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*Connecting technology to your world*

# Atlona HDMI with RS232 and with Bi-Directional IR Extenders over CAT5/6/7

*AT-HD4-V110SR*



## User Manual

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## Introduction

The Atlona AT-HD4-V110SR is HDMI with RS232 and bi-directional IR Extender Kit over Cat5/6/7, designed on HDBaseT technology which allows full 3D and 4Kx2K (4 times the 1080p) up to 330ft.

The HD4-V110SR is capable of transmitting Ethernet channel from one location to another, perfect for digital signage applications.

## Package Contents

- 1 x AT-HD4-V110S (transmitter module)
- 1 x AT-HD4-V110R (receiving module)
- 2 x 5v Power supplies (Universal 110/240V)
- 1 x Set of Wall Mounting Ears
- 1 x IR Emitter sensor
- 1 x IR Receiver sensor
- 1 x Instructions manual

## Features

- Transmits HDMI (Digital Video and Audio), RS232 and Bi-Directional IR up to 330ft (100m)
- Supports full uncompressed HD video
- Supports high resolution video HD: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p (24/30/50/60Hz), 2k (2048x1080p) and 4kx2K (4096x2160p) - 4 times higher than 1080p
- Supports high resolution Video VESA: 640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200, 2048x1080p, 4096x2160p - 4 times higher than 1080p
- Full HD and 3D support - all 7 3D formats
- Fully EDID Compliant
- Fully HDCP Compliant
- Supports all VESA formats which is perfect when used with specialized projectors or commercial LCD panels.
- Enables 10.2Gbps of HDMI (including HDCP) over 330ft Cat5/6/7 cable.
- Highest Audio Formats: Dolby TrueHD & DTS Master Audio 7.1 (and all below)
- Supports Refresh Rates: 24Hz, 30Hz, 50, 60Hz
- Supports bi-directional IR transmission, perfect for Control4, RTI, HAI users as this ability allows sending IR to the remote locations from the control systems and from the remote locations to the control systems.
- Supports RS-232 pass-through, perfect for integrating a 3rd party control system.
- Supports transmission distances up to 330ft @ at full resolution
- Wall Mountable, mounting ears are included.
- Locking Power Supplies
- Easy to install, simple to operate and the most effective solution for long signal extension.
- Ideal for whole house A/V, video broadcasting, remote monitoring, presentations and educational facilities.

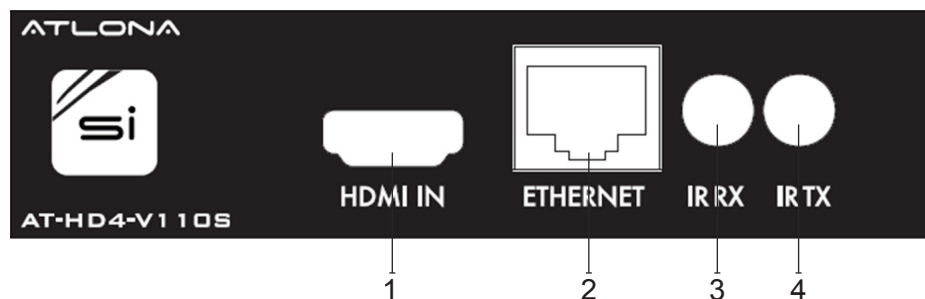
## Specifications

Transmitter Inputs	HDMI (Type A), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)
Transmitter Outputs	Link to Receiver (RJ45), Ethernet (RJ45)
Receiver Inputs	Link to Transmitter (RJ45), Ethernet (RJ45)
Receiver Outputs	HDMI (Type A), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)
HDCP/EDID Compliant	Yes
Supports high resolution video HD	480i, 576i, 480p, 576p, 720p, 1080i, 1080p (24/30/50/60Hz), 2k (2048x1080p), 4kx2k 4096x2160p
Supports high resolution video VESA	640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200, 2048x1080p and 4096x2160p - 4 times higher than 1080p
Distance at the highest resolution and full color depth	330ft
Deep Color	48bit up to 330ft (100m)
Power Consumption (max.)	2.5W (transmitter) and 5.5W (receiver)
Video Bandwidth	up to 10Gbps
Input TMDS signal	1.2 volts (peak-to-peak)
Input DDS signal	5 volts (peak-to-peak)
DVI Connector	24+1 pin female (Digital Signal Only)
Power Supply	5V/4A (110/240 universal) – Locking Type
Dimensions (inch)	4.17x4.06x0.99 (Lx W x H)
Weight (lb)	1.5 (transmitter + receiver)
Operating Temperature Range	-5 to +35°C (-41 to +95 °F)
Operating Humidity Range	5 to 90 % RH (no condensation)

