

TPR-110CR Presenter Transmitter Quick Start Guide



Thank you for purchasing the Luxi Electronics® TPR-110CR Presenter® transmitter. Please read through this manual before using the product.

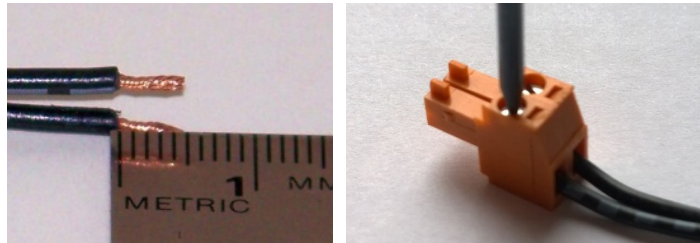
How the product functions: Think of the daisy chain as the flow of a river; each transmitter (Tx) connects to a source device and loads the signal to the river flow; each receiver (Rx) unloads the signal from the river flow and sends it to the display it is connected to. The front panel and the RS-232 controls determine which source signal goes to which display.

System diagram:



Power options: This product can draw power from other Presenter products in the chain or from an optional external power supply.

Captive screw plug termination: The captive screw plugs for power, RS-232 and contact controls are supplied with the unit. Separate the wires about 1" (2.5 cm) long; strip off the wire insulation precisely 3/16" (5 mm) from the end. Identify the positive and negative leads for power; Luxi power supply has a white stripe on the positive wire. If not sure, use a multi meter to verify.



RJ45 plug termination: Follow the standard EIA 568B pin out.

Control options: Pressing the "Show Me" button on the front panel will select the source connected to this Tx unit; all displays will show the same content from this Tx box. An external button can be connected to the "Show Me" port on the rear panel. A RS-232 host connected to the rear panel can control all functions of every unit in the chain. Make sure both DIP switches recessed on the bottom side are in the down (off) position.



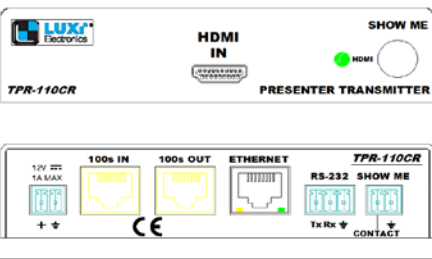

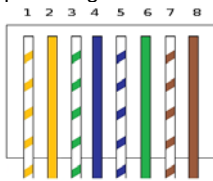



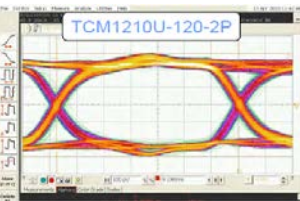
Ethernet port: For providing a system wide internet access. Be very careful NOT to plug the Ethernet cable into the yellow 100s connector or vice versa! Permanent damage may occur.

Front panel LED: Green = this Tx selected; Amber = this Tx not selected; Red = communication error

Support: Please contact your reseller directly for local support; or Luxi using the contact info above. See Luxi website for RS-232 commands and user manuals.

Helpful tips:

- 1) **Damages by plugging into the wrong port:** The 110 Tx has a Show Me port which happens to be the same 2-pin captive screw connector as the 12 V power connector. Be very careful not to plug in the 12 V power into the Show Me port by accident. Although there are protection circuits inside, the prolonged error can still burn the protection circuit and the main daisy chain IC.
- 2) **Needs for the initial press:** When a system powered up, the user need to press a Show Me button or to send a routing command to a unit in the system to create a signal link. This applies to even the system with only one Tx unit.
- 3) **May need to press again:** When a new link is created after the Show Me button press, the source device and display will handshake and HDCP check again, and the time for completing this depends on the source device and display involved. In the rare case when the handshake and HDCP check time exceeds the Presenter time out period, the picture may not show. User just needs to press the Show Me button again to see the image.
- 4) **Initialization practice for a large system:** When there are more than one Rx (displays) in a system, at the initial power up, every source device needs to handshake and HDCP check with every display through the Presenter daisy chain, this could take some time depending on the number of devices and the communication speed of the devices involved. During this brief initial handshake and HDCP check period, the signal link may not happen. The installer should connector all Tx (source devices) and the first Rx (display) in a system during setup, wait for the image shown after any Show Me button press, then link the 2nd Rx box to the 1st with a Cat6 cable, press any Show Me button until the image shown. Then add the 3rd, 4th etc Rx boxes one by one when the system power is live. This procedure breaks down the many handshake and HDCP checks into several groups, and each group is fast. Once finished, no need to do this initialization sequence again unless the daisy chain system is power off again. It's a good practice to keep the daisy chain powered all the time. The communication is maintained between the Presenter boxes and the displays even when the displays are powered off. The system with only one Rx (display) does not need this initialization procedure.
- 5) **System status for security and troubleshooting:** One of the most useful command is the "q" command. Send a "q" command to a RS232 port of any Presenter in a daisy chain, the port will report back "Max Tx=M, Max Rx=N, Me=Txm or Rxn". For example, if there are 8 Tx unit, 4 Rx unit, the current box is the 3rd Rx box, the response would be "Max Tx=8, Max Rx=4, Me=Rx3. The system will also send a "reset" message from all units' RS232 ports when the system just powered up or any system changes (like adding or removing a Presenter box or cable) occurs. If the Presenter is used in a high security facility, the system monitoring engineer can program the control system to send a "q" command to record how many Tx and Rx in a system every morning, then send "q" again right after receiving a "reset" message, and compare the number of Tx and Rx in a system. If any number changed, then there could be a security breach or component failure at a specific location. For example, if the known systems size is 8 Tx and 4 Rx, and at any moment the system size changed to 5 Tx and 4 Rx, then the breach or failure must be between the Tx5 and Tx6. The engineer can program the control system to send a text message or phone call to the security personnel to check anything wrong between Tx5 and Tx6. This also helps to troubleshoot the system to pinpoint the poor cable or connection.
- 6) **Link cable selections:** Please use the **unshielded** Cat6 550 MHz rated 23 AWG solid conductor cables to link the Presenter boxes whenever possible. The Cat5 cable does not have enough bandwidth for long run. Shielded Cat6 or Cat7 cables have higher capacitance which reduces the drivability of the Presenter boxes.
- 7) **Max. and min. cable lengths:** The max cable length between Presenter units varies depending on the cable performance, source device drivability, display's sensitivity and error correction, and the signal data rate (resolution). It's a good practice to first to use 720p (or the popular 1280x800 computer and projector resolution) in system setup, once working, and then change to higher resolution if needed. Please use a min. 2 m long cable between Presenter boxes even for short distance to prevent the accumulated signal over boost over the daisy chain.

