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TP-594Txr/TP-594Rxr Quick Start Guide

This guide helps you install and use your TP-594Txr/TP-594Rxr for the first time.

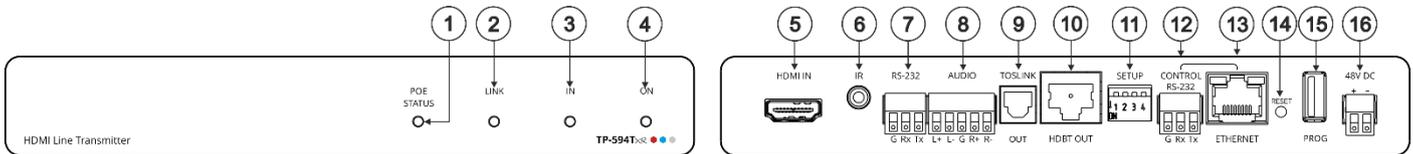
Go to www.kramerav.com/downloads/TP-594Txr to download the latest user manual and check if firmware upgrades are available.

Step 1: Check what's in the box

- ✓ TP-594Txr HDMI Line Transmitter or TP-594Rxr HDMI Line Receiver
- ✓ 1 48V DC power adapter and cord for TP-594Txr or 1 12V DC power adapter and cord for TP-594Rxr
- ✓ 1 Bracket set
- ✓ 4 Rubber feet
- ✓ 1 Quick start guide

Step 2: Get to know your TP-594Txr / TP-594Rxr

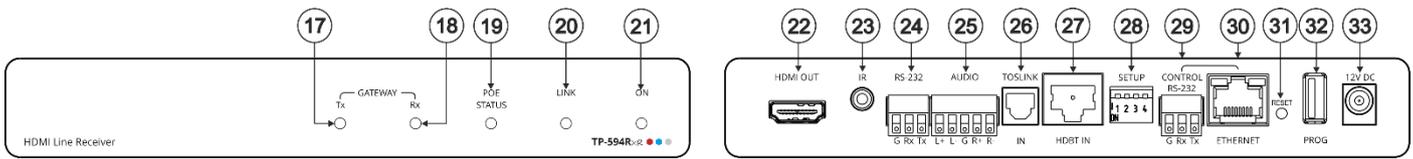
TP-594Txr



#	Feature	Function
1	POE STATUS LED	Lights green when power is provided over the HDBT connection.
2	LINK LED	Lights green when the HDBT link is valid.
3	IN LED	Lights green when an active source device input signal is detected.
4	ON LED	Lights green when the device receives power.
5	HDMI™ IN Connector	Connect to an HDMI source.
6	IR 3.5mm Mini Jack Connector	Connect to an external IR emitter to control a local device from the receiver (TP-594Rxr) side. Connect to an IR sensor to control a remote device connected to the TP-594Rxr receiver.
7	RS-232 3-pin Terminal Block Connector	Connect to a controller device (for example, SL-240C) to control a remote device via serial controller (for example, the HDMI OUT acceptor) that is connected to TP-594Rxr.
8	AUDIO 5-pin Terminal Block Connector	Connect to either a stereo balanced audio source or acceptor (the connection type is defined via the embedded web pages): Connect an audio source to extend an audio signal from TP-594Txr to the audio acceptor on the receiver side via the HDBT line. Connect an audio acceptor to output the audio signal received from the audio source on TP-594Rxr via the HDBT line.
9	TOSLINK OUT Connector	Digital audio on a TOSLINK optical female connector, for outputting the digital audio signal that is extended from the receiver to an audio acceptor.
10	HDBT OUT Connector	Connect to the RJ-45 HDBT IN connector on a receiver (for example, TP-594Rxr or TP-590Rxr) to extend the signals between the TP-594Txr and the receiver.
11	SETUP 4-way DIP-switches	Set the operation DIP-switches (see Step 4: Connect the inputs and outputs).
12	CONTROL RS-232 3-pin Terminal Block Connector	Connect to a PC to control the device.
13	CONTROL ETHERNET RJ-45 Connector	Connect to a PC to control the device or for LAN extension.
14	RESET Recessed Button	Press and hold to reset settings to factory default values.
15	PROG USB Port	Connect to a USB memory device to upgrade the firmware.
16	48V DC Power Terminal Block Connector	Connect to the supplied power adapter.

