

Atlona HDMI Distribution Amplifiers

AT-HDDA-8



User Manual

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Revision B (3/25/14):

Hardware update

Chipset updated for 4Kx2K cascading

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Introduction

With 4Kx2K pass through the Atlona HDMI Distribution Amplifiers offer high definition solutions for multi display installations. Field upgradable, with a built in USB port, ensures seamless firmware updating. With EDID learning mode, the HDDA provides a solution for incompatibilities and intermittent signals.

Package Contents

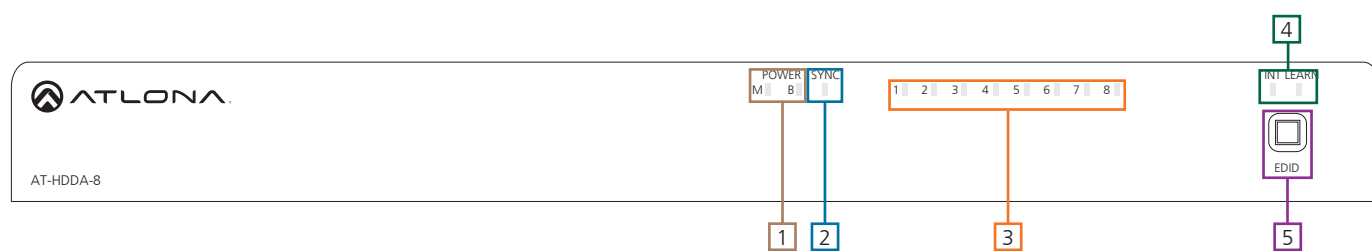
- 1 x AT-HDDA-8
- 1 x Wall/rack mount ears
- 1 x DC 5V locking power adaptor

Features

- Transmits source signal to multiple displays simultaneously
- Built in EDID management to ensure compatibility
- 4Kx2K pass through
- Using additional HDDAs, cascade the source signal up to 4 times at 4Kx2K
- Lossy and lossless audio formats pass through (up to Dolby TrueHD® and DTS-HD Master Audio™)
- Full 3D pass through
- Field serviceable USB firmware port for quick and easy updating
- LED signal lights to verify status for input and outputs
- HDCP compliant

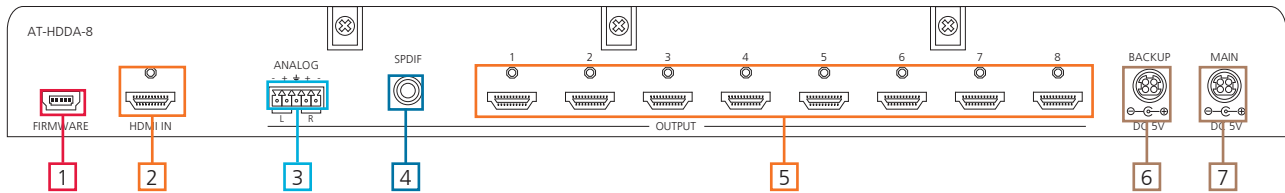
Panel Description

Front Panel



1. Power LED: Will light up when the distribution amplifier receives power
2. Sync LED: Illuminates when receiving signal from the source
3. Out LED: Each LED will illuminate for the corresponding connected displays
4. EDID LEDs: LED will illuminate to indicated the current EDID mode
5. EDID button: Press to select between EDID modes

