



User Manual

ATLONA

8 X 5 HDMI MATRIX SWITCH WITH 5 X CAT5 RECEIVERS INCLUDED AT-PROHD85M-SR



AT-PROHD85M-S



AT-PROHD85M-R

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INTRODUCTION

The Atlona AT-PROHD85M-SR is an HDMI 8X5 matrix switch which allows up to eight HDMI sources to be independently switched to five HDMI displays. It extends sources such as Blu-Ray, X-Box or a Satellite receiver up to 165ft @ 1080p and 1920x1200 resolutions to each remote video display. It offers full pass through for all Digital audio formats such as Dolby True HD, DTS-HD Master Audio. You can control the

AT-PROHD85M-SR matrix by IR, RS-232, RS485, TCP/IP or from the front panel. Additionally an IR signal can be extended through each remote location CAT5 receiver to the AT-PROHD85M-SR to control a source device.

PACKAGE CONTENTS:

- 1 x AT-PROHD85M-SR (main switch)
- 5 x AT-PROHD85M-R (receiver)
- 1 x IR handheld remote control
- 1 x 12V 5A DC power supply (110/220V universal) for main switch
- 5 x 5V 1A DC power supply (110/220V universal) for receivers
- 5 x receiver mounting brackets including screws
- 5 x IR RX (IR receiver cable)
- 8 x IR TX (IR emitter cable)
- 1 x USB to RS-232 (DB-9) cable (PC to matrix control cable)
- 1 x RS-485 to RS-232 adaptor (extends an RS-232 connection over CAT5 from the matrix switches RS-485 port)
- 1 pair Rack mounting ears including screws
- 1 x instructional manual
- 1 x CD with Manual, RS232 codes, IR codes, TCP/IP Control program

FEATURES:

- Allows up to eight HDMI sources to be independently switched to 5 HDMI video displays.
- Each RJ45 CAT5 zone output supports either dual or single CAT5.
- HDMI source to HDMI video display extension up to 165ft @ 1080p and 1920 x 1200 through CAT5.
- IR signal extension from supplied receivers to AT-PROHD85M-SR for local equipment rack source control.
- AT-PROHD85M-SR matrix switch can be controlled by IR, RS-232, RS485, TCP/IP or from the front panel.
- Supports HD resolutions up to 1080p or 1920 x 1200
- Pass through Digital Audio for all formats up to and including Dolby True HD and DTS-HD Master Audio
- Supports 3D
- HDCP and EDID compatible

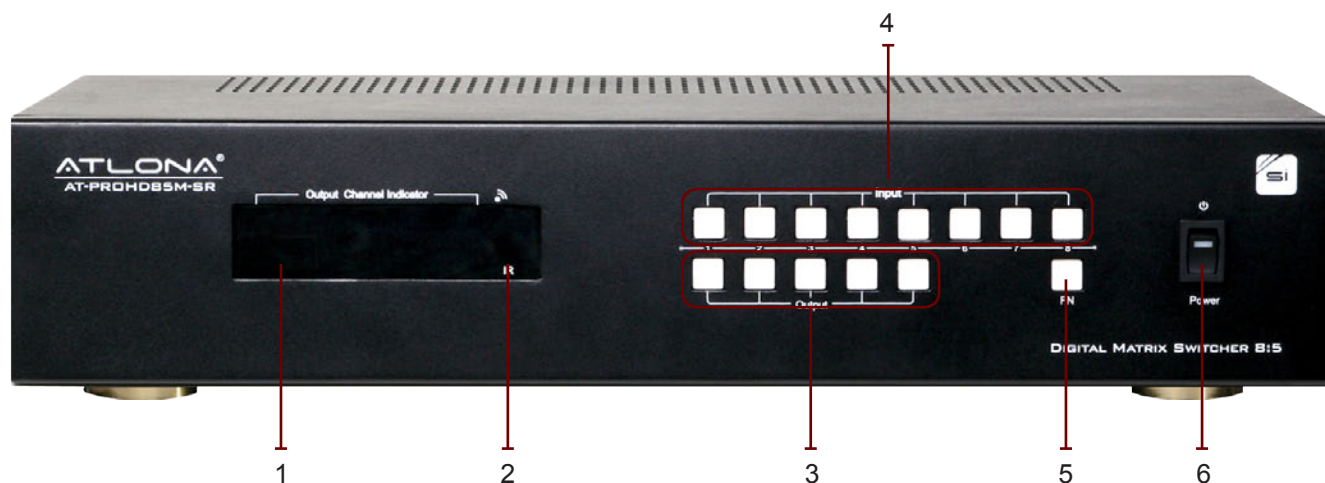
SPECIFICATIONS:

