Omega 4K/UHD Scaler for HDBaseT and HDMI with USB

AT-OME-SR21

The Atlona AT-OME-SR21 is an HDBaseT receiver and 4K/UHD scaler with a local HDMI input. Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-SR21 receives HDBaseT for video up to 4K/60 4:2:0, plus embedded audio, control, Ethernet, and USB over distances up to 330 feet (100 meters). The HDMI input supports video up to UHD/60 4:4:4. The OME-SR21 is HDCP 2.2 compliant and features 4K/60 upscaling and downscaling with frame rate conversion. Additionally, it receives USB over HDBaseT and includes a USB 2.0 hub for integration with PCs, cameras, microphones, speakers, DSPs, and touch or interactive displays. The OME-SR21 is ideal for 4K presentation applications with Omega, HDVS-200, or UHD-EX Series transmitters, as well as Atlona AV presentation switchers with HDBaseT outputs, local HDMI sources, and the Gain™ Series amplifiers.

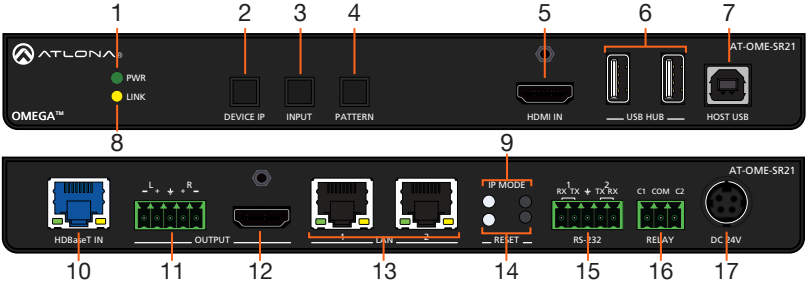
The OME-SR21 combines the benefits of 4K/UHD scaling, auto-switching for HDBaseT and HDMI inputs, integrated display control, USB extension, and more. It incorporates many popular integration convenience features, while delivering excellent performance and value for 4K presentation and video conferencing applications. The OME-SR21 can remotely power an Atlona HDBaseT transmitter through Power over Ethernet (PoE). For additional integration convenience, the OME-SR21 features audio de-embedding, integrated two-port Ethernet switch, contact closure ports for controlling a motorized screen or display lift, internal video test patterns for setup and troubleshooting, and remote management with AMS (Atlona Management System).

Package Contents

1 x AT-OME-SR21
2 x Captive screw connector, 5-pin
1 x Captive screw connector, 3-pin
4 x Mounting screws
1 x Pair rack mount ears
1 x 24V DC power supply
1 x IEC power cord
1 x Installation Guide

IMPORTANT: Visit https://atlona.com/product/AT-OME-SR21 for the latest firmware updates and User Manual.

Panel Descriptions



1 **PWR LED**
Illuminates green when receiving power.

2 **DEVICE IP button**
Press to display the unit IP in the top left corner of the connected display.

3 **INPUT button**
Use to switch between the HDMI and HDBaseT inputs. If the device is currently showing a pattern for source, pressing the input button will bring up the last selected input.

4 **PATTERN button**
Use to send one of the three source patterns built into the unit. Press to cycle through all three patterns.

5 **HDMI IN**
Connect an HDMI cable from an HDMI source to this port.

6 **USB HUB**
Connect USB devices to these ports. e.g. usb camera, mouse, etc.

7 **HOST USB**
Connect to a computer using a USB B to USB A cable.

8 **LINK LED**
Illuminates yellow when receiving signal from the HDBaseT input port.

9 **IP MODE button and LED**
Press and hold the button for 5 seconds until the LED blinks to switch the IP mode between DHCP and Static IP modes. The LED will blink 2 times for DHCP and 3 times for static IP.

10 **HDBaseT IN**
Connect a compatible HDBaseT transmitter to this port.

11 **AUDIO OUT**
Connect to an audio DSP, amplifier, or other audio distribution devices.

12 **HDMI OUT**
Connect an HDMI cable from here to an HDMI display.

13 **LAN**
Connect Ethernet cables to these ports for control of the unit and/or to pass Ethernet to a local device.

