

# DVI with RS232 with Bi-Directional IR Extenders over CAT5/6/7 up to 330ft AT-DVI4-100SR







Sender





**User Manual** 

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#### INTRODUCTION

The Atlona AT-DVI4-100SR is a DVI with RS232 and Bi-Directional IR Extender Kit over Cat5/6/7. The Atlona DVI Extenders are capable of extending extremely high resolutions up to 2K (2048x1080p) or most known 1920x1200 and 1080p up to 330ft without signal degradation.

The DVI4-100SR is capable of transmitting Ethernet channel from one location to another, perfect for digital signage applications.

#### **FEATURES**

- Transmits DVI (Digital Only), 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)
- Supports high resolution Video VESA: 640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p
- 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.
- 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 RS232 pass-though, 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 video broadcasting, remote monitoring, presentations and educational facilities.

#### PACKAGE CONTENT

- 1 x AT-DVI4-100S (transmitter module)
- 1 x AT-DVI4-100R (receiving module)
- 2 x 5v Power supplies (Universal 110/240V)
- 1 x Set of Wall Mounting Ears
- 2 x IR Emitter sensor
- 2 x IR Receiver sensor
- 1 x Instructions manual



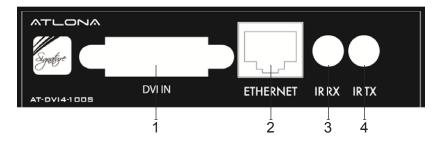
## **SPECIFICATIONS**

Transmitter Inputs  DVI (24+1), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)  Receiver Inputs  Link to Receiver (RJ45), Ethernet (RJ45)  Receiver Outputs  DVI (24+1), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)  HDCP/EDID Compliant  Yes  Supports high resolution video HD  Supports high resolution video VESA  640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p  Distance at the highest resolution and full color depth  Deep Color  Power Consumption (max.)  Video Bandwidth  Input TMDS signal  DVI (24+1), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)  Link to Transmitter (RJ45)  Link to Receiver (RJ45), Ethernet (RJ45)  Link to Receiver
Receiver Inputs  Receiver Outputs  DVI (24+1), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)  HDCP/EDID Compliant  Yes  Supports high resolution video HD  Supports high resolution video VESA  640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p  Distance at the highest resolution and full color depth  Deep Color  Power Consumption (max.)  Video Bandwidth  Input TMDS signal  Link to Transmitter (RJ45), Ethernet (RJ45)  DVI (24+1), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45)  Yes  480i, 576i, 480p, 576p, 720p, 1080i, 1080p (24/30/50/60Hz), 2k(2048x1080p)  640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p  330ft  70m  10m  10m  10m  10m  10m  10m  10m
Receiver Outputs DVI (24+1), IR (1/8-inch), RS232 (DB9), Ethernet (RJ45) HDCP/EDID Compliant Yes Supports high resolution video HD Supports high resolution video VESA 640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p Distance at the highest resolution and full color depth Deep Color Power Consumption (max.) Video Bandwidth Up to 10Gbps Input TMDS signal 1.2 volts (peak-to-peak) Input DDS signal  Supports high resolution 480i, 1080p (24/30/50/60Hz), 2k(2048x1080p) 480x1050, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1920x1200 and 2048x1080p  330ft Supports high resolution video VESA 640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1920x1080, 1920x1200 and 2048x1080p  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  330ft Supports high resolution video VESA 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  340x1050, 1080x1050, 1080p (24/30/50/60Hz), 2k(2048x1080p)  1080x1050, 1080x1050, 1080p (24/30/50/60Hz), 2k(20
HDCP/EDID Compliant  Supports high resolution video HD  Supports high resolution video VESA Supports h
Supports high resolution video HD  Supports high resolution video VESA Supports high resolution video
Supports high resolution video VESA 640x480, 800x600, 1024x768, 1280x800, 1280x768, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p  Distance at the highest resolution and full color depth  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)
Distance at the highest resolution and full color depth  Deep Color  Power Consumption (max.)  Video Bandwidth  Input TMDS signal  1680x1050, 1600x1200, 1920x1080, 1920x1200 and 2048x1080p  330ft  48bit up to 330ft (100m)  2.5W (transmitter) and 5.5W (receiver)  up to 10Gbps  1.2 volts (peak-to-peak)  Input DDS signal  5 volts (peak-to-peak)
and full color depth  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)
Power Consumption (max.)  Video Bandwidth  Input TMDS signal  Input DDS signal  2.5W (transmitter) and 5.5W (receiver)  up to 10Gbps  1.2 volts (peak-to-peak)  5 volts (peak-to-peak)
Video Bandwidthup to 10GbpsInput TMDS signal1.2 volts (peak-to-peak)Input DDS signal5 volts (peak-to-peak)
Input TMDS signal 1.2 volts (peak-to-peak) Input DDS signal 5 volts (peak-to-peak)
Input DDS signal 5 volts (peak-to-peak)
24.4 . (     (D   C     )
DVI Connector 24+1 pin female (Digital Signal Only)
Power Supply 5V/4A (110/240 universal) – Locking Type
Dimensions (inch) 5.98×4.13×1.22 (Lx W x H)
Weight (lb) 2.1 (transmitter + receiver)
Operating Temperature Range -5 to +35°C (-41 to +95 °F)
Operating Humidity Range 5 to 90 % RH (no condensation)

