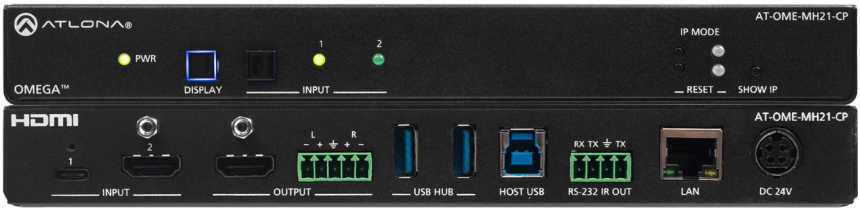
Omega 4K/UHD Two-Input Switcher for HDMI and USB with USB Hub

AT-OME-MH21-CP



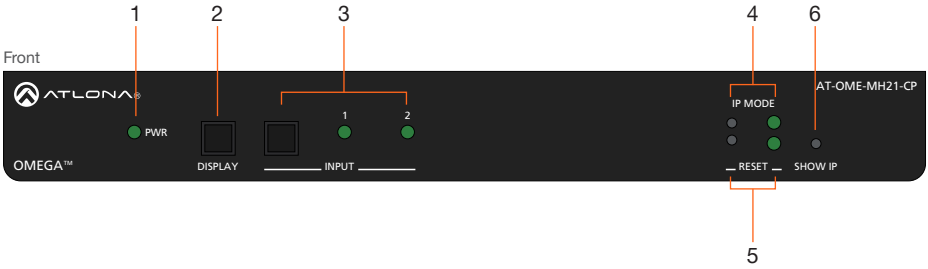
The Atlona **AT-OME-MH21-CP** is a compact, versatile switcher with HDMI and USB-C inputs. It is equipped with features for complete AV integration in huddle rooms and small meeting spaces, including automatic switching and display control, audio de-embedding, and a USB 3.0 hub for video conferencing peripherals or touch displays. Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-MH21-CP is HDCP 2.2 compliant and supports 4K HDR and 4K/60 4:4:4 at HDMI data rates up to 18 Gbps. Additionally, 4K downscaling to 1080p @ 60, 30, or 24 Hz is available when connected to an HD display. The OME-MH21-CP includes USB 3.0 and USB-C interfaces for two host PCs, plus two peripheral devices such as a camera, microphone, speakerphone, touch-enabled display, or keyboard and mouse. The USB-C port provides up to 60 watts of device charging capability for laptops and mobile devices.

Package Contents

1 x AT-OME-MH21-CP
1 x USB-C cable
1 x IR emitter cable
1 x 5-pin captive screw connector
1 x 4-pin captive screw connector
2 x Mounting brackets
4 x Mounting screws
4 x Rubber feet
1 x 24 V / 5 A power supply
1 x IEC power cord

IMPORTANT: Visit https://www.atlona.com/product/AT-OME-MH21-CP for the latest firmware updates and documentation.

Panel Descriptions



1 PWR
This LED indicator glows solid green when the unit is powered.

2 DISPLAY
Press and release this button to toggle power on the connected display.

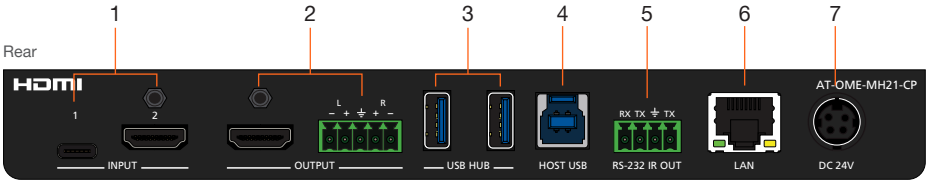
3 INPUT
Press and release this button to toggle between the HDMI and USB-C input. A solid green LED indicator will display the currently active input. Each LED indicator corresponds to the input on the rear panel of the unit.

4 IP MODE
Press and release this button, next to the green LED indicator, to switch the IP mode between DHCP and factory static IP modes. The LED indicator will provide the current IP mode. Refer to IP Configuration (page 8) for more information.

5 RESET
Press and release this button to reset the unit to factory-default settings. Refer to Resetting to Factory-Defaults (page 9) for more information.

