

DIGI-HD60C Installation Guide



The Intelix DIGI-HD60C extends HDMI, IR, and RS232 over a single twisted pair cable. The DIGI-HD60C supports a 1080p video signal, including HDCP 2.2 and multichannel audio, up to 60m, as well as 3D and 4K x 2K (UHD) signals up to 35m.

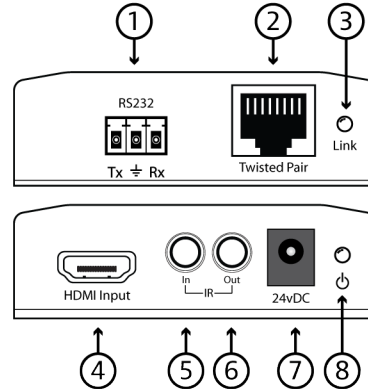
Built-in surge protection and diagnostic LEDs ensure hassle-free and robust installations. Flexible power design allows the units to be powered at either the TX or RX end, and only one power supply is required. The power supply (PS-24D-25) and IR accessories (DIGIB-EMT and DIGIB-EYE) are sold separately.

Instructions

1. Turn off power and disconnect the audio/video equipment by following the manufacturer's instructions.
2. Connect twisted pair cable between the transmitter (DIGI-HD60C-S) and the receiver (DIGI-HD60C-R). Ensure T568B straight-thru wiring.
3. Connect any IR or RS232 cables.
4. Connect HDMI cables between the display and the receiver (DIGI-HD60C-R).
5. Connect HDMI cables between the source and the transmitter (DIGI-HD60C-S).
6. Connect the power supply (PS-24D-25) to either the transmitter or the receiver.
7. Power on attached audio/video devices.

DIGI-HD60C-S

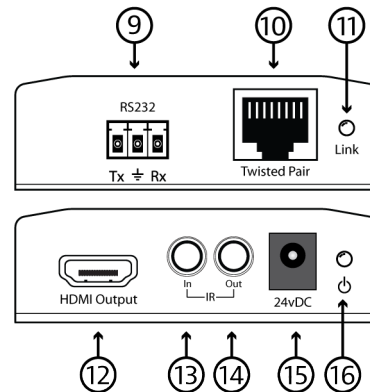
Connector Detail



1. RS232 - Allows extension of serial communication
2. Twisted Pair - Connect between extenders with Cat6 type cable up to 60m (200')
3. Link LED - Indicates a successful link has been established with the other extender (On = Good).
4. HDMI Input - Connect source to this port
5. IR Input - Connect to DIGIB-EYE
6. IR Output - Connect to DIGIB-EMT
7. 24vDC Input - Connect PS-24D-25 (only TX or RX needs to be connected, not both)
8. Power LED - Indicates unit is powered on.

