

## 4K HDR Four-Input HDMI Switcher with Auto-Switching and Return Optical Audio

AT-JUNO-451 / AT-JUNO-451-HDBT



The Atлона **JunoX™ 451 HDBT (AT-JUNO-451-HDBT)** is a 4x1 switcher for high dynamic range (HDR) formats. The JunoX 451 HDBT features three HDMI inputs, plus an HDBaseT input for receiving video, embedded audio, and Ethernet over distances up to 330 feet (100 meters). It is HDCP 2.2 compliant and supports 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps. The JunoX 451 HDBT is ideal for receiving 4K HDR over HDBaseT from an Atлона Opus™ Series matrix switcher, and is also compatible with the Atлона UHD-PRO3, UHD-CAT, and SW Series for data rates up to 10 Gbps. It includes EDID management features and automatic input switching. The JunoX 451 HDBT also supports the HDMI Audio Return Channel for receiving digital audio from a television, and includes a TOSLINK digital audio output for sending this audio to an AV receiver or soundbar. This JunoX Series switcher can be controlled via Ethernet, RS-232, and IR. A handheld IR remote control is included.

The Atлона **JunoX™ 451 (AT-JUNO-451)** provides the same features at the AT-JUNO-451-HDBT, except that the HDBaseT input is replaced with an HDMI port.

### Package Contents

#### AT-JUNO-451

- 1 x AT-JUNO-451
- 1 x 4-pin captive screw block
- 2 x Mounting plates
- 4 x Rubber feet
- 4 x Screws
- 1 x IR remote control
- 1 x DC 5V power supply
- 1 x IEC cord
- 1 x Installation Guide

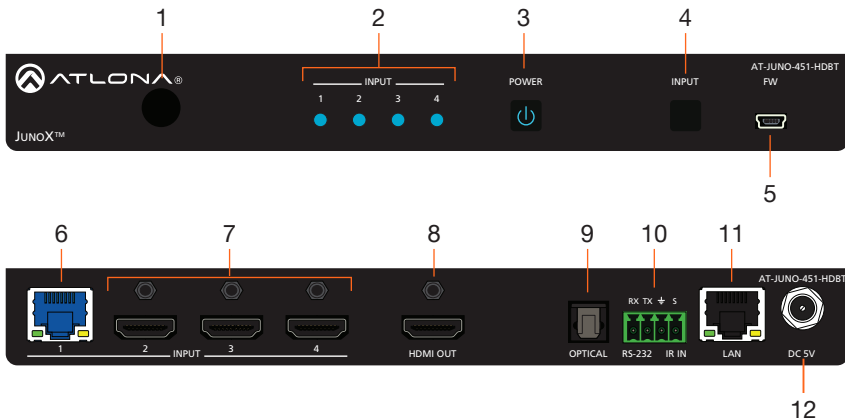
#### AT-JUNO-451-HDBT

- 1 x AT-JUNO-451-HDBT
- 1 x 4-pin captive screw block
- 2 x Mounting plates
- 4 x Rubber feet
- 4 x Screws
- 1 x IR remote control
- 1 x DC 5V power supply
- 1 x IEC cord
- 1 x Installation Guide



**IMPORTANT:** Visit <http://www.atlona.com/product/AT-JUNO-451-HDBT> and <http://www.atlona.com/product/AT-JUNO-451> for the latest firmware updates and User Manual.