Operating Temperature Range	-5 to +35°C (-41 to +95 °F)
Operating Humidity Range	5 to 90% RH (no condensation)
Input DDC Signal	12V (matrix) and 5V (receivers)
Video Format Supported	HDTV up to 1080p and computer up to 1920 x 1200
Audio Format Supported	Pass through for all digital audio formats up to and including Dolby True HD and DTS-HD Master Audio
Output Video	HDMI + HDCP 1.3
Maximum distance for RJ45 outputs	165ft (50m) through CAT5/6 cables and up to 250ft (80m) @ 1080p on CAT7 cable
Power Consumption	35 watts (max)
Dimensions	17.3"L x 11"W x 3.5"H (440mmL x 280mmW x 88mmH)
Weight (main unit)	44.1LB/0.3LB (20kg)/(0.1kg)

PANEL DESCRIPTION

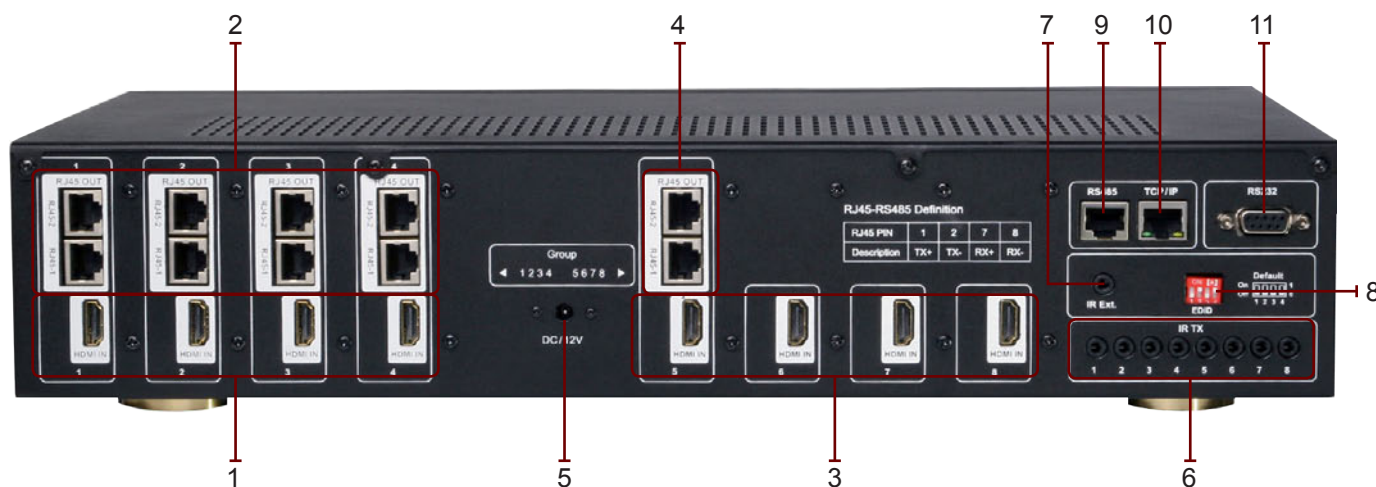
Main Unit

1. Front Panel



1. LED display: Output channel indicator displays input association.
2. IR window: IR Receiver for supplied handheld remote.
3. Output selection buttons: used to select preferred output channel.
4. Input selection buttons: used to select preferred input channel.
5. F/N button: used to execute a command.
6. Power: On/off switch

2. Rear Panel



1. HDMI inputs 1-4
2. RJ45 CAT5 outputs 1-4
3. HDMI inputs 5-8
4. RJ45 CAT5 output 5
5. 12V power input
6. IR TX emitter ports 1-8
7. IR Ext port (extension)
8. Internal EDID dip switch
9. RS485 port
10. TCP/IP port
11. RS-232 port

