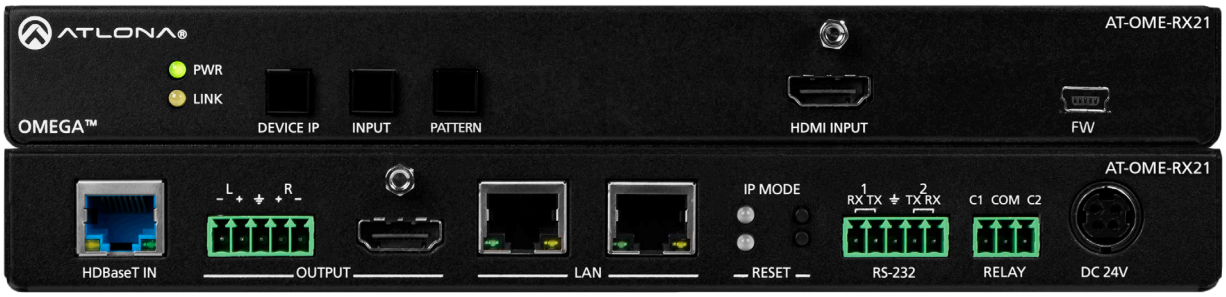
ATLONA
A division of HR

# OMEGA™

## 4K/UHD Scaler

## for HDBaseT and HDMI




AT-OME-RX21

Atlona Manuals
**Scaler / Receiver**

# Version Information

| Version | Release Date | Notes |
|---|---|---|
| 1 | Sept 2019 | Release |
| 2 | Jan 2024 | Updated warranty information |
| 3 | June 2025 | Updated WebGUI for Firmware 1.5.1 |

# Sales, Marketing, and Customer Support

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# Operating Notes

**IMPORTANT:** Visit https://atlona.com/product/AT-OME-RX21 for the latest firmware updates and User Manual.

# Warranty

To view the product warranty, use the following link or QR code:

https://atlona.com/warranty/.

# Important Safety Information

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCT THE RISK OF ELECTRIC SHOCK
DO NOT OPEN ENCLOSURE OR EXPOSE TO RAIN OR MOISTURE.
NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

The information bubble is intended to alert the user to helpful or optional operational instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of a polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.
11. Only use attachments/accessories specified by Atlona.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this product during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally, or has been dropped.

# FCC Statement

FCC Compliance and Advisory Statement: This hardware device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver; 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

# Table of Contents

# Introduction

The Atlona AT-OME-RX21 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-RX21 receives HDBaseT for video up to 4K/60 4:2:0, plus embedded audio, control, and Ethernet over distances up to 330 feet (100 meters). The HDMI input supports video up to 4K/60 4:4:4. The OME-RX21 is HDCP 2.2 compliant and features 4K/60 upscaling and downscaling with frame rate conversion. The OME-RX21 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-RX21 combines the benefits of 4K/UHD scaling, auto-switching for HDBaseT and HDMI inputs, integrated display control, and more. It incorporates many popular integration convenience features, while delivering excellent performance and value for 4K presentations. The OME-RX21 can remotely power an Atlona HDBaseT transmitter through Power over Ethernet (PoE). For additional integration convenience, the OME-RX21 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).

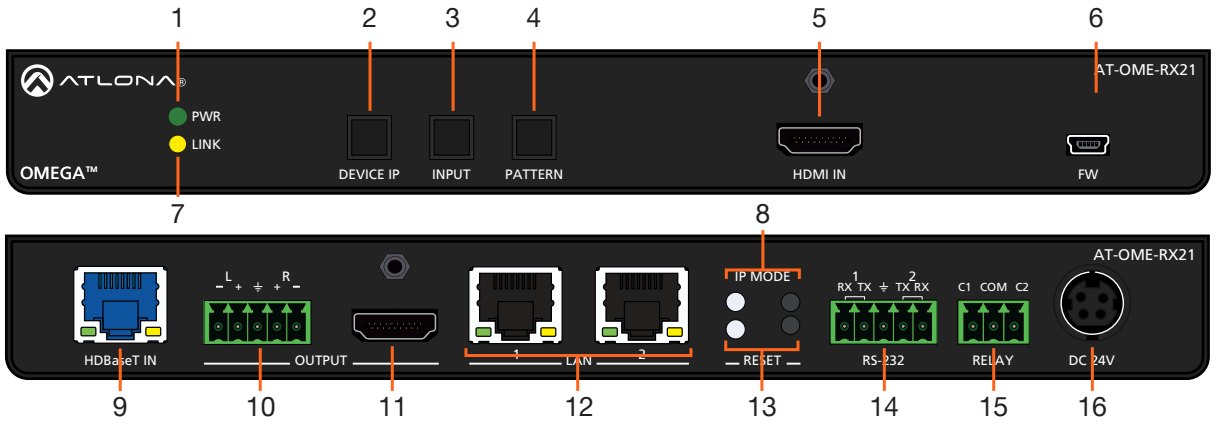
# Features

- 4K scaler for up and down scaling
- Dual LAN ports with integrated network switch to pass Ethernet and control to both unit and display
- Supports resolutions up to 4K/UHD 60Hz @ chroma sub-sampling 4:4:4, 4K HDR, Dolby Vision, and HLG
- HDCP 2.2 compliant
- Multiple control options such as RS-232, TCP/IP, webGUI, CEC, and front panel
- Multi-channel audio pass through up to Dolby Digital Plus™, Dolby® TrueHD, DTS-HD Master Audio™, and Dolby Atmos®
- 2Ch audio de-embedding using the analog audio port

# Package Contents

1 x AT-OME-RX21
2 x Captive screw connector, 5-pin
1 x Captive screw connector, 3-pin
4 x Mounting screws
1 x Wall/table mounting brackets
1 x 24V DC power supply
1 x IEC power cord
1 x Installation Guide

# Panel Description




**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 FW**
Connect to a computer using a mini USB to USB A cable (not included).

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

**8 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.

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

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

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

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

**13 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.

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

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

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

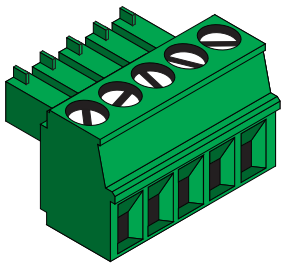
# Installation

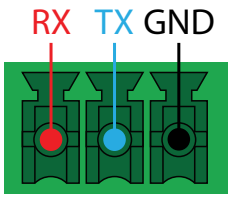
## Captive Screw Connections

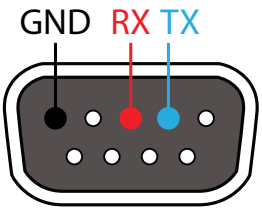
### RS-232

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

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



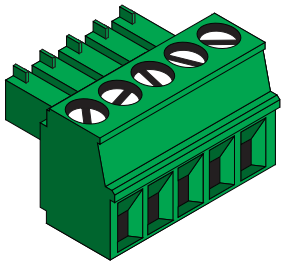


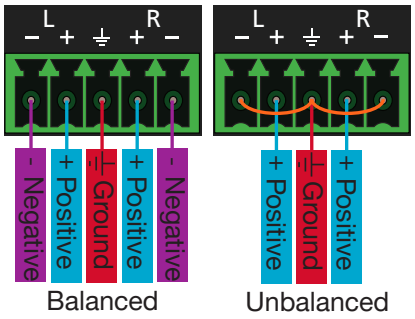




Pin out will be determined by the RS-232 cable and connect as RX (receive), TX (transmit) and ⏚ (Ground). Ground will be shared between port 1 and port 2.

