



RDL[®]
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

TWISTED PAIR FORMAT-C



AF-TPS3C, D-TPS3C, DS-TPS3C, EM-TPS3C FORMAT-C Three-Pair Senders

- Video and Stereo Audio Over Single Twisted Pair Cable
- NTSC or PAL Video
- Two Unbalanced -10 dBV Phono Jack Audio Inputs
- Video Feeds Pair A; L (Left) Feeds Pair B; R (Right) Feeds Pair C
- Remote Powering through Twisted Pair Cable
- Fused Local Power Feeds all Connected Modules
- Local Power Input on Terminal Block
- Blue LED Indicates Module is Powered
- Utilizes All Three FORMAT-C Signal Pairs
- Active Balanced Transmission Over Twisted Pairs

The -TPS3C modules are three-pair audio/video sending modules compatible with RDL FORMAT-C twisted pair products. These modules are designed to be mounted in wall boxes, cabinets or other enclosures that allow users to connect audio and video sources. The D- and DS- models mount in RDL WB-1U and WB-2U wall boxes, or in standard U.S. electrical boxes. The D-TPS3C features a white front-panel laminate with gray lettering that matches RDL Decora®-style remote controls. The DS-TPS3C is constructed of stainless steel to coordinate with RDL Decora®-style stainless steel remote controls in commercial/industrial installations. The AF-TPS3C is an APPFLEX™ series product that is compatible with various APPFLEX wall-mount, cabinet-mount and tabletop enclosures. The EM-TPS3C is a 45mm square module that fits the European Modular mounting frames and cover plates. European electrical boxes are not sufficiently deep to accommodate RJ45 jacks and plugs, therefore the EM- products connect to the twisted pair cable through a detachable terminal block.

APPLICATION: The -TPS3C modules feature an RCA phono NTSC or PAL video input and two RCA phono jack audio inputs, one for the left channel source and one for the right channel source. The unbalanced inputs are designed to receive standard -10 dBV consumer level audio signals. The buffered video source is routed to pair A. The buffered left and right line-level audio inputs are routed to cable pairs B and C. These modules drive all three FORMAT-C cable pairs, so they are not equipped to receive inputs from other sender modules. The -TPS3C may not be connected together with any other sending modules. The -TPS3C may be powered directly from a 24 Vdc power supply using the rear-panel detachable terminal block. Local power connected to the module is also fed to all connected remote modules. The -TPS3C may be remotely powered through the twisted pair cable from any other module, signal distributor or RDL power inserter connected to the same twisted pair cable. Module power is indicated by a front-panel LED.

RDL FORMAT-C provides quality balanced video transmission over long distances, and features superior audio performance that rivals or exceeds shielded wiring. Design simplicity, ease of installation, unsurpassed flexibility, automatically fused power, exceptional hum rejection, low noise, and low distortion provide designers and installers the optimum choice in economical twisted pair products.

FORMAT-C TWISTED PAIR AF-TPS3C, D-TPS3C, DS-TPS3C, EM-TPS3C FORMAT-C Three-Pair Senders