Product Specifications	Part Number: 74-017-01
Presenter 110 series transmitter	Model: TPR-110CR
Product Image	Product Drawing
<p>Front</p>  <p>Back</p> 	
Features and Benefits	Mechanical
<ul style="list-style-type: none"> > Patent pending, revolutionary products to replace the centralized switching and distribution > Completely scalable; you can add more Tx or Rx boxes on the fly for expansion > Only 1 Cat6 or Cat5 cable needed to connect the adjacent Presenter Tx or Rx; no more heavy clusters of cables; very easy cable pull and termination > No compression; full 18 Gbps bandwidth; virtually no propagation delays > "Show Me" control button on every Tx box gives every user a simplified way to control the signal routing > Additional control devices can be inserted anywhere in the daisy chain via RS-232 > Signals can be transmitted to very long distances with multiple daisy-chained devices up to 110' (33 m) each span (e.g., 10 spans for up to 330 m) > Remote power capability > Rack mountable, under-table mountable, above-projector mountable metal enclosures 	<p>Enclosure material: steel Enclosure size: 4.29" x 1.00" x 3.00" (10.9 x 2.5 x 7.6 cm)</p>
Package	Electrical
<p>One piece in one color cardboard box; with captive screw plugs and quick start guide no power supply</p>  <p>Box size: 6.0" x 4.8" x 1.1" (15.3 x 12.2 x 2.8 cm) Weight: package, 0.62 lb (0.28kg); product, 0.48 lb (0.22kg) 36-pc box size: 15" x 13" x 8" (38 x 33 x 20 cm) 36-pc box weight: 24.5 lb (11 kg)</p>	<p>HDMI signal input Maximum data rate: 9 Gbps (3 Gbps per color) Maximum pixel clock: 300 MHz Resolution range: Up to 1080p 48-bit @ 60 Hz, or 3D, or 4k @ 30 Hz</p>
Connections	<p>Daisy chain system</p>
<p>Input connectors: 1 HDMI, 1 daisy chain in, 1 Ethernet Output connector: 1 daisy chain out Power connector: 2-pin 3.5 mm captive screw receptacle Control connectors: 1 RS-232, 1 Show Me</p>	<p>Luxi proprietary format, digital video, audio, control, Ethernet and power, up to 32 devices (1 Tx = 1; 1 Rx = 2) System cables: unshielded Cat6 550 MHz rated 23 AWG solid conductor cables recommended; Cat5, 5e, 6, 7 unshielded and shielded cables also usable Max distance between 2 adjacent devices: Typical 33 m (110') for WXGA/720p; 18 m (60') for 1080p (depends on source, display device performance, and signal format) RJ45 connector pin configuration: standard EIA 568B pinout</p>
Other Related Products	
<p>Power supply, 100-240 V in on US plug, 12 V out, P/N 69-002-01</p>  <p>Under desk mount, P/N 78-002-01</p>  <p>Presenter receiver, P/N 74-020-01, model RPR-110CR</p> 	<p>Electrical test results (1080p 24-bit 60 Hz results below)</p>
	
	<p>Power: 12 V DC, 0.2 A from external power or other Presenter Optional power supply: Auto switching 100-240 V AC input on US plug, 12 V DC 1 A max on bare wires, wall ward type, UL, PSE, CE, FCC Mounting: Not included. Luxi under desk mount 78-002-01, compatible with Extron thru desk mount 70-077-02, rack shelf 60-604-21, 60-604-11, 60-604-02, above projector mount 70-217-01, 70-739-02, 70-734-01, 70-563-03 or equivalent Middle Atlantic models Regulatory compliance Safety: CE, cUL, UL (power supply only) EMI/EMC: CE, FCC Class A MTBF: 30,000 hours Warranty: 3 years parts and labor</p>