### Audio

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

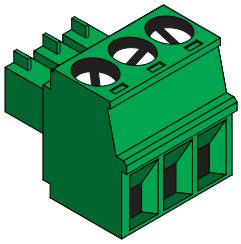


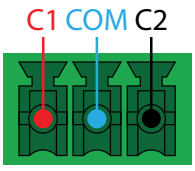



Use a jumper between the negative and ground pins when using an unbalanced connection.

### Relay

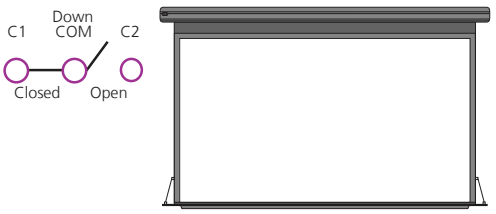
A dual low-voltage signal relay is built into the OME-RX21 for control of devices such as electric screens and display lifts. A 3-pin captive screw connector has been included for connection.






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-RX21 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

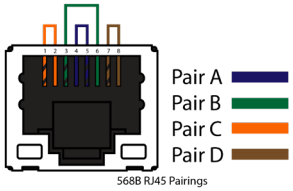
Refer to the tables below for recommended cabling when using Altona products with HDBaseT. The green bars indicate the signal quality when using each type of cable. Higher-quality signals are represented by more bars.

| 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.




## Connection Instructions

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 to the 5-pin captive screw RS-232 port to control the display (port 1) and the unit (port 2).
6. *Optional* Connect a network switch to one of the LAN ports, for IP control, system configuration, or Ethernet routing.
7. *Optional* Connect a second Ethernet cable from the second LAN port to the local display to pass through Ethernet.
8. *Optional* To control devices such as electric screens and display lifts, connect the device to the 3-pin captive screw relay port.
9. Connect the included DC 24V power supply to the power port.
10. Connect the included IEC power cord from the power supply to a compatible power outlet.

## IP Modes

### DHCP

By default, the AT-OME-RX21 is set to DHCP mode. In this mode, when the AT-OME-RX21 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.

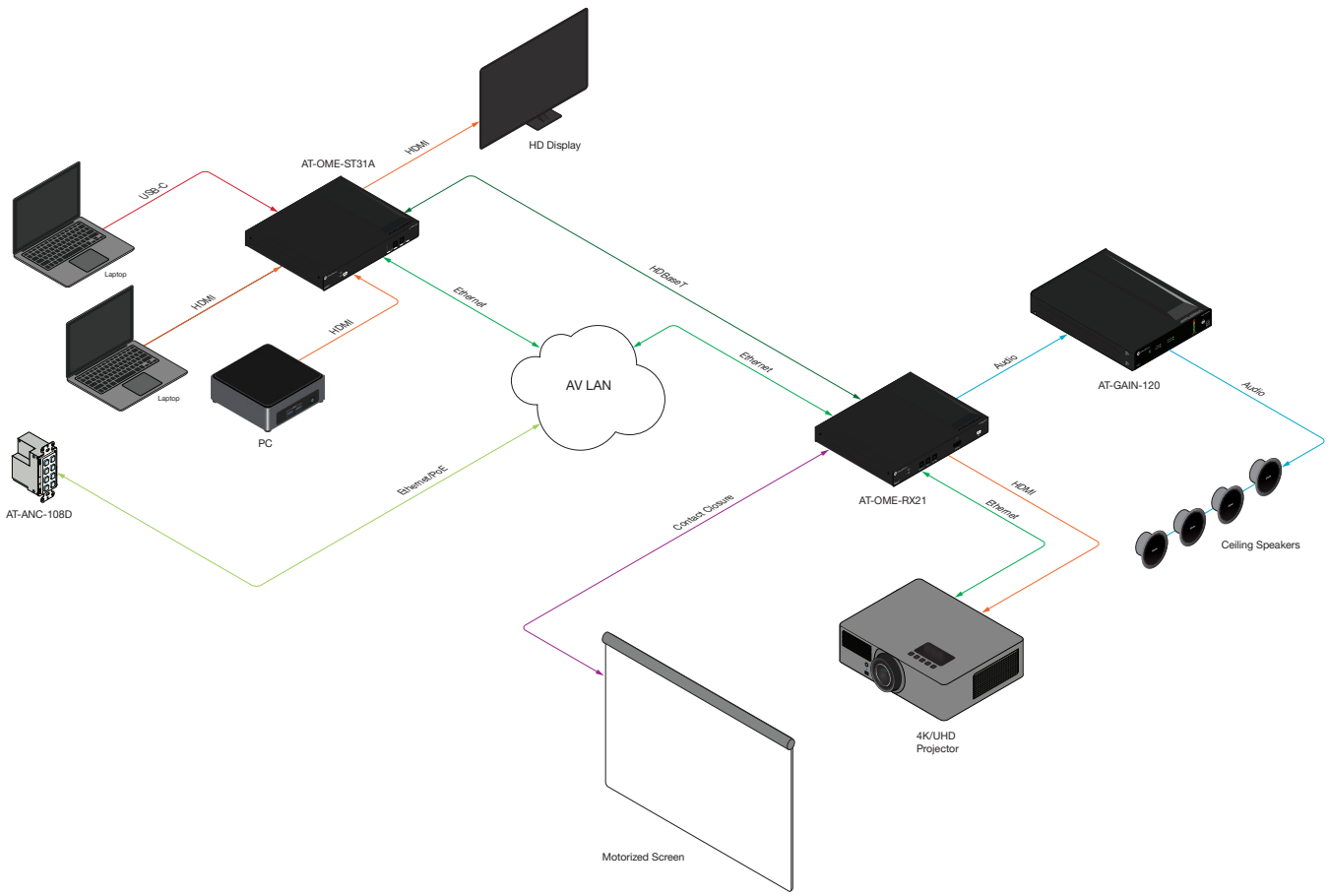
### Static

If no DHCP server is available, or a static IP is required, the OME-RX21 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 2 times when it goes into Static IP mode. In this mode, the AT-OME-RX21 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 4 times when successfully put into DHCP mode.