14 **RESET button and LED**
Press and hold the button for 5 seconds until the unit resets. The LED will blink as the unit resets to factory default settings.

15 **RS-232**
Use for device and display control.

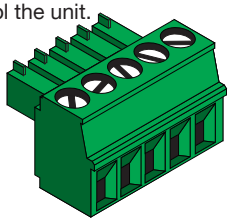
16 **RELAY**
Dual low-voltage signal relay to control devices such as electric screens and display lifts.

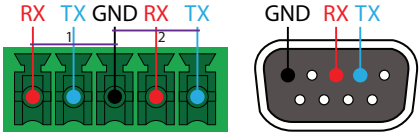
17 **DC 24V**
Connect the included DC 24V power supply to this port.

RS-232

A 5-pin captive screw connector has been included for RS-232.

NOTE: Port 1 is for display control and port 2 will control the unit.

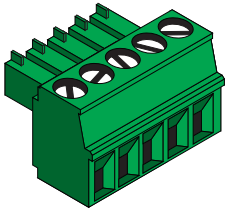


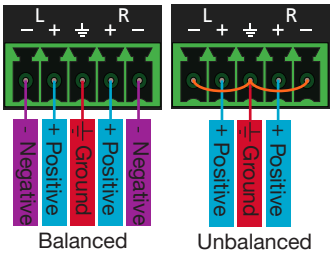


Pin out will be determined by the RS-232 cable and connect as RX (receive), TX (transmit) and ⏚ (Ground). Ground will be shared between port 1 and port 2.

Audio

Connect to an audio DSP, amplifier, or other audio distribution devices.

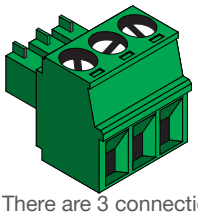


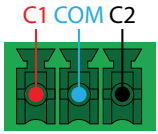


Use a jumper between the negative and ground pins when using an unbalanced connection.

Relay

A dual low-voltage signal relay is built into the OME-SR21 for control of devices such as electric screens and display lifts. A 3-pin captive screw connector has been included for connection.

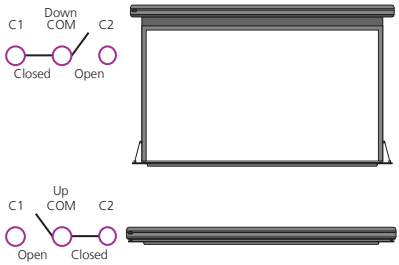




There are 3 connections for the relay: C1, COM, and C2 (Circuit 1, Common, and Circuit 2.)

When using a dual signal relay with an electric projection screen, it allows for two different circuits to be controlled: up and down (pictured to the right).

The relay will default to follow the display. When the unit turns on the relay will close C1 and open C2. When the display is turned off and signal is no longer being received C1 will open and C2 will close.



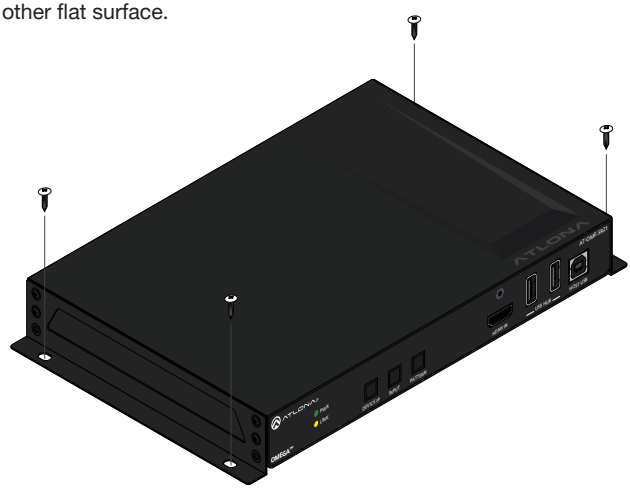
Mounting Instructions

The AT-OME-SR21 includes two mounting brackets and four mounting screws, which can be used to attach the units to any flat surface.