Back Panel

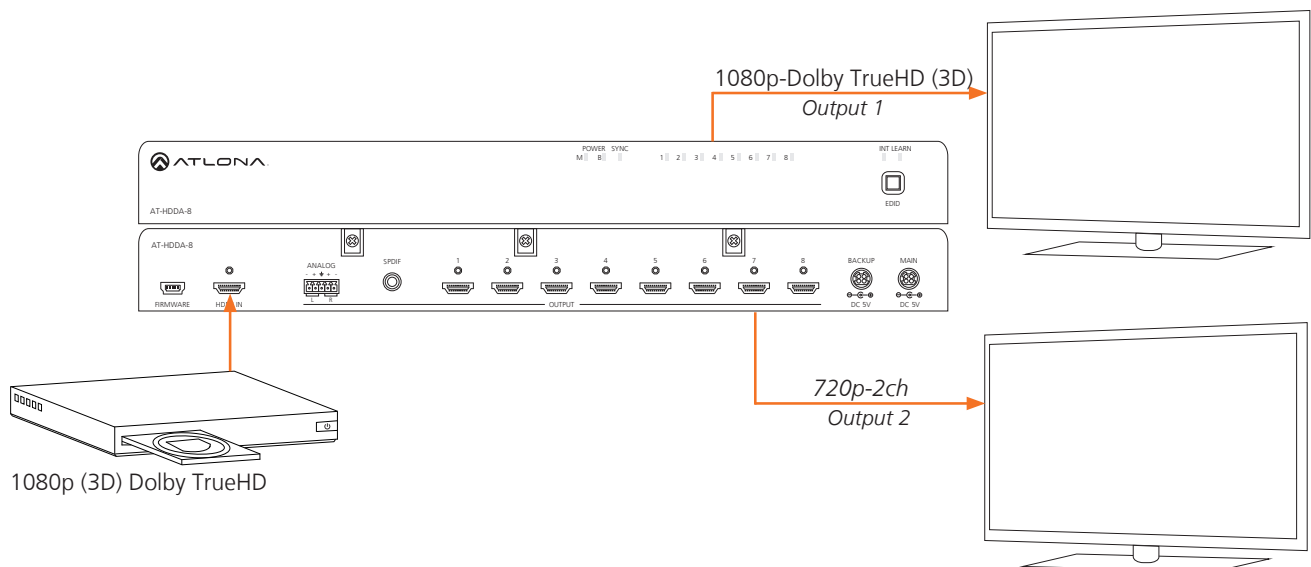


1. Firmware port: Mini USB port used for firmware updating
2. Analog Audio OUT: De-embeds 2Ch audio to an audio amplifier (ex. AT-PA100-G2)
3. S/PDIF OUT: Deembeds audio up to LPCM 5.1, Dolby Digital or DTS 5.1 to an audio/video receiver
4. HDMI IN: Connect to an HDMI source
5. HDMI OUT: Connect to an HDMI display
6. Back up power port - Connect second optional power supply (AT-PW5V3A-LOCK-sold separately)
7. Main power port - Connect main power supply to this port.

EDID (Extended Display Identification Data)

When the HDDA is completely connected and turned on it will load the **Internal EDID™** automatically, which supports the highest common native video resolution and audio format of the devices.

Example: With a mix of resolutions and audio formats the HDDA will default to the highest common video resolution and audio format. In the diagram below the default would be 720p with 2ch audio. **Multi-channel audio and 3D are not enabled on internal mode, unless all devices support these features.**



EDID learn mode loads the highest supported resolution and audio format between output 1 and the source then mirrors it to all outputs. *EDID learning is only available for output 1*

To learn EDID press and hold the EDID button until the EDID learn LED flashes. Learning is completed once the LED is solid.

Note: Using the above diagram, output 2 will receive no audio or video once EDID is learned.

DVI

The HDDA is compatible with a combination of DVI and HDMI interfaces. Please use the EDID learn table below for the best compatibility.

Display	Learned EDID	Color Space	Color Depth	Audio	Result
DVI only	DVI	RGB	8 bit	No	Video ok, no audio
DVI + HDMI	DVI	RGB	8 bit	No	Video ok, no audio
DVI + HDMI	HDMI	YUV	12 bit (up to)	Yes	DVI won't work
HDMI only	HDMI	YUV	12 bit (up to)	Yes	Everything works

Captive Screw

Captive screw balanced audio connector is an added feature on the Atlona HDMI Distribution Amplifier. The Captive screw connectors allow you to cut cables down to a suitable length, reducing cable clutter while providing a more reliable connection.

