

# TwisterPro

## UTP Transmitter/Receiver System

# FSR

Video Products Group

TwisterPro



### DESCRIPTION

The TwisterPro™ UTP Transmitter / Receiver System allows video, stereo audio, RS-232 data and IR signal transmission over ordinary low cost CAT-5, 5e, 6 and cable. This system offers the highest level of signal integrity. These high quality devices ensure reliable, error free transmission that is immune to interference from electrical noise. Cable runs of up to 1000 feet are within the capabilities of the system (see specs for maximum cable length details).

There are wall plate style transmitters (1-gang and 2-gang) and receivers (2-gang) offered in three colors; black, white, and ivory. Matching Decora™ trim rings are included for stand alone use, or the units be populated along with FSR's IPS component and plates for a complete interface solution. There are also "brick" style housing versions that can be used on any surface or rack mounted using the accessory rack kits if preferred. (See TwisterPro™ accessories and ordering info).

TPRO receivers with skew compensation adjustments are optional and help adjust for mis-convergence of the red, green and blue video signals that can occur as a result of inherent delay caused by differences in cable twist lengths.

The system can be powered at either the transmitter or receiver end by the optional power supply(s). If a TPRO- HUB is used, the hub with it's included power supply, will power the other components in the system. This 1 in 8 out hub allows full expandability for demanding applications. Multiple hubs can be cascaded to achieve a maximum of 512 outputs.

### FEATURES

#### RGB Video Transmission system

- HD-15 female connectors for video input and output
- CAT-5 connections are via RJ-45 Connectors (EIA/TIA-568B)
- Video resolutions up to 1920 x 1080 (1080p)
- Cable skew compensation adjustments on -S model receiver
- Adjustable gain control on front panel

#### RS-232 Data Transmission

- DB-9 female connectors for the inputs and male for outputs (optional for TPRO-TX wallplate models)
- UTP connections are via RJ-45 Connectors (EIA/TIA-568B)
- Compatible with RS-232 standards
- UL and CSA approved external power source (wall plug-in)
- Simplex RS-232 up to 19.2k baud
- LED indication of RS232 data activity

#### IR Control Data Transmission

- Compatible with most IR devices
- Custom carrier frequencies are available per customer request
- Extends IR control up to 1000 feet
- Normal and high output emitter power level settings
- High output power level settings up to 60mW allows for multiple emitter connections - (emitters sold separately)
- Transmitters feature integrated IR sensors in addition to hard-wired input options
- LED indication of IR data activity

#### General

- Units can be powered at either end or through optional hub
- Over-current sensing with LED indication
- Video, RS-232 and IR LED indicators
- Optional 1 in 8 out TPRO-HUB with power supply available

### APPLICATIONS

- Boardrooms
- Houses of Worship
- Control Rooms
- Classrooms
- Digital Signage
- Hotel/Conference Facilities
- Temporary Staging and Rental