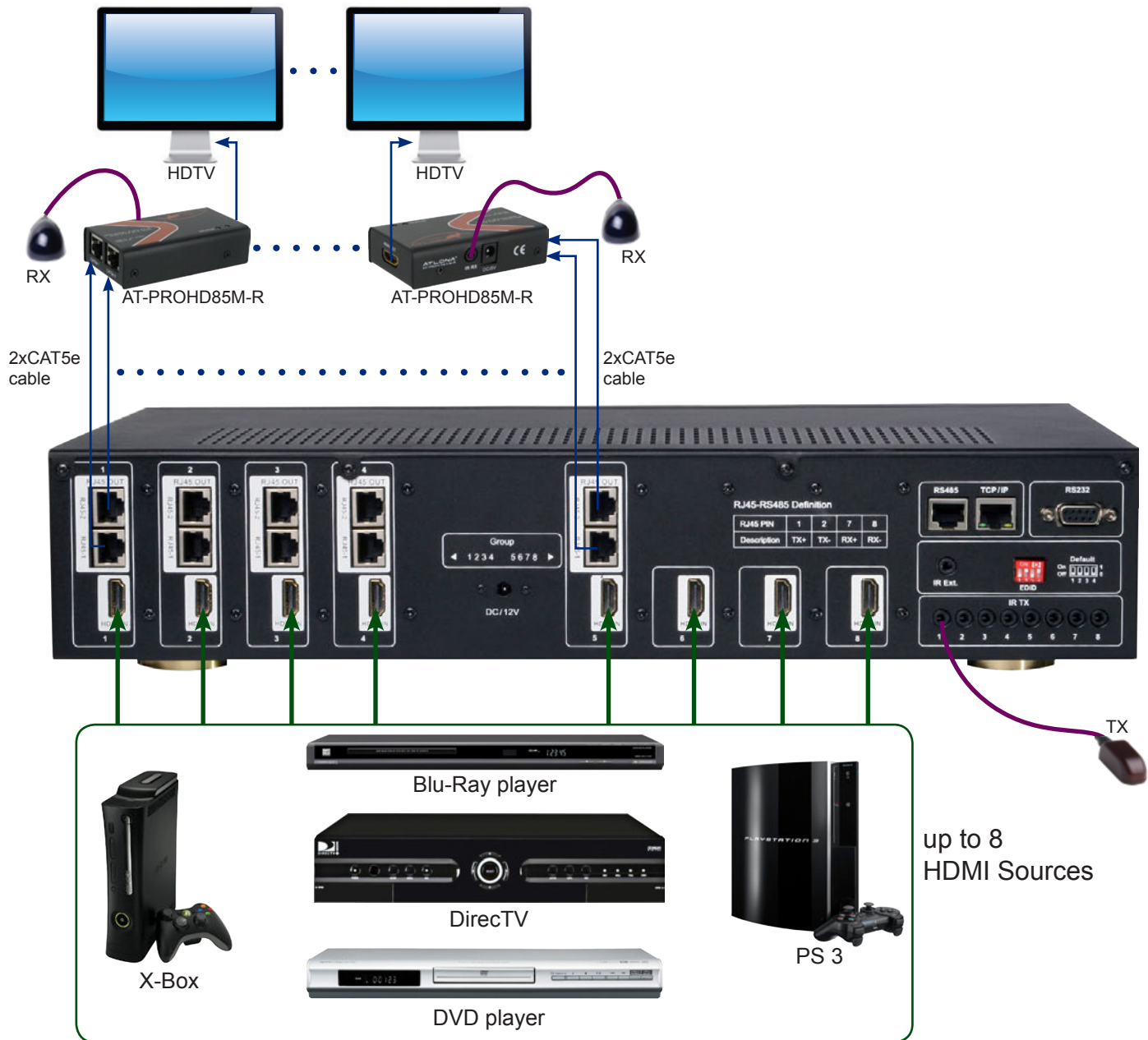
HDMI Receiver (5 x Receivers included)



Note: Please make sure when connecting Cat5e-1 and -2 receiver ports that they are matched to the corresponding RJ45 Ports on the AT-PROHD85M-SR. Receiver Cat5e-1 should be plugged into Matrix RJ45-1 and Receiver Cat5e-2 should be plugged into Matrix RJ45-2.

