



User Manual

**ATLONA**  
**HDMI 1.4 OVER SINGLE CAT5/6/7**  
**EXTENDER**  
**WITH BI-DIRECTIONAL IR AND**  
**RS232 TRANSMITTER & RECEIVER**  
**AT-HD4-100SR**



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## INTRODUCTION:

The HDMI over Cat5/6/7 Extender kit is designed to be HDMI 1.4 compatible, enabling the transfer of high quality wired connectivity of uncompressed High-Definition (HD) Multimedia content over single Cat5/6/7 cables. This extender allows for audio/video transmission up to a distance of 330ft in 1080p HD (even 2k/4k resolutions and 3D format).

Because the AT-HD4-100SR is HDMI 1.4 compatible it allows you to take full advantage of the new technology by supporting much higher resolutions than 1080p or 1440p including 2k (2048x1080p) and 4k (4096x3072) resolutions. Additionally the device supports an Ethernet data channel, allowing other HDMI 1.4 enabled devices to share a network connection for internet connectivity. Furthermore, the audio return channel which will send the audio signal back from the display to a receiver or other audio device.

Since the AT-HD4-100SR has bi-directional IR, it is the perfect device for multi-room applications and third party control systems. With bi-directional communication from a remote control or control system, commands can be sent from the remote location back to the main equipment center or the other way around.

*Note: The maximum usable distance depends on the quality and characteristics of the cables. Higher resolutions and longer transmission distances require low skew cables (<25ns/100m) for the best performance. Unshielded Cat6/7 with metal RJ-45 connectors and 568-B termination is recommended.*

## PACKAGE CONTENTS:

- HDMI Transmitter x 1
- HDMI Receiver x 1
- 5V Switching Power Supply x 2
- User's Manual x 1

## FEATURES:

- Compatible with HDMI 1.4, DVI 1.0 and HDCP 1.2
- Full HD and 3D support
- Uncompressed video 1080p@ 50/60Hz, 2k (2048x1080p) and 4k (4096x3072) resolutions
- Supports high resolution video: 480i, 480p, 720p, 1080i, 1080p, 2k (2048x1080p) and 4k (4096x3072)
- Enables 10.2Gbps of HDMI 1.4 (including HDCP) over 330ft Cat5/6/7 cable.
- Audio: Dolby TrueHD & DTS Master Audio 7.1 compliant
- Supports Refresh Rates: 24Hz, 30Hz, 60Hz
- Supports Bi-directional IR transmission (38Khz only)
- LED indicators for operation modes
- Supports transmission distances up to 330ft @ 1080p 50/60Hz
- 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:**

HDMI Version	1.4
HDMI Connector	19 pin type female connector
HDMI Source Input Port	1
HDMI Sink Output Port	1
Source Port Connector	Standard 19 pin HDMI
Display Device Port Connector	Standard 19 pin HDMI
Link Connector	RJ-45 Shielded
HDCP Compliant	Yes
LED Indicators	3
Input TMDS signal	1.2 volts (peak-to-peak)
Input DDC signal	5 volts (peak-to-peak)
Resolution	1080p / 1920x1200 / 2k (2048x1080p) and 4k (4096x3072)
Deep Color	24-48 bits
Video Bandwidth	Up to 10.2GHz
Vertical Frequency Range	50 ~60 Hz
Audio Performance	PCM (7.1ch), Dolby Digital, True HD, DTS-HD & Master Audio
Lip Sync Correction	Yes
3D enabled	Yes
Power Consumption (max.)	15 Watts
Operation Temperature	0°C to 70°C.
Power Supply	5V 2A (universal)
Housing	Metal
Dimension (in)	7 x 4.45 x 1
Weight (lb)	2.2

**PANEL DESCRIPTIONS:**

**5.1. Transmitting Module**

**5.1.1. Front Panel**



1. IR Eye
2. HDCP Indicator
3. Activity Indicator
4. Power Indicator

### 5.1.2. Rear Panel



- 1. RS-232 Jack
- 2. DC 5V Power Jack
- 3. RJ45 Jack
- 4. HDMI Input (local loop)
- 5. HDMI Output
- 6. IR Transmitter
- 7. IR Receiver

### 5.2. Receiving Module

#### 5.2.1. Front Panel



- 1. IR Eye
- 2. HDCP Indicator
- 3. Activity Indicator
- 4. Power Indicator

#### 5.2.2. Rear Panel



- 1. RS-232 Jack
- 2. DC 5V Power Jack
- 3. RJ45 Jack
- 4. HDMI Output
- 5. IR Transmitter
- 6. IR Receiver

## INSTALLATION

How to connect / set up:

1. Connect your HDMI source (eg., Blu-ray, HD set top box, DVD Player) to the transmitter.
2. Connect your HDMI Display (eg., Plasma or LCD HDTV) to the receiver.
3. Use Cat5/5e/6 cables to link the transmitter and the receiver.
4. Make sure that the source, the transmitter, the receiver and the displays are all properly connected.
5. Plug in the DC Power adapters to the power jack of the transmitter and the receiver.