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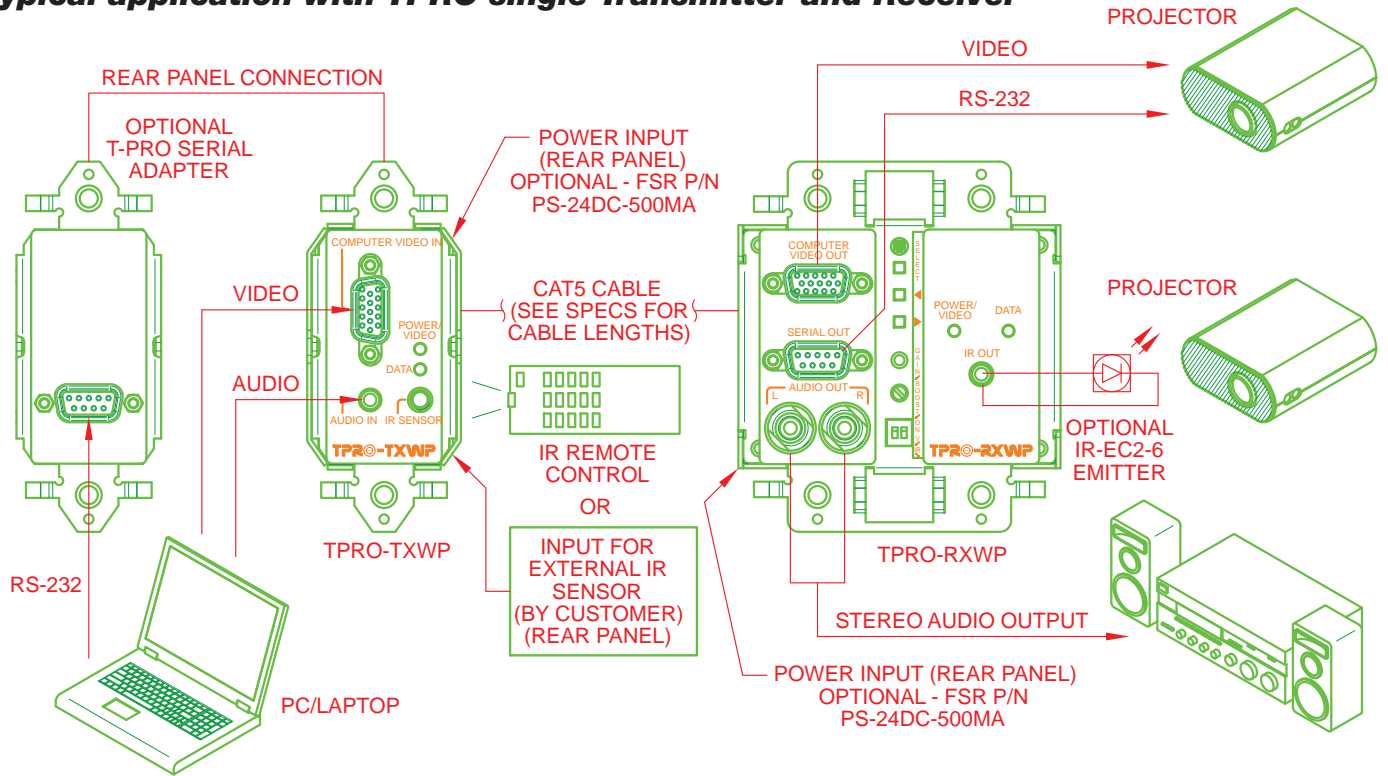
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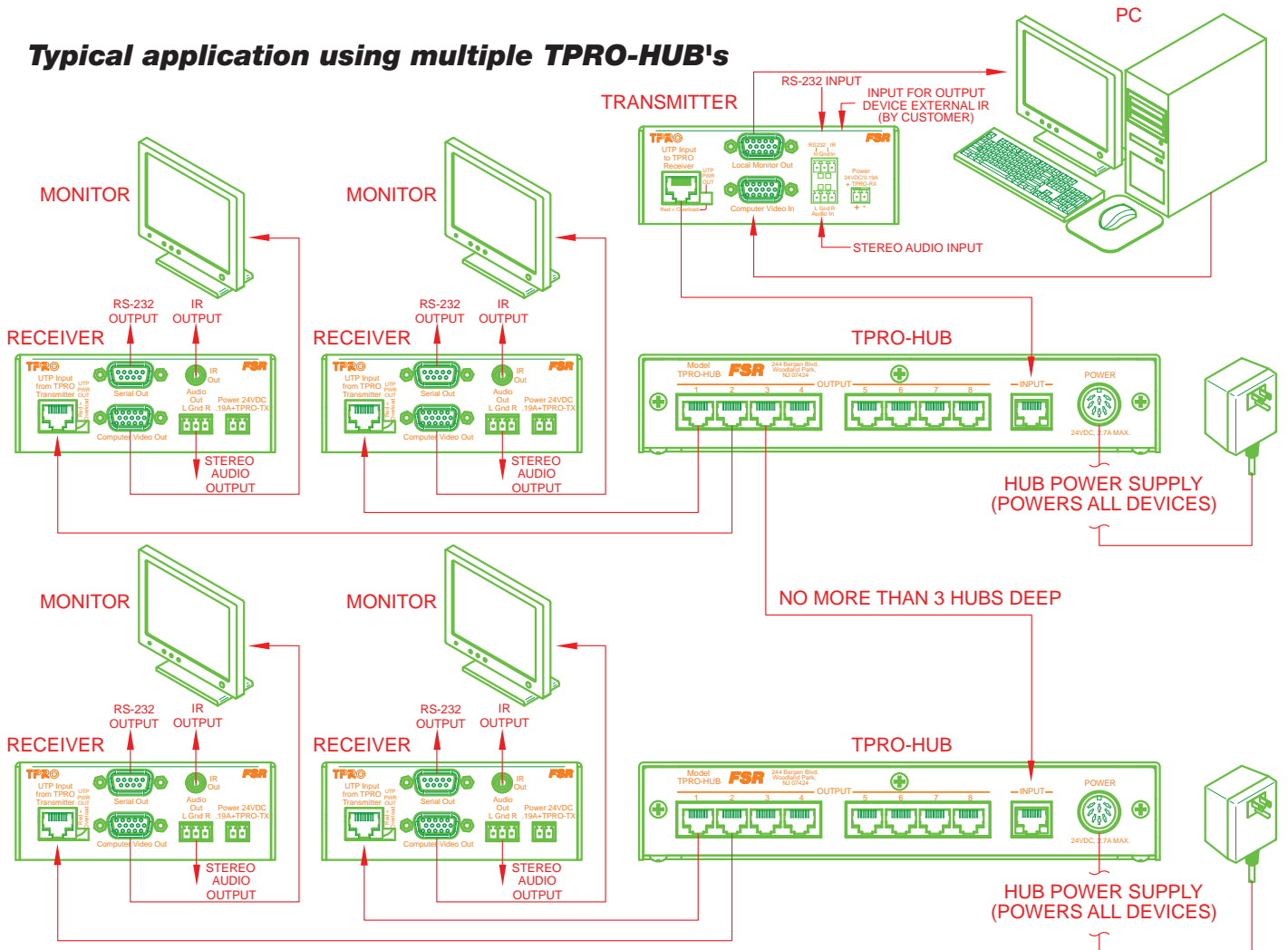
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# TwisterPro TYPICAL APPLICATIONS