## Connection Diagram

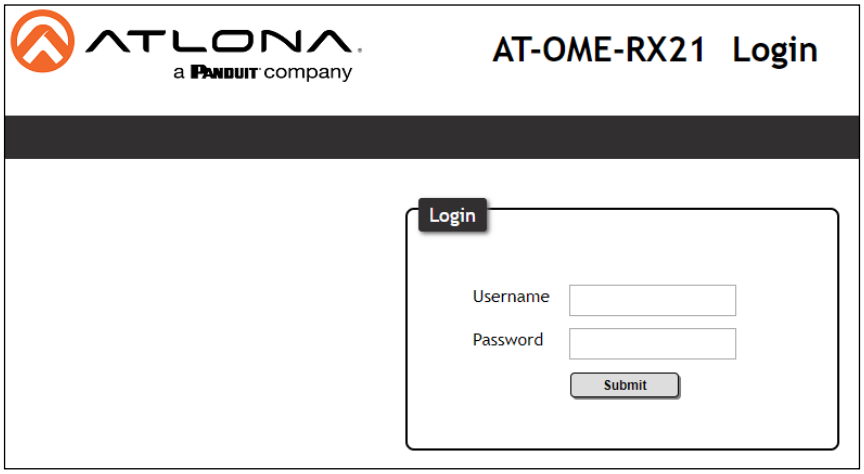


# WebGUI

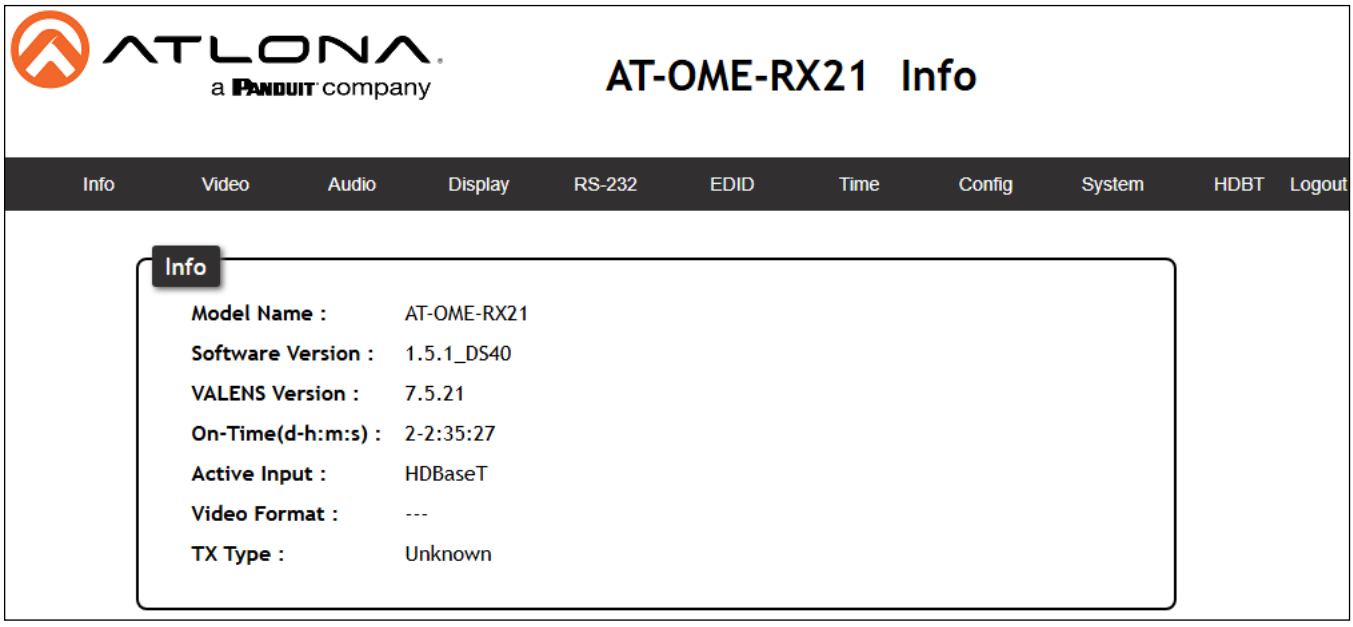
The AT-OME-RX21 includes a built-in webGUI, which allows easy remote management and control of all features. Follow the instructions below to access the webGUI.

1. Make sure that an Ethernet cable is connected between the **LAN** port on the AT-OME-RX21 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-RX21 **Login** page will be displayed.
5. Enter the following information on the **Login** page.

   Login: admin
   Password: Atlona

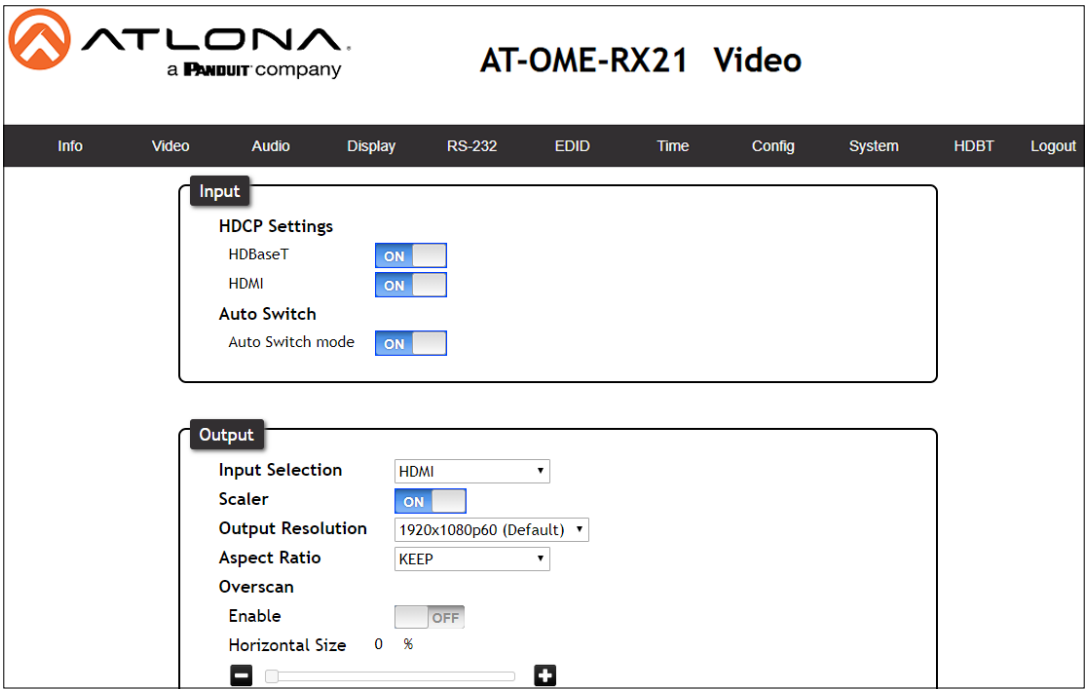



6. Click the Login button. The info page will display, giving all the general information of the AT-OME-RX21.



## Video Settings

Select Video from the top navigation to adjust routing and video settings.




### HDCP Settings

On - Sets the HDCP of the port to ON, allowing HDCP to switch between compliant and non-compliant according to the source and display HDCP handshake status.

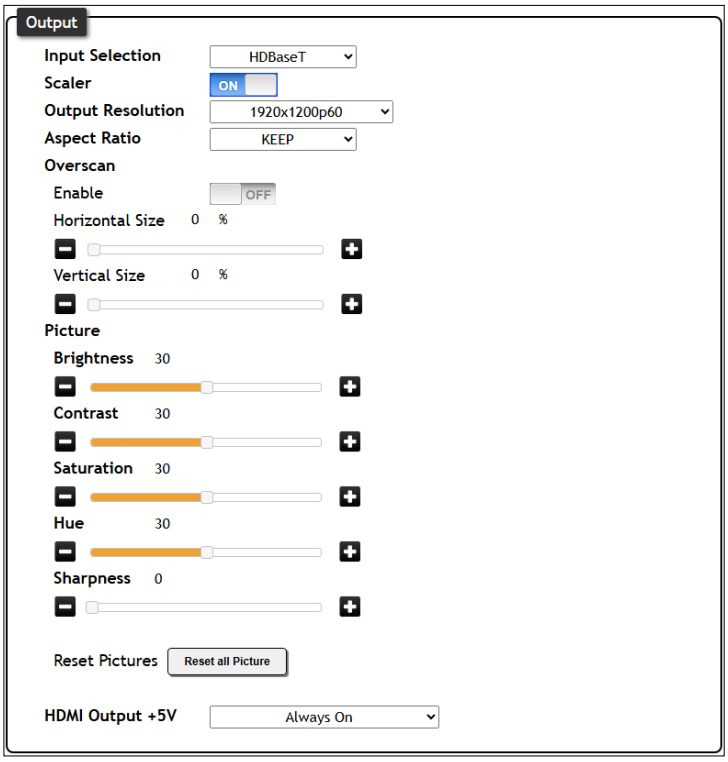
Off - Sets the port to HDCP non-compliant. No HDCP compliant source signals will pass in this mode.

**NOTE:** Some sources flag all content as protected, by selecting HDCP off the source device may send only user created content. In some cases, the source must be configured to send content to non-HDCP devices (e.g. HDCP must be turned off to pass macOS or Windows content to a non-HDCP display).

**NOTE:** Setting HDCP to OFF will not remove HDCP, it will simply tell the source to send non-HDCP content.

### Auto Switch

Auto Switch mode - Set switching to auto (on) to have the source change when detecting new signal or the currently selected source is no longer sending signal.




## Output

Input Selection - Use the drop down menu to switch between A/V Mute (no signal), HDMI, HDBaseT, internal pattern 1, internal pattern 2, and internal pattern 3 source signals.

