Opus 4K/UHD Three-Input HDMI Switcher with HDBaseT input Auto-Switching

AT-OPUS-RX41

The Atlona **AT-OPUS-RX41** is a 4×1 switcher and receiver for 4K high dynamic range (HDR) formats. It features three HDMI inputs, plus an HDBaseT input for receiving video, embedded audio, control signals, power, and Ethernet over distances of up to 330 feet (100 meters). Supporting 4K/UHD @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps, the OPUS-RX41 is the perfect complement to an Atlona Opus™ Series matrix switcher in whole-house AV applications allowing display of 4K HDR content from either the matrix or one of the connected local sources.

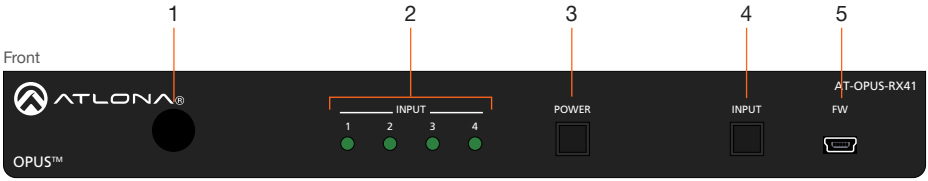
The OPUS-RX41 includes a number of key features to help simplify residential deployments. Extension of CEC as well as bidirectional IR and RS-232 signals over HDBaseT allows a control system connected to the OPUS-RX41 to select inputs on the matrix or control its sources, and allows the matrix to control the local room display. A handheld IR remote control is included for power and input selection on the OPUS-RX41. Advanced HDMI Audio Return Channel (ARC) routes audio from a smart TV to both the local TOSLINK connection as well as HDBaseT. EDID management, selectable 4K to 1080p downscaling, and HDCP 2.2 support with selectable down-conversion to HDCP 1.4 ensures compatibility with legacy displays. Remote power allows the device to be powered by an Opus matrix switcher, for installation flexibility at a display or projector.

Package Contents

1 x AT-OPUS-RX41
1 x IR remote control
2 x Mounting brackets
4 x Mounting screws
1 x 5-pin captive screw connector
1 x 4-pin captive screw connector
1 x 5 V DC power supply
1 x Installation Guide

IMPORTANT: Visit http://www.atlona.com/product/AT-OPUS-RX41 for the latest firmware updates and documentation.

Panel Descriptions



1 IR window
Receives IR signals from the included IR remote control unit.

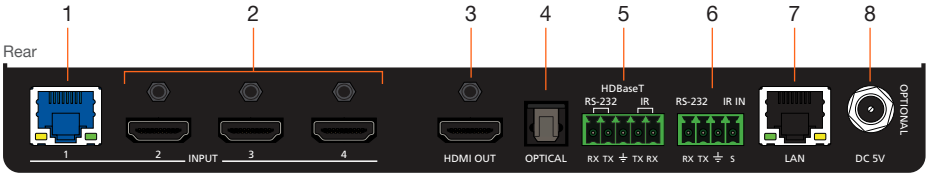
2 INPUT
Displays the active input. The active input will be indicated with a solid green light.

3 POWER
This LED indicator glows solid green when the unit is powered.

4 INPUT
Press and release this button to cycle through each of the four inputs. Each LED indicator corresponds to each of the numbered inputs on the rear panel of the unit. The INPUT LED indicators will indicate the active input with a solid green light.

5 FW
Connect a USB to mini-USB cable from this port to a computer to updated the firmware. Refer to the User Manual for more information. USB cable not included.

Panel Descriptions



1 **INPUT (HDBaseT)**
Connect a category cable (CAT-5e or better) from this port to a compatible HDBaseT transmitter. This category cable provides both data transfer and is used to power the AT-OPUS-RX41.

2 **INPUT (HDMI)**
Connect an HDMI cable from each of these ports to an UHD/HD source.

3 **OUTPUT (HDMI)**
Connect an HDMI cable from this port to a display device.

4 **OPTICAL**
Connect a S/PDIF optical cable from this port to the TOSLINK port on an audio output device.

5 **HDBaseT RS-232 / IR**
Connect a controller to this port to control a headend matrix (transmitter) over HDBaseT. Refer to RS-232 Control (page 5) and IR Control (page 6) for wiring information.