## Typical application with TPRO single Transmitter and Receiver



## Typical application using multiple TPRO-HUB's



## TwisterPro ORDERING INFORMATION

TwisterPro requires a Transmitter (choose your preference), a Receiver (choose your preference), and Power Supply. No power supply is needed if you are connecting to the TwisterPro Hub.

### TwisterPro Wall Plate Transmitters - Includes Decora Trim Ring

| Item # | Part #        | Description   |
|--------|---------------|---|
| 16991  | TPRO-TXWP-BLK | 1 Gang Decora PC Video, St Aud, IR Transmitter Wall Plate - Black |
| 16992  | TPRO-TXWP-WHT | 1 Gang Decora PC Video, St Aud, IR Transmitter Wall Plate - White |
| 16993  | TPRO-TXWP-IVO | 1 Gang Decora PC Video, St Aud, IR Transmitter Wall Plate - Ivory |

### TwisterPro 1RU x 1/4 Wide Brick Transmitter

|       |          |   |
|-------|----------|---|
| 16998 | TPRO-TXD | PC Vid, St Aud, IR and Serial Transmitter 1 RU x 1/4 Wide |
|-------|----------|---|

### TwisterPro Wall Plate Receiver - Includes Decora Trim Ring

|       |                 |  |
|-------|-----------------|--|
| 17009 | TPRO-RXWPD-BLK  | 2 Gang Decora PC Video, St Aud, IR, Serial Receiver - Black    |
| 17012 | TPRO-RXWPDS-BLK | 2 Gang Decora PC Vid, St Aud, IR, Ser and Skew Comp Rx - Black |

### TwisterPro 1RU x 1/4 Wide Brick Receiver

|       |           |   |
|-------|-----------|---|
| 17015 | TPRO-RXD  | PC Vid, St Aud, IR, Serial Receiver 1 RU x 1/4 Wide               |
| 17016 | TPRO-RXDS | PC Vid, St Aud, IR, Serial and Skew Comp Receiver 1 RU x 1/4 Wide |

### TwisterPro Power Supply

|       |               |                          |
|-------|---------------|--------------------------|
| 15552 | PS-24DC-500MA | 24VDC 500ma Power Supply |
|-------|---------------|--------------------------|

### TwisterPro Hub

|       |          |                                  |
|-------|----------|----------------------------------|
| 17017 | TPRO-HUB | 1 in 8 Out Hub with Power Supply |
|-------|----------|----------------------------------|

### TwisterPro Accessories

|       |              |  |
|-------|--------------|--|
| 17019 | IR-EC1-6     | Single Head IR Emitter w/ 3.5mm Jack       |
| 17020 | IR-EC2-6     | Dual Head IR Emitter w/ 3.5mm Jack         |
| 15773 | SS-P1DB-WHT  | White Insert punched w/ 1 9-Pin D-Sub Hole |
| 15775 | SS-P1DB-BLK  | Black Insert punched w/ 1 9-Pin D-Sub Hole |
| 15706 | SS-DPLT2-WHT | White Double Gang Decora Wall Plate        |
| 15707 | SS-DPLT2-IVO | Ivory Double Gang Decora Wall Plate        |
| 15708 | SS-DPLT2-BLK | Black Double Gang Decora Wall Plate        |
| 16808 | RK-1         | 1/4 and 1/2 Rack Mounting Kit              |
| 16809 | RK-2         | 1/4 and 1/2 Rack and Module Mounting Shelf |