Scaler - When enabled, will display extra options. This is for the HDMI output only.

Output Resolution - Select the output resolution the source signal will be scaled to from the drop down menu.

Scaling options: 1024x768, 1280x768, 1280x800, 1360x768, 1600x1200, 1920x1200, 2048x1080, 1280x720p50, 1280x720p60, 1920x1080p24, 1920x1080p25, 1920x1080p50, 1920x1080p60 (default), 3840x2160p24, 3840x2160p25, 3840x2160p30, 3840x2160p50, 3840x2160p60, 4096x2160p24, 4096x2160p25, 4096x2160p30, 4096x2160p50, 4096x2160p60

**NOTE:** Based on the selection from the drop down menu, the scaler will adjust not only resolution but frame rate as well. All VESA resolutions will output at 60Hz when using the scaler.

Aspect Ratio - Select between Keep (which will keep the aspect ration of the source device) and Fill (which will adjust the picture to fill the display).

Overscan - Enable to be able to manually adjust the horizontal and vertical size of the source image. Default is 0 and can be adjust from 0% to 50%.

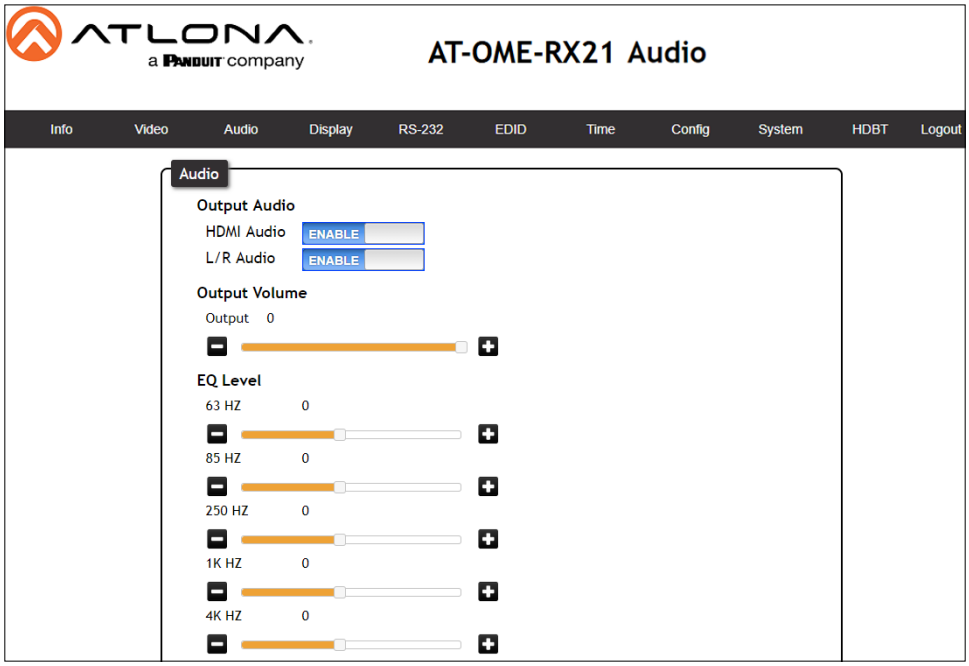
Brightness, Contrast, Saturation, Sharpness, Hue - Adjust the output's brightness, contrast, saturation, sharpness, and hue manually. Default is 0% and can be adjusted from 0% to 60%.

Reset all Picture - Press the Reset button to set all the video options back to factory defaults.

HDMI Output +5V - When set to Always On, it will keep the 5V pin on the HDMI output port live. When set to On When Signal Present, it will only send the 5V hot plug when receiving an input signal.

# Audio

Select Audio from the top navigation to adjust volume, mute status, and EQ levels.




**Output Audio**

HDMI / L/R Enable - Unmutes the audio output signal, allowing audio to pass through the outputs.

HDMI / L/R Disable - Mutes the audio output signal of the ports. No audio will pass when selected.

**NOTE:** HDMI muting will mute the audio embedded on the HDMI output and L/R muting will mute the audio on the analog audio output.

**Output Volume**

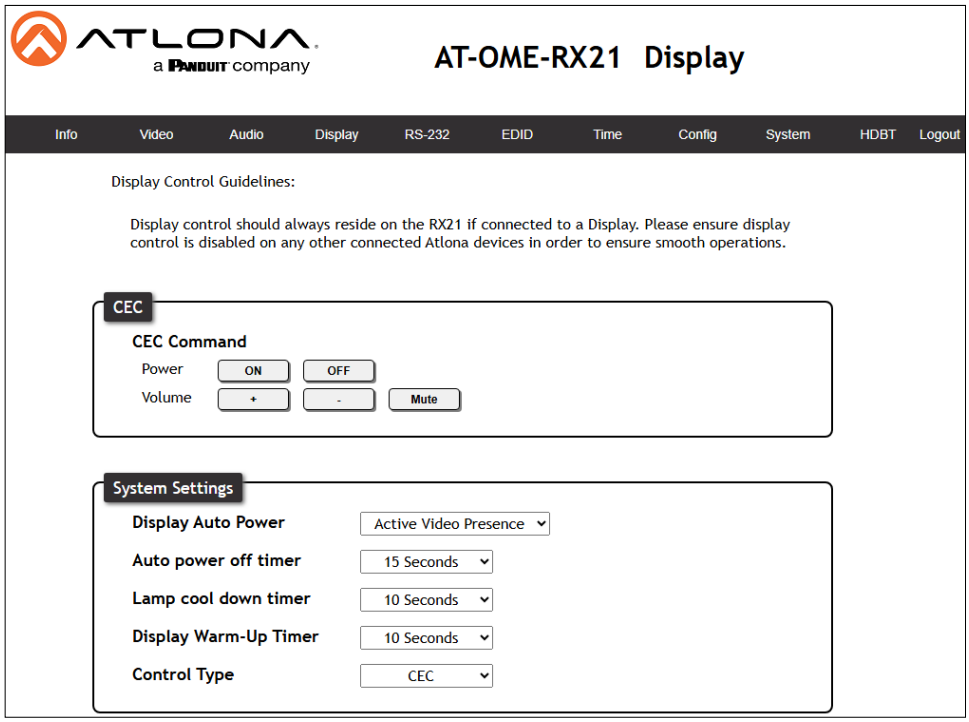
Volume bar - Adjusts the master volume output of the unit from -80 to 0. Default is 0.

**EQ Level**

Level Sliders - Use the slider to adjust between level -12 and 15 on each band. Default is 0.

# Display

Select Display from the top navigation to adjust display control settings.




## CEC

Command: Power - Press to send the CEC power on or off command out through the HDMI port.

Command: Volume - Press to send the CEC Volume up, down, or mute commands through the HDMI port.

## System Settings

Display Auto Power - Enable to set the display to power off when the power settings are met. The display will automatically turn on as soon as a signal is received and all timers have expired.

**NOTE:** Defaults are set to turn the display off after 15 seconds of signal loss and to wait 10 seconds before any more commands are sent to the display.

