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

AT-JUNO-451 Installation Guide

Please check http://www.atlona.com/product/AT-JUNO-451 for the most recent **firmware update** or **manual**.
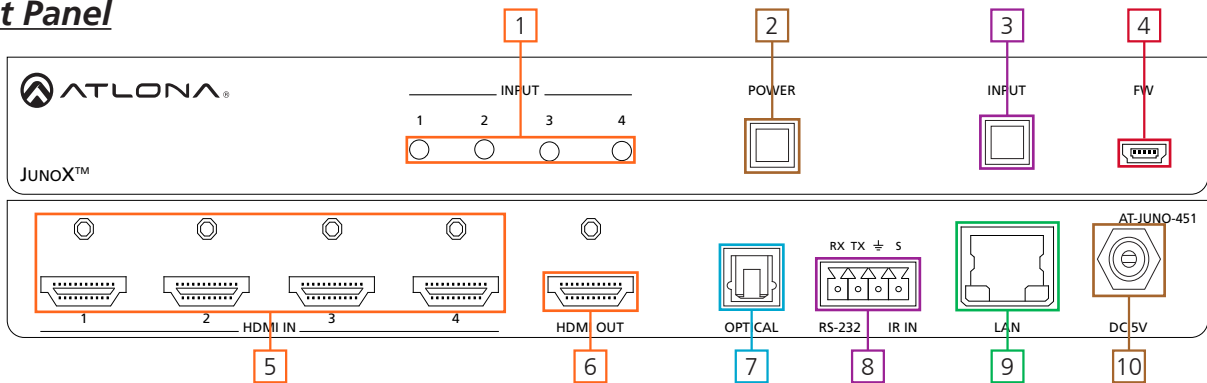
The Atlona JunoX™ 451 (AT-JUNO-451) is a 4x1 HDMI switcher for high dynamic range (HDR) formats. It is HDCP 2.2 compliant and supports 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps. The JunoX 451 is ideal for residential applications with the latest as well as emerging 4K/UHD and HDR sources and displays. It is compatible with all video resolutions, audio formats, and color space formats supported in the HDMI 2.0a specification, plus the ability to pass metadata for HDR content. The JunoX 451 includes EDID management features and automatic input switching. It 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 HDMI switcher can be controlled via Ethernet, RS-232, and IR. A handheld IR remote control is included.

Package Content

- 1 x Unit
- 1 x Female captive screw connector
     5 pin: RS-232 and IR IN
- 2 x Mounting plates
- 4 x Rubber feet
- 4 x Screws
- 1 x IR remote control
- 1 x Installation guide

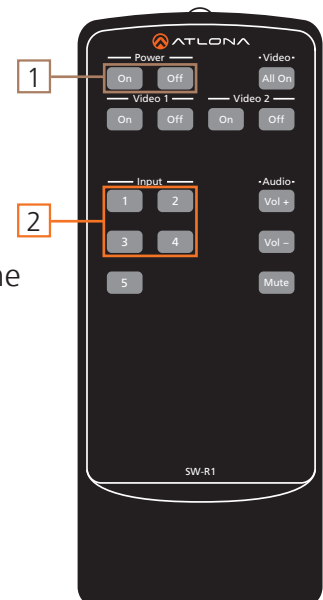## Panel Descriptions

Front Panel

1. **INPUT** LEDs - LED will illuminate to display the currently selected input
2. **POWER** button - Turns switcher on or places the unit in standby mode
3. **INPUT** button - Use to switch between inputs
4. **FW** port**:** Firmware update port, connect a mini USB to USB A cable to a computer
   Firmware is downloadable through http://www.atlona.com/product/AT-JUNO-451/
5. **HDMI IN** - Connect HDMI sources to these ports
6. **HDMI OUT** - Connect HDMI display to this port
7. **OPTICAL** port - Connect audio cable here for output to an AVR
8. **RS-232** / **IR IN** - Connect to 3rd party control system for control
9. **LAN** port - Connect network switch or router here for Ethernet, TCP/IP, or webGUI control
10. **DC 5V** port - Connect included 5V power supply

