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## TP-590T and TP-590R Quick Start Guide

This guide helps you install and use your TP-590T and TP-590R for the first time.

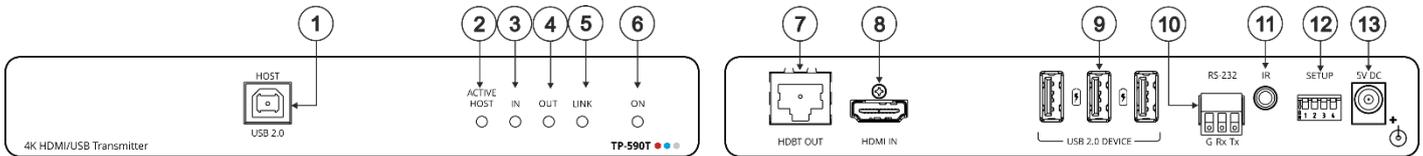
Go to [www.kramerav.com/downloads/TP-590T](http://www.kramerav.com/downloads/TP-590T) and/or [www.kramerav.com/downloads/TP-590R](http://www.kramerav.com/downloads/TP-590R) to download the latest user manual and check if firmware upgrades are available.

### Step 1: Check what's in the box

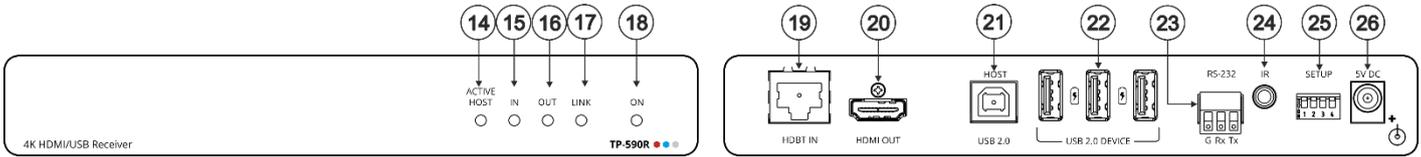
- TP-590T 4K HDMI/USB Transmitter OR TP-590R 4K HDMI/USB Receiver
- 1 Bracket set
- 4 Rubber feet
- 1 Power cord
- 1 Quick start guide

### Step 2: Get to know your TP-590T and TP-590R

TP-590T



| #  | Feature                         | Function  |
|----|---------------------------------|---|
| 1  | HOST USB 2.0 Connector          | Connect to the USB host, (for example, a laptop) to communicate with the USB peripheral devices (for example, a smart board) connected to USB device ports on either the transmitter or the receiver.   |
| 2  | ACTIVE HOST LED                 | Lights orange when the device is enabled as an active USB host (see <a href="#">Step 4: Connect inputs and outputs</a> ).   |
| 3  | IN LED                          | Lights blue when an active HDMI input signal is detected on HDMI IN.  |
| 4  | OUT LED                         | Lights blue when an output device is connected to the receiver.   |
| 5  | LINK LED                        | Lights green when the HDBT active link connection is established.   |
| 6  | ON LED                          | Lights green when the device receives power.  |
| 7  | HDBT OUT RJ-45 Connector        | Connect to the HDBT IN RJ-45 connector on the receiver.   |
| 8  | HDMI IN Connector               | Connect to the HDMI source.   |
| 9  | USB 2.0 Charging Connectors (3) | Connect to the USB local peripheral devices (for example, a mic, a keyboard, a mouse and so on).  |
| 10 | RS-232 3-pin Terminal Block     | Connect to a controller device (for example, <b>RC-306</b> ) to control a remote device via serial connection (for example, the PTZ USB camera that is connected to the receiver).  |
| 11 | IR 3.5mm Mini Jack Connector    | Connect to an external IR emitter to control a local IR-controlled device from the receiver side (for example, <b>TP-590R</b> ).<br>Connect to an IR sensor to control a remote IR-controlled device connected to the receiver side (for example, <b>TP-590R</b> ). |
| 12 | SETUP 4-way DIP-switch          | Sets the device behavior (see <a href="#">Step 4: Connect inputs and outputs</a> ).   |
| 13 | 5V DC Power Connector           | Connect to the power supply.  |



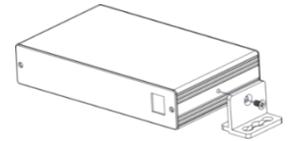
| #  | Feature                         | Function  |
|----|---------------------------------|---|
| 14 | ACTIVE HOST LED                 | Lights orange when the device is enabled as an active USB host (see <a href="#">Step 4: Connect inputs and outputs</a> ).   |
| 15 | IN LED                          | Lights blue when an active HDMI input signal device is detected on HDBT IN.   |
| 16 | OUT LED                         | Lights blue when an output device is connected to the HDMI OUT.   |
| 17 | LINK LED                        | Lights green when the HDBT active link connection is established.   |
| 18 | ON LED                          | Lights green when the device receives power.  |
| 19 | HDBT IN RJ-45 Connector         | Connect to the HDBT OUT RJ-45 connector on the HDBT transmitter.  |
| 20 | HDMI OUT Connector              | Connect to the HDMI acceptor.   |
| 21 | HOST USB 2.0 Connector          | Connect to the USB host (for example, a room PC) to communicate with the USB peripheral devices (for example, a room camera) connected to USB device ports on either the transmitter or the receiver.   |
| 22 | USB 2.0 Charging Connectors (3) | Connect to the USB local peripheral devices (for example, USB camera, a soundbar, speakers and so on).  |
| 23 | RS-232 3-pin Terminal Block     | Connect to a serial device to be controlled.  |
| 24 | IR 3.5mm Mini Jack Connector    | Connect to an external IR emitter to control a local IR-controlled device from the transmitter side (for example, TP-590T).<br>Connect to an IR sensor to control a remote IR-controlled device connected to the transmitter side (for example, TP-590T). |
| 25 | SETUP 4-way DIP-switch          | Sets the device behavior (see <a href="#">Step 4: Connect inputs and outputs</a> ).   |
| 26 | 5V DC Power Connector           | Connect to the power supply.  |