6 SHOW IP
Press and release this button to display the IP address of the AT-OME-MH21-CP on the connected display.

Panel Descriptions



1 INPUT
Connect a USB-C source to the USB-C port. Connect an HDMI cable from the HDMI port to a UHD/HD source.

NOTE: The USB-C port provides up to 60 watts of device charging capability for laptops and mobile devices. The cable used for USB-C connection should support at least USB 3.1 Gen. 1, 4K @ 60 Hz video, and 60 W of power delivery.

2 OUTPUT
Connect an HDMI cable from the HDMI output to a display or other sink device. Connect an audio output device to this port using the included 5-pin captive screw block. Refer to Audio Output Connector (page 4) for wiring information.

3 USB HUB
Connect a USB device to each of these ports.

4 HOST USB
Connect to a computer using a USB-B to USB-A cable.

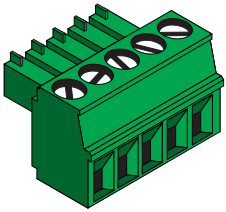
5 RS-232 / IR OUT
Connect the included 4-pin captive screw block to this receptacle. The RS-232 port provides RS-232 control for the AT-OME-MH21-CP and the connected display. Refer to RS-232 and IR (page 5) for more information.

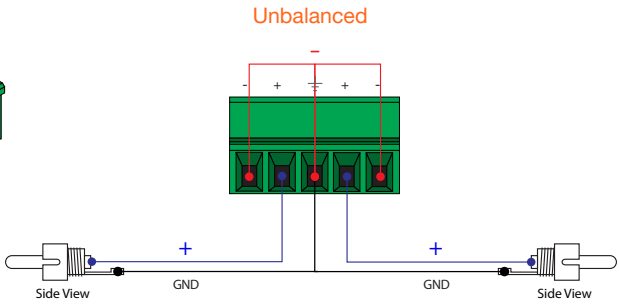
6 LAN
Connect an Ethernet cable to this port to control the unit and/or to pass Ethernet to a local device.

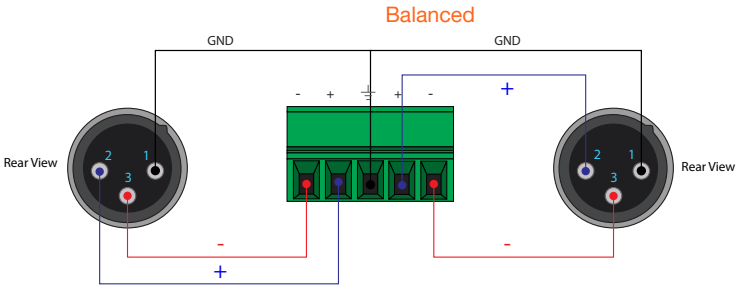
7 DC 24V
Connect the included locking 24 V DC power supply to this power receptacle.

Audio Output Connector

The AT-OME-MH21-CP provides two-channel LPCM audio de-embedding of the source device, using a dedicated audio output port.







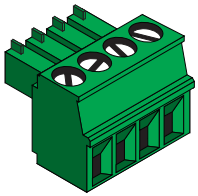
1. Use wire strippers to remove a portion of the cable jacket.
2. Remove at least 3/16” (5 mm) of insulation from each of the wires.
3. Insert the wires into the correct terminals using the included 5-pin captive screw connector.
4. Attach the 5-pin connector block to the **OUTPUT** audio port on the AT-OME-MH21-CP.

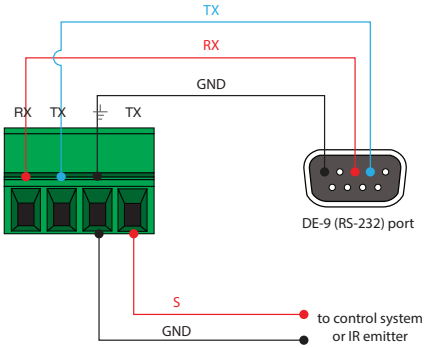
RS-232 and IR

The AT-OME-MH21-CP provides control using RS-232 and/or IR. This step is optional.