# TECHNICAL SPECIFICATIONS

| RGB VIDEO INPUT                 |  |  |
|---------------------------------|--|--|
| Connector                       | 1-HD-15 female connector   |  |
| Signal Type                     | 1 RGBHV, RGBS, RGsB, RsGsBs, Component, S-video or Composite   |  |
| Maximum Resolution              | 1920 X 1080 (1080P)  |  |
| Impedance                       | 75Ω  |  |
| Level (nominal)                 | Analog 0.7V p-p  |  |
| Level (maximum)                 | +-1.0 V  |  |
| RGB VIDEO OUTPUT                |  |  |
| Connector                       | 1-HD-15 female connector (Brick models have an additional HD-15 loopback connector)  |  |
| Signal Type                     | Same as input  |  |
| Gain                            | Unity  |  |
| Impedance                       | 75Ω  |  |
| Sync output                     | 5V into Hi Z, 2.2V into 75Ω  |  |
| AUDIO INPUT                     |  |  |
| Connector                       | 1-3.5 mm stereo mini jack (wallplates), 3 pin Phoenix plug (bricks)  |  |
| Signal type                     | Stereo unbalanced  |  |
| Level (nominal)                 | 0.25V RMS -10dBm   |  |
| Level (maximum)                 | 1.1V RMS, +3dBm  |  |
| Impedance                       | 50 kΩ  |  |
| Encoding                        | Full stereo 24 bit, 96kHz sample rate  |  |
| Frequency response              | 20Hz-15kHz +-0.5dB   |  |
| AUDIO OUTPUT                    |  |  |
| Connector                       | Wallplate model receivers  | 2 RCA jack connectors                                  |
|                                 | Brick model receivers  | 3 pin pluggable screw terminals                        |
| Signal type                     | Stereo unbalanced  |  |
| Impedance                       | 50Ω (Intended to drive a 600Ω or greater load)   |  |
| Gain                            | Unity +- 1.5dB   |  |
| CONTROL ADJUSTMENTS             |  |  |
| Delay Adjust                    | Independent for R, G and B delay (Skew models only)  |  |
| Delay range                     | 0-62 ns (Skew models only)   |  |
| Video Boost Switch              | Dip switch (OFF 0-800'/ON 200-1000')   |  |
| Gain control                    | Manual combined control for RGB  |  |
| RS-232 DATA INPUT               |  |  |
| Number/Type                     | One DB-9 female connector, (4 pin Phoenix plug on brick models) DCE type connection for direct connection to a PC serial port included on two gang transmitters only. Must order TPRO-Serial DB-9 accessory harness for one gang transmitters.   |  |
| Handshaking                     | Local loopback only (Models with DB-9 connectors only)   |  |
| RS-232 type                     | Unidirectional (data transmission from transmitter to receiver only)   |  |
| RS-232 DATA OUTPUT              |  |  |
| Number/Type                     | One DB-9 male connector. DTE type connection for direct connection to peripheral.  |  |
| Data Rate                       | 0-19.2k baud   |  |
| INFRARED INPUT                  |  |  |
| Number/Type                     | Both models have internal sensor logically OR'd with hardwired input.  |  |
|                                 | T-PRO TX brick models  | One 4 pin pluggable Phoenix connector                  |
|                                 | T-PRO-TX wallplate models  | One C-grid SL 5-pin connector on the back of the unit. |
| Compatibility                   | Compatible with most IR outputs designed to drive an IR emitter LED.   |  |
| INFRARED OUTPUT                 |  |  |
| Number/Type                     | One 3.5 mm mini jack, center positive. All TPRO-RX models (Use FSR IR-EC1-6 single or IR-EC2-6 dual emitter accessory.)  |  |
| Output Switch                   | Dip switch (Normal 12 mW/High 60mW)  |  |
| Carrier Range                   | 40 kHz, custom frequencies available per request.  |  |
| POWER REQUIREMENTS              |  |  |
| TPRO-RX Receivers               | 24VDC@0.12A (Skew models are 24VDC@0.19A)  |  |
| TPRO-TX Transmitters            | 24VDC@0.09A  |  |
|                                 | Power supplies are optional. Use FSR PS-24DC-500MA   |  |
| MECHANICAL                      |  |  |
| Transmitter enclosure           | Model  | Dimensions (inches)                                    |
|                                 | Brick  | 4.22 X 1.59 X 4.10                                     |
| Receiver enclosure              | Wall plate   | 1.70 X 4.09 X 1.46                                     |
|                                 | Brick  | 4.22 X 1.59 X 4.10                                     |
|                                 | Wall plate   | 3.56 X 4.09 X 1.29                                     |
| Shipping weight lbs.            |  |  |
| GENERAL                         |  |  |
| UTP cable wiring standard/ type | EIA / TIA-568B CAT5, 5E, 6   |  |
| Recommended transmission range  | 0-1000 ft with a single power supply (Up to 600' when powered at transmitter. Up to 1000' when powered at receiver. When using a TPRO-HUB with included power supply: The maximum distance to a transmitter is 1000'. The maximum distance to a receiver is 600' *<br>* A distance of up to 1000' can be achieved by adding an additional power supply at the receiver |  |



Specifications are subject to change without notice.



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