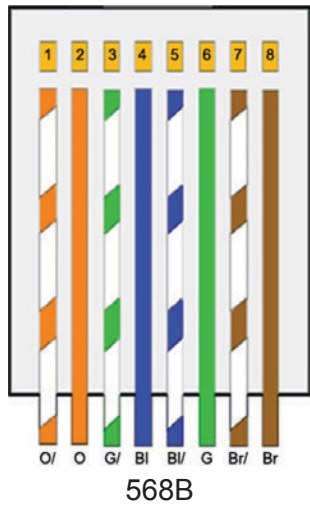
The red status indicator will stay lit on the receiver if the HDMI cable connection senses sync from the display. If it doesn't receive sync from the display the light will be off.

CONNECTION AND OPERATION



1. Connect HDMI sources such as Blu-Ray, DirecTV or Apply TV to the inputs on the AT-PROHD85M-SR.
2. Connect 2 RJ45 CAT5 cables from each output on the AT-PROHD85-SR to the matching numbered inputs on the supplied receivers. It is important that that each end of the CAT5 cable matches the corresponding numbered RJ45/CAT5 port on the matrix & receiver. For EDID set up you must use a dual CAT5 cable connection.

IMPORTANT: It is imperative that the RJ45 CAT5 cable has a 568B termination.



Note: A single CAT5 connection can be used in systems not requiring IR extension through the supplied receivers. If a single CAT5 connection is utilized the embedded EDID setting choice from the dip switch will be the default for all connected devices. For a single CAT5 connection please use the RJ45-2 ports only.

3. EDID configuration: There are three options to consider for EDID configuration. Please make sure all sources and displays are connected to the AT-PROHD85M-SR before proceeding with any EDID configuration.

A). Auto EDID: Please set the dip switch to “0000” (off). **Power cycle** the AT-PROHD85M-SR by turning power off then back on. All connected output displays EDID’s will be copied and forwarded to all connected sources and the lowest common denominator will be locked in.

Example: If there is a mix of video resolutions and audio formats such as Dolby Digital, Stereo, 1080p, 720p, the AT-PROHD85M-SR will default to 720p/Stereo as it is the lowest common denominator, thus all connected devices will be functionally compatible with each other.



B). Embedded EDID within AT-PROHD85M-SR: Select the appropriate setting from the rear panel dip switch. **Power cycle** the AT-PROHD85M-SR by turning the power off, then back on. All connected inputs and outputs will be configured for this fixed setting.

Example: If you select the combination 1-0-0-0 from the dip switch the AT-PROHD85M-SR will default to dual CAT5, 1080p/2ch for all connected devices.

Dip Switch Settings				CAT5 Output Connection and EDID
DS1	DS2	DS3	DS4	
0	0	0	0	Auto EDID and Copy EDID
1	0	0	0	Dual CAT5, 1080p, 2ch audio
1	0	0	1	Single CAT5, 1080p, 2ch audio
1	0	1	0	Dual CAT5, 1080p, 5.1ch audio
1	0	1	1	Single CAT5, 1080p, 5.1ch audio
1	1	0	0	Dual CAT5, 1080p, 7.1ch audio
1	1	0	1	Single CAT5, 1080p, 7.1ch audio
1	1	1	0	Dual CAT5, 1080i, 2ch audio
1	1	1	1	Single CAT5, 1080i, 2ch audio

C). Copy EDID: Please set the dip switch to “0000” (off). Make sure to **power cycle** the AT-PROHD85M-SR after making this setting change on the dip switch. Turn off power and then back on to complete a power cycle. This function is used when you want a specific output and input to become associated. Select the output display that you want to copy and then the source input. Next press and hold the previously selected output and F/N button simultaneously for a couple of seconds then release. Characters on the LED display will rotate in a circular pattern until process is complete. If EDID successfully copied the LED will display “M OK”. If unsuccessful it will display “M FL”. Repeat process for all desired input/output associations.

