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# Atlona 4x2 HDMI Matrix Switcher

AT-HD-V42M



## User Manual

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## INTRODUCTION

Atlona Technologies' AT-HD-V42M is a 4x2 HDMI Matrix Switcher with audio designed to work as a switcher for multiple Audio/Video sources and displays. This Atlona unit is capable of switching HDMI signals between four sources and two displays. Because it is a matrix switch, any or all of the 4 inputs can simultaneously be switched to either or both of the outputs. This device will support high definition video in multiple resolutions of up to 1080p or 1920x1200. This unit has quick and easy installation. With manual, RS232, as well as IR Remote control options, Atlona's AT-HD-V42M Matrix Switcher is HDCP Compliant making it is perfect for all HDMI devices, PC monitors, Plasma TV displays and

## PACKAGE CONTENTS

- 4x2 HDMI Matrix Switcher (AT-HD-V42M)
- Instruction Manual
- IR Remote Control
- Universal AC/DC power adapter: 12VDC
- 19 inch Ear mount pair
- IR Extender receiver
- RS232 package (RS232 DVD Drive & RS232 Cable)

## FEATURES

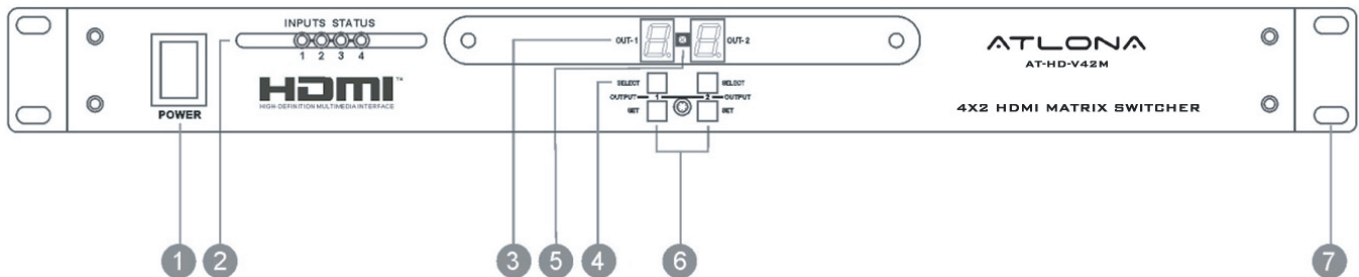
- Switches HDMI Video signal with Audio between 4 sources and 2 displays.
- Matrix Switch: each input can be directed to either or both outputs at the same time
- Quick and easy installation
- HDMI digital video/audio format, DVI format and HDCP compliant
- Supports link speeds of up to 2.25 Gbps (link clock rate of 225 MHz)
- Supports wide range of PC resolutions from XGA to UXGA 1600x1200 and HDTV/DTV
- Resolutions 480i/480p, 576i/576p, 720p, 1080i, 1080p, and 1920x1200
- Compatible with all HDMI devices, PC monitors, Plasma TV display and HDTV
- Supports Digital Video TMDS formats in Deep Color 12bits
- Support IR Remote and IR Extender with distance 300M Maximum.
- Various User Interface control:
  - Attached Window based control software for Desktop or NB control by RS232 port
  - Manual controlled by Front Panel button
  - IR remote control
- Automatically scanning input status by LED on front panel

## SPECIFICATIONS

- 4x2 HDMI Matrix Switcher: 4 HDMI Inputs To 2 HDMI Outputs
- Input Signals: Video (TMDS) 0.5~1.0Vpp, DDC 5Vpp
- Signal Supports : HDMI Standard, DVI and HDCP Compliant
- Video Supported: HDMI formats up to 1080p or 1920x1200 and DVI UXGA 1600x1200 HD resolutions
- Audio Supported: DTS-HD Master Audio, Dolby True -HD & Dolby Digital Plus
- Supports digital video standards such as:
  - RGB/YCBCR: 24/30/36-bits
  - YCBCR: 8/10/12/16/20/24-bits
  - Double data rate interface for RGB/YCBCR: 12/15/18-bits
- Controls: IR, IR EXT, RS232, and Select buttons on the front panel
- Data Rates: 250Mbps to 2.25Gbps.
- IR Extender Distance: 300 meters maximum.
- IR frequency: 38KHz.
- Safety Approvals: CE, FCC, RoHS(2002/95/EC).
- Power Supply: 12V DC
- Use Universal Switch Type 50/60Hz, 100~230 VAC
- Use Universal Switch Type 50/60Hz, 100~230 VAC