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

TP-594Rxr

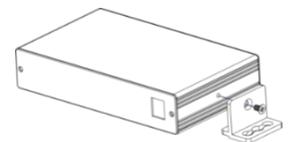


#	Feature	Function
17	GATEWAY Tx LED	Lights blue to indicate gateway activity of any RS-232, IR or CEC signals sent, as selected in the embedded web pages.
18	GATEWAY Rx LED	Lights blue to indicate gateway activity of any RS-232, IR or CEC signals received, as selected in the embedded web pages.
19	POE STATUS LED	Lights green when power is received over the TP connection.
20	LINK LED	Lights green when the HDBT link is valid.
21	ON LED	Lights green when the device receives power.
22	HDMI OUT Connector	Connect to an HDMI acceptor.
23	IR 3.5mm Mini Jack Connector	Connect to an external IR emitter to control a local device from the transmitter (TP-594Txr) side. Connect to an IR sensor to control a remote device connected to the TP-594Txr transmitter.
24	RS-232 3-pin Terminal Block Connector	Connect to an RS-232 device to be controlled, for example, a projector.
25	AUDIO 5-pin Terminal Block Connector	Connect to a stereo balanced audio source or an acceptor (the connection type is defined via the embedded web pages): Connect an audio acceptor to output the audio signal received from the audio source on the transmitter side via the HDBT line. Connect an audio source to extend an audio signal from TP-594Rxr to the audio acceptor on the TP-594Txr via the HDBT line.
26	TOSLINK IN Connector	1 digital audio on a TOSLINK optical female connector for digital audio input and extension to the transmitter.
27	HDBT IN Connector	Connect to the RJ-45 HDBT OUT connector on a transmitter (for example, TP-594Txr or TP-590Txr) to extend the signals between TP-594Rxr and the transmitter.
28	SETUP 4-way DIP-switches	Set the operation DIP-switches (see Step 4: Connect the inputs and outputs).
29	CONTROL RS-232 3-pin Terminal Block Connector	Connect to a PC to control the device.
30	CONTROL ETHERNET RJ-45 Connector	Connect to a PC to control the device or for LAN extension.
31	RESET Recessed Button	Press and hold to reset settings to factory default values.
32	PROG USB Port	Connect to a USB memory device to upgrade the firmware.
33	12V DC Power Connector	12V DC connector for powering the unit when unit is not powered via the HDBT link by the transmitter.

Step 3: Mount TP-594Txr/TP-594Rxr

Install TP-594Txr/TP-594Rxr using one of the following methods:

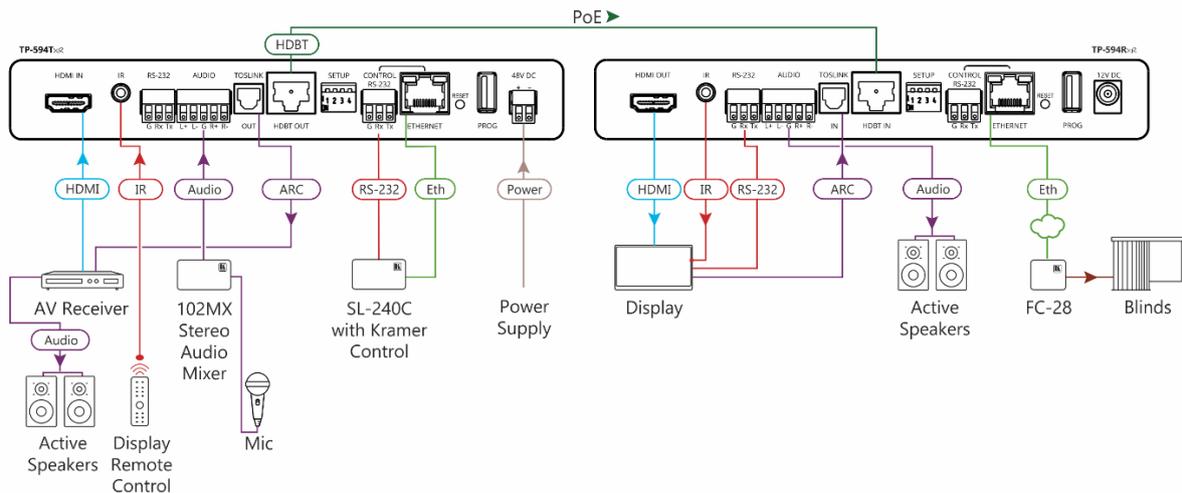
- Attach the rubber feet and place the unit on a flat surface.
- Fasten a bracket (included) on each side of the unit and attach it to a flat surface (see www.kramerav.com/downloads/TP-594Txr).
- Mount the unit in a rack using the recommended rack adapter (see www.kramerav.com/product/TP-594Txr).



- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
- Avoid uneven mechanical loading.
- Appropriate consideration of equipment nameplate ratings should be used for avoiding overloading of the circuits.
- Reliable earthing of rack-mounted equipment should be maintained.
- Maximum mounting height for the device is 2 meters.

Step 4: Connect the inputs and outputs

Always switch OFF the power on each device before connecting it to your TP-594Txr/TP-594Rxr. For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to TP-594Txr/TP-594Rxr.



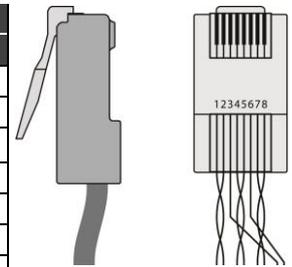
Wiring the RJ 45 Connectors

This section defines the TP pinout, using a straight pin-to-pin cable with RJ 45 connectors.

For HDBT cables, it is recommended that the cable ground shielding be connected/soldered to the connector shield.

To achieve specified extension distances, use the recommended Kramer cables available at www.kramerav.com/product/TP-594Txr. Using third-party cables may cause damage!

EIA /TIA 568B	
PIN	Wire Color
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown



DIP-Switch Settings

All DIP-switches are set to OFF (up) by default except DIP-switch 1 which is set to ON by default.

SETUP



#	Feature	Dip-switch Settings
1	Range Mode	OFF (up) – HDBaseT ultra-long range (provides increased range at a reduced bandwidth). ON (down) – Normal range. The ultra-long-range mode is activated when DIP-switch 1 on at least one of the devices is set to ON. The ultra-long-range mode is activated when DIP-switch 1 on at least one of the devices is set to ON.
2	Define IR Pass-through	OFF (up) – Pass-through the IR signal to the IR port via IR cable. ON (down) – Add IR modulation to the IR output signal (applies only when the IR port is connected to an IR emitter cable). The IR Pass-through DIP-switch setup depends on the IR control configuration. We recommend that you test which position best suits your application.
3	EDID Lock	Off – EDID is acquired automatically. On – EDID locks the current EDID so that changes on the output do not result in changes to the EDID. EDID remains locked to auto-EDID changes when replacing the display device, for example, and does not apply to manual EDID changes such as EDID Designer EDID setup and EDID changes due to panel keys/switches user changes.
4	N/A	For future use.

Step 5: Connect the power

Connect the 48V DC power supply to TP-594Txr and the 12V DC power supply to the TP-594Rxr and plug both into the mains electricity.

When TP-594Txr is used as a PoE provider for the TP-594Rxr, you do not need to connect the 12V DC power supply to the TP-594Rxr unless power supply redundancy is needed.

Safety Instructions (See www.kramerav.com for updated safety information)

Caution:

- For products with relay terminals and GPIO ports, please refer to the permitted rating for an external connection, located next to the terminal or in the User Manual.
- There are no operator serviceable parts inside the unit.

Warning:

- Use only the power cord that is supplied with the unit.
- Disconnect the power and unplug the unit from the wall before installing.



