RDL®
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

maxTX™ SERIES TWISTED PAIR
Model TX-TPR3C
Format-C Three-Pair Receiver

- Video and Stereo Audio Over Single Twisted Pair Cable
- NTSC or PAL Video
- -10 dBV Unbalanced or +4 dBu Balanced Audio Outputs
- Phono Jack and Detachable Terminal Block Audio Outputs
- Utilizes All Three Format-C Pairs
- Powered Locally or Remotely through the RJ45 Jack
- Local Power Feeds all Modules Connected to RJ45 Jacks
- Wiring Fault Protection by Automatically Resetting Fuse
- Local Power Input on Terminal Block or dc Power Jack
- Blue LED Indicates Module is Powered
- Active Balanced Transmission Over Twisted Pairs
- Video From Pair A; L (left) From Pair B; R (Right) From Pair C

The TX-TPR3C is a three-pair audio/video receiving module compatible with RDL Format-C twisted pair products. It is built in the versatile Max-TX series enclosure. The durable adhesives provided with the TX-TPR3C permit permanent or removable mounting. The TX-TPR3C may be rack or surface mounted with optional TX™ series accessories.

APPLICATION: The TX-TPR3C features a BNC NTSC or PAL video output and two audio outputs, one for the left channel and one for the right channel. The video signal received from pair A of the RJ45 INPUT jack feeds the BNC video output jack. A front-panel GAIN control is provided to recover any level loss over the twisted pair cable. An EQ control allows the installer to adjust the sharpness of the picture for high frequency losses in the cable. The audio signals received from pairs B and C of the twisted pair cable are buffered to drive the unbalanced RCA output jacks at the standard -10 dBV consumer level and the balanced detachable terminal block outputs at +4 dBu.

The TX-TPR3C features bridging inputs, allowing it to be connected to the LOOP OUT jack of other receivers. The bridging input circuits used in the TX-TPR3C allow connection of up to 3 receivers from a single Format-C sender. The possibility of multiple receiver locations adds enormous flexibility in the design of audio/video routing systems using RDL FORMAT-C products. The TX-TPR3C may be powered directly from a 24 Vdc power supply using the detachable terminal block. Local power connected to the module is also fed to all connected remote modules. The TX-TPR3C 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.

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Installation/Operation

CE

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.

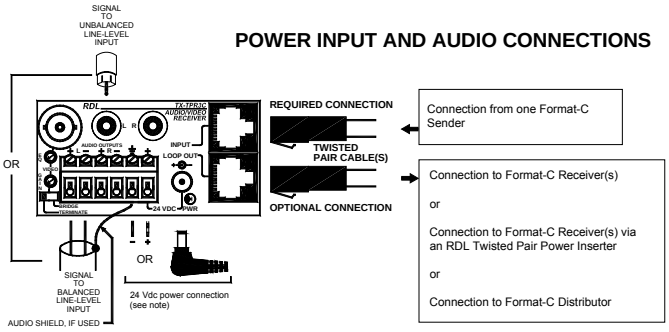
STEP 1: Connect 24 Vdc to the **POWER** input (terminals or jack) if this module is not being powered through the twisted pair cable from another module, or if this module is located an excessive distance from the next powered module on the cable. Note: The front-panel power LED will be illuminated if 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 either the **L** and **R** audio jacks to -10 dBV equipment inputs, and/or connect the balanced terminals to +4 dBu equipment inputs. Connect the BNC video output to a 75 Ohm video input.

STEP 3: Connect the **INPUT** twisted pair cable coming from Format-C senders or distributors and mount the module. Set the input switch to **TERMINATE**, unless an additional receiver will be used. If so, set the input switch to **BRIDGE** and connect additional receiver(s) to the **LOOP OUT** jack. The last connected Format-C receiver must be set to **TERMINATE**.

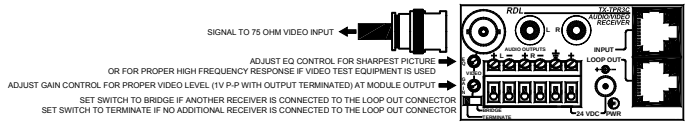
STEP 4: With the module powered, adjust the GAIN and EQ controls for a clear video picture or for proper video sync equalization if an oscilloscope or other video monitoring device is available.

POWER INPUT AND AUDIO CONNECTIONS

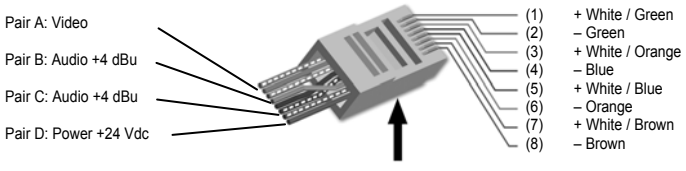


NOTE: Connect a 24 Vdc power supply to the module if power is not being supplied through a twisted pair cable from a connected module.

VIDEO CONNECTION AND ADJUSTMENT



RJ45 Standard wiring



Tab on bottom of connector

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

Input:	RDL FORMAT-C
Input Connection:	RJ45
FORMAT-C Signal Pairs Used (3):	A, B, C
Outputs (5):	Video: 75 Ω; Audio: 150 Ω balanced (Left and Right); 1k unbalanced (Left and Right)
Output Connection:	Detachable Terminal Block (Bal); RCA (Unbal); BNC (Video)
Output Level:	Video: 1 Vp-p; Audio +4 dBu Bal. (+22 Max); -10 dBV Unbal.
Video section	
Video Format:	NTSC or PAL
Video Bandwidth:	10 MHz
Audio section	
Frequency Response:	10 Hz to 50 kHz (+/- 0.1 dB)
THD+N:	< 0.005%
Noise below +4 dBu:	< 90 dB
Crosstalk:	Audio: < 90 dB (1 kHz); < 75 dB (20 Hz to 20 kHz) Audio/Video: Below noise floor
Headroom above +4 dBu:	> 18 dB
CMRR:	> 80 dB (50 Hz to 150 Hz)
Indicator:	Power In
Power Connections (3):	Power Jack; Detachable Terminal Block; RJ45
Power Requirement:	24 Vdc @ 55 mA plus connected loads
Maximum Load Current:	145 mA at RJ45 Jack
Dimensions:	3.0" (7.6 cm) W; 1.6" (4.08 cm) H; 2.09" (5.3 cm) D

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