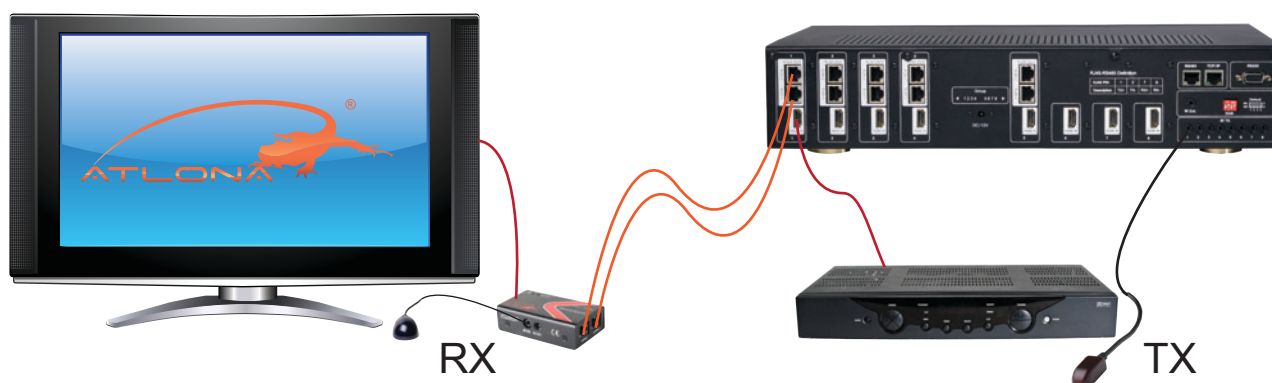
Note: If you wish to return the copied EDID back to the auto EDID functionality use the following steps.

Step 1: Set the dip switch to 1-1-1-1(on), next power cycle the AT-PROHD85M-SR.

Step 2: Set the dip switch to 0-0-0-0(off), next power cycle the AT-PROHD85M-SR. All connected devices will be reset to the lowest common denominator.

4. Connect supplied IR receiver and emitter cables to the AT-PROHD85M-SR and supplied matrix receivers for IR functionality. Transmitters need to be placed over IR window on device to ensure successful functionality. IR receiver modules should be placed in line of sight for handheld controller to successfully extend IR commands.

Note: When connecting IR receivers and IR emitters be extremely careful to insert them into the correct port. Failure to do so will cause damage to the switch, receiver or burn out the IR eye.



5. If you wish to control the AT-PROHD85M-SR from a 3rd party control system connect an RS-232 cable between the matrix and the control system. Please use a straight RS-232 Cable for this connection .

(View RS232 codes on page 12)

7. For computer control connect a RJ45 cable to the TCP/IP port of the AT-PROHD85M-SR.

Note: If the TCP/IP port is connected directly to a computer you must use a crossover CAT5 cable. If connected to a router use a straight wire CAT5 cable.

8. RS485 port: protocol utilized by compatible control devices to achieve longer distance cable runs over CAT5

9. Connect the supplied IR receiver cable to the AT-PROHD85M-SR to control the matrix switch from the supplied handheld remote control. Used when the AT-PROHD85M-SR is in an enclosure and the front panel IR window isn't visible.

10. To manually select an input and output from the front panel follow these steps.

Step 1: Press the desired output button. The corresponding output LED will start to flash

Step 2: Press the desired input button. The output LED will change to the input selection and will continue to flash.

Step 3: Select the F/N button to enter and the LED will stop flashing.



IR REMOTE CONTROL

The AT-PROHD85M-SR remote can control the matrix either through the front face panel IR receiver window or the supplied IR receiver cable module. If you use a third party IR remote control you can learn the IR codes off of the matrix remote. If you use a third party IR remote system controller you can copy and paste the IR HEX code into the remote control software package. IR HEX codes can be found on the supplied CD.