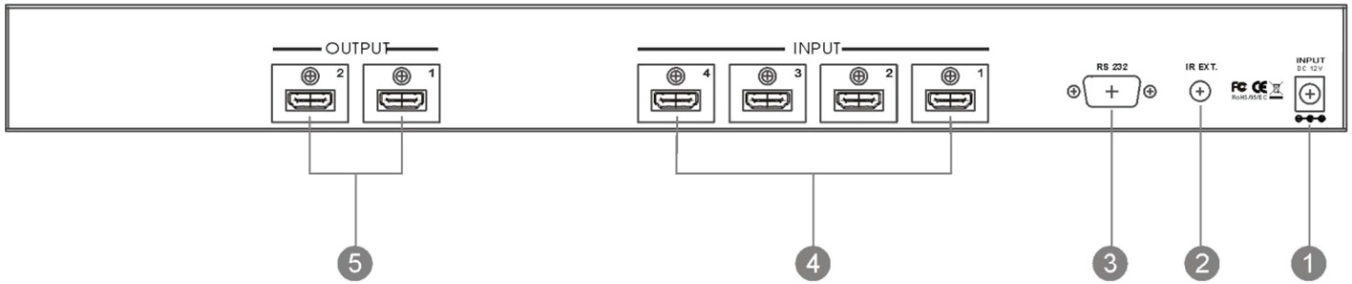
## PANEL DESCRIPTIONS

### 1. Front Panel



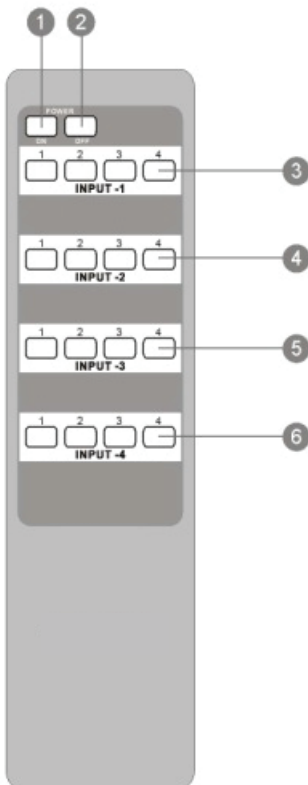
1. POWER SWITCH. The power switch turns the unit on and off. The LED will illuminate red to indicate that the switcher is ON
2. INPUT SOURCES STATUS DISPLAY. Input sources 1 to 4 LEDs illuminate blue to indicate desired video source is present on that input.
3. OUTPUT SOURCES STATUS DISPLAY. Output Status shows by LED display.
4. SOURCES SELECT BUTTONS. Separate outputs 1 ~ 2 source select buttons are provided. Select sources are 1-HDMI, 2-HDMI, 3-HDMI, 4-HDMI.
5. IR SENSOR. The IR sensor receives IR commands from the supplied remote control.
6. SOURCE SETUP BUTTONS. Setup the inputs 1 ~ 4
7. 19 INCH EAR MOUNT PAIR. 19 inch case Ear Mount pair

## FRONT PANEL



1. DC POWER INLET. Power Input: 12VDC
2. IR EXTENDER CONTROL. Support one of IR Extender, extend distance maximum 300Meters
3. RS 232 CONNECTION. DB-9pin Female connector for serial RS-232 control.
4. VIDEO INPUTS: HDMI Inputs 1-4. HDMI Female connector. (Unit can be used with HDCP compliant DVI digital video signals with appropriate)
5. VIDEO OUTPUTS: HDMI Outputs 1-2. HDMI Female connector. (Unit can be used with HDCP compliant DVI digital video signals with appropriate)

## REMOTE CONTROL



Ensure the mains voltage supply matches the label on the supplied plug-Pack (+/- 10%)