Connecting

When connecting a cable to the audio captive screw connector it is important that the wires are correctly terminated. The captive screw connector (see picture A) has a contact plate at the top and must have the wire touch it for signal to pass. When wired correctly (see picture B) the signal will pass, incorrectly (see picture C) no signal will pass.

The captive screw connector ports have a contact bar that is adjusted to compress the wire against the top contact plate. Use the screws at the top of the connector to compress the wire against the contact plate.



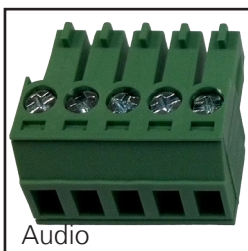
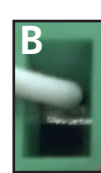
Clockwise

Turn the screws clockwise to raise the contact bar to the upper contact plate and hold the wires in place.



Counter Clockwise

Turn the screws counter clockwise to lower the contact bar to release the wires.



Audio

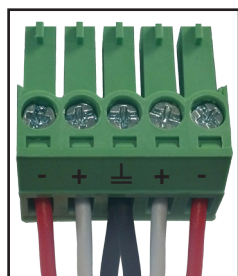
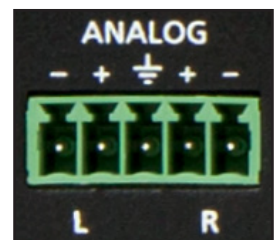
The HDDA supports two different types of audio terminations: balanced and unbalanced. To be sure which to use, refer to the manual for the connected device.

Balanced audio left and right connections consist of a negative, a positive, and a ground.

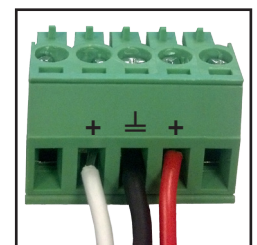
Note: Jacket colors may vary by cable manufacturer, be sure to use the same pin out on the left as on the right or audio performance may be undesirable.

Unbalanced audio consists of a positive and a ground for left and right connections.

With pre-stripped wires the AT-LC-CS-2CH-2M (purchase separately at atlona.com) provides an easy to integrate unbalanced audio connection. Refer to the picture on the right for an example of a terminated unbalanced connection.