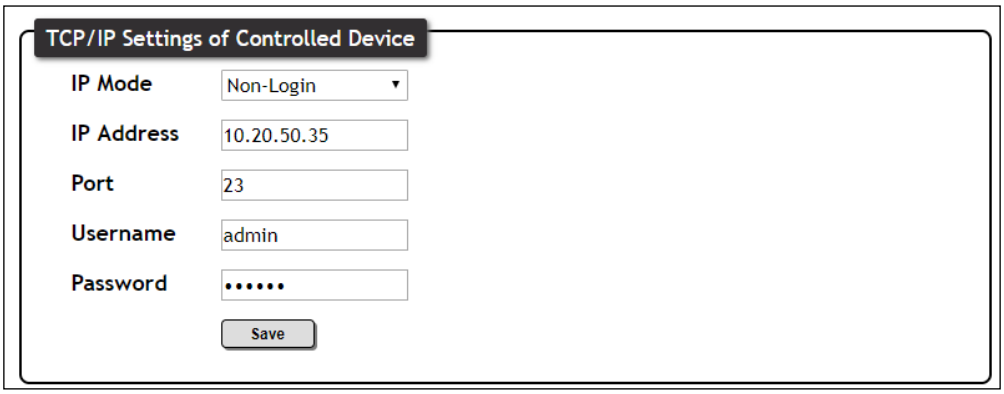
Auto Power off timer - Sets the time between when the last signal was received and the display power off command is sent. Time range is from 15 seconds up to 15 minutes.

Lamp cool down timer - Sets the time between when the display is turned off and when the next command can be sent. Time range is from 10 seconds up to 300 seconds.

Display Warm-Up Timer - Sets the amount of time between when the display is turned on to when the unit sends any commands. Time range is from 10 seconds up to 300 seconds.

Control Type - Selects which command type is used to send commands and what type of control signal is sent when the command is triggered. Options are CEC, TCP/IP or RS-232.

| Modes | Description |
|---|---|
| Active Video Presence | Device will send the power off command to the display if no active source is detected on the input, and power on command when an active source is detected. Power timers will be followed. |
| Active Video Presence w/Occupancy Sensor* | When the occupancy sensor (AT-OCS-900N) is triggered and source signal is active or inactive, it will send the on or off command based on physical and signal presence. |
| Occupancy Sensor only | Power on and off commands will be sent based on the OCS-900N sensor status. The sensor must be connected to the same network as the OME-RX21. |
| Disabled | No display control |



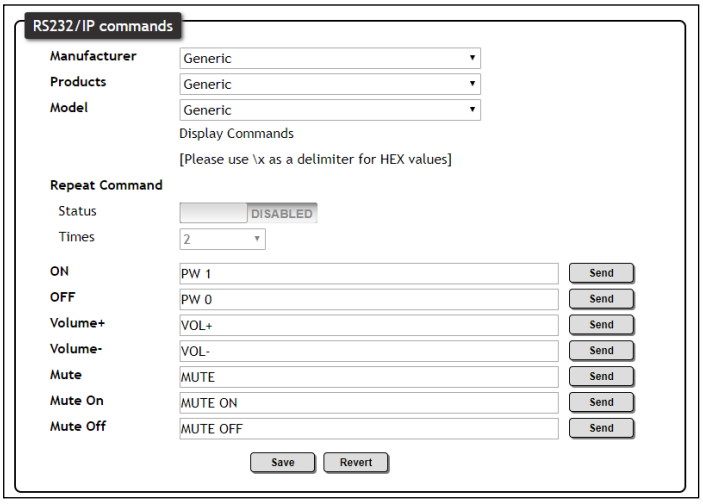

**TCP/IP Settings of Controlled Device** (only available when IP is selected)

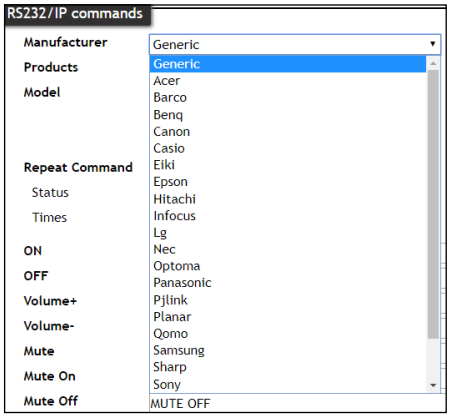
IP Mode - Toggle telnet login mode between Non-Login and Login. If set to Login, a username and password will be required to control the controlled device via TCP/IP.

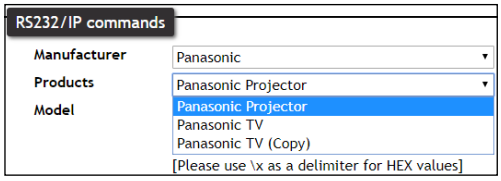
IP Address - Sets to the IP of the controlled device/display.

Telnet Port - Set the telnet port of the controlled device for control. Default is 23.

Username & Password - Sets the username and password that is required when login mode is enabled.




**RS-232 / IP Commands**

Manufacturer, Products, Models - Select the make and model of the display for control. Commands have been programmed into the unit for a wide range of products. If the current display is not found within the database, use generic and manually adjust the command fields.

Repeat Command - Enable Status to repeat the commands. Default repeat number is 2 and can be adjusted from 2 to 4 times.

Commands: On/Off/Volume/Mute - These fields will automatically be filled with the correct command when selecting a manufacturer and product from the drop down menus. If manually entering the commands, type them into the fields next to the command name.

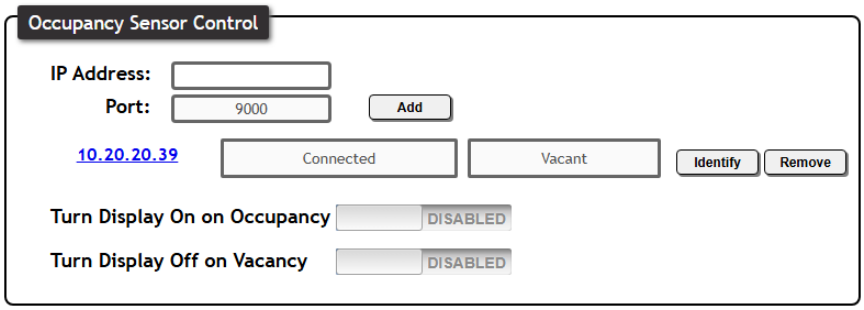
Send - Use this button to send the command to the display, this can be used while manually typing the commands to ensure the commands are correct.

Save - Save the commands to the webGUI. Manufacturer, products, and Model will revert to Generic but the commands will be saved from the previously selected and saved Manufacturer, products, and model selection.

Revert - Sets the commands back to the previously saved settings.


## Occupancy Sensor Control

IP Address - Fill in the IP address of the OCS-900N sensor and press Add. The Sensor will be added to the page. Multiple OCS-900Ns can be added to the room using the same steps.

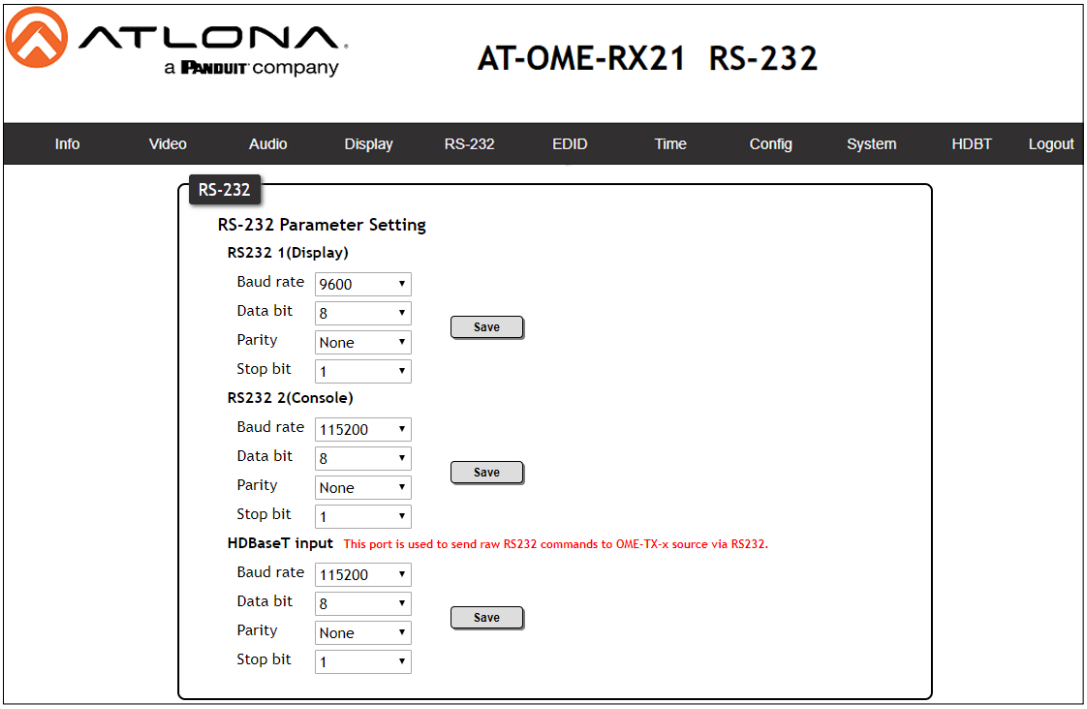



Turn Display On with IP Occupancy Sensor - When enabled, the display will turn on when the OCS-900N senses an occupant.