Ensure that the power switch is OFF

Connect all audio video sources and destination equipment

Power up all HD Source and Displays

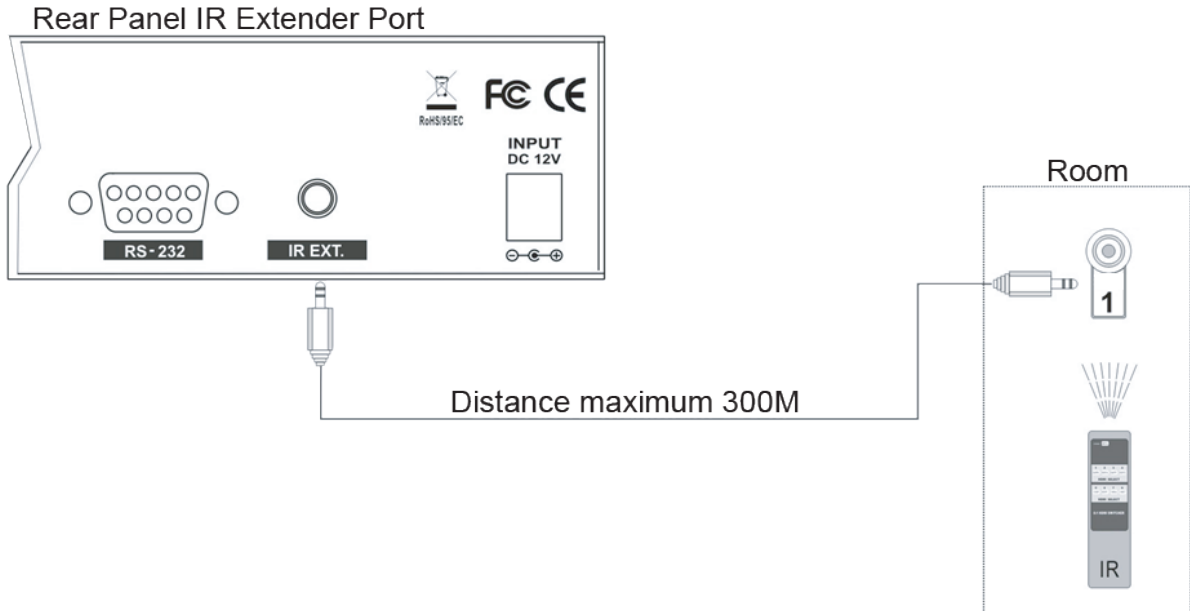
For each desired output select the appropriate input by using the front panel select buttons, IR remote control, or the RS232 serial communications port.

When powering up the AT-HD-V44M will return to its last used setting before Powered down.

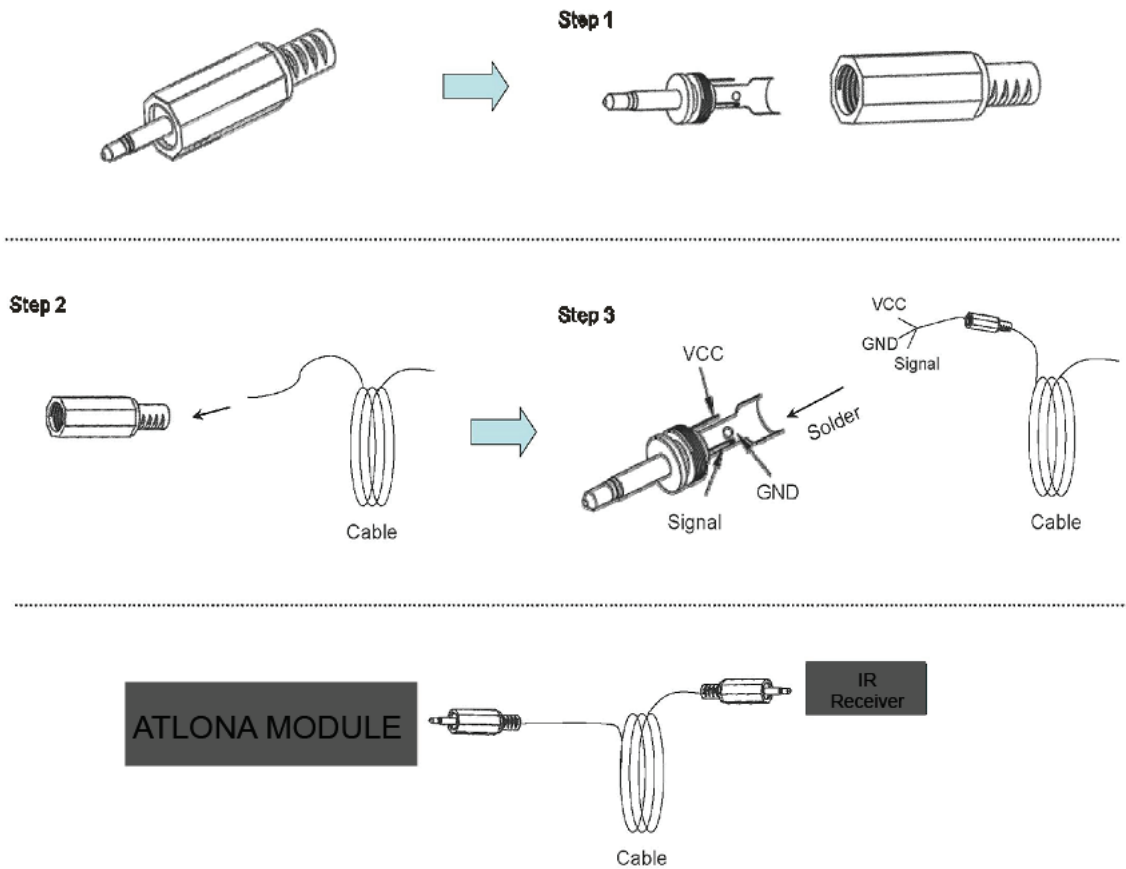
- 1,2. SWITCH POWER ON or OFF
3. INPUT 1 SOURCES SELECTION  
(Select input 1, 2, 3 & 4 sources with selection button)
4. INPUT 2 SOURCES SELECTION  
(Select input 1, 2, 3 & 4 sources with selection button)
5. INPUT 3 SOURCES SELECTION  
(Select input 1, 2, 3 & 4 sources with selection button)
6. INPUT 4 SOURCES SELECTION  
(Select input 1, 2, 3 & 4 sources with selection button)