Remote Control

1. Power On/Off: Turn switcher power on and off
2. Input selection: Selects source

Note: On/off video, audio, and setup buttons are not functional for the
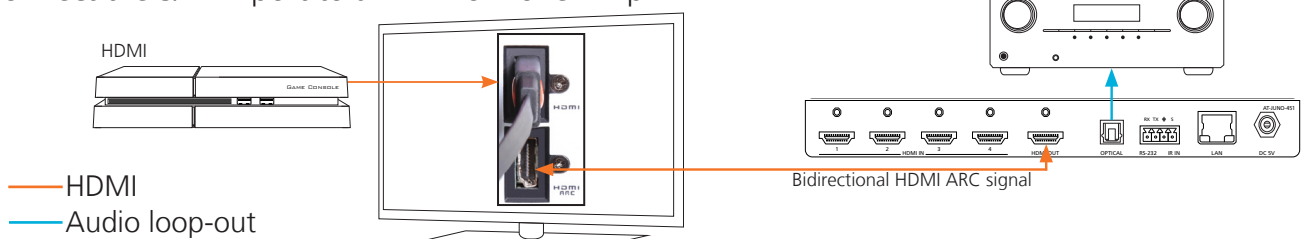JUNO-451 switcher

Audio Return Channel (ARC)

ARC enables a source connected to a display to route audio back to the switcher and send the de-embedded audio out the S/PDIF output.
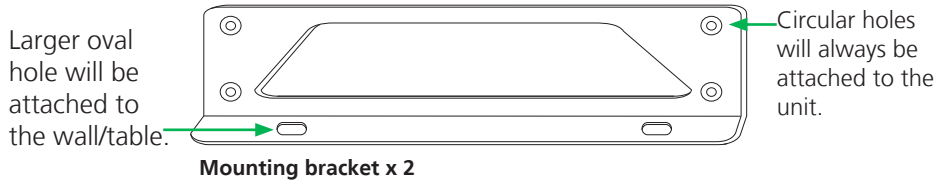
Steps

1. Check to be sure the display supports ARC
2. Enable ARC on the HDMI output of the switcher through RS-232 (command ARC on), TCP/IP, or webGUI
3. Connect the HDMI output port of the switcher to the ARC labeled input port on the display
   Note: The switcher must be connected to the display's HDMI ARC input
   Note: Works well with audio from ARC enabled "Smart" televisions
4. Connect the source to a non ARC HDMI input port on the display
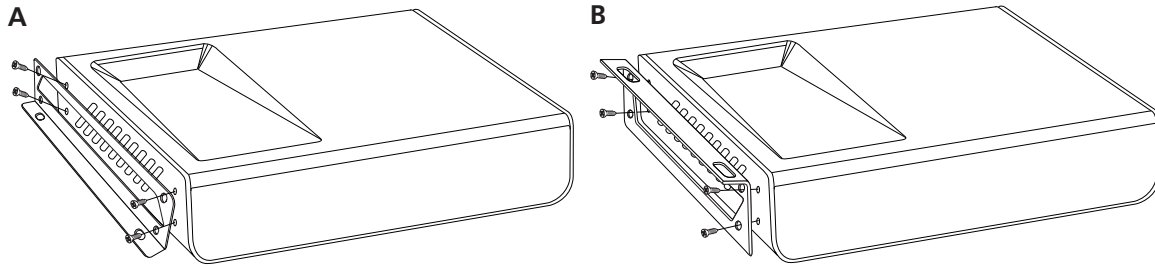5. Connect the S/PDIF port to an AVR or Zone Amp

S/PDIF audio loop-out

HDMI

—— HDMI
—— Audio loop-out

Bidirectional HDMI ARC signal

Mounting

The JunoX comes with mounting brackets that can be used to affix the unit to a table, desk, etc.

Larger oval hole will be attached to the wall/table.

Circular holes will always be attached to the unit.