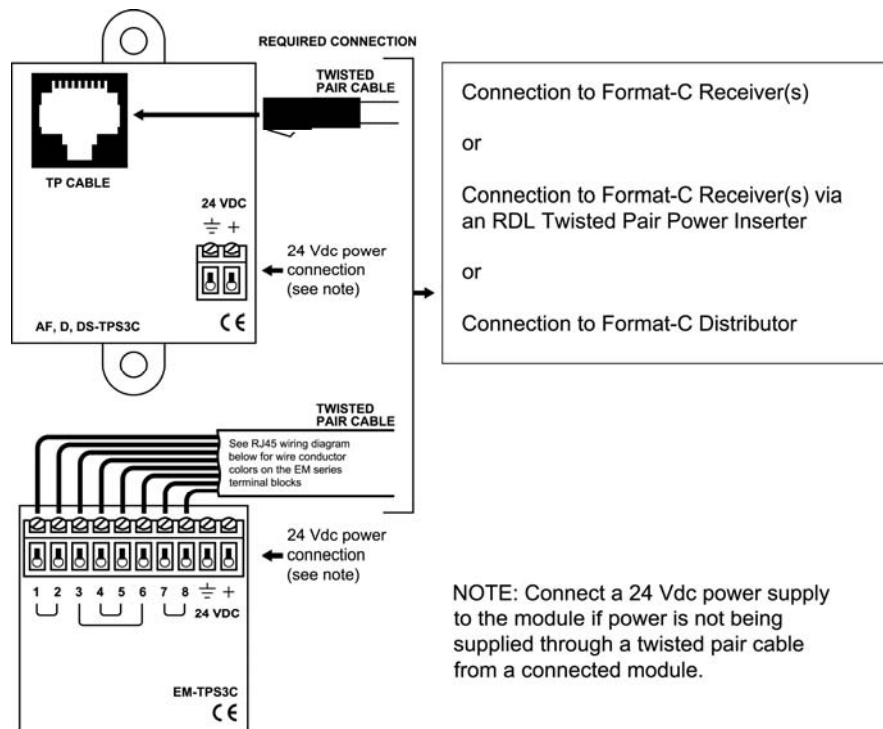
Installation/Operation



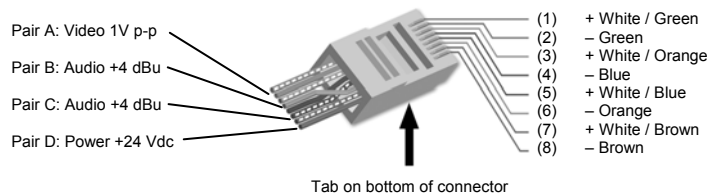
EN55103-1 E1-E5; EN55103-2 E1-E4
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.

STEP 1: Connect 24 Vdc to the power input terminals if this module is not being powered through the twisted pair cable from another module, or if this module is located an excessive distance from the next powered module on the cable. Note: The front-panel power LED will be illuminated if this module is powered. If this module is powering other modules through the cable and if there is a wiring short, the short must be cleared then power must be turned off to this module for 10 seconds to reset the internal protection circuit.

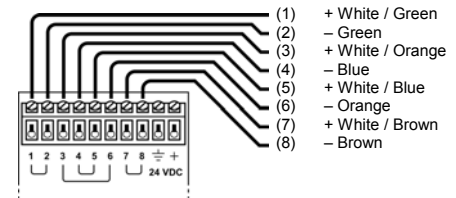
STEP 2: Connect the twisted pair cable and fasten the module in its mounting box.



RJ45 Standard wiring



EM Terminal Block Standard wiring



RJ45 conductor colors shown are for 568A standard. The 568B standard may be used if the connectors at both ends of the cable are wired identically.

TYPICAL PERFORMANCE

Inputs (3): Video: 75 Ω; Audio (left and right): 10 kΩ Unbal.
Input Connection: Video: RCA Phono; Audio: RCA Phono
Input Level: Video: 1V p-p; Audio: -10 dBV Unbalanced; +10 dBV Max
FORMAT-C Signal Pairs: A (Video); B (Unbalanced Line Left); C (Unbalanced Line Right)
Gain: Video: Unity; Line: 12 dB
Output: RDL TP FORMAT-C
Output Connection: RJ45 (Models D-, DS-, AF-); Detachable Terminal Block (Model EM-)
Video Section
Video Format: NTSC or PAL
Video Bandwidth: 10 MHz
Audio Section
Frequency Response: 20 Hz to 50 kHz (+/- 0.5 dB)

THD+N: < 0.05% (20 Hz to 50 kHz); < 0.005% (1 kHz)
Noise below +4 dBu: < -95 dB
Crosstalk: Line to Line: < 90 dB (1 kHz); < 75 dB (20 Hz to 20 kHz);
Line to Video, Video to Line: Below noise floor
Headroom above +4 dBu: > 18 dB
Indicator: Power In
Power Connections (2): Detachable terminal block; RJ45
Power Requirement: 24 Vdc @ 50 mA plus connected loads
Dimensions: EM-TPS3C: 1.77" (45 mm) W and H; 1.93" (4.9 cm) D
D-, DS-TPS3C: 1.6" (4.06 cm) W; 4.11" (10.45 cm) H; 1.89" (4.8 cm) D
AF-TPS3C: 2.22" (5.64 cm) W; 2.77" (7.04 cm) H; 1.89" (4.8 cm) D
Mounting Box Minimum Depth: 2.4" (Models D-, DS-, AF-); 39 mm (Model EM-)