## Specifications

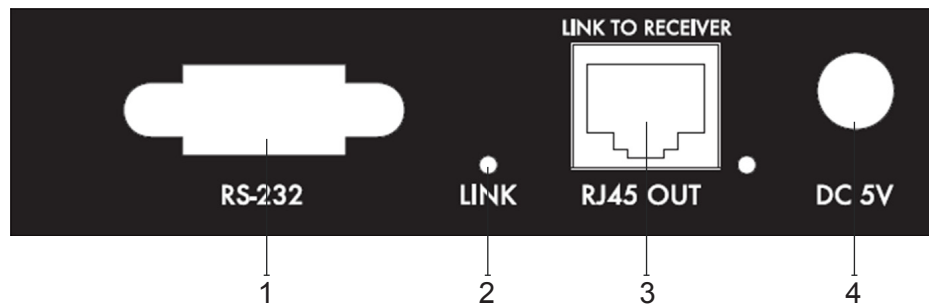
### 5.1. Transmitting Module

#### 5.1.1. Front Panel



1. HDMI Input
2. Ethernet In/Out
3. IR RX
4. IR TX

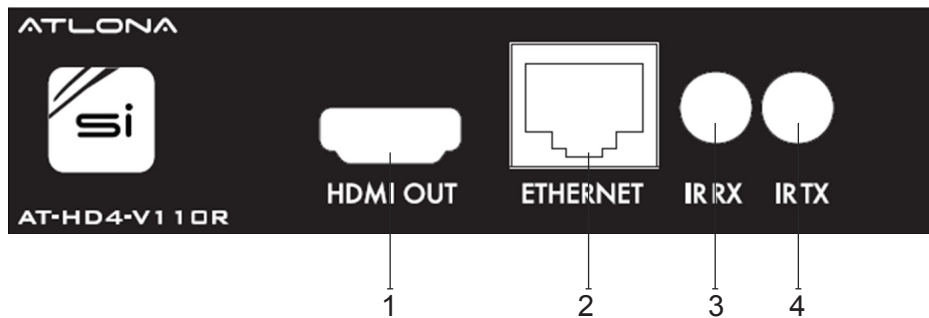
### 5.1.2. Rear Panel



1. RS-232 In
2. POWER ON Indicator
3. LINK to a Receiver
4. 5V Locking Power In

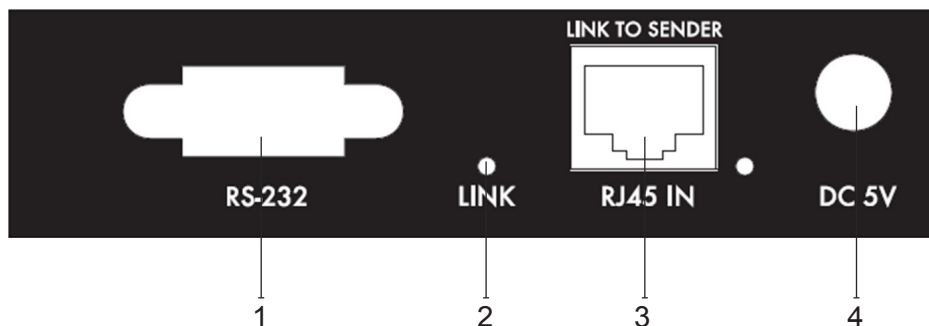
## 5.2. Receiving Module

### 5.2.1. Front Panel



1. HDMI Output
2. Ethernet In/Out
3. IR RX
4. IR TX

### 5.1.2. Rear Panel



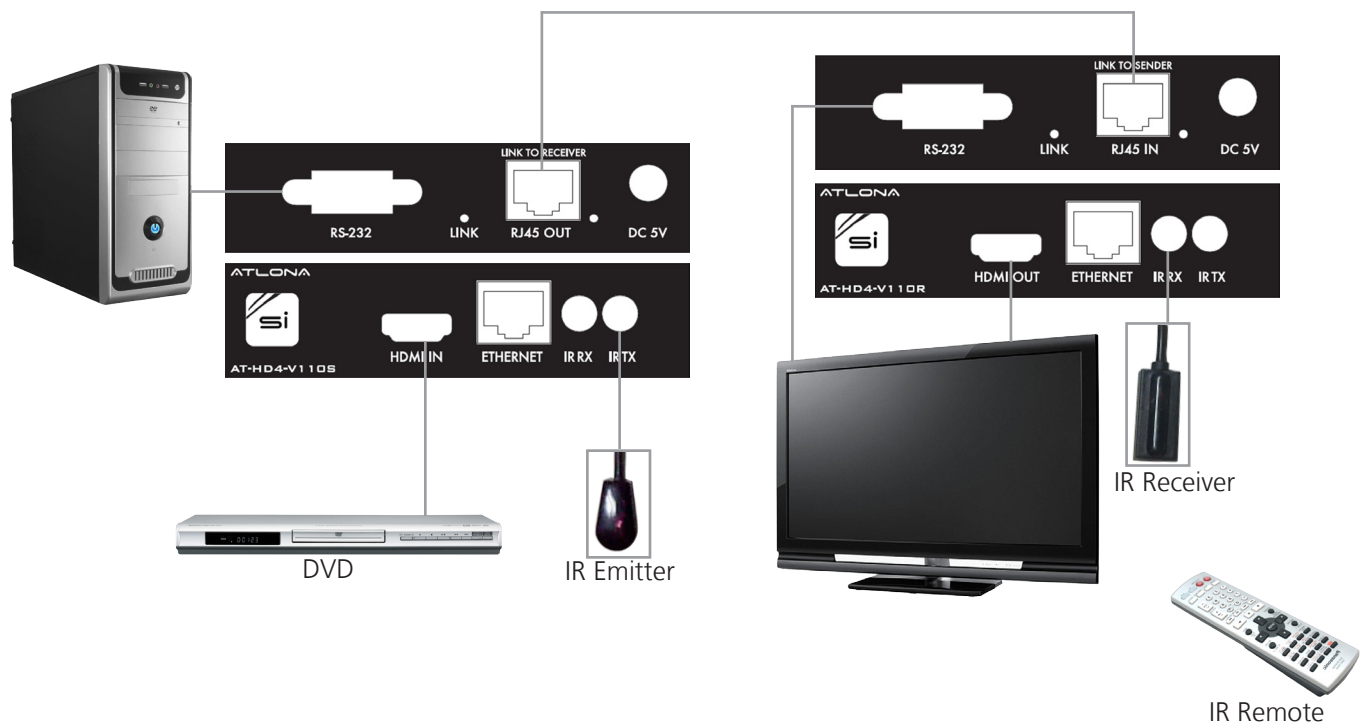
1. RS-232 In
2. POWER ON Indicator
3. LINK to a Transmitter
4. 5V Locking Power In

## Connection and Operation

1. Connect the HDMI Source e.g., Cable/satellite Receiver, Blu-Ray Player or a Video Switch to the AT-HD4-V110SR (transmitting unit)
2. Connect the HDMI Display e.g., Projector, LCD/LED or a switch to the AT-HD4-110R (receiving unit)
3. Terminate the CAT5, 6 or 7 wire with 568B termination and use a tester to make sure all pins are wired correctly before connect it to the HD4-V110SR modules.
4. Connect the power supplies to both transmitter and receiver and the video and in a few seconds the video should appear on the display.
5. For users who want to transmit IR signal from the Display to the source, should connect the IR RX to the receiver unit and IR TX to the transmitter.
6. For users who want to transmit IR signal from the Source to the Display, should connect IR RX to the transmitter and IR TX to the receiver module.