Mounting bracket x 2

To affix the mounting brackets to the unit, use the four included screws. The bracket can be affixed with the oval holes pointing to the bottom (for against the wall - picture A) or the oval holes facing the top (for under tables - picture B).
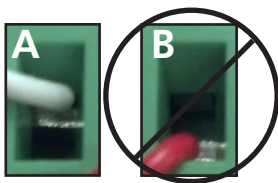
A

B

Captive Screw

The captive screw connectors allow you to cut cables to a suitable length, reducing cable clutter while providing a more reliable connection.

Connecting

When connecting the cables to the female captive screw connector it is important that the wires be terminated correctly. The female captive screw connector has a contact plate at the top and must have the wires touching it for signal to pass. When wired correctly (see picture A) the signal will pass, incorrectly (see picture B) no signal will pass.

A **B**

The captive screw connectors have a contact bar that is adjusted to compress the wire against the top contact plate. Use the screws at the top of the connector to compress the wire against the contact plate.
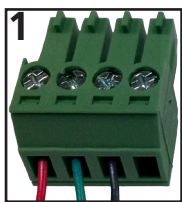
Clockwise

Turn the screws clockwise to raise the contact bar to the upper contact plate and hold the wires in place.
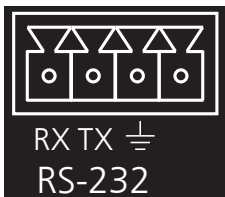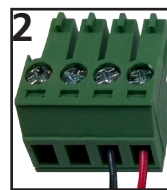
Counter Clockwise

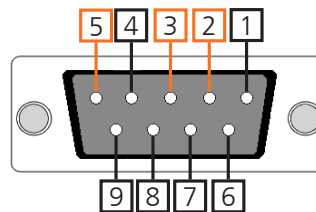Turn the screws counter clockwise to lower the contact bar to release the wires.
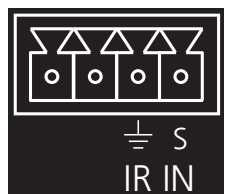
1

2

RS-232

A female captive screw connector is included: RS-232/IR (see picture 1 & 2).
Pin out color will differ per RS-232 cable.

RX TX ⏚
RS-232
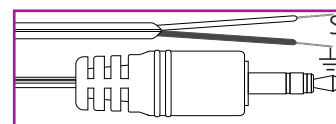
RS-232 pin out will be determined by the RS-232 cable and will connect as Rx (receiver), Tx (transmitter), and ⏚ (ground). (See picture 2)