1. Use wire strippers to remove a portion of the cable jacket.
2. Remove at least 3/16" (5 mm) from the insulation of the RX, TX, and GND wires for the RS-232 connection.
3. Insert the TX, RX, and GND wires into correct terminal using one of the included 4-pin captive screw connectors.
4. Repeat step 2 for the S and GND wires for the IR connection.
5. Insert the S (signal) wire in to the TX terminal and the ground wire to the GND terminal.
6. Tighten the captive screws to secure the wires in place. Do not over-tighten or use high-torque devices to prevent damage to the connector block.

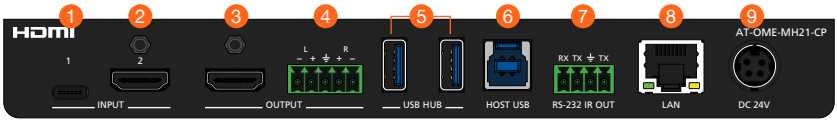
NOTE: Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices functions of pins 2 and 3 are reversed. Note that the signal (S) pin for the IR is labeled as "TX" on the port.





Installation

1. Connect a USB-C device to the **INPUT 1** port.
2. Connect an HDMI cable from the **INPUT 2** port to a UHD/HD source device.
3. Connect an HDMI cable from the HDMI **OUTPUT** port to a display device.
4. OPTIONAL: Connect an audio output device to this port using the included captive screw block. Refer to Audio Output Connector (page 4) for wiring information.
5. Connect up to two USB devices to the **USB HUB** ports.
6. Connect a computer to the **HOST USB** port, using a USB-A to USB-B cable.
7. OPTIONAL: Connect a serial cable from **RS-232** port to a display device. Refer to RS-232 and IR (page 5) for wiring information. Connect an IR emitter to the **IR OUT** port.
8. Connect an Ethernet cable to the **LAN** port to control the AT-OME-MH21-CP.
9. Connect the included 24 V DC power supply from this receptacle to an available AC outlet.

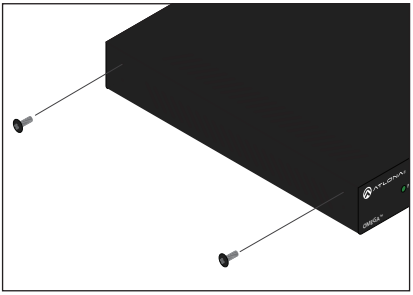


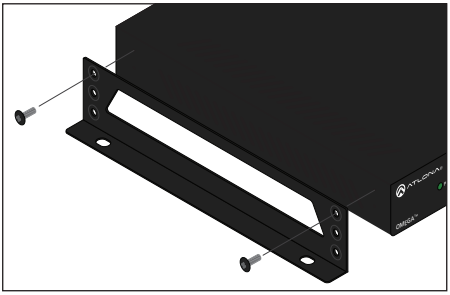
Mounting Instructions

The AT-OME-MH21-CP 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.

IMPORTANT: When mounting the AT-OME-MH21-CP, ensure the mounting height does not exceed 2 meters (6.56 feet).

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.

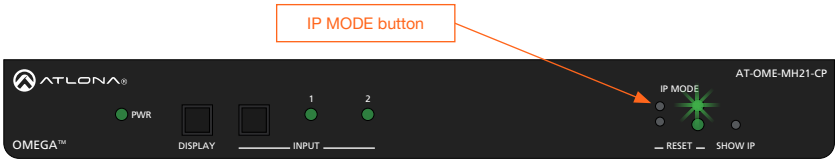
IP Configuration

The AT-OME-MH21-CP is shipped with DHCP enabled. Once connected to a network, the DHCP server (if available), will automatically assign an IP address to the unit. If the AT-OME-MH21-CP is unable to detect a DHCP server within 15 seconds, then the unit will use a self-assigned IP address within the range of `169.254.xxx.xxx`.

Use an IP scanner, along with the MAC address on the bottom of the unit, to identify the unit on the network. If a static IP address is desired, the unit can be switched to factory static IP mode. The default static IP address is `192.168.1.254`.

Switching the IP mode

1. Make sure the AT-OME-MH21-CP is powered
2. Press and hold the **IP MODE** button, on the rear of the unit, for approximately five seconds.