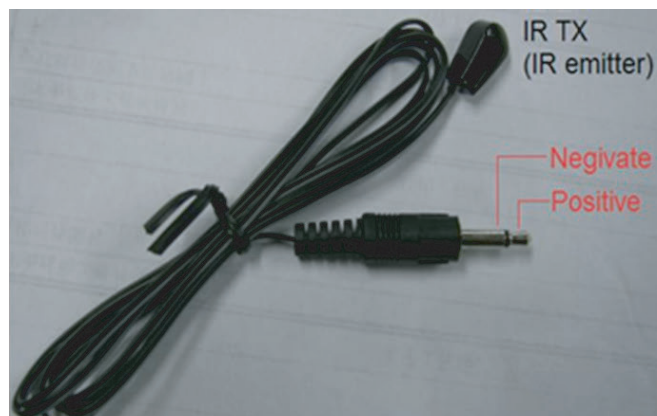
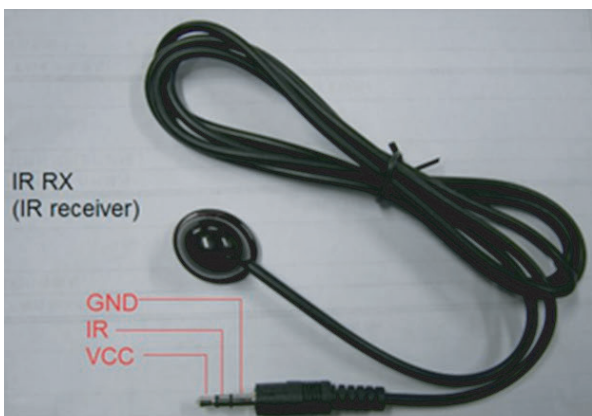
There are 2 scenarios for code use:

- 1: Learn all 40 x codes in order to control each setup from the matrix location.
- 2: Learn 8 x codes for local zone control only.



VERY IMPORTANT:

When connecting IR receivers and IR emitters, be very careful as if they are reversed the IR Eye will burn-out and also may damage the IR module inside of the switch and Receiver.



TX – Connects to the Switch

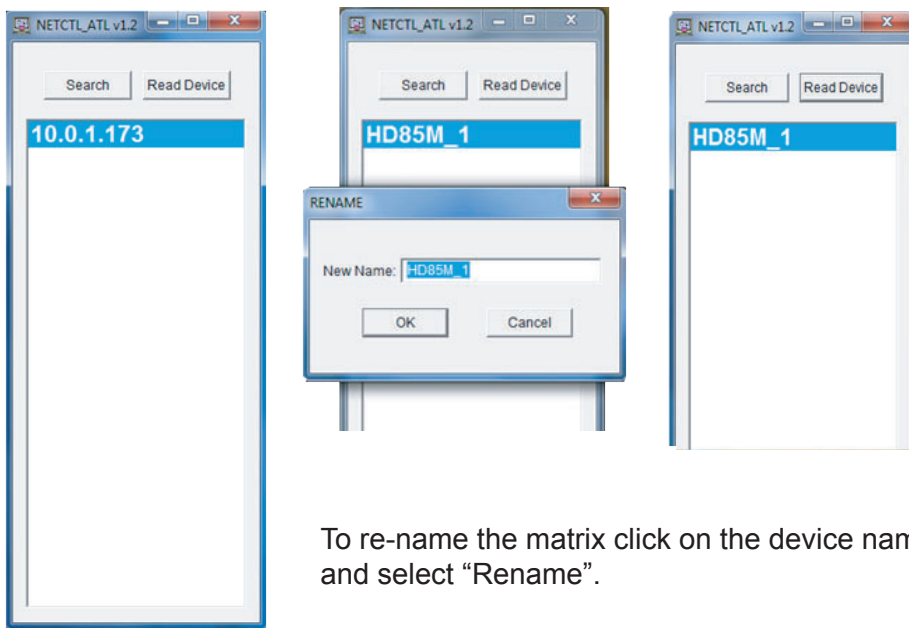
RX – Connects to the HDMI Receivers

TCP/IP CONTROL

Note: If the TCP/IP port is connected directly to a computer you must use a crossover CAT5 cable. If connected to a router use a straight wire CAT5 cable.