Turn Display On with IP Occupancy Sensor - When enabled, the display will turn off when the OCS-900N signals the room has been vacated.

# RS-232

Select RS-232 from the top navigation to adjust the zone control parameters for the RS-232 port.




### RS-232 Parameter Setting

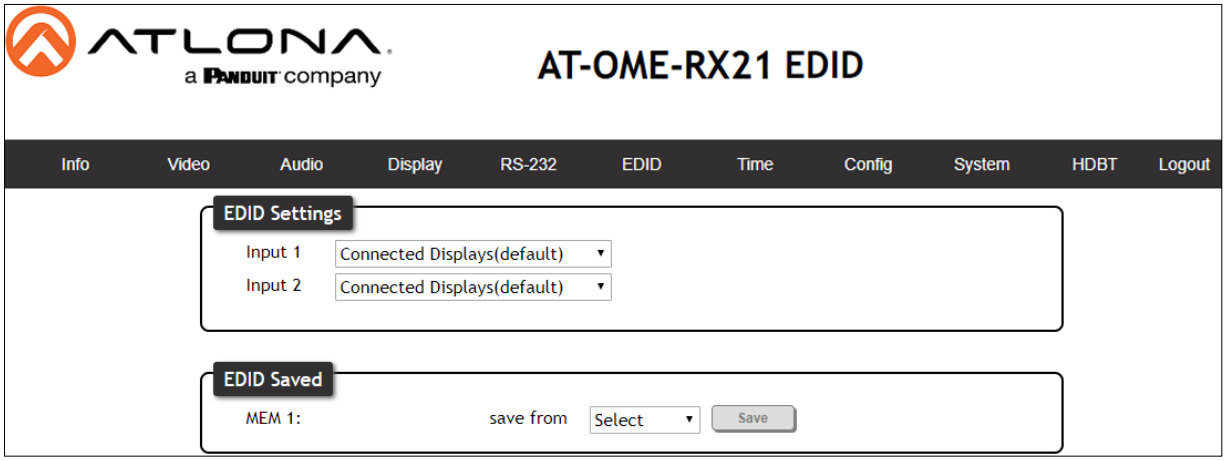
RX RS232 1 - Select the baud rate, data bit, parity, and stop bit to match the RX21's parameters. Defaults are 9600, 8, None, and 1.

RX RS232 2 - Select the baud rate, data bit, parity, and stop bit to match the display's parameters. Defaults are 115200, 8, None, and 1.

HDBaseT - Select the baud rate, data bit, parity, and stop bit to match the transmitter's parameters. Defaults are 115200, 8, None, and 1.

# EDID

Select EDID from the top navigation to save/load EDIDs.




**EDID**

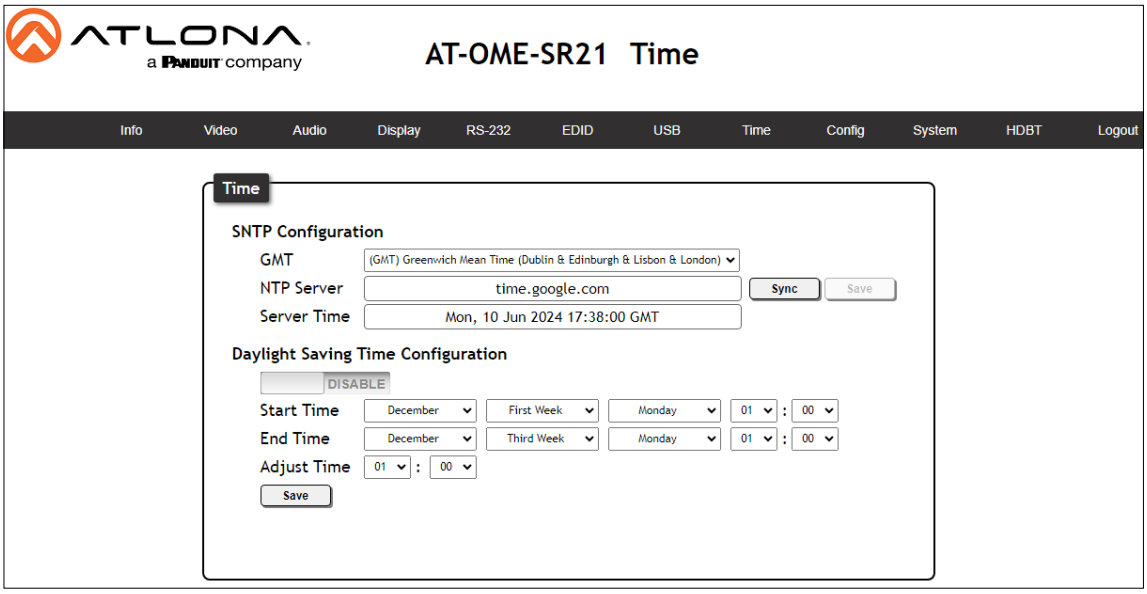
EDID Settings - Use the drop down menu to select from default (highest common resolution between source and display), 6 internal EDIDs, and 1 previously saved EDID.

EDID Saved - The ID field will display the memory # and currently saved EDID name, select output 1 from the drop down menu. Once output 1 is selected, press the save button to make it available in the EDID settings drop down menus.

| EDID Selections | | |
|---|---|---|
| Connected Display | Chooses the highest common resolution between source and display | |
| Internal | 3840x2160 2CH<br>3440x1440 2CH<br>2560x1080 2CH | 1920x1200 2CH<br>1920x1080P 2CH<br>1280x800 2CH |
| Saved | 1 Memory slots | |

## Time

Select Time from the top navigation to select the time server for the unit to sync to.




### SNTP Configuration

Server info - Select the time zone the unit will run in. If the unit has internet access, it can be set to sync to a server as well. Press the Sync button if using a server time or press the Save button if setting by timezone.

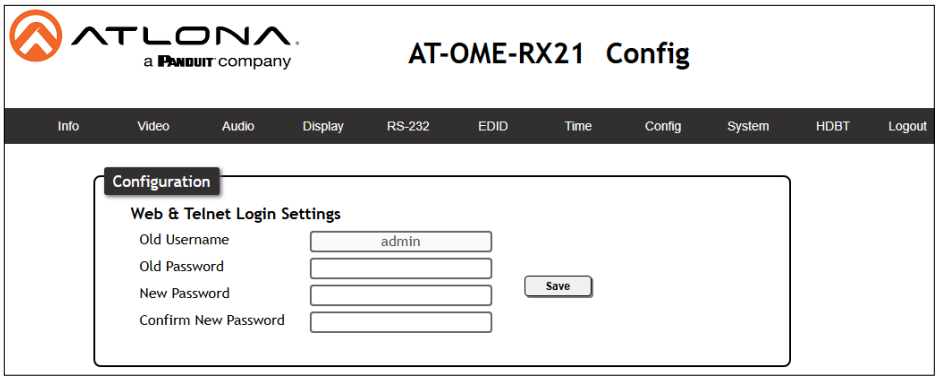
### Daylight Savings Time Configuration

Enable/Disable slider - Default is disabled. Enable to have the unit automatically update with Daylight savings time.

