

**Connecting Infrared:** Infrared receivers and emitters can be connected on either side. Please note 12 volt power for the infrared is supplied only on the HDMI send or HDMI receive that has the PS1205 power supply connected. Emitters should be connected using a Knoll infrared connection block (IR55) or using an inline (series) 220 ohm dropping resistor to avoid early emitter failure.

## HDMI Balun Specifications:

### Models and Dimensions

UDR-HDMI (in-wall Decora™ version): 4.1"h x 1.4" w x 2.0"d.

UDS-HDMI (in-wall Decora™ version): 4.1"h x 1.4" w x 2.0"d.

UR-HDMI (black enclosure): 1.1"h x 2.6"w x 2.8"d (28 x 66 x 71 mm).

US-HDMI (black enclosure): 1.1"h x 2.6"w x 2.8"d (28 x 66 x 71 mm).

### Inputs and Outputs:

Send Unit: One HDMI input jack, two RJ-45 out-jacks, one-DC power input, one three position Infrared connector.

Receive Unit: One HDMI output jack, two RJ-45 in-jacks, one-DC power input, one three position Infrared connector.

### Power:

Send Unit: 12 VDC 500mA.

Receive Unit: 12 VDC 500mA.

## Warranty

Knoll Systems warrants its products sold in the USA and Canada by authorized Knoll dealers to be free of defects in materials and workmanship. This warranty extends for three full years from the date of purchase by the original consumer. Any products returned to Knoll Systems and found to be defective by Knoll Systems within the warranty period will be repaired or replaced at Knoll Systems option, at no charge. Knoll Systems will not be responsible for the actual cost of installation or removal of the product, nor for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights. You may have additional legal rights that vary from state to state.

**Knoll HDMI baluns pass HDCP signals and does not manipulate them in any way.**

### Knoll Systems [www.knollsystems.com](http://www.knollsystems.com)

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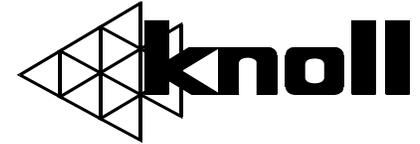
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**UDR-HDMI Receiver**  
**UDS-HDMI Sender**  
**UR-HDMI Receiver**  
**US-HDMI Sender**



## Installation Instructions v1.7

**Warning:** To be installed and/or used in accordance with appropriate electrical codes and regulations. If you are not sure about any part of these instructions, consult a qualified electrician.

**Caution:** Do not install this product in an electrical junction box with 110V or higher unless an approved barrier separates the high and low voltage sections.

**Introduction:** Thank you for your purchase of a Knoll active balun system. This system is specifically designed to send HDMI and infrared signals safely down a two cat 5e or cat 6 wires up to 115 feet (35 meters) without encountering signal degradation problems (resolutions lower than 1080p will go further).

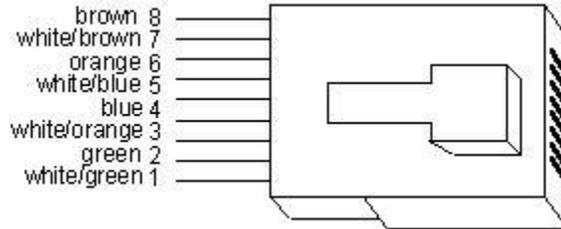
To install wires inside walls, in most jurisdictions require wires to be minimum class 2 rated for safety. Almost all conventional HDMI wires are unrated so they cannot legally be installed inside walls. The most cost effective method to install a legal HDMI inwall run is to use cat 5e wire and Knoll HDMI baluns.

### Features:

- Tabletop box design or Decora™ style available.
- Will safely send 480i/p, 720p and 1080i/p signals.
- PS1205 power supply can be connected on either the send or receive side.
- Mix and match decora style and tabletop style.
- Infrared receivers and emitters can be connected on either side

### Wiring:

A send module (UDS-HDMI or US-HDMI) needs to be connected to a Knoll receive module (UDR-HDMI or UR-HDMI) to work correctly. The send and receive module are connected using two cat 5e or cat 6 wires using all 8 conductors in each. Connection is made with the RJ45 connector (RJ45 plug not supplied). Always use standard 568-A cat 5 wiring practices (shown above). Using the correct wire pairs and polarity is **VERY** important.



Make absolutely sure the XA port on the send unit is connected to the XA port on the receive unit. Likewise the XB port on the send unit is connected to the XB port on the receive unit. Both wires are needed.

Please note the maximum cat5e or cat6 wire length for reliable operation of 1080p is 115 feet or 35 meters. **Do not attempt** a longer length as it may not be reliable. For lower resolutions such as 720p or 1080i the maximum length is 135 feet or 42 meters. Cat 5e and cat 6 wires should be as short as possible.

Never run the cat 5e or cat 6 wires near or along side high voltage wires. If high voltage lines are near by cross the cat 5e or cat 6 wires to them at 90 degree angles.

Never coil up cat 5e or cat 6 wires. This can increase the inductance of the wire and may give an unreliable picture.

**Connection to HDMI source equipment:** Connect the UDS-HDMI or US-HDMI HDMI connectors with as short as possible HDMI cord to the source equipment. Less than 2 meters (6') is best. The maximum length the HDMI cables to the input and output combined is about 35' (10 meters).

**Make sure a good quality RJ45 8-8 crimper is used** to connect the RJ45 connector to the cat 5 wire. Poor crimping and mismatched wires are the most frequent cause of installation problems.

**Power requirements:** The Knoll HDMI balun system requires a single PS1205 power supply connected to the send or receive unit.

**Note: If the cat 5 wire length exceeds 70' (21m) we strongly suggest connecting the power supply to the receive side only.**

**Note: The HDMI decora style and enclosure style Models can be mixed or matched as desired.**

**Connection to the Projector, TV or other components:** Connect short as possible HDMI cable from the receive balun to the projector, TV or other component. The maximum length the HDMI cables to the input and output combined is about 35' (10 meters).

**Setting the HDMI switch:** There is a switch on the receive unit that adjusts the Knoll HDMI balun system. In our testing experience we find that a setting of 1 or 2 for anything below 5 metres setting 3 for 5 – 21 metres and 4 is best setting generally for all 1080p material from 22 - 29 metres (98.43 ft), usually a setting of 6 or 7 for distances above 30 - 35 metres (115 ft). Feel free to experiment with other settings. To see this effect turn a 1080p image on and try adjusting the switch. Lower resolution images (480i/p, 720p, 1080i) are not affected as much by changing the settings.

If problems are experienced with this product, please call our tech line for help at 1 800 566 5579.

This product may contain lead that some states have determined is harmful. Wash your hands after touching this product. Decora™ is a trademark of Leviton.