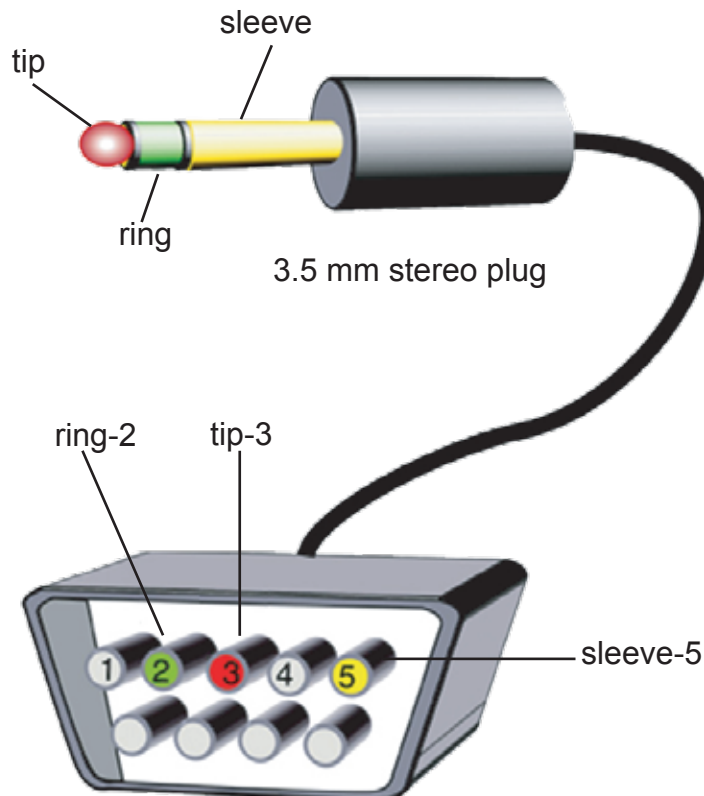
## NOTE:

Since the AT-HD4-100SR has bi-directional IR, it is the perfect device for multi-room applications and third party control systems. With bi-directional IR, commands from a remote control or control system can be sent from the remote location back to the main equipment center or the other way around. This is useful for applications where the user may still be using the factory remote controls for their products and those IR signals need to be routed to another room where the components are located. This also allows for the use of 3rd party remote control systems where the IR information needs to be sent from the component location to the remote location to control devices in that location such as the display.

*Note: If TX/RX (transmit & receive) are mistakenly connected in the wrong connections, the IR eye can get damaged.*

*Note: Please only use IR Emitter/Blasters which are included in the package. If you are using any 3rd party IR Emitters/Blasters, they have to be able to handle up to 60KHz*

## RS-232 WIRING DIAGRAM



RS232 male connector looking towards the camera

**TROUBLESHOOTING**

Problems	Solutions
Loop-Out doesn't work	Please make sure the display connected to the loop-out can support the same resolutions as remote display. If not, please lower the resolution of the source to one acceptable by both displays.
No picture/signal or poor	Please test CAT5/6/7 cable and make sure it is 568B

**Performance Guide for HDMI over LAN Cable Transmission**

Performance rating		Type of LAN cable		
Wiring	Shielding	CAT5	CAT5e	CAT6
Solid	Unshielded (UTP)	***	****	*****
	Shielded (STP)	***	***	****
Stranded	Unshielded (UTP)	*	**	**
	Shielded (STP)	*	*	**
<b>Termination</b>		<b>Please use EIA/TIA-568-B termination (T568B) at any time</b>		

**ATLONA PRODUCT 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.

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

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

This equipment should be installed near the socket outlet and the device should be easily accessible in 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 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. Do not use cleaning fluid or aerosols, which could enter the unit and cause damage, fire or electrical shock. Some substances may also mar the finish of the product.

Never open or 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-HD4-100SR. Opening the product will void the warranty.

Do not attempt to service the unit. Instead disconnect it and contact your Authorized ATLONA reseller or contact ATLONA directly.



## WARRANTY

### 1. LIMITED WARRANTY

Atlona Technologies warrants that (a) its products (the “Product”) 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 Customer.

### 2. CUSTOMER REMEDIES

Atlona Technologies and its suppliers’ entire liability and Customer’s exclusive remedy shall be, at Atlona Technologies’ option, either return of the price paid for the Product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of Customer’s receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period or 3 year, whichever is longer.

### 3. NO OTHER WARRANTIES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, ATLONA TECHNOLOGIES AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES, EITHER EXPRESS 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. CUSTOMER MAY HAVE OTHER RIGHTS DEPENDING ON THE JURISDICTION.

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