6 **RS-232 / IR IN**
Connect a controller or PC to control the AT-OPUS-RX41 through RS-232 or IR. Refer to RS-232 Control (page 5) and IR Control (page 6) for wiring information.

7 **LAN**
Connect an Ethernet cable to this port to control the AT-OPUS-RX41 using the built-in web server or to control a sink device using pass-through IP control.

8 **DC 5V**
Connect the optional locking 5 V DC power supply to this power receptacle.

IR Remote Control

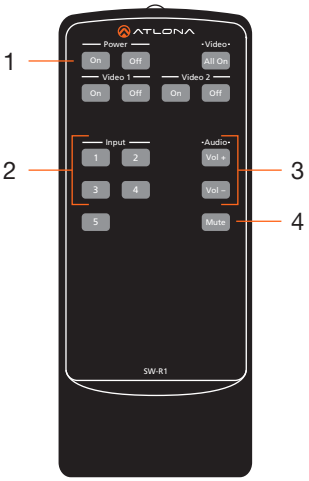
The AT-OPUS-RX41 includes an IR remote control that can be used to operate the unit from a remote location.

1 **On / Off**
Press the **On** button to power-on the unit.
Press the **Off** button to power-off the unit.

2 **Input**
Press these buttons (1 - 4) to select the desired input.

3 **Vol+ / Vol-**
Press these buttons to increase or decrease the volume level on the **HDMI OUT** port.

4 **Mute**
Press this button to toggle audio muting on the **HDMI OUT** port.



Front Panel LED Indicators

The LED indicators on both the front and rear of the unit provide basic information on the current status of the unit.

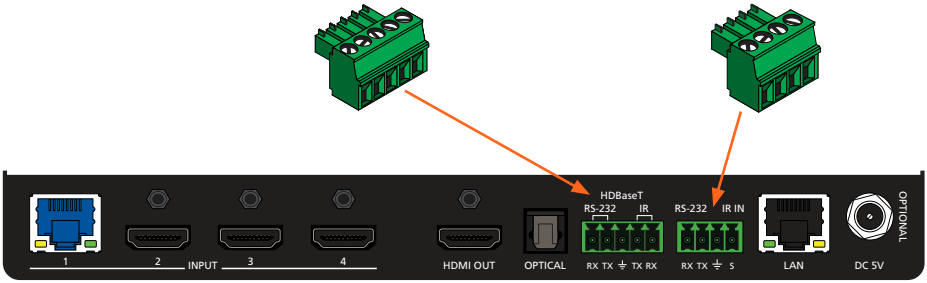
1, 2, 3, 4	Description
Solid green	The input is the active input.
Off	The input is not selected.

POWER	Description
Blue backlight	Unit is powered.
Off	Unit is not powered.

IP MODE	Description
Blue flashing backlight (4x)	Flashes four times to indicate that the unit is set to DHCP mode. Refer to IP Configuration (page 8) for more information.
Flashes blue (2x)	Flashes two times to indicate that the unit is set to static IP mode. Refer to IP Configuration (page 8) for more information.
Solid blue	Normal operating mode.

RS-232 Control

The 5-pin **HDBaseT RS-232/IR** port provides bidirectional RS-232 control of a headend matrix (transmitter) over HDBaseT. The 4-pin **RS-232/IR IN** port allows RS-232 control of the AT-OPUS-RX41. Refer to the User Manual for more information.



1. Locate the required captive screw connector (included in the box).
2. Use wire strippers to remove a portion of the cable jacket.
3. Remove at least 3/16" (5 mm) of insulation from each of the wires.
4. Insert the wires into correct terminal. Refer to *Figure 1.1* or *Figure 1.2*, below.
5. Connect the captive screw block to the proper port.

NOTE: Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices functions of pins 2 and 3 are reversed.

Figure 1.1 - Wiring the 5-pin HDBaseT RS-232/IR captive screw block for RS-232 control of a source device connected to headend matrix.

