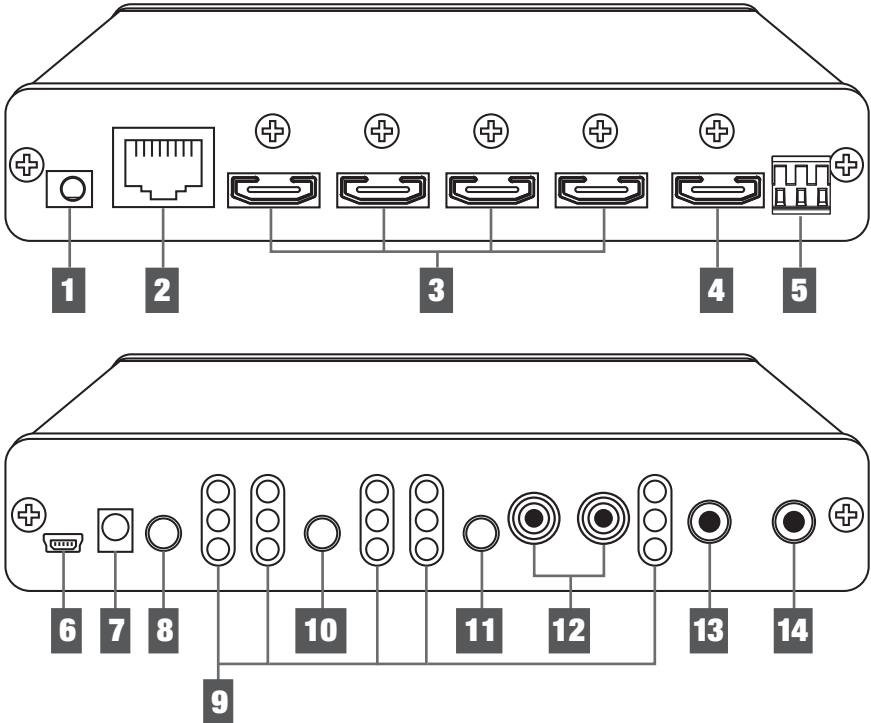


Switcher Connections

SWITCHER CONNECTIONS



1 Power In

2 Out-1 HDBase-T

3 HDMI In 1-4

4 Out-2 HDMI

5 RS232

6 USB

7 IR Sensor

8 Power Button

9 Indicator Lights

10 Select (Out-1)

11 Select (Out-2)

12 Audio Out

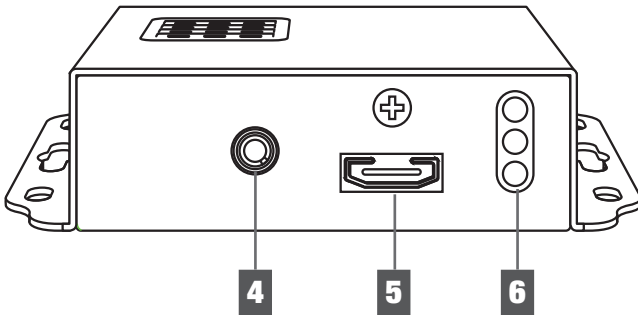
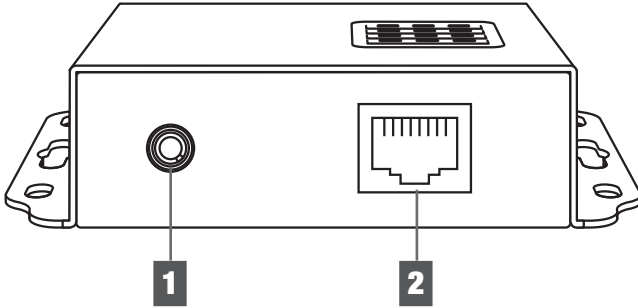
13 IRDA Out

14 IRDA In



Receiver Connections

HDBASE-T RECEIVER CONNECTIONS



1 IR Out

2 HDBaseT

4 IR In

5 HDMI Out

6 Indicator Lights

Switcher Functions

SWITCHER FUNCTIONS - See pg 7

- 1 Power In** – This receptacle accepts the supplied 24V DC Power adapter. Do not substitute any other device or possible damage or operational defects may occur.
- 2 Out-1** – This RJ45 connection is designed ONLY for connection to the supplied “HLE-1” HDBase-T Receiver. Standard CAT5e or CAT6 wire is preferred and must utilize T-568 Type “B” terminations. The recommended maximum length of wire for 1080p resolutions is 70 Meters (CAT6).
- 3 HDMI In 1-4** – These four HDMI input jacks are standard HDMI v1.4a compatible and will pass all video and audio signals thru to the selected output. In addition, INPUT #4 will route Audio Return Channel (ARC) and Home Ethernet Control (HEC) Signals to your ARC and HEC-enabled AV Receiver via Output #2 (only).
- 4 Out-2** – Connect to your Display #2 for selection of Inputs 1-4. This is a standard HDMI v1.4a connector and will be limited to cable length similar to any other HDMI source.
- 5 RS232** – Control command connection for this switcher. Please refer to Appendix A for the command protocols. Three conductors are required.
- 6 USB** – For Firmware updates (provided if necessary) by Transformative Engineering. DO NOT attempt to connect this port for any other reason. Loss of all operation may result.
- 7 IR Sensor** – Receiver for remote control signals to control the Switcher. The remote controller is included in the accessory kit and is the controller recommended. Alternatively, RS232 commands or IR codes programmed into a Control System may be utilized. See Appendix A for the proper protocols.
- 8 Power Button** – Turns this Switcher ON or OFF.