## Panel Descriptions (AT-JUNO-451-HDBT shown)

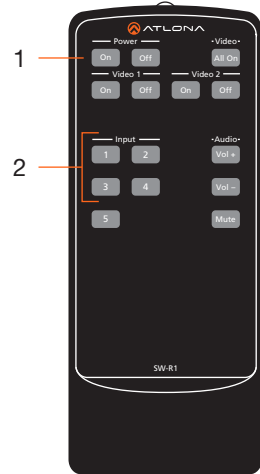


- 1 IR Window**  
 Receives IR signals from the included IR remote. Refer to [RS-232 / IR Connector \(page 3\)](#) for wiring information.
- 2 Input Indicators**  
 These LED indicators glow solid blue to indicate the active input.
- 3 POWER**  
 Press this button to power-on or power-off the unit.
- 4 INPUT**  
 Press and release this button to cycle through each of the inputs.
- 5 FW**  
 Connect a mini USB cable to this port to update the firmware.
- 6 HDBaseT Input**  
 This port is *only* available on the [AT-JUNO-451-HDBT](#): Connect a transmitter, such as the AT-UHD-PRO3-44M, to this port using an Ethernet cable. The [AT-JUNO-451](#) replaces this port with an HDMI input.
- 7 HDMI Inputs**  
 Connect an HD/UHD source to each of these HDMI ports.
- 8 HDMI OUT**  
 Connect an HDMI cable from this port to a display or other sink device. This output supports multichannel audio.
- 9 OPTICAL**  
 Connect an optical audio cable from this TOSLINK port to an audio output device. This port is part of the Audio Return Channel (ARC): audio from the display is routed upstream, back to the switcher over HDMI, to this port.
- 10 RS-232 / IR IN**  
 Connect the included 4-pin captive screw block to this port. Refer to [RS-232 / IR Connector \(page 3\)](#) for wiring information.
- 11 LAN**  
 Connect an Ethernet cable from this port to a Local Area Network (LAN).
- 12 DC 5V**  
 Connect the included 5 V DC power supply to this power receptacle.

## IR Remote Control

Both the AT-JUNO-451 and AT-JUNO-451-HDBT include an IR remote control that can be used to operate the unit from a remote location.

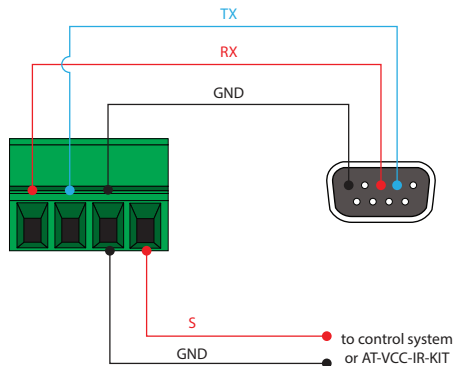
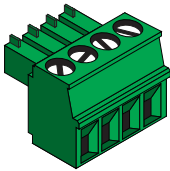
- 1 **On / Off buttons**  
Press the **On** button to power-on the unit. Press the **Off** button to power-off the unit.
- 2 **Input**  
Press these buttons (1 - 4) to select the desired input.



## RS-232 / IR Connector

Both the AT-JUNO-451 and AT-JUNO-451-HDBT both provide RS-232 and IR control, using the included four-pin captive screw block. IR or RS-232 can be connected to a control system when using external control.

1. Use wire strippers to remove a portion of the cable jacket.
2. Remove at least 3/16" (5 mm) from the insulation of each wire.
3. Insert the wires into the correct terminal on the included captive screw block, as shown below.
4. Tighten the screws to secure the wires. Do not use high-torque devices as this may damage the screws and/or connector block.



## Installation

- **AT-JUNO-451-HDBT:**

1. Connect a transmitter, such as the AT-UHD-PRO3-44M, to the HDBaseT (**INPUT 1**) port on the AT-JUNO-451-HDBT.
2. Connect a HD/UHD source to each of the three HDMI inputs (**INPUT 2 - INPUT 4**).

- **AT-JUNO-451:**

3. Connect a HD/UHD source to each of the four HDMI inputs (**INPUT 1 - INPUT 4**).

- **AT-JUNO-451 / AT-JUNO-451-HDBT:**

4. Connect an optical audio cable from the **OPTICAL** port to a sound bar or other audio output device.
5. Connect an Ethernet cable from the **LAN** port to the Local Area Network (LAN).
6. Connect the included 4-pin captive screw block to the **RS-232 / IR IN** port. Refer to **RS-232 / IR Connector (page 3)** for wiring information.
7. Connect the included 5 V DC power supply to the **DC 5V** power receptacle.
8. Connect the power supply to an available electrical outlet.