Step 6: Operate TP-594Txr/TP-594Rxr

Operate TP-594Txr/TP-594Rxr via:

- Remotely, by RS-232 serial commands transmitted by a touch screen system, PC, or other serial controller.
- Embedded web pages via the Ethernet.

RS-232 Control / Protocol 3000			
Baud Rate:	115,200	Parity:	None
Data Bits:	8	Command Format:	ASCII
Stop Bits:	1		
Example (pass embedded audio to the output): #AUD-EMB 1,2,0<CR>			
Default Ethernet Parameters			
IP Address:	DHCP enabled		
Fallback IP Address:	TP-594Txr: 192.168.1.39; TP-594Rxr 192.168.1.40		
Fallback Subnet Mask:	255.255.255.0	TCP Port #:	5000
Fallback:	192.168.1.1	UDP Port #:	50000

Technical Specifications

TP-594Txr

Input	HDMI	On a female HDMI connector
Output	HDBT	On an RJ-45 connector
	Optical (Digital Audio)	On a Toslink® connector
Input/Output (configurable)	Balanced Stereo Audio	On a 5-pin terminal block connector

TP-594Rxr

Input	HDBT	On an RJ-45 connector
	Optical (Digital Audio)	On a Toslink® connector
Output	HDMI	On a female HDMI connector
Input/Output (configurable)	Balanced Stereo Audio	On a 5-pin terminal block connector

General

Ports	Ethernet	On an RJ-45 female connector for device control and LAN extension
	RS-232	On a 3-pin terminal block for serial link extension
	IR	On a 3.5mm mini jack for IR extension
	Control RS-232	On a 3-pin terminal block for device control
	USB	On a female USB-A connector for device firmware upgrade
Extension	We recommend that you use Kramer shielded cables to achieve optimum extension ranges	
	Compression	Low-level standard DSC compression for signals above 4K@60 (4:2:0)
	4K@60 (4:4:4) Range	Compression: up to 100m (330ft)
	4K@60 (4:2:0) Range	No compression: up to 100m (330ft)
	Full HD (1080p@60Hz) Range	No compression: up to 130m (430ft) Ultra-long mode: up to 180m (590ft)
Video	Compliance	HDBaseT 2.0
	Max Bandwidth	Compression: 17.98Gbps (5.98Gbps per graphic channel) No compression: 10.2Gbps (3.4Gbps per graphic channel)
	Max Resolution	Compression: 3840x2160@60Hz 4:4:4 24bpp No compression: 4096x2160@60Hz 4:2:0 24bpp
	Compliance	HDMI 2.0, HDCP 2.2, HDR 10
Controls	Front Panel	IN (TP-594Txr only), GATEWAY Tx/Rx (TP-594Rxr only), POE STATUS, LINK and ON LED indicators
	Rear Panel	DIP-switches
Extended RS-232	Baud Rate	300 to 115200baud
Extended Ethernet	Data Rate	Up to 100Mbps
Extended IR	Frequency	20kHz to 100kHz
Power	Consumption	TP-594Txr + TP-594Rxr: 48V DC, 0.65A TP-594Txr: 48V DC, 0.45A TP-594Rxr: 12V DC, 1.1A
	Source	TP-594Txr: 48V DC, 1.36A TP-594Rxr: 12V DC, 2A
Environmental Conditions	Operating Temperature	0° to +40°C (32° to 104°F)
	Storage Temperature	-40° to +70°C (-40° to 158°F)
	Humidity	10% to 90%, RHL non-condensing
Regulatory Compliance	Safety	CE, UL
	Environmental	RoHs, WEEE
Enclosure	Size	Tool
	Type	Aluminum
	Cooling	Convection ventilation
General	Net Dimensions (W, D, H), each	18.7cm x 11.5cm x 2.5cm (7.4" x 4.5" x 1")
	Shipping Dimensions (W, D, H)	34.5cm x 16.5cm x 5.2cm (13.6" x 6.5" x 2")
	Net Weight, each	0.4kg (0.9lbs) approx.
	Shipping Weight	0.95kg (2.1lbs) approx.
Accessories	Included	1 power adapter, 1 power cord and 1 bracket set per device

Specifications are subject to change without notice at www.kramerav.com