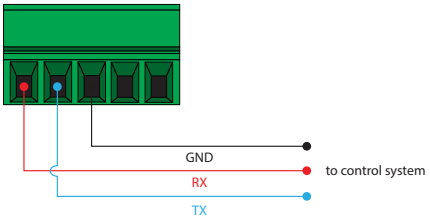
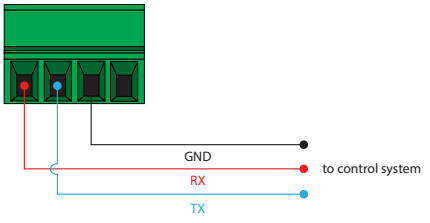
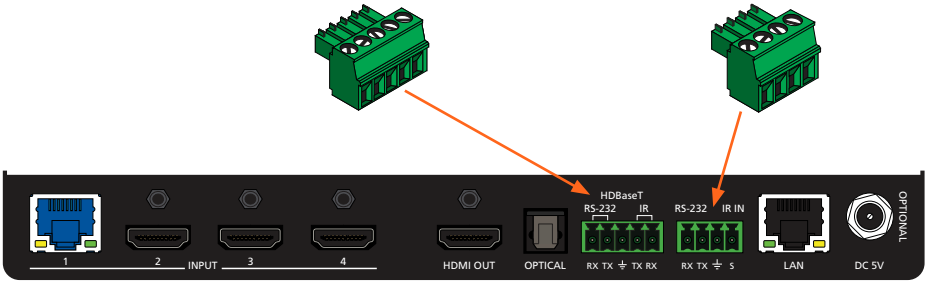


Figure 1.2 - Wiring the 4-pin RS-232/IR IN captive screw block for RS-232 control of the AT-OPUS-RX41.



IR Control

The 5-pin **HDBaseT RS-232/IR** port can be used to either control a display device or a source device over HDBaseT. The 4-pin **RS-232/IR IN** port allows IR control of the AT-OPUS-RX41. Refer to the User Manual for more information.



1. Locate the required captive screw connector (included in the box).
2. Use wire strippers to remove a portion of the cable jacket.
3. Remove at least 3/16" (5 mm) of insulation from each of the wires.
4. Insert the wires into correct terminal. Refer to *Figure 2.1*, *Figure 2.2*, or *Figure 2.3*, below.
5. Connect the captive screw block to the proper port.

Figure 2.1 - Wiring the 5-pin HDBaseT RS-232/IR captive screw block to have a controller at the viewing location send IR commands over HDBaseT to an IR emitter

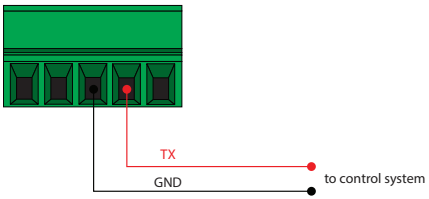


Figure 2.2 - Wiring the 5-pin HDBaseT RS-232/IR captive screw block to send IR commands out over an IR emitter, from a control system placed remotely at the transmitter side.

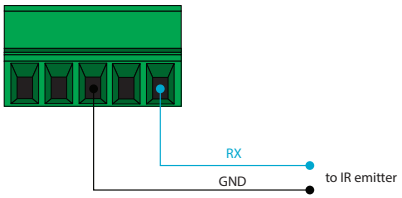
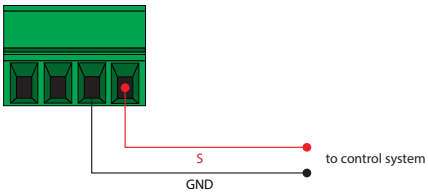


Figure 2.3 - Wiring the 4-pin HDBaseT RS-232/IR IN captive screw block to control the AT-OPUS-RX41 over IR.



Installation

1. Connect up a category cable (CAT-5e or better) from the HDBaseT **INPUT** port to a compatible HDBaseT transmitter.
2. Connect an HDMI cable from each of the HDMI **INPUT** ports to a UHD/HD source.
3. Connect an HDMI cable from the **HDMI OUT** port to a display device.
4. OPTIONAL: Connect a S/PDIF optical audio cable from the **OPTICAL** port to the TOSLINK port of an audio output device.
5. OPTIONAL: Connect a control system to the **HDBaseT RS-232 / IR** port to control a headend matrix (transmitter) or send/receive IR signals over HDBaseT. Refer to RS-232 Control (page 5) and IR Control (page 6) for wiring information.
6. OPTIONAL: Connect a control system to the **RS-232 / IR IN** port to control the AT-OPUS-RX41. Both RS-232 and IR protocols are supported. Refer to RS-232 Control (page 5) and IR Control (page 6) for wiring information.
7. Connect an Ethernet cable to the **LAN** port to control the AT-OPUS-RX41 using the built-in web server or to control a sink device using pass-through IP control.
8. OPTIONAL: Connect the included 5 V DC power supply (Atlona part no. AT-PS-54-C) to the **DC 5V** power receptacle. This step is only required if the AT-OPUS-RX41 will not be powered by a compatible PoE transmitter.