5 4 3 2 1

9 8 7 6

Typical pin out:
2 - TX - Transmitter
3 - RX - Receiver
5 - GND - Ground

⏚ S
IR IN

The IR IN is connected by a ground and a signal cable. The recommended use of this port is with a 3rd part control system. Atlona recommends using a AT-LC-CS-IR-2M (sold separately) for easy connection.
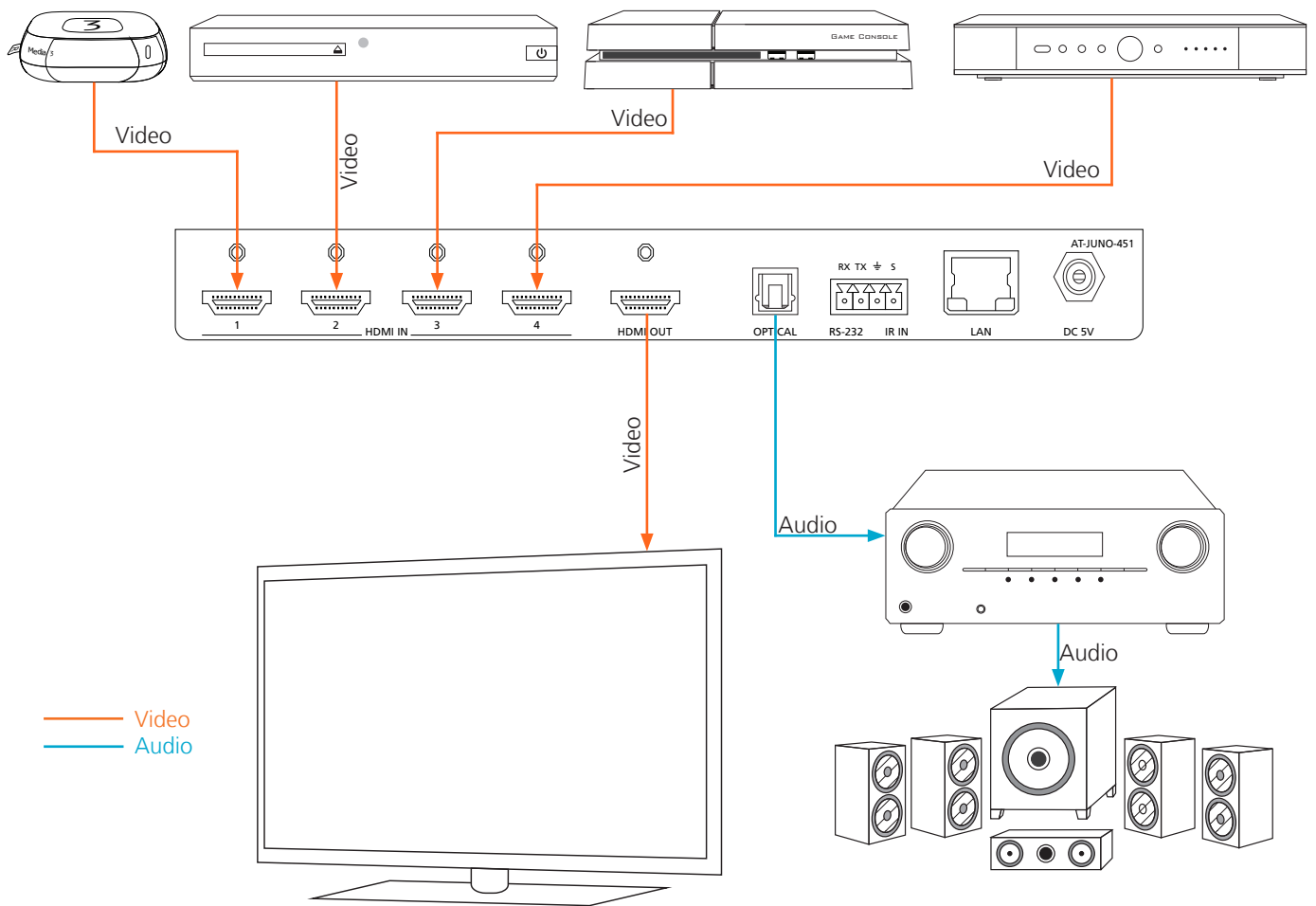
S — Signal (S)
⏚ — Ground (⏚)

Ethernet

For convenience, the JunoX comes with DHCP on. This enables the switcher to be connected to a network without knowing available IP addresses. If your network does not allow dynamic IP addresses or if you are using the switcher with a TCP/IP control system, this feature may be turned off and the IP address set using front panel.

Note: Press and hold the input button on the front panel to switch between static and DHCP IP address. Two button flashes means the unit is in static mode and four button flashes means the unit is DHCP. Static IP configuration will be: 192.168.1.254 - 255.255.255.0

Connection Diagram

Video
Audio

Troubleshooting

1. How do I update my unit?

   Firmware and instructions can be found and downloaded from the firmware tab at http://www.atlona.com/product/AT-JUNO-451

2. What types of control can be used with my unit?

   The Juno can be controlled using TCP/IP, RS-232, webGUI, or AMS

3. Why is my unit not auto switching?

   Auto switching comes disabled. Auto switching can be enabled through AMS, webGUI, or RS-232 - TCP/IP using the 'AutoSW on' command.
   Note: All RS-232 and TCP/IP commands are followed by a carriage return

Toll free: 1-877-536-3976
Local: 1-408-962-0515