**Note: It is very important to connect IR RX and IR TX to its proper connections. If the IR TX is connected to the IR RX connection or other way around, the IR sensors will get damaged. The connector (1/8") with two black stripes is the receiver, and goes into the IR RX input. The connector with one stripe is the transmitter and goes into the TX input.**

7. For users who want to transmit RS-232 signal from the control system or computer to the display device, should connect the RS-232 (DB9) cables to the transmitter and receiver modules respectively.
8. RS-232 Port on the transmitter and Receiver can also be used for firmware upgrades to the HD4-V110SR modules.



The AT-HD4-V110SR allows to extend video with audio with bi-directional RS-232 and bi-directional IR. Therefore the IR and or RS-232 signal could be send from the remote location to main hub or from control system to the remote location.

## Troubleshooting

### 1. No Video Signal on the Display or Signal is going in and Out:

- a. Please test your RJ45 cables with a Fluke or similar tester to make sure that all the wires are connected and the distance is within the limits.
- b. If you are using patch panel or and RJ45 wall plates, the distance will be reduced, please do a direct connection bypassing all additional equipment.
- c. Please try to re-terminate your CAT5/6/7 wire to 568B
- d. Reboot your source and try connecting it directly to the display to see if the video and audio will pass-  
through. If so, please go into the menu of the source and select an actual resolution that TV handles instead of AUTO – which is default.
- e. If your sources is a computer (laptop or desktop), please enable the DVI output.
  - Windows computers: Select Properties → Select Display resolutions → Select Detect Display → Select second Display → Select Extended Display check box → Select most appropriate resolution (most basic would be 1024x768)
  - Mac Computers: Select Settings → Select Displays → Select Detect Display → Select Arrangement → Select Mirror Displays → Select most appropriate resolution (most basic would be 1024x768)

### 2. IR Signal is not passing through:

Make sure you have IR RX and IR TX connected to its respective interfaces. If not, you may have burned the IR sensor on the IR RX or and IR TX and therefore should replace them.

### 3. No Audio Signal or Garbled Audio

- a. Your display might not be able to accept audio formats that you are trying to send, most displays can only accept PCM or Stereo Audio as they only have 2 speakers. Please try selecting PCM or Stereo audio under the source audio configuration.
- b. If you are connecting Source to an AVR with the AT-HD4-V110SR and AVR is connected to a TV or a Projector with a standard HDMI cable or another extender and your AVR is only not getting full Dolby Digital or DTS audio. This issue is related to the EDID issue of the AVR, we suggest changing an AVR for a better one or using AT-HDSYNC (Atlona HDMI Corrector) to fix this issue.

## Registration

**Thank you for purchasing this Atlona product — we hope you'll enjoy it.**

We also hope that you'll take a 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 and assure you that your registration information is completely secure. Of course, Atlona product registration is totally voluntary and failure to register will not diminish your limited warranty rights.

To register go to [www.atlona.com/registration](http://www.atlona.com/registration)

## 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 AT-HD4-V110SR. 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.



## Warranty

### Limited Warranty

Atlona Technologies warrants that (a) its products (AT-HD4-V110SR) will perform substantially in accordance with the accompanying written materials for a period of 3 years from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to customers that fall within those areas.

### Customer Remedies

Atlona Technologies' and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' decision, either return of the price paid for the product, repair, or replacement of the product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of the Customer's receipt. This Limited Warranty is void if failure of the product has resulted from accident, abuse, misapplication, or natural occurrence. In example but not limited to: power surges (electrical storms, local power outage), dropping the product (or items on the product), contact with fluids, and physical misconduct (i.e. kicking or punching). Any replacement product will be warranted for the remainder of the original warranty period.

### No other warranties

To the maximum extent permitted by applicable law, Atlona Technologies and its suppliers disclaim all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This Limited Warranty gives customer specific legal rights. Customers may have other rights depending on the jurisdiction.

### No liability for damages

To the maximum extent permitted by applicable law, in no event shall Atlona Technologies or its suppliers be liable for any damages arising out of the use of or inability to use this product, even if Atlona Technologies has been advised of the possibility of such damages. Such damages include but are not limited to: special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss. Atlona Technologies' and its suppliers' entire liability under any provision of this agreement shall be limited to the amount actually paid by you for the product. Some Jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damage. The above limitations may not apply to you in such jurisdictional cases.