Switcher Functions

9 Indicator Lights – Shows when (1) Power is being applied to the HDBase-T Receiver, (2) 'HDBT' when the HDBase-T Receiver is connected, and (3) 'HDMI' when the HDMI signal is obtained and should result in a stable picture. A Flashing 'HDMI' light indicates either non-compliant HDCP (no picture), or no HDCP is present (picture may be present). Whichever lights are present here should be mirrored at the HDBase-T Receiver.

10 Select (Out-1) – This manual button can select which input you desire routed to display #1. The two rows of indicator lights will show which input (1-4) you have chosen, along with a light indicating a HDMI “handshake” with the display, which should result in a picture.

11 Select (Out-2) – This manual button can select which input you desire routed to display #2. The two rows of indicator lights will show which input (1-4) you have chosen, along with a light indicating a HDMI “handshake” with the display, which should result in a picture

12 Audio Out – This is a stereo audio take-off from the audio supplied on OUTPUT #2. This is useful for adding the sound to an existing audio distribution system, or other purpose. It is a stereo mix-down of any surround mode audio present on the HDMI signal chosen.

13 IRDA Out – Infra-Red pathway designed to accept an IR emitter. The insertion of this IR signal is done at the HDBase-T Receiver located at the Display #1. See Section VII. **NO DONGLE IS REQUIRED AT IRDA OUT.**

14 IRDA In – Infra-Red pathway for sending IR commands to Display #1. This is sent over the UTP connection and decoded within the HDBase-T Receiver (See Section VII). **IT IS IMPORTANT TO NOTE THAT THIS IS A POWERED CONNECTION, DESIGNED FOR A “XANTECH”-TYPE PICKUP.** Utilization of this pathway as a “passive” IR inserter **MUST** include the mini-jack dongle included in the accessory kit. IR commands coming from a control system (Crestron, Control4, etc) must be routed thru the IR dongle which is then connected to this input. **FAILURE TO DO SO WILL RESULT IN NON-OPERATION OF YOUR IR.** Connection of a “Xantech” –type pickup may be directly connected here (**NO DONGLE**) which will power the pickup and insert the IR commands.