DIGI-HD60C-R

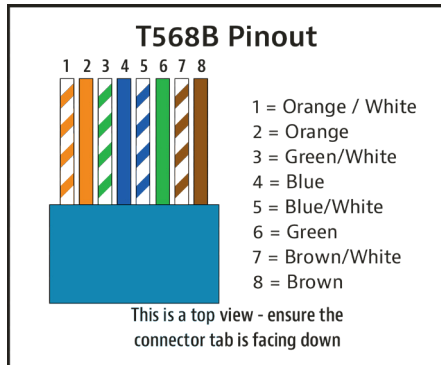
Connector Detail



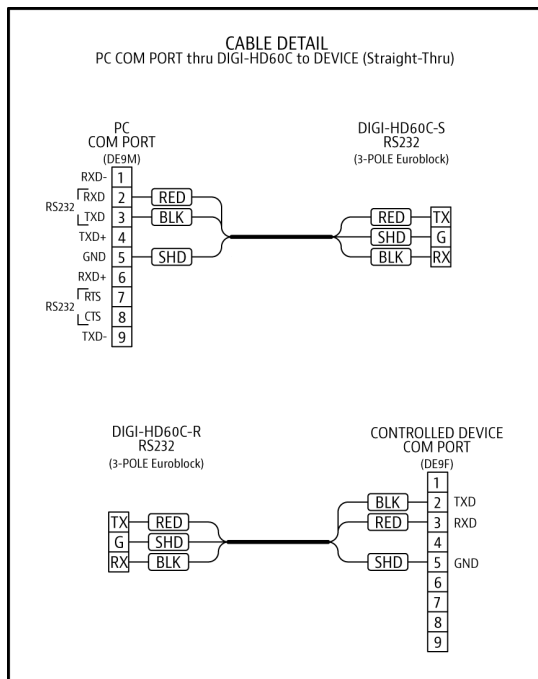
9. RS232 - Allows extension of serial communication
10. Twisted Pair - Connect between extenders with Cat6 type cable up to 60m (200')
11. Link LED - Indicates a successful link has been established with the other extender (On = Good).
12. HDMI Output - Connect source to this port
13. IR Input - Connect to DIGIB-EYE
14. IR Output - Connect to DIGIB-EMT
15. 24vDC Input - Connect PS-24D-25 (only TX or RX needs to be connected, not both)
16. Power LED - Indicates unit is powered on.

Cabling

Twisted Pair Wiring - Use T568B wiring for Cat5e/6 connection between send and receive units. If using shielded cable, be sure to use shielded connectors, and terminate the cable drain wire to the connector shell.



RS232 Wiring – The DIGI-HD60C units include terminal blocks that can be used for RS232 pass-through connection. You should consult the owner’s manual of the devices you are connecting for more information on pin out. Be sure to connect the DIGI-HD60C RX pins to the TX pins of the connected device, and connect the DIGI-HD60C TX pins to the RX pins of the connected device. Connect the GROUND connection on the DIGI-HD60C to the GROUND connection of the connected device. For your benefit, we will illustrate how to properly pin out a straight-through cable, using the DIGI-HD60C set to extend the signal.



IR Extension

You can use the IR TX and RX ports on the DIGI-HD60C to extend the signal from your remote controls. This will allow you to control the source, or the display, depending upon how you connect the devices. The DIGI-HD60C supports bi-directional communication, so you may send IR commands from the RX to the TX and from the TX to the RX simultaneously. Be sure to use Intelix DIGIB-EYE and DIGIB-EMT products, as 3rd party products are not supported. The IR system is 5v, and you cannot connect these ports directly to most IR distribution systems. If this is necessary, please contact the Intelix Applications Department for assistance.

IR RX – Connect the DIGIB-EYE to this port. The DIGIB-EYE is an IR receiver (target). Point your IR remote at this device, and the IR signal will be transmitted to the TX port of the other extender.

IR TX – Connect the DIGIB-EMT to this port. The DIGIB-EMT is an IR emitter. Attach the DIGIB-EMT head over the IR window of the device you wish to control. The DIGIB-EMT will emit IR commands received by the DIGIB-EYE from the other extender.

