RDL®
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

TWISTED PAIR FORMAT-C

Models AF-TPR3C, D-TPR3C, DS-TPR3C & EM-TPR3C FORMAT-C Three-Pair Receivers

- **Video and Stereo Audio OverSingle Twisted Pair Cable**
- **NTSC or PAL Video**
- **Two Unbalanced -10 dBV Phono Jack Line Outputs**
- **Video From Pair A; L (Left) From Pair B; R (Right) From 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 -TPR3C modules are three-pair audio receiving 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 external equipment. The D- and DS- models mount in RDL WB-1U and WB-2U wall boxes, or in standard U.S. electrical boxes. The D-TPR3C features a white front-panel laminate with gray lettering that matches RDL Decora©-style remote controls. The DS-TPR3C is constructed of stainless steel to coordinate with RDL Decora-style stainless steel remote controls in commercial/industrial installations. The AF-TPR3C is an APPFLEX™ series product that is compatible with various APPFLEX wall-mount, cabinet-mount and tabletop enclosures. The EM-TPR3C 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 -TPR3C modules feature an RCA phono NTSC or PAL video output and two RCA phono jack 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 RCA video output jack. A concealed GAIN control is provided to recover any video 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 RCA audio output jacks at the standard -10 dBV consumer level. The -TPR3C modules terminate the video cable pair, therefore additional receivers may not be connected to the same twisted pair feed. The -TPR3C 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 -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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FORMAT-C Three-Pair Receivers

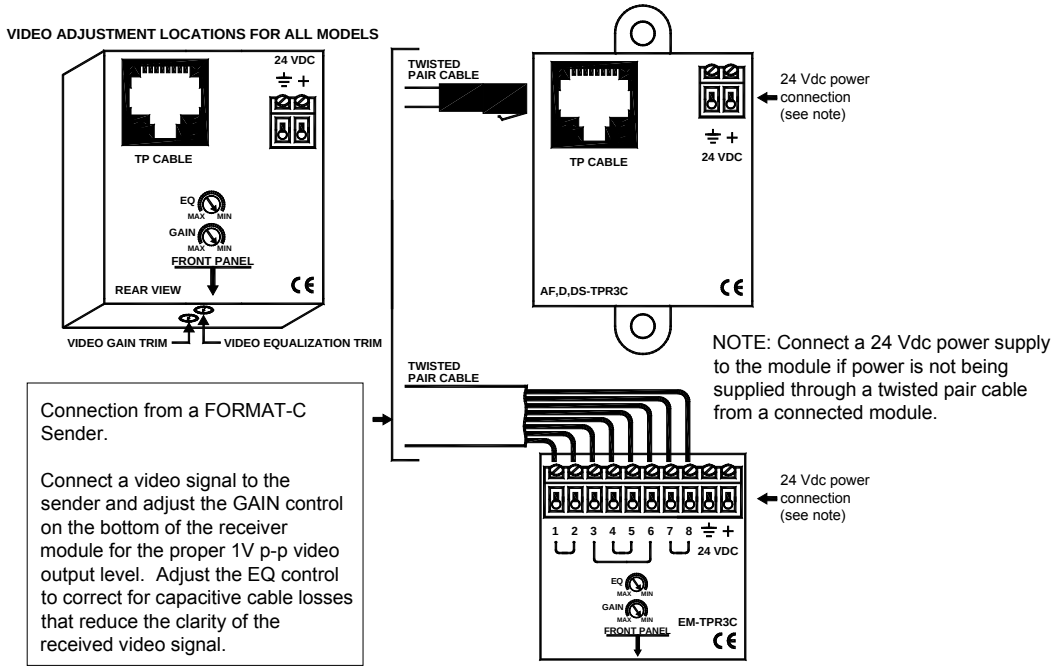
Installation/Operation

CE

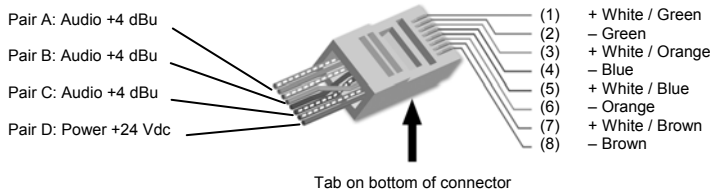
EN55103-1 E1-E5; EN55103-2 E1-E4
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.

STEP 1: Connect 24 Vdc to the power input terminals 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 coming from FORMAT-C senders or distributors and fasten the module in its mounting box.



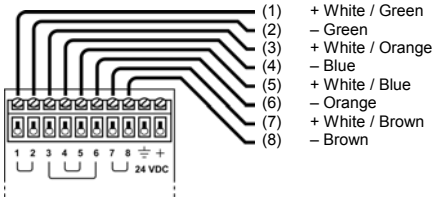
RJ45 Standard wiring



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.

EM Terminal Block Standard wiring



TYPICAL PERFORMANCE

Input:	RDL FORMAT-C
Input Connection:	RJ45 (Models D-, DS-, AF-); Detachable Terminal Block (Model EM-)
FORMAT-C Signal Pairs Used (3):	A, B, C
Outputs (3):	Video: 75 Ω; Audio: 100 Ω unbalanced
Output Connection:	Video: RCA PHONO; Audio: RCA Phono Jack (2)
Output Level:	Video: 1 V p-p; Audio: -10 dBV
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
Headroom above +4 dBu:	> 18 dB
CMRR:	> 80 dB (50 Hz to 150 Hz)
Crosstalk:	Line to Line: < 90 dB (1 kHz); < 75 dB (20 Hz to 20 kHz); Line to Video, Video to Line: Below noise floor
Indicator:	Power In
Power Connections (2):	Detachable terminal block; RJ45
Power Requirement:	24 Vdc @ 50 mA plus connected loads
Maximum Load Current:	150mA at RJ45 Jack
Dimensions:	EM-TPR3C: 1.77" (45 mm) W and H; 1.93" (4.9 cm) D D-, DS-TPR3C: 1.6" (4.06 cm) W; 4.11" (10.45 cm) H; 1.89" (4.8 cm) D AF-TPR3C: 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-)

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