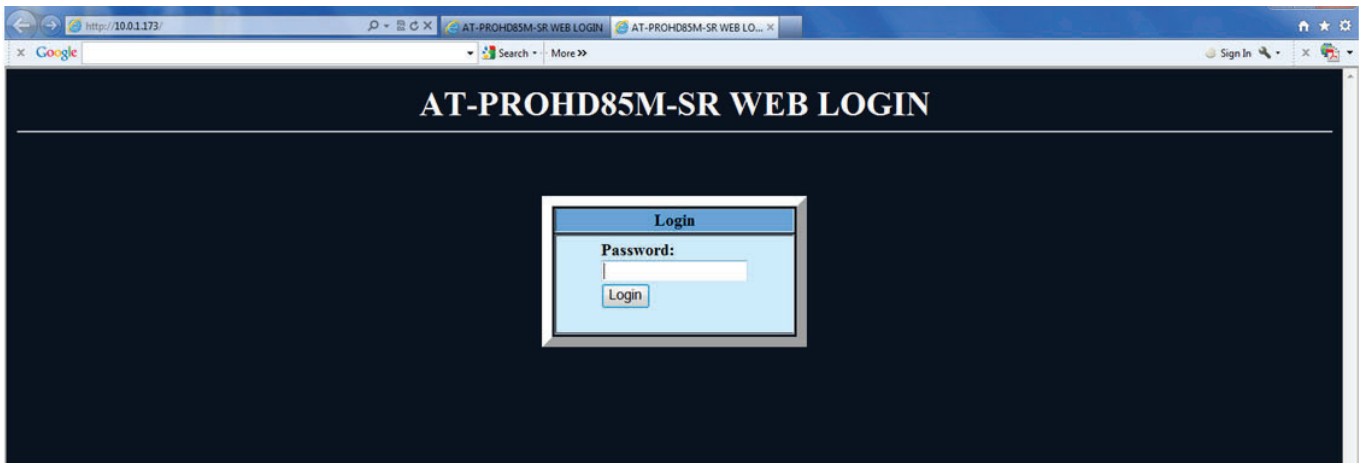
Running NETCTL for the first time will create a file on your desktop called "NETCTL.TXT". This file will contain information for the matrix switch such as MAC, Subnet, Gateway and IP address.

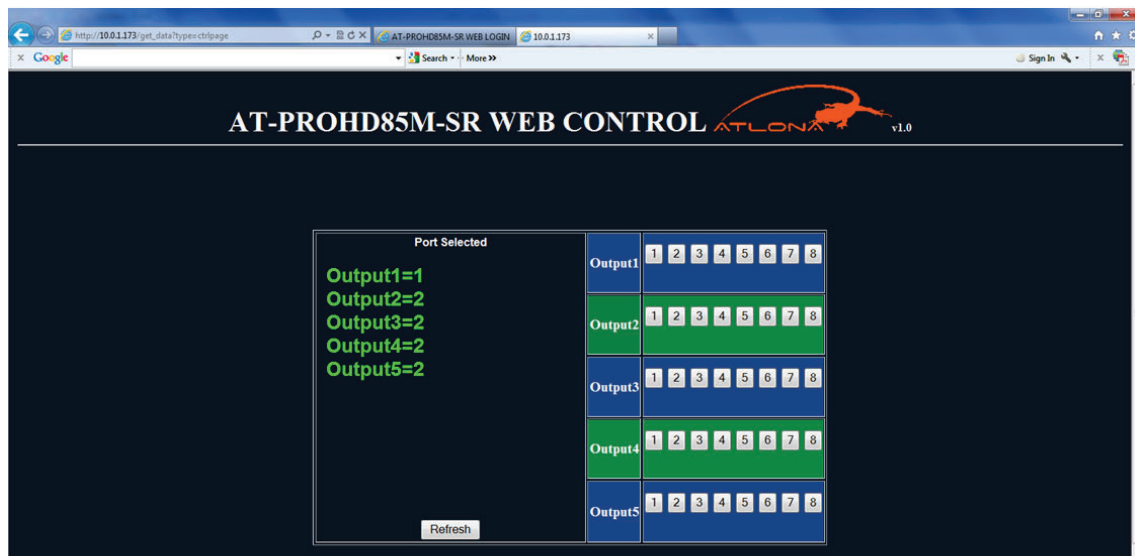
1. Open the NETCTL application. It will automatically search for any connected devices and display the IP address. Next select the "Read Device" button. The IP address will change to the matrix name.



To re-name the matrix click on the device name and select "Rename".