## 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 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-JUNO-451 or AT-JUNO-451-HDBT manual for routing and configuration.



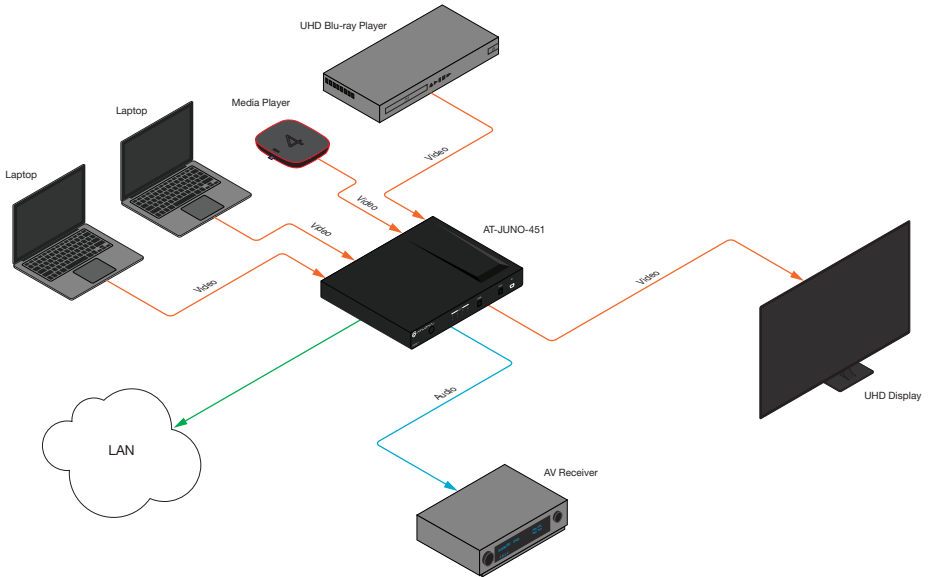
## Web GUI

Both the AT-JUNO-451 and AT-JUNO-451-HDBT include a built-in web GUI, which allows easy management and control of all features. Follow the instructions below to access the web GUI.

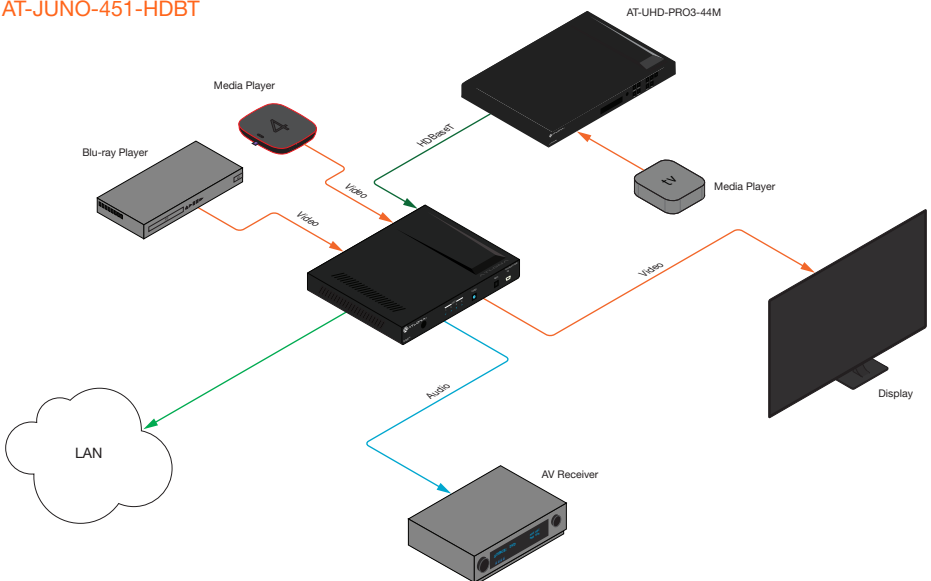
1. Set the IP mode of the AT-JUNO-451. By default, the AT-JUNO-451 is set to DHCP mode.
  - Static IP mode: Press and hold the recessed button, with the tip of a pencil or paper clip, until the **PWR** indicator blinks twice. The default static IP address is 192.168.1.254.
  - DHCP mode: Press and hold the button until the **PWR** indicator blinks four times.
2. Connect an Ethernet cable from the **LAN** port on the AT-JUNO-451, to the Local Area Network (LAN).
3. Use an IP scanner to determine the IP address of the AT-JUNO-451.
4. Launch a web browser and enter the IP address of the unit.
5. The AT-JUNO-451 **Login** page will be displayed.
6. Enter the following information on the **Login** page.  
Login: **root**  
Password: **Atlona**
7. Click the **Login** button.

