=User Y=Password **e.g.** IPAddUser Atlona 1234 (User=Atlona 1234=Password)
IPDelUser X	TCP/IP user was deleted	Delete a user from TCP/IP X=User (Ex. IPDelUser Atlona)
IPDHCP sta	IPDHCP sta **e.g.** IPDHCP on	Displays the status of DHCP
IPDHCP on	IPDHCP on	Turns DHCP on
IPDHCP off	IPDHCP off	Turns DHCP off
IPStatic X Y Z **e.g.** IPStatic 192.168.1.1 255.255.255.0 192.168.1.200	IPStatic X Y Z **e.g.** IPStatic 192.168.1.1 255.255.255.0 192.168.1.200	Sets static IP address IPStatic Address(X) Netmask(Y) Gateway(Z)
IPPort X	IPPort X	Set the TCP/IP port (ex. IPPort 230)
IPLogin sta	IPLogin sta **e.g.** IPLogin on	Displays IPLogin status **e.g.** IPLogin is on
IPLogin on	IPLogin on	Enables IPLogin
IPLogin off	IPLogin off	Disables IPLogin
Broadcast sta	Broadcast sta	Displays broadcast mode status
Broadcast on	Broadcast on	Enables broadcast mode
Broadcast off	Broadcast off	Disables broadcast mode

Each command is terminated with a carriage return.
Feedback is terminated with a carriage return and line feed.
> **Note:** If the command fails or is incorrect the feedback should be "Command FAILED"

Connection Diagram (with HDVS-200-RX)

Video
HDBaseT
Audio
Ethernet
Dry CC
Control

Document Camera

Laptop

AT-HDVS-200-TX

INPUT   VOL   HDMI
DISPLAY   ^   PW   1
         v   VGA 2
         HDMI IN 1   VGA IN   AUDIO IN

FW   RS-232
      TX RX

HDMI IN 2   LAN   HDBaseT OUT

Media Player

AT-HDVS-200-TX

AT-PA100-G2

AT-HDVS-200-RX

AUDIO   RS-232   MENU AUTO ^ v   PW
  L   R   1   2   LINK
  - + + -   RX TX   TX RX

- +   RELAY
DC 48V   LAN   HDBaseT IN   FW   HDMI OUT
                              C1 COM C2

AT-HDVS-200-RX

Drop down projector screen
(contact closure controlled)

Router

Projector

Toll free: 1-877-536-3976
Local: 1-408-962-0515

Connection Diagram (with PoE UHD-CLSO series)