Daylight Savings settings - Set the date and time to have the unit start and end Daylight Savings time and how much time the unit will adjust by.

## Config

Select Config from the top navigation to update the admin password.




### Users

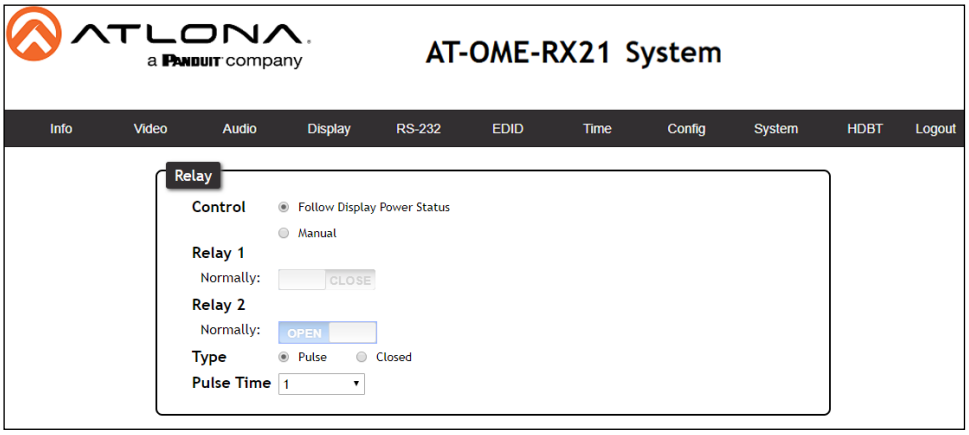
Admin Password - Update the admin password for the switcher. Only the admin password may be changed, the username will remain admin.

**NOTE:** The passwords cannot contain any special characters. e.g. !@#$%/^&*\?+-;'".

Once the new password has been entered, press the Save button to make the password live. The user will be logged out and must log back in with the new password.

# System

Select System from the top navigation to adjust relay, network, or system options.




### Relay

Control - Set the relay to either follow the display's status (on: c1-close c2-open, off: c1-open c2-close) or be manually set using the selectors in the webGUI.

Relay - When the relay is set to manual, select the sliders to open and close the com ports.

Type - Switch between pulse and closed relay type.

Pulse Time - Sets the time between each pulse in seconds. Range is 1 to 30. Default is 1.

**NOTE:** When the unit is set to pulse, the relay will latch for the designated pulse time before opening again. The relay that opens and closes will be determined by the power state.

Power on

Relay 1: Latch will close for designated pulse time then open.

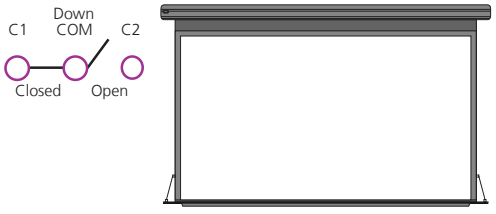
Relay 2: Relay will remain open.

Power Off

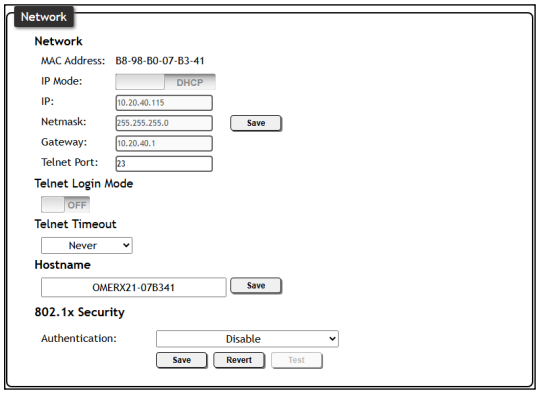
Relay 1: Relay will remain open.

Relay 2: Latch will close for designated pulse time then open.

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.




## Network

MAC Address - Displays the MAC address of the unit.

IP Mode - Switch between static and DHCP IP modes.

IP, Netmask, Gateway - This will display the unit's current DHCP IP settings. When set to static, fill in the IP address, netmask, and gateway.

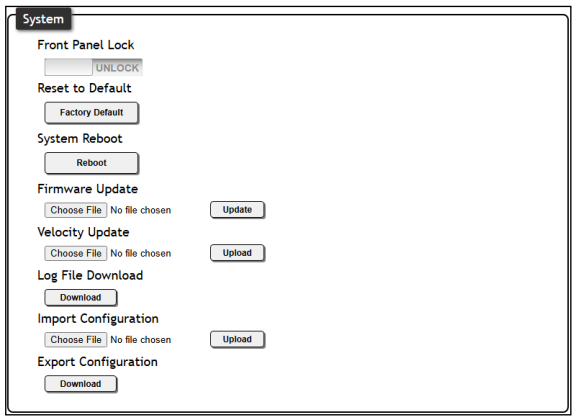
Telnet Port - Set the telnet port if needed for control. Default port is 23.

Telnet Login Mode - Toggle telnet login mode on and off. If on, a username and password will be required to control the unit via telnet.

Telnet Timeout - Set the amount of time between actions before the current user is logged out. Default is 10000 seconds.

Hostname - Set the name for the matrix, this will show up in network discovery.

Authentication - Select to Enable/Disable 802.1x authentication mode.




## System

Front Panel Lock - Lock or unlock the front panel buttons.

Reset to Default- Press the Factory Default button to set the unit back to all factory settings, including IP mode.

System Reboot - Use the Reboot button to restart the OME-RX21.

Firmware update - Use the choose file button to search the local PC for the firmware file. Once selected, press the update button to start the firmware update.

Velocity Update - Use the choose file button to search the local PC for the firmware file. Once selected, press the Update button to start the firmware update.

Log File Download - Use the Download button to download the OME-RX21 log to a local PC.

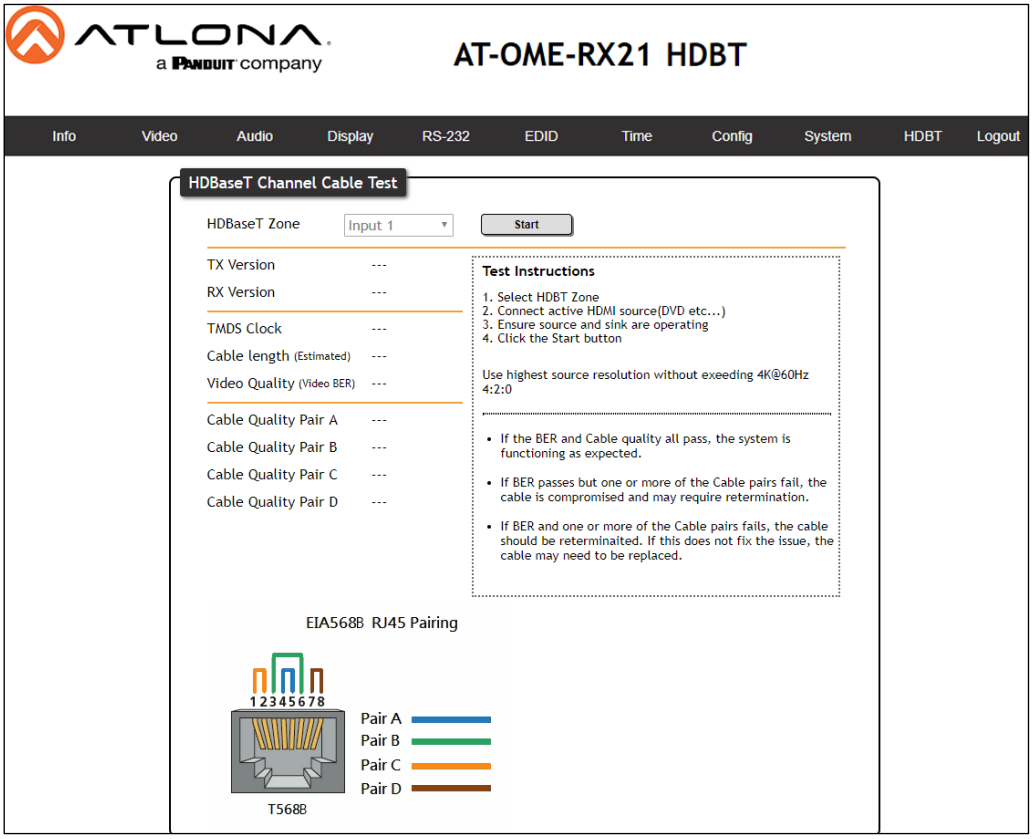
Import Configuration - Select the Choose File button to select the configuration file off the local computer. Once selected, press the Upload button to push the new configuration to the unit.