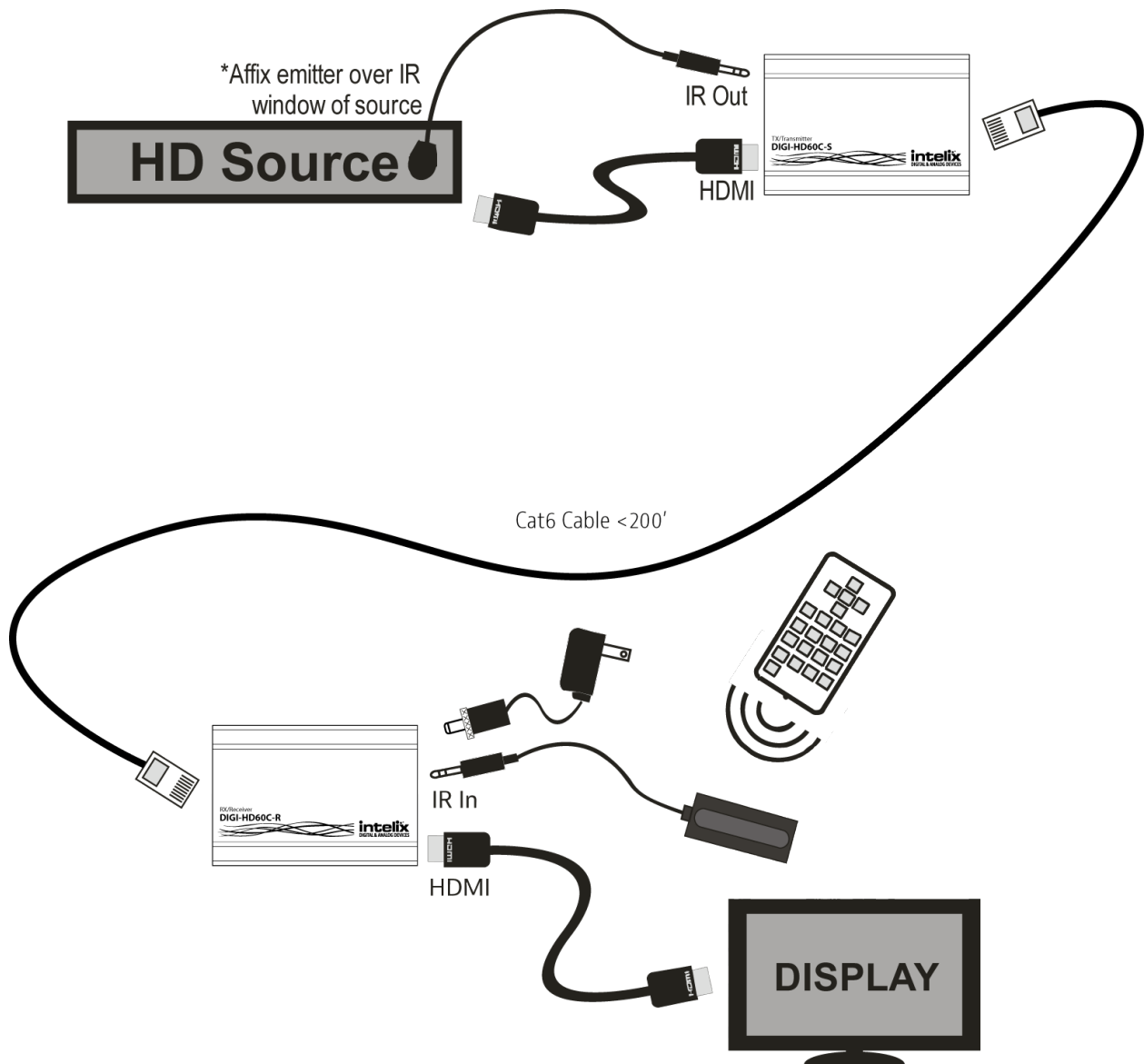
| Troubleshooting | |
|------------------------------|--|
| Symptom | Possible Solutions |
| No signal Link LED is off | Verify that both ends of the twisted pair cables use T568B crimp pattern. Verify HDMI cables and source and destination HDMI ports are operational. |
| Link LED is blinking | Retermine Twisted Pair cable Replace Twisted Pair cable Reduce Twisted Pair cable length |
| No signal | Verify the power supplies are connected to both the send and receive baluns. Verify the power LEDs on both the send and receive units are brightly illuminated. |
| Unusual colors in the video | Power off the destination device and power it back on to force renegotiation. Unplug and re-plug the HDMI cable from receive to force renegotiation. |

Important notice:

- Do not attempt to disassemble or alter the extender housing. There are no user-serviceable parts inside the unit. Doing so will void your warranty.
- To minimize the possibility of equipment damage from electrostatic discharge (ESD), all source and destination equipment must be powered off during installation.
- Do not connect the extender to a telecommunication outlet wired to unrelated equipment. Doing so may damage the unit or any connected equipment. Ensure all connected twisted pair cabling is straight-through (point-to-point).