Legend:
- Video
- HDBaseT
- Audio
- Ethernet

Document Camera

Laptop

Media Player

AT-HDVS-200-TX

AT-UHD-CLSO-824

Router

AT-UHD-EX-100CE-RX

Display
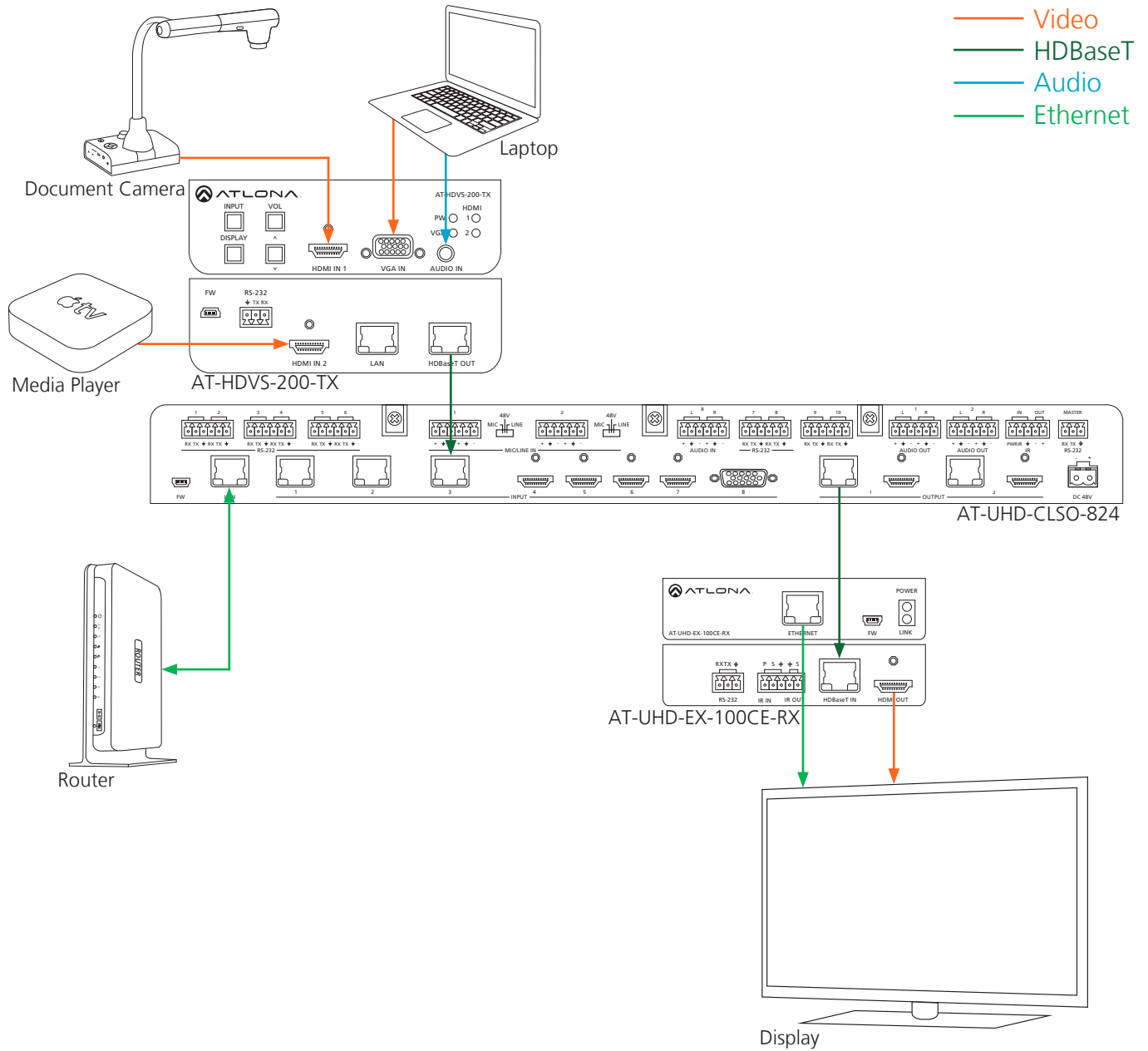
Specifications

Video Resolutions*

HDMI IN/OUT	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
	2560x2048, 2560x1600, 2048x1536, 1920x1200, 1680x1050, 1600x1200, 1600x900, 1440x900, 1400x1050, 1366x768, 1360x768, 1280x1024, 1280x800, 1280x768, 1152x864, 1024x768, 800x600, 640x480
VGA IN	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 / HDBaseT	PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos
Sample Rate	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
Bit Rate	up to 24-bit

Distance

CAT5e/6 @ 4K	up to 70 m	up to 230 ft
CAT5e/6 @ 1080p	up to 100 m	up to 328 ft
CAT6a/7 @ 4K	up to 100 m	up to 328 ft

Signal

Bandwidth	10.2 Gbps
CEC	Yes
HDCP	Switchable - Compliant / Non-compliant

Temperature

Operating	0°C to 50°C	32°F to 122°F
Storage	-20°C to 60°C	-4°F to 140°F
Humidity	20 to 90% non-condensing	

Power

Consumption	30W (when paired)

Dimension

H x W x D	38 x 127 x 102 (mm)	1.5 x 5 x 4.02 (inch)

Weight

Device	0.29 kg	0.64 lbs

Certification

Product	CE, FCC

*4096x2160@50/60Hz & 3840x2160@50/60Hz supported @ chroma subsampling 4:2:0 8-bit only
*Resolutions will differ when used with AT-HDVS-200-RX, view RX manual for compatible resolutions

Note: To ensure compatibility, please be certain both transmitter and receiver have blue HDBaseT ports. This ensures both products are PoE (48V) compliant. The HDVS-200-TX is not compatible with PoCC (black RJ45, 24V) devices

Safety Information

Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture

Do not modify the wall plug. Doing so will void the warranty and safety features.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

Precautions

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your product. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

Atlona, Inc. ("Atlona") Limited Product Warranty Policy

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:

A)   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

<div align="center">OR</div>

B)   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

<div align="center">OR</div>

C)   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's products is the purchaser's exclusive remedy and Atlona's 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's products and is non-transferrable to any subsequent purchaser(s) or owner(s) of these products.

Coverage Periods

Atlona's 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 packing 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 .

Atlona, Inc Product Registration

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 creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: http://www.atlona.com/registration