Balanced

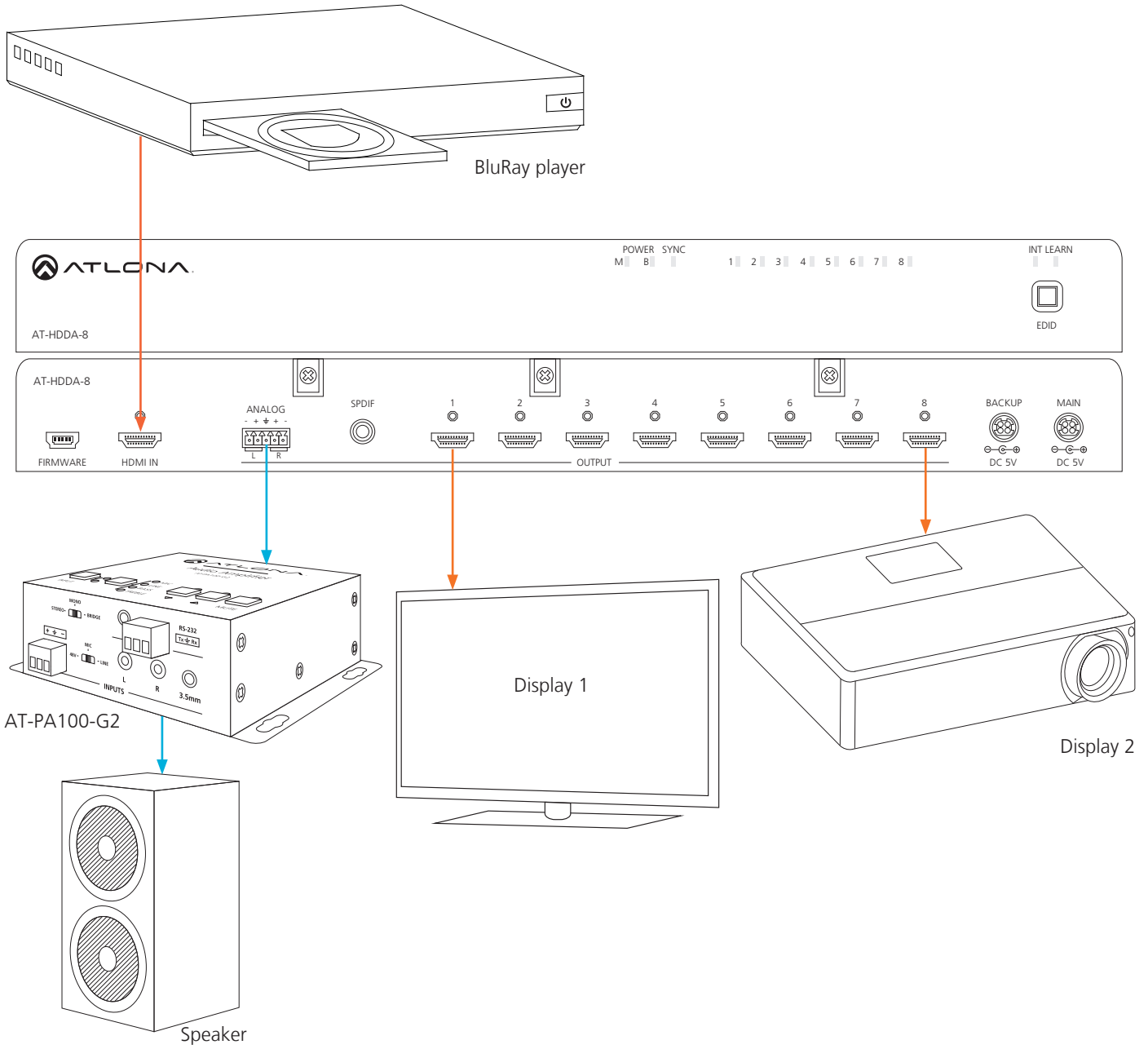


Unbalanced



AT-LC-CS-2CH-2M

Connection and Installation



Specifications

Video Resolutions

Video	480i@60Hz, 480p@59.94/60Hz, 576i@50Hz, 576p@50Hz, 720p@50/59.94/60Hz, 1080i@50/59.94/60Hz, 1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 3840x2160@24/25/30/ 60Hz (UHD), 4096x2160@24/25/30/ 60Hz	
VESA	800x600, 1024x768, 1280x768, 1280x800, 1280x1024, 1366x768, 1440x900, 1400x1050, 1600x1200, 1600x900, 1680x1050, 1920x1200	
Colorspace	YCbCr, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0 (UHD only)	
Color depth	8-bit, 10-bit, 12-bit	

Audio

Formats	PCM 2Ch, LPCM 5.1, LPCM 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio	
Sample Rate	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz	

Distance

HDMI IN	up to 15 meters (@1080p 8-bit)	up to 50 feet
HDMI OUT	up to 15 meters (@1080p 12-bit)	up to 50 feet
4K	up to 5 meters	up to 15 feet

Signal

Bandwidth	10.2 Gbps
CEC	No
HDCP	Compliant

Temperature

Operating	0°C to 40°C	32°F to 104°F
Storage	-20°C to 60°C	-4°F to 140°F
Humidity	20 to 90% non-condensing	

Power

Consumption	14.3W
Supply	Input: AC100~240V 50/60Hz Output: DC 5V/2.6A

Dimension

H x W x D	44 x 433.8 x 255 (mm)	1.73 x 17.08 x 10.04 (inch)
w/feet	55.15 x 433.8 x 255 (mm)	2.17 x 17.08 x 10.04 (inch)
Rack Unit	1	

Weight

Device	2.78 kg	6.13 lbs
Shipping	4.99 kg	11 lbs

Certification

Power Supply	CE, FCC, UL
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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
- OR**
- 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
- OR**
- 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.

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