## Connection Diagrams

### AT-JUNO-451



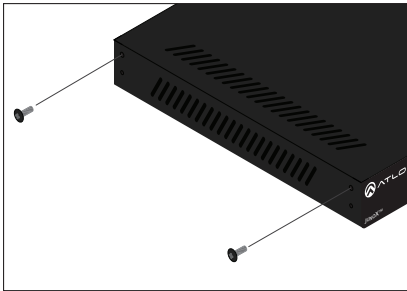
### AT-JUNO-451-HDBT



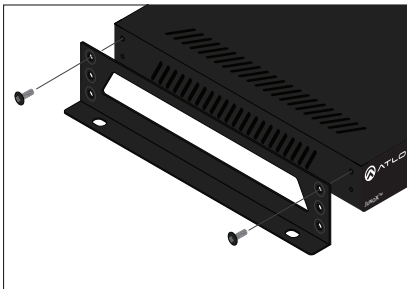
## Mounting Instructions

Both the AT-JUNO-451 and AT-JUNO-451-HDBT include 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.

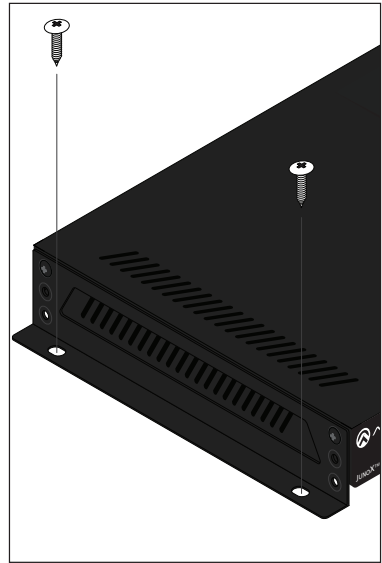
1. Using a small Phillips screwdriver, remove the two screws from the left side of the enclosure.



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.

## Troubleshooting

Problem	Solution
How do I update the firmware?	<ul style="list-style-type: none"> <li>Firmware and instructions can be found and downloaded from the firmware tab at <a href="http://www.atlona.com/product/AT-JUNO-451">http://www.atlona.com/product/AT-JUNO-451</a> and <a href="http://www.atlona.com/product/AT-JUNO-451-HDBT">http://www.atlona.com/product/AT-JUNO-451-HDBT</a>.</li> </ul>
RS-232 and/or IR control is not working.	<ul style="list-style-type: none"> <li>Verify that the 4-pin captive screw block is wired correctly. Refer to <a href="#">RS-232 / IR Connector (page 3)</a> for wiring instructions.</li> <li>Check that the included power supply is connect to an active AC electrical outlet.</li> </ul>
What type of control can be used with the AT-JUNO-451 and AT-JUNO-451-HDBT?	<ul style="list-style-type: none"> <li>The AT-JUNO-451 can be controlled using RS-232, TCP/IP, the web GUI, or AMS.</li> </ul>
Auto-switching is not working.	<ul style="list-style-type: none"> <li>The AT-JUNO-451 and AT-JUNO-451-HDBT both come with auto-switching disabled. Auto-switching can be enabled through AMS, the web GUI, or using the AutoSW command. Refer to the User Manual for more information.</li> </ul>