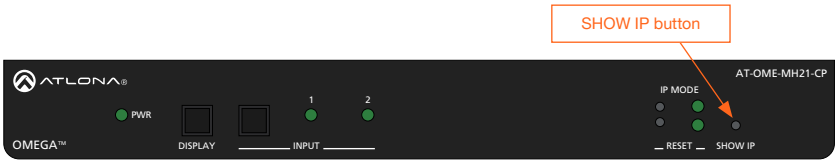
3. Release the button once the LED indicator, next to the **IP MODE** button, begins to flash green. The number of flashes will indicate the currently selected IP mode. If set to static IP mode, then the IP address will be set to `192.168.1.254`, by default.

IP MODE LED flashes	Description
Two	DHCP mode
Three	Static IP mode

NOTE: If a static IP address is set using the web server, then changing the IP mode through the front panel will toggle between DHCP mode and the assigned static IP address in the web server.

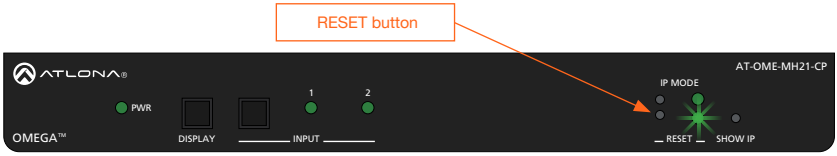
Displaying the IP Address

To display the IP address of the AT-OME-MH21-CP, on the connected display, press and release the **SHOW IP** button on the front panel.



Resetting to Factory-Defaults

To reset the AT-OME-MH21-CP to factory-default settings, press and hold the **RESET** button for approximately 5 seconds. Release the button when the **RESET** LED indicator begins to flash. The LED indicator will flash three times to indicate that the reset procedure has completed.



Velocity™ with Integrated AMS

For easy configuration of Atlona devices, Velocity with Integrated AMS 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 Velocity with Integrated AMS and go to the IP address of Velocity with Integrated AMS. View the Velocity with Integrated AMS installation instructions on how to find the IP of the software, if necessary.
2. Enter the login information on the Velocity with Integrated AMS web page, then click the Login button.
3. View the AT-OME-MH21-CP manual for routing and configuration information.

Web Server

The AT-OME-MH21-CP includes a built-in web server, which allows easy management and control of all features. Follow the instructions below to access the web server.

1. Set the IP mode of the AT-OME-MH21-CP. Refer to IP Configuration (page 8) for more information.
2. Connect an Ethernet cable from the **LAN** port on the AT-OME-MH21-CP to the Local Area Network (LAN).
3. Connect an HDMI cable from the AT-OME-MH21-CP to a display, then press the **SHOW IP** button on the front panel to display the IP address.
4. Launch a web browser and enter the IP address of the unit.
5. The AT-OME-MH21-CP Registration page will be displayed.
6. Enter the username, password, and confirm the password on the registration page to register the device. The password must contain a minimum of 8 characters, including 1 uppercase, 1 lowercase, and 1 numeric character.
7. Click on **Register** button.
8. The AT-OME-MH21-CP Login page will be displayed.
9. Enter the username and password login credentials that were entered during the registration process.
10. Click the **Login** button

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.

PWR	Description
Solid green	Unit is receiving power using the optional 24 V DC power supply.
Off	Unit is not powered.

1, 2	Description
Solid green	The input is the currently selected input.
Off	The input is not selected.

IP MODE	Description
Flashes green (2x)	Flashes two times to indicate that the unit is being set to DHCP mode. Refer to IP Configuration (page 8) for more information.
Flashes green (3x)	Flashes three times to indicate that the unit is being set to factory static IP mode. The IP address will be set to 192.168.1.254, by default. Refer to IP Configuration (page 8) for more information.
Off	Normal operating mode.

Notes

Version 1

Warranty

To view the product warranty, use the following link or QR code:
https://atlona.com/warranty/.

English Declaration of Conformity

The English version can be found under the resources tab at:
https://atlona.com/product/at-ome-mh21-cp/.

Chinese Declaration of Conformity 中国RoHS合格声明

由SKU列出於:
https://atlona.com/about-us/china-rohs/.

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI licensing Administrator, Inc.

US International
atlona.com • 408.962.0515 • 41.43.508.4321

© 2025 Atlona Inc. All rights reserved. “Atlona” and the Atlona logo are registered trademarks of Atlona Inc. All other brand names and trademarks or registered trademarks are the property of their respective owners. Pricing, specifications and availability subject to change without notice. Actual products, product images, and online product images may vary from images shown here.

25283-R1