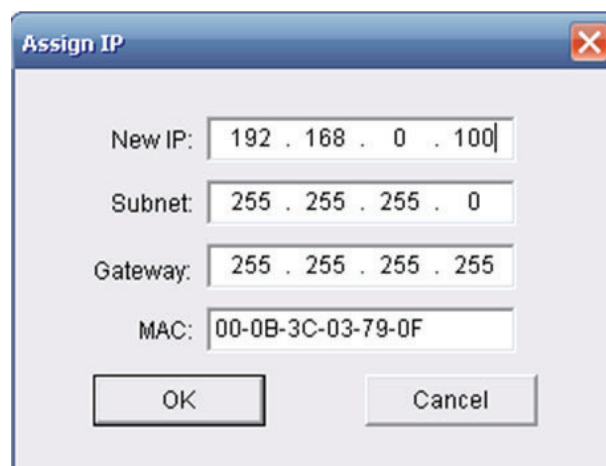
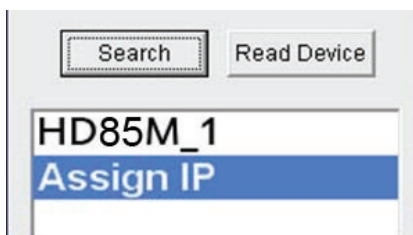
2. Double Click on the device name or right-click and select OPEN. A web browser window will open with the log-in page. The default password is "0000000000". Enter the password then select the "Login" button to log on to the control page.





Select one of the 1~8 square buttons to select an input for each 1~5 output. The left side pane shows the input status for each output.

3. If “Assign IP” is displayed the device was not assigned an IP address automatically. Double click on “Assign IP” to manually assign an IP address for the matrix.



Select “OK” to assign the new IP address.

Next select “Search” and then “Read Device” to display the matrix name.

RS232

9.1. RS232 Control

Baud Rate: 9600 bps
Data bits: 8 bits
Parity: None
Stop bits: 1 bit
Flow control: None

9.2. RS232 Cable Wiring

AT-PROHD85M-SR			Remote c ontrol device	
Pin	Definition		Pin	Definition
1	NC		1	NC
2	Tx		2	Rx
3	Rx		3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

9.3. RS232 Commands:

Note: '↵' is carriage return.

OUTPUT	COMMAND	ACTION
Output 1	cir 00 ↵	Output 1 select Input1
	cir 01 ↵	Output 1 select Input2
	cir 02 ↵	Output 1 select Input3
	cir 03 ↵	Output 1 select Input4
	cir 04 ↵	Output 1 select Input5
	cir 05 ↵	Output 1 select Input6
	cir 06 ↵	Output 1 select Input7
	cir 07 ↵	Output 1 select Input8

Output 2	cir 10 ↵	Output 2 select Input1
	cir 11 ↵	Output 2 select Input2
	cir 12 ↵	Output 2 select Input3
	cir 13 ↵	Output 2 select Input4
	cir 14 ↵	Output 2 select Input5
	cir 15 ↵	Output 2 select Input6
	cir 16 ↵	Output 2 select Input7
	cir 17 ↵	Output 2 select Input8

Output 3	cir 20 ↵	Output 3 select Input1
	cir 21 ↵	Output 3 select Input2
	cir 22 ↵	Output 3 select Input3
	cir 23 ↵	Output 3 select Input4

Output 3	cir 20 ↙	Output 3 select Input1
	cir 21 ↙	Output 3 select Input2
	cir 22 ↙	Output 3 select Input3
	cir 23 ↙	Output 3 select Input4
	cir 24 ↙	Output 3 select Input5
	cir 25 ↙	Output 3 select Input6
	cir 26 ↙	Output 3 select Input7
	cir 27 ↙	Output 3 select Input8

Output 4	cir 30 ↙	Output 4 select Input1
	cir 31 ↙	Output 4 select Input2
	cir 32 ↙	Output 4 select Input3
	cir 33 ↙	Output 4 select Input4
	cir 34 ↙	Output 4 select Input5
	cir 35 ↙	Output 4 select Input6
	cir 36 ↙	Output 4 select Input7
	cir 37 ↙	Output 4 select Input8

Output 5	cir 40 ↙	Output 5 select Input1
	cir 41 ↙	Output 5 select Input2
	cir 42 ↙	Output 5 select Input3
	cir 43 ↙	Output 5 select Input4
	cir 44 ↙	Output 5 select Input5
	cir 45 ↙	Output 5 select Input6
	cir 46 ↙	Output 5 select Input7
	cir 47 ↙	Output 5 select Input8

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-PROHD85M-SR. 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.

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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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