Export Configuration - Press the Download button to save the unit's configuration to the local computer.

**NOTE:** Firmware updates and release notes can be found at https://atlona.com/product/AT-OME-RX21/ .

# HDBT

Select HDBT to open the HDBaseT cable test page. This page will check extender versions, cable status and length, and Video Quality.




### HDBaseT Channel Cable Test

HDBaseT Zone - Use the drop down menu to select which HDBaseT input is being tested. Only active connections can be tested.

Start/Stop - Use the start/stop button to run or cancel the HDBaseT signal testing. The webGUI will remain active until the testing stops.

TX / RX Version - When the test starts, the chipset version will display. AT-OME-RX21 will be VS2310.

TMDS Clock - After the test has been initiated, it will display the TMDS clock frequenzy in Mhz.

Cable Length - An approximate HDBaseT cable length will be displayed here after the test has been started.

Video Quality (Video BER) - Will display pass or fail depending on if the cable video signal quality.

Cable Quality - Each pair will be tested and return a pass or fail status.

**Failure:**

One or more Pairs - Reterminate the cable.

Of BER and any pairs - Replace the cable.

Of one or more pairs after retermination - Replace the cable.

# Appendix

## Specifications

| Video | | |
|---|---|---|
| HDMI | 2.0 | |
| HDCP | 2.2 | |
| UHD/HD/SD | 4096x2160@60/50/30/25/24Hz<br>3840×2160@60/50/30/25/24Hz<br>1080p@60/59.9/50/30/29.97/25/24/23.98Hz<br>1080i@30/29.97/25Hz<br>720p@60/59.94/50Hz | 576p@50Hz<br>576i@25Hz<br>480p@60/59.96Hz<br>480i@30Hz |
| VESA | 2560×1600<br>2048×1536<br>1920×1200<br>1680×1050<br>1600×1200<br>1440×900<br>1400×1050<br>1280×1024 | 1280×800<br>1366×768<br>1360×768<br>1152×864<br>1024×768<br>800×600<br>640×480 |
| VESA 21:9 | 2560x1080 @ 30 Hz 4:4:4<br>2560x1080 @ 60 Hz 4:4:4<br>3440x1440 @ 30 Hz 4:4:4 | 3440x1440 @ 50 Hz 4:4:4<br>3840x1600 @ 30 Hz 4:4:4 |
| Scaler Up/Down | 1024x768p@60<br>1280x720p@50/60<br>1280x768p@60<br>1280x800p@60<br>1360x768p@60<br>1600x1200p@60 | 1920x1080p@24/25/50/60<br>1920x1200p@60<br>2048x1080p@60<br>3840x2160p@24/25/30/50/60<br>4096x2160p@24/25/30/50/60 |
| Color Space | YUV, RGB | |
| Chroma Subsampling | 4:4:4, 4:2:2, 4:2:0 | |
| Color Depth | 8-bit, 10-bit, 12-bit | |

| Audio | | | |
|---|---|---|---|
| HDMI Pass-Through Formats | PCM 2.0<br>LPCM 5.1<br>LPCM 7.1 | Dolby®<br>Dolby Digital Plus®<br>Dolby Atmos® | DTS® Digital Surround™<br>DTS-HD Master Audio™<br>DTS:X® |
| Bit Rate | 24 Mbits/s max | | |
| **Analog Audio** | | | |
| Format | Stereo 2-Channel | | |
| Balanced Output | +4 dBu nominal gain, +20 dB headroom | | |
| Frequency Response | 20 Hz to 20 kHz, ± 0.5 dB | | |
| Impedance | 150 Ω | | |
| Stereo channel separation | > 90 dB | | |
| THD+N | < 0.03% at 20 Hz to 20 kHz | | |
| SNR | > 90 dB at 1 kHz, zero clipping @ 0 dBFS, unweighted | | |
| EQ | 5 band, 63Hz, 85Hz, 250Hz, 1kHz, 4kHz | | |
| Sample Rate | 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz | | |

| USB | |
|---|---|
| Signal | 2.0 |
| Type A - Power | 2.5 W per port |
| Maximum Data Rate | 120 Mbps |

| Control | | | | |
|---|---|---|---|---|
| RS-232 | 1-way connected display control<br>2-way device control and monitoring<br>Supported baud rates: 2400, 4800, 9600, 19200, 38400, 57600, 115200 | | | |
| IP | Full duplex 100Mbps | | | |
| CEC Support | Yes | | | |
| Relay | Normally open (NO), adjustable Toggle and Pulse modes<br>Electrical rating: 48V@1A | | | |

| Resolution / Distance | 4K/UHD - Feet / Meters | | 1080p - Feet / Meters | |
|---|---|---|---|---|
| HDMI IN/OUT | 15 | 5 | 30 | 10 |
| CAT5e | 295 | 90 | 330 | 100 |
| CAT6/6a/7 | 330 | 100 | 330 | 100 |

| Connectors, Controls, and Indicators | |
|---|---|
| HDMI IN | 1 - Type A, 19-pin female |
| HDBaseT IN | 1 - RJ45, female |
| HDMI OUT | 1 - Type A, 19-pin female |
| AUDIO OUT | 1 - 5-pin captive screw, balanced / unbalanced 2-channel |
| RELAY | 1 - 3-pin captive screw |
| RS-232 | 2 - 3-pin captive screw (bidirectional) |
| LAN | 2 - RJ45, 100Base-T |
| DC 24V | 1 - 4-pin, mini-DIN locking connector |
| PWR indicator | 1 - LED, green |
| LINK indicator | 1 - LED, yellow |
| **Control Buttons:**<br>DEVICE IP, INPUT, PATTERN<br>IP MODE, RESET | <br>3 - momentary, tact-type<br>2 - momentary, recessed |
| **Function Indicators:**<br>IP MODE, RESET | <br>2 - LED, green |

| Temperature | Fahrenheit | Celsius |
|---|---|---|
| Operating | 32 to 122 | 0 to 50 |
| Storage | -4 to 140 | -20 to 60 |
| Humidity (RH) | 20% to 60%, non-condensing | |

| Power | | |
|---|---|---|
| Consumption | 19.98 W | |
| BTU/h | 68.1 | |
| Supply | Input: 100 - 240 V AC, 50/60 Hz<br>Output: 24 V / 2.7A DC | |

| Dimensions | Inches | Millimeters |
|---|---|---|
| H x W x D | 1.02 x 8.62 x 5.98 | 26 x 219 x 152 |

| Weight | Pounds | Kilograms |
|---|---|---|
| Device | 1.96 | 0.89 |

| Certification | | |
|---|---|---|
| Device | CE, FCC, UL | |