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

## Step 3: Mount TP-590T and TP-590R

Install TP-590T and TP-590R using one of the following methods:

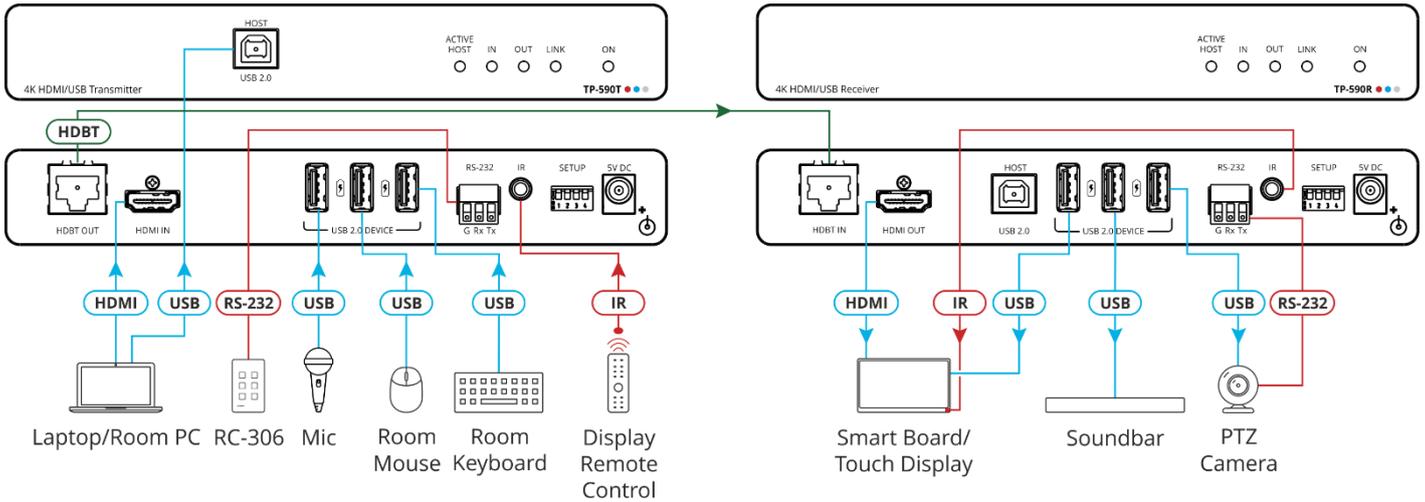
- Attach the rubber feet and place the unit on a flat surface.
- Fasten a bracket (included) on each side of the unit and attach it to a flat surface (see [www.kramerav.com/downloads/TP-590T](http://www.kramerav.com/downloads/TP-590T) and/or [www.kramerav.com/downloads/TP-590R](http://www.kramerav.com/downloads/TP-590R)).
- Mount the unit in a rack using the recommended rack adapter (see [www.kramerav.com/product/TP-590T](http://www.kramerav.com/product/TP-590T) and/or [www.kramerav.com/product/TP-590R](http://www.kramerav.com/product/TP-590R)).



- 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 inputs and outputs

Always switch OFF the power on each device before connecting it to your TP-590T and TP-590R.



### Wiring the RJ-45 Connectors

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

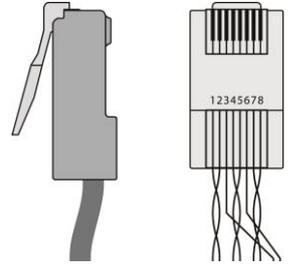


For HDBT cables, it is recommended that the cable ground shielding be connected/soldered to the connector shield.



To achieve specified extension distances, use the recommended Kramer cables available at [www.kramerav.com/product/TP-590T](http://www.kramerav.com/product/TP-590T) and/or [www.kramerav.com/product/TP-590R](http://www.kramerav.com/product/TP-590R). Using third-party cables may cause damage!

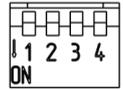
| EIA /TIA 568B |                |
|---------------|----------------|
| PIN           | Wire Color     |
| 1             | Orange / White |
| 2             | Orange         |
| 3             | Green / White  |
| 4             | Blue           |
| 5             | Blue / White   |
| 6             | Green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



## Setting the DIP Switches

- All DIP-switches are set to OFF (up) by default except for the **TP-590R** DIP-switch 1 which is set to ON (down) by default.
- Any changes to DIP-switches 1 and 4 require that you power cycle the device. Changes to DIP-switch 2 apply immediately.

SETUP



| # | Feature                | Dip-switch Settings  |
|---|------------------------|--|
| 1 | Active USB Host        | OFF (up) – Host is active.<br>ON (down) – Host is not active ( <b>TP-590R</b> default).  |
| 2 | Define IR Pass-through | OFF (up) – Pass-through the IR signal to or from the IR cable.<br>ON (down) – Add IR modulation (38kHz) to the IR output signal (applies only when the IR port is connected to an IR emitter cable). |
| 3 | N/A                    | For future use.  |
| 4 | Programing RS-232      | Off (up) – FW programming RS-232 is inactive (Normal operation mode is enabled).<br>On (down) – FW programming RS-232 is active.   |

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## Step 5: Connect power

Connect the power cord to **TP-590T** and **TP-590R** plug it into the mains electricity.

Safety Instructions (See [www.kramerav.com](http://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.