# IR EXTENDER

## 1. IR Extender Connection



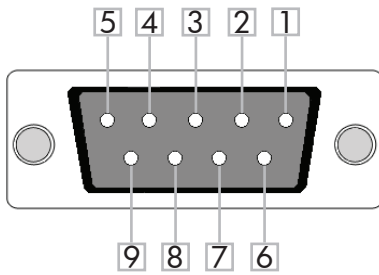
## 2. IR Extender Package



## RS-232

### Connection

RS-232 is connected through a 9-pin female D connector. The pins will have functions associated with them, some will be unassigned.



No.	Pin	Function
1	----	Not used
2	Tx	Transmit
3	Rx	Receive
4	----	Not used
5	Gnd	Ground
6	----	Not used
7	----	Not used
8	----	Not used
9	----	Not used

Baud Rate: 9600bps

Data Bit: 8bits

Parity: None

Stop Bit: 1bit

### Command

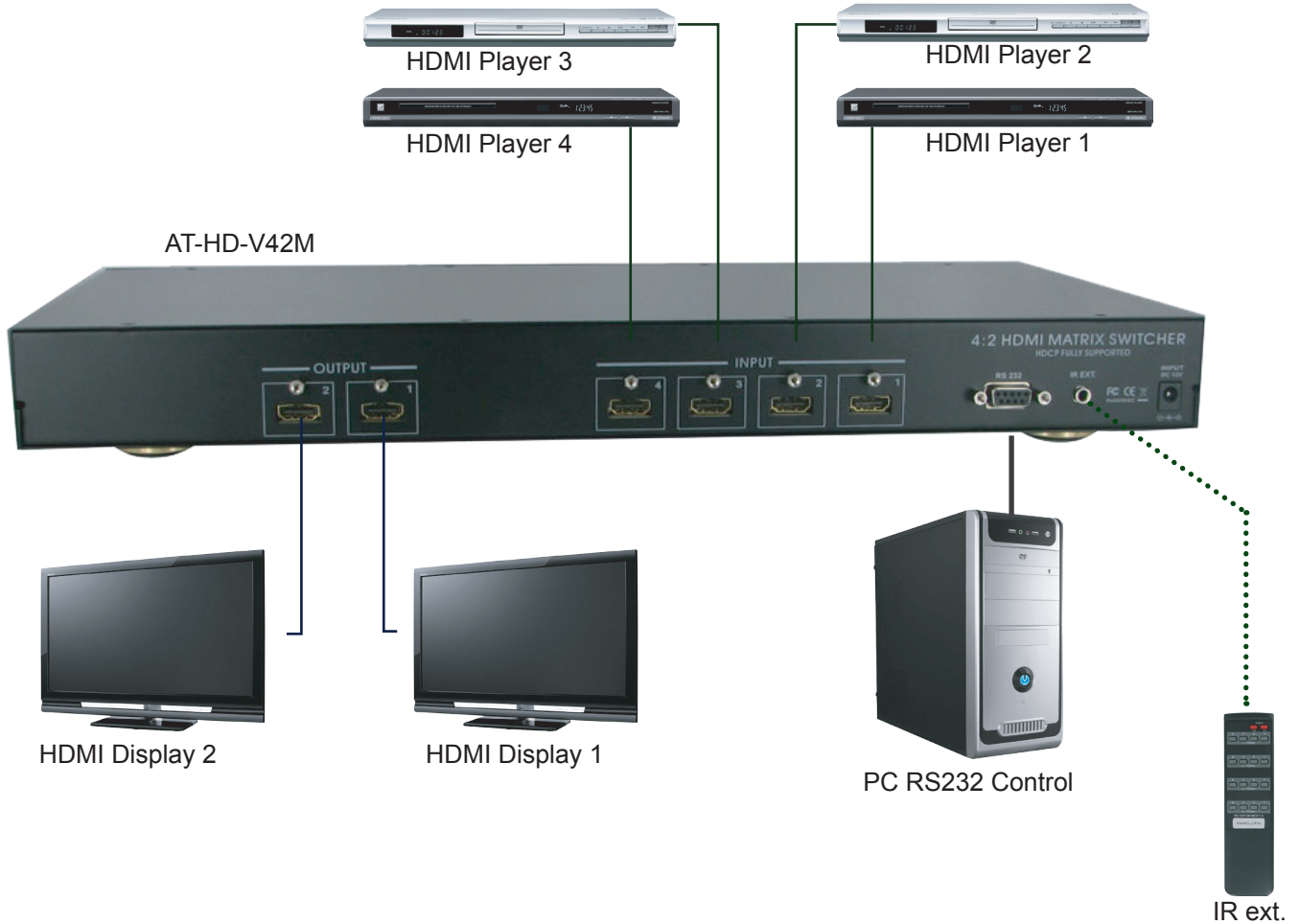
The command codes are very sensitive, do not change capitalization, spacing, or lettering.

Command	Feedback	Description
PWON	PWON	Power on
PWOFF	PWOFF	Power off
All#	All#	Resets all inputs to corresponding outputs (in3 to out3)
x1\$	x1\$	Turns off output channel (to turn off output 3 = x3\$)
x1AVx2	x1AVx2	Switch input to output (input 3 to output 5 = x3AVx5)
x1AVx2,x3,x4	x1AVx2,x3,x4	Switch input to multiple outputs (input 3 = x3AVx1,x2)
Statusx1	x7AVx1	Shows what input is connected to selected output
Status	x1AVx1, x2AVx2, x3AVx4, ....	Displays which inputs are currently connected to which outputs
Save[Y]	Save2	Saves settings for future use, saves vary from 0 to 9
Recall[Y]	Recall2	Pulls up saved settings for the number you selected
Clear[Y]	Clear2	Erases the save for the number you selected
Mreset	Mreset	Sets matrix back to the default settings

Each command or feedback is terminated with a carriage return.

**Note: If the command fails or is incorrect the feedback should be "Command FAILED"**

## CONNECTION AND INSTALLATION



*Note: If connecting the outputs to both displays and AV receivers, the audio output will only be stereo due to the display are only able to handle PCM or Stereo Audio through HDMI inputs. If all devices are AV receivers then multi-channel audio such as Dolby TrueHD and DTS-HD can be output. Likewise, the switcher will also look at the resolution of all flat panels connected and output the resolution of the lowest display. For example: If three TV's are 1080p and one is 720p, the output to all TV's will be 720p To achieve 1080p across all displays, no matter what their resolution is, take a look at the AT-HD560 and AT-HD550 both are up/down scalers which can take any resolution and turn it to whatever the displays native resolution is.*



## 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-HD-V42M. 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-HD-V42M) 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, or misapplication. 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.

## Atlona 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>