



RDL[®]
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

TWISTED PAIR FORMAT-A



Models AF-TPR3A, D-TPR3A, DS-TPR3A & EM-TPR3A Format-A Three-Pair Receivers

- **Balanced Mic or Line Level XLR Output**
- **Switch-Selectable Output Level on Rear Panel**
- **Two Unbalanced -10 dBV Phono Jack Audio Outputs**
- **XLR From Pair A; L From Pair B; R 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-A Pairs**
- **Studio-Quality Precision Active Balanced Circuitry**

The -TPR3A modules are three-pair audio receiving modules compatible with RDL® Format-A 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-TPR3A features a white front-panel laminate with gray lettering that matches RDL Decora®-style remote controls. The DS-TPR3A is constructed of stainless steel to coordinate with RDL Decora-style stainless steel remote controls in commercial/industrial installations. The AF-TPR3A is an APPFLEX™ series product that is compatible with various APPFLEX wall-mount, cabinet-mount and tabletop enclosures. The EM-TPR3A 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 -TPR3A modules feature an XLR audio output and two RCA phono jack outputs, one for the left channel and one for the right channel. The audio signal received from pair A of the RJ45 INPUT jack feeds the XLR audio output jack. The output level from the XLR jack is set to either **MIC** or **LINE** level during installation using a rear-panel switch. The audio signals received from pairs B and C of the twisted pair cable are buffered to drive the RCA output jacks at the standard -10 dBV consumer level. Although the -TPR3A modules access signals from all three cable pairs, additional receivers may be connected to the same twisted pair feed. The bridging input circuits used in all FORMAT-A twisted pair receivers allow connection of up to 10 receiver outputs for each cable pair. The possibility of multiple receiver locations adds enormous flexibility in the design of audio routing systems using RDL FORMAT-A products. The -TPR3A 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 -TPR3A 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-A features superior audio performance that rivals or exceeds shielded wiring. Design simplicity, ease of installation, unsurpassed flexibility, automatic fused power, exceptional hum rejection, low noise, and low distortion provide designers and installers the optimum choice in economical twisted pair products.

TWISTED PAIR FORMAT-A

Models AF-TPR3A, D-TPR3A, DS-TPR3A & EM-TPR3A

Format-A Three-Pair Receivers

Installation/Operation

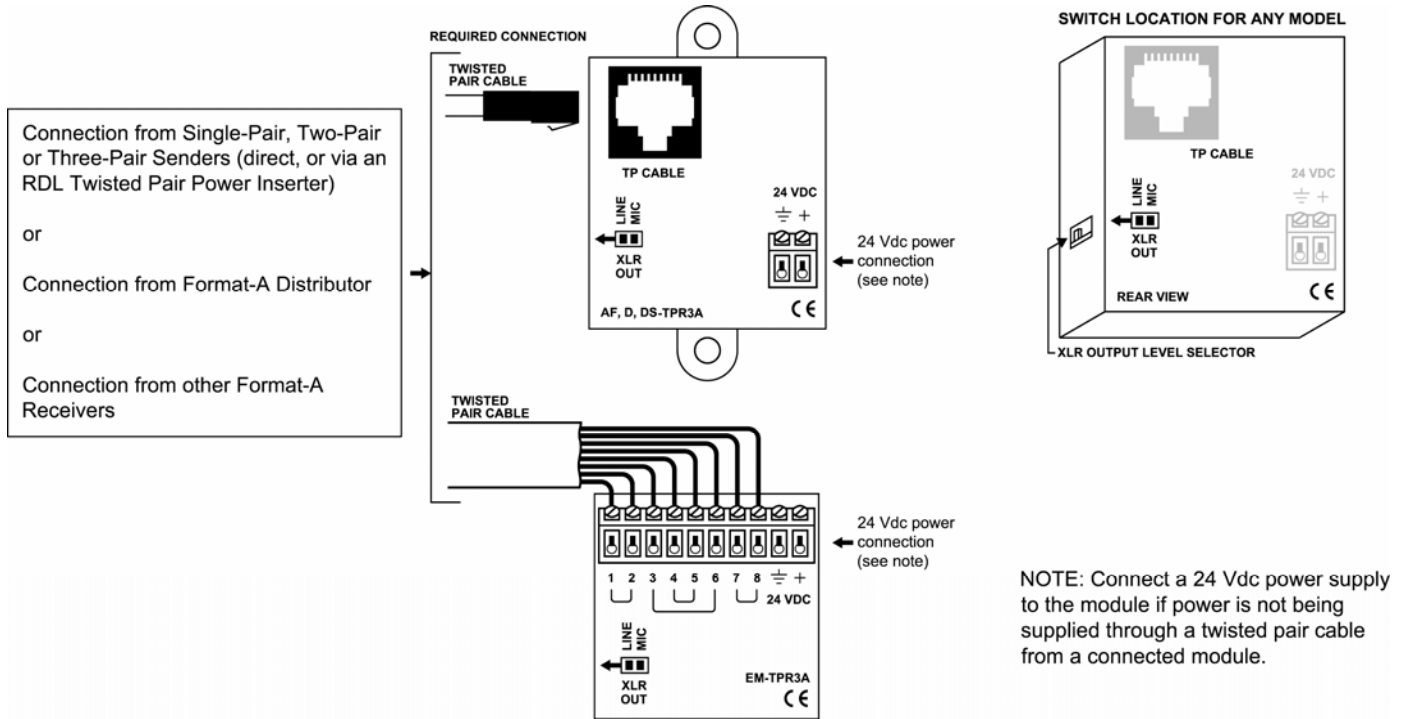


EN55103-1 E1-E5; EN55103-2 E1-E4
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice.

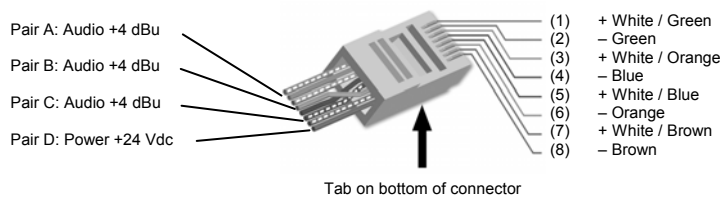
STEP 1: Set the XLR OUT switch to the desired output level for the front-panel XLR jack (MIC or LINE).

STEP 2: 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 3: Connect the twisted pair cable coming from Format-A senders or distributors and fasten the module in its mounting box.