Cable Recommendation Guidelines

Refer to the tables below for recommended cabling when using Altona products with HDBaseT technology. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars. These tables are for guidance, only. Performance may vary, based on environmental factors.

Core	Shielding	CAT5e	CAT6	CAT6a	CAT7
Solid	UTP (unshielded)	■	■■■	■■■■	N/A
	STP (sheilded)	■■	■■■■	■■■■■	■■■■■
Performance Rating (MHz)		350	500	600	800

IP Configuration

By default, the AT-OPUS-RX41 is set to DHCP mode, allowing a DHCP server (if present) to assign the unit an IP address. To switch between DHCP and static IP mode, following the steps below.

1. Make sure the unit is powered.
2. Press and hold the **INPUT** button for approximately 10 seconds.
3. Release the button once the **POWER** button begin to flash. The number of flashes will indicate the currently selected IP mode. After the button stops flashing, the AT-OPUS-RX41 will be set to the selected IP mode.

POWER button flashes	Description	
Two	Static IP mode	IP address: 192.168.1.254 Subnet mask: 255.255.0.0 Gateway: 192.168.1.1
Four	DHCP mode	

AMS 2.0

For easy configuration of Atlona devices, AMS 2.0 is available from https://atlona.com/AMS for free. Once AMS has been setup, following the instructions below.

1. Open a browser on the same network as AMS 2.0 and go to the IP of AMS 2.0. View the AMS 2.0 installation instructions on how to find the IP of the software, if necessary.
2. Enter the login information on the AMS 2.0 web page, then click the Login button.
3. View the AT-OPUS-RX41 manual for routing and configuration information.

Web GUI

The AT-OPUS-RX41 includes a built-in web server, which allows easy management and control of all features. Refer to the User Manual for routing and configuration information. Follow the instructions below to access the web server.

1. Set the IP mode of the unit. Refer to the above instructions for more information.
2. Connect an Ethernet cable from the LAN port on the AT-OPUS-RX41, to the Local Area Network (LAN).
3. Use an IP scanner to determine the IP address of the AT-OPUS-RX41.
4. Launch a web browser and enter the IP address of the unit.
5. The AT-OPUS-RX41 Login page will be displayed.
6. Enter the following information on the Login page.

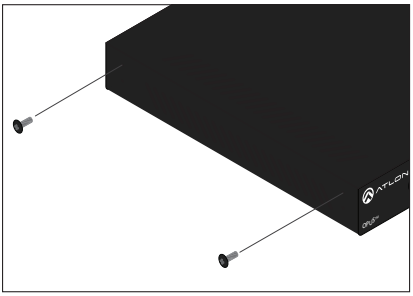
   Login: admin
   Password: Atlona

7. Click the Login button.

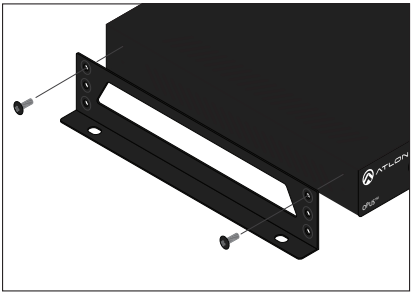
Mounting Instructions

The AT-OPUS-RX41 includes two mounting brackets, which can be used to attach the unit to any flat surface. Use the two enclosure screws, on the sides of the unit to attach the mounting brackets.

1. Using a small Phillips screwdriver, remove the two screws from the left side of the enclosure.



2. Position one of the mounting brackets, as shown below, aligning the holes on the side of the enclosure with one set of holes on the mounting bracket.
3. Use the screws from Step 1 to attach the mounting bracket.



4. Repeat steps 1 and 2 to attach the second mounting bracket to the opposite side of the unit.
5. Mount the unit to a flat surface using the oval-shaped holes, on each mounting bracket. If using a drywall surface, a #6 drywall screw is recommended.

NOTE: Mounting brackets can also be inverted to mount the unit under a table or other flat surface.

Notes

Notes

English Declaration of Conformity

The English version can be found under the resources tab at:

https://atlona.com/product/at-opus-rx41/.

Chinese Declaration of Conformity 中国RoHS合格声明

由SKU列出於:

https://atlona.com/about-us/china-rohs/.

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