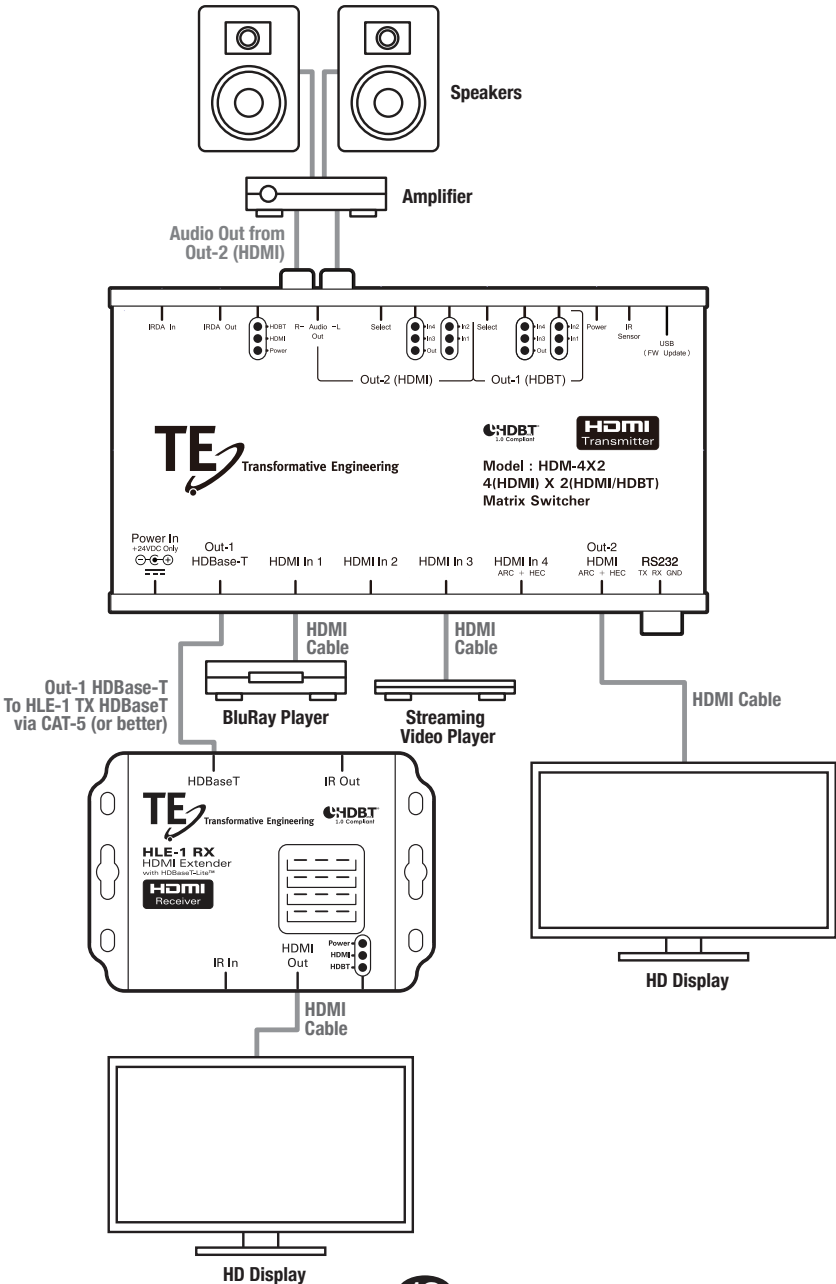
Receivers Functions

RECEIVER FUNCTIONS - See Page 8

- 1 IR Out** – Connect a “Xantech”-compatible IR Emitter here to relay the IR commands injected at the “IRDA IN” port in Section VI, Item 6.
- 2 HDBase-T** – RJ45 Connection for UTP (CAT5e or CAT6) wiring for OUTPUT #1. No power supply is required, as the Switcher provides power over the UTP wire. See Section VI, Item 2 for more information.
- 4 IR In** – Infra-Red pathway for sending IR commands to the Switcher’s IRDA OUT port. This is sent over the UTP connection and decoded within the Switcher. IT IS IMPORTANT TO NOTE THAT THIS IS A **POWERED CONNECTION**, DESIGNED FOR A “XANTECH”-TYPE PICKUP. Utilization of this pathway as a “passive” IR inserter **MUST** include the mini-jack dongle included in the accessory kit. IR commands coming from a control system (Crestron, Control4, etc) must be routed thru the IR dongle which is then connected to this input. **FAILURE TO DO SO WILL RESULT IN NON-OPERATION OF YOUR IR.** Connection of a “Xantech” –type pickup may be directly connected here (NO DONGLE) which will power the pickup and insert the IR commands.
- 5 HDMI Out** – Standard HDMI v1.4a connection. We recommend as short an HDMI cable as necessary. HDMI Cables in excess of 4 Meters are not recommended.
- 6 Indicator Lights** – Indication for (1) Power acknowledged at the Receiver, (2) HDBase-T link established with the Switcher, and (3) ‘HDMI’ when the HDMI signal is obtained and should result in a stable picture. A Flashing ‘HDMI’ light indicates either non-compliant HDCP (no picture), or no HDCP is present (picture may be present). Whichever lights are present here should be mirrored at the Switcher.



Wiring Diagram





Appendix: IR Codes

IR CODES

| Remote Code Mapping | | HDM-4X2 |
|---------------------|------|---------------------|
| Vendor Code | 01FE | |
| | | |
| Function | Code | Description |
| Power | 0A | System Power ON/OFF |
| OUTPUT 1 | | |
| 1 | 0C | Output 1 to Input 1 |
| 2 | 04 | Output 1 to Input 2 |
| 3 | 08 | Output 1 to Input 3 |
| 4 | 07 | Output 1 to Input 4 |
| OUTPUT 2 | | |
| 1 | 1F | Output 2 to Input 1 |
| 2 | 1E | Output 2 to Input 2 |
| 3 | 05 | Output 2 to Input 3 |
| 4 | 01 | Output 2 to Input 4 |

Appendix: RS232 Codes

RS232 Codes

Queries and Responses

[TX] - swc ?<CR><LF>
[RX] - (HDBT) Output 1 = 01<LF>
(HDMI) Output 2 = 04<LF>

Example Strings

[TX] - SWC 1 2<CR><LF>
swc 1 0<CR><LF>
swc 1 4<CR><LF>
swc 2 1<CR><LF>
swc 2 2<CR><LF>
swc 2 3<CR><LF>
swc ?<CR><LF>

[RX] - (HDBT) Output 1 = 04<LF>
(HDMI) Output 2 = 03<LF>

[TX] - swc 2 4<CR><LF>
swc ?<CR><LF>

[RX] - (HDBT) Output 1 = 04<LF>
(HDMI) Output 2 = 04<LF>

[TX] - \pwr 0<CR><LF>
pwr 0<CR><LF>
pwr 1<CR><LF>