DIGI-HD60C Quick Start

Example Diagram



| Technical Specifications | |
|---|---|
| I/O Connections | |
| HDMI | One (1) HDMI Type A Receptacle |
| Twisted Pair | One (1) 8P8C port (Shielded RJ45) |
| IR Input | One (1) 3.5mm TRS Jack |
| IR Output | One (1) 3.5mm TS Jack |
| RS232 | One (1) 3-Pole Euroblock connector |
| 24V DC Power | One (1) 5.5 mm Outside Diameter, 2.1 mm Inside Diameter Barrel (Locking) |
| Supported Audio, Video and Control | |
| Maximum Video Compatibility at 60 m | Deep Color 36/30/24 Bit at 1080p |
| Maximum Video Compatibility at 35 m | Deep Color 48 Bit at 1080p, 3D, and 4k x 2k (UHD) |
| Supported 3D Formats | Field Alternative (interlaced), Frame Packing, Line Alternative Full, Side-By-Side Half, Side-By-Side Full, 2D + Depth, 2D + Depth + Graphics + Depth |
| Video Compliance | HDMI, HDCP 2.2, and CEC (Consumer Electronics Control) |
| Embedded Audio | Up to PCM 8 channel, Dolby Digital TrueHD, and DTS-HD Master Audio |
| Input DDC Signal | 5.0 volts p-p (TTL) |
| Input Video Signal | 0.5 to 1.0 volts p-p |
| IR Carrier Frequency Range | 33-55kHz at 5 volts |
| RS232 Baud Rate | Up to 115200 baud |
| HDBaseT Signal Characteristics | |
| Maximum Distance | 60 m |
| Cable Requirements | Solid core shielded Category 5e, Category 6 or greater with TIA/EIA-568B crimp pattern |
| Bandwidth | 10.2 Gbps |
| Gain | 0 dB – 10 dB at 100 MHz |
| Resolution Range | 800x600 – 1920x1200 |
| Signal to Noise Ratio (SNR) | > 70 dB at 100 MHz over 100 m |
| Return Loss | < -30 dB at 5 KHz |
| Total Harmonic Distortion (THD) | < 0.005% at 1 KHz |
| Min-Max Signal Level | < 0.3 V – 1.45 Vp-p |
| Differential Phase Error | ±10° at 135 MHz over 100 m |
| Chassis and Environmental | |
| Enclosure | Painted steel |
| Dimensions | 110mm x 76mm x 24mm (4.33 in x 2.99 in x 0.95 in) |
| Shipping Weight | 0.5 kg (1.1 lbs.) |
| Operating Temperature (Environment) | 0° to +40° C (+32° to +104° F) |
| Operating Temperature (Chassis) | 31° C (88° F) (S); 38° C (100° F) (R) |
| Operating Humidity (Environment) | 20% to 90%, Non-condensing |
| Storage Temperature (Environment) | -10° to +60° C (+14° to +140° F) |
| Storage Humidity (Environment) | 20% to 90%, Non-condensing |
| Power, ESD, and Regulatory | |
| Maximum Power Consumption | 8 watts (S), 22 watts (R) |
| Power Supply (Not Included) | 24vDC / 1.5 Amp |
| ESD Protection | 15kV |
| Regulatory | CE, RoHS |
| Other | |
| Standard Warranty | 2 Years |
| Diagnostic Indicators | Link and power LEDs |
| DIGI-HD60C-R Compatible Transmitters | DIGI-HD70-S, DIGI-HD60C-S, DIGI-HDE-S, FLX-BO4A, DIGI-44B, DIGI-88B, ASW-WP, DIGI-P123, DIGI-P52 |
| DIGI-HD60C-S Compatible Receivers | DIGI-HD70-R, DIGI-HD60C-R, DIGI-HDE-S, FLX-BI4 |
| Included Items | Installation Guide |
| Accessories | |
| Power Supply | PS-24D-25 |
| IR Emitter | DIGIB-EMT |
| IR Eye | DIGIB-EYE |
| Universal Mounting Bracket | DIGI-PMK1 |

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.