



## TP-590TXR

4K60 4:2:0 HDMI PoE Transmitter with USB, Ethernet, RS-232, IR & Stereo Audio Embedding over Extended-Reach HDBaseT 2.0

| HDMI | Ethernet - RJ-45 | HDBaseT  
| 4K/60 UHD (4:2:0)



TP-590TXR is a high-performance, extended-reach HDBaseT 2.0 transmitter for 4K60Hz (4:2:0) HDMI, USB, Ethernet, RS-232, IR and stereo audio signals over twisted pair. The TP-590TXR converts all input signals into the transmitted HDBaseT 2.0 signal. It extends video signals to up 100m (330ft) over CAT copper cables at up to 4K@60Hz (4:2:0) 24bpp video resolution and provides even further reach for lower HD video resolutions

## FEATURES

**High Performance Standard Extender** - Professional HDBaseT extender for providing extended-reach signals over twisted-pair copper infrastructures. TP-590TXR is a standard extender that can be connected to any market-available HDBaseT-compliant extension product. For optimum extension reach and performance, use recommended Kramer cables

**HDMI Signal Extension** - HDCP 1.4 compliant. Supports deep color, x.v.Color™, lip sync, HDMI uncompressed audio channels, Dolby TrueHD, DTS-HD, 2K, 4K, and 3D as specified in HDMI 2.0. EDID and CEC signals are passed through from the source to the display

**I-EDIDPro™ Kramer Intelligent EDID Processing™** - Intelligent EDID handling, processing and pass-through algorithm that ensures Plug and Play operation for HDMI source and display systems

**Multi-channel Audio Transmission** - Up to 32 channels of digital stereo uncompressed signals for supporting studio-grade surround sound

**Audio Embedding (Adding)** - A selectable analog unbalanced stereo audio input is converted into a digital signal and embedded (added) to the transmitted HDMI signal, replacing the embedded HDMI audio input signal. This enables embedding a selectable audio source over HDMI. For example, a presenter can display a video clip and temporarily override the audio of the source media with another audio source, such as from a microphone

**USB Extension** - USB 2.0 interface data flows in both directions, allowing extension of HID (Human Interface Devices) peripheral devices, such as a mouse or a keyboard. High-bandwidth USB peripheral devices, such as USB isochronous streaming cameras and audio devices, transfer data continuously and periodically. Delivery of their transferred data is not guaranteed by the USB standard and is subject to both USB and HDBaseT line bandwidth management limitations. When such devices are connected, check their functionality to ensure bandwidth limitations are not exceeded

**Ethernet Extension** - Ethernet interface data flows in both directions, allowing extension of up to 100Mbps Ethernet connectivity for LAN communication and device control

**Bidirectional RS-232 Extension** - Serial interface data flows in both directions, allowing data transmission and device control

**Bidirectional Infrared Extension** - IR interface data flows in both directions, allowing remote control of peripheral devices located at either end of the extended line

**Cost-effective Maintenance** - Status LED indicators for HDMI and HDBT ports facilitate easy local maintenance and troubleshooting. Remote device management via built-in web UI and RS-232 connection. Local and remote firmware upgrade via mini-USB, RS-232 or Ethernet connection and the K-Upload tool ensure lasting, field-proven deployment

**Easy and Elegant Installation** - Single cable connectivity for both HDBaseT signals and power. Compact MegaTOOLS™ fan-less enclosure for dropped-ceiling mounting, or side-by-side mounting of 2 units in a 1U rack space with the recommended rack adapter



## TECHNICAL SPECIFICATIONS

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|                         |                                                                                                                                                                                                                                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INPUTS:                 | 1 HDMI on an HDMI connector,<br>1 Stereo analog unbalanced audio on a 3.5mm mini jack                                                                                                                                                                                                                                         |
| OUTPUTS:                | 1 HDBT on an RJ-45 female connector                                                                                                                                                                                                                                                                                           |
| PORTS:                  | 1 IR on a 3.5mm mini jack for IR link extension,<br>1 USB 2.0 on a USB-B connector,<br>1 RS-232 on a 3-pin terminal block for serial link extension,<br>1 RS-232 on a 3-pin terminal block for device control,<br>1 10Base-T/100BaseTx Ethernet on an RJ-45 female connector for device control and network traffic extension |
| EXTENSION LINE:         | HDBaseT 2.0 compliant;<br>Up to 100m (330ft) at 4K @60Hz (4:2:0);<br>up to 130m (430ft) at full HD (1080p @60Hz 36bpp);<br>up to 180m (590ft) at HDBaseT ultra mode and full HD (1080p @60Hz 24bpp);<br>Note: When using Kramer HDBaseT cables                                                                                |
| VIDEO:                  | Up to 10.2Gbps bandwidth (3.4Gbps per graphic channel)<br>Up to 4K UHD @60Hz (4:2:0) 24bpp resolution<br>HDCP 1.4 signal compliance<br>Supports deep color, x.v.Color™, lip sync, HDMI uncompressed audio channels, Dolby TrueHD, DTS-HD, 2K, 4K, and 3D as specified in HDMI 2.0                                             |
| AUDIO:                  | Up to 1 Vrms level<br>0.03% THD + NOISE @ 1 KHz at nominal level                                                                                                                                                                                                                                                              |
| EXTENDED USB:           | 1.1 and 2.0 Host compliance<br>Up to 127Mbps (out of max 480 USB) extended line rate bandwidth<br>Up to 7 devices<br>Up to 2 hubs<br>Up to 8 ports per hub                                                                                                                                                                    |
| EXTENDED ETHERNET:      | Up to 100Mbps extended line rate bandwidth                                                                                                                                                                                                                                                                                    |
| EXTENDED RS-232:        | 300 to 115200 baud rate                                                                                                                                                                                                                                                                                                       |
| CONTROL RS-232:         | 115200 baud rate                                                                                                                                                                                                                                                                                                              |
| SUPPORTED WEB BROWSERS: | Windows 7 and higher: Internet Explorer (32/64 bit) version 11, Firefox version 30, Chrome version 35;<br>MAC: Chrome version 35, Firefox version 27, Safari version 7; Android OS: Chrome version 35; iOS: Chrome version 35, Safari version 7                                                                               |
| POWER SOURCE:           | 48V DC, 1.36A                                                                                                                                                                                                                                                                                                                 |
| POWER CONSUMPTION:      | 48V DC, 800mA                                                                                                                                                                                                                                                                                                                 |
| ENCLOSURE:              | Mega Tools size, aluminum type                                                                                                                                                                                                                                                                                                |
| COOLING:                | Convection ventilation                                                                                                                                                                                                                                                                                                        |
| 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                                                                                                                                                                                                                                                                                                |
| VIBRATION:              | ISTA 1A in carton (International Safe Transit Association)                                                                                                                                                                                                                                                                    |
| SAFETY                  | CE                                                                                                                                                                                                                                                                                                                            |

REGULATORY  
COMPLIANCE:

ENVIRONMENTAL  
REGULATORY  
COMPLIANCE: RoHs and WEEE

ACCESSORIES: Power supply (48V, 1.36A)

Product Dimensions 19.00cm x 11.60cm x 2.70cm (7.48" x 4.57" x 1.06" ) W, D, H

Product Weight 0.5kg (1.1lbs) approx

Shipping Dimensions 34.50cm x 16.50cm x 5.20cm (13.58" x 6.50" x 2.05" ) W, D, H

Shipping Weight 1.0kg (2.2lbs) approx