1. Remove the top 2 case screws on the side of the unit.
2. Align the mounting brackets to the side of the units.
3. Use the previously removed case screws to secure the mounting bracket to the enclosure.
4. Repeat the steps for the other side of the unit.

5. Mount the unit 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.



Cable Recommendation Guidelines

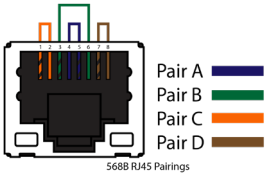
Refer to the tables below for recommended cabling when using Altona products with HDBaseT. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars.

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

IMPORTANT: Stranded or patch cables are not recommended due to performance issues.

Cable	Max. Distance @ 4K	Max. Distance @ 1080p
CAT5e	295 feet (90 meters)	330 feet (100 meters)
CAT6 / CAT6a / CAT7	330 feet (100 meters)	330 feet (100 meters)

Use of a TIA/EIA 568B termination is recommended for optimal performance.



Installation

1. Connect an HDMI source to the HDMI IN port.
2. Connect a compatible HDBaseT transmitter (e.g. AT-OME-ST31 or AT-OME-EX-TX) to the HDBaseT input port using a category cable.
3. Connect an HDMI cable from the output port to an HDMI display.
4. *Optional* Connect the 2CH analog AUDIO OUT ports to a DSP, or audio amplifier.
5. *Optional* Connect USB devices (e.g. USB camera) to the USB hub ports.
6. *Optional* Connect the HOST USB port to a computer using a USB B to USB A cable (cable not provided).
7. *Optional* Connect to the 5-pin captive screw RS-232 port to control the display (port 1) and the unit (port 2).
8. *Optional* Connect a network switch to one of the LAN ports, for IP control, system configuration, or Ethernet routing.
9. *Optional* Connect a second Ethernet cable from the second LAN port to the local display to pass through Ethernet.
10. *Optional* To control devices such as electric screens and display lifts, connect the device to the 3-pin captive screw relay port.
11. Connect the included DC 24V power supply to the power port.
12. Connect the included IEC power cord from the power supply to a compatible power outlet.

IP

DHCP

By default, the AT-OME-SR21 is set to DHCP mode. In this mode, when the AT-OME-SR21 is connected to the Local Area Network (LAN), it will automatically be assigned an IP address by the DHCP server (if available). Press the DEVICE IP button to show the IP address in the top left corner of the display.

Static

If no DHCP server is available, or a static IP is required, the OME-SR21 can be set to static IP mode using the IP mode button.

- Press and hold the **IP MODE** button for 5 seconds to switch to static IP mode, the LED will blink 3 times when it goes into Static IP mode. In this mode, the AT-OME-SR21 will be set to the following:
  IP address: 192.168.1.254
  Subnet mask 255.255.0.0
  Gateway: 192.168.1.1

- To switch back to DHCP, press and hold the IP mode button for 5 seconds. The LED will blink 2 times when successfully put into DHCP mode.

Accessing the webGUI

The AT-OME-SR21 includes a built-in webGUI, which allows easy remote management and control of all features. Follow the instructions below to access the webGUI.

1. Make sure that an Ethernet cable is connected between the **LAN** port on the AT-OME-SR21 and the network.
2. Press the **DEVICE IP** button on the front panel to display the IP address of the unit in the top left corner of the connected display.
3. Launch a web browser and enter the IP address in the address bar.
4. The AT-OME-SR21 **Login** page will be displayed.
5. Enter the following information on the **Login** page.

   Login: admin
   Password: Atlona

6. Click the **Login** button.
7. Refer to the user manual for detailed operation of the webGUI.

AMS 2.0

For easy configuration of Atlona devices , AMS 2.0 is available from https://atlona.com/ams for free. Two options can be used for installation: The free Linux based software download or the easy to install server hardware (AT-AMS-HW).

Once AMS has been set up:

1. Open a browser on the same network as AMS 2.0 and go to the IP address of AMS 2.0. View the AMS 2.0 installation instructions on how to find the IP address of the software.
2. Enter the login information on the AMS 2.0 web page, then click the **Login** button.
3. View the AT-OME-SR21 manual for routing and configuration information.

Version 1

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