#### **PANEL DESCRIPTIONS**

## 1. Transmitting Module

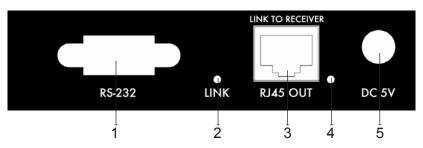
### 1.1. Front Panel



- 1. DVI Input
- 2. Ethernet Connector
- 3. IR RX
- 4. IR TX



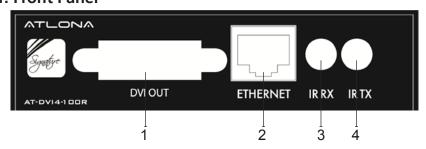
#### 1.2. Rear Panel



- 1. RS-232 Port
- 2. LINK
- 3. RJ-45 Output
- 4. Power on Light
- 5. Power input, 5V DC

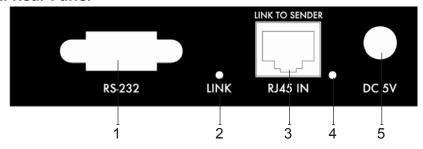
#### 2. Receiving Module

#### 2.1. Front Panel



- 1. DVI Output
- 2. Ethernet Connector
- 3. IR RX
- 4. IR TX

#### 2.2. Rear Panel



- 1. RS-232 Port
- 2. LINK
- 3. RJ-45 Input
- 4. Power on Light
- 5. Power input, 5V DC

#### **CONNECTION AND OPERATION**

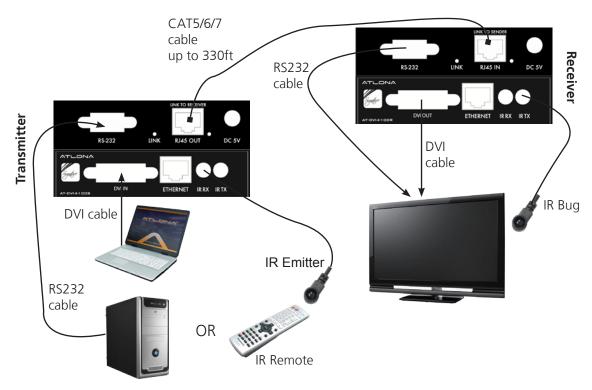
- 1. Connect the DVI Source e.g., Computer, Video Codec, switch to the AT-DVI4-100SR (transmitting unit)
- 2. Connect the DVI Display e.g., Projector, LCD/LED or a switch to the AT-DVI4-100R (receiving unit)
- 3. Terminate the CAT5, 6 or 7 wire with 568B termination and use a tester to make sure all pins are wired correctly before connect it to the DVI-100SR 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.

- 7. For users who want to transmit RS232 signal from the control system or computer to the display device, should connect the RS232 (DB9) cables to the transmitter and receiver modules respectively.
- 8. RS232 Port on the transmitter and Receiver can also be used for firmware upgrades to the DVI4-100SR modules.



#### **CONNECTION DIAGRAM**



The AT-HD4-V110SR allows to extend video with audio with Bi-Directional RS232 and Bi-Directional IR. Therefore the IR and or RS232 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 by passing all additional equipment.
- c. Please try to re-terminate your CAT5/6/7 wire to 568B
- d. 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.



#### 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-DVI4-100SR. 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 (the AT-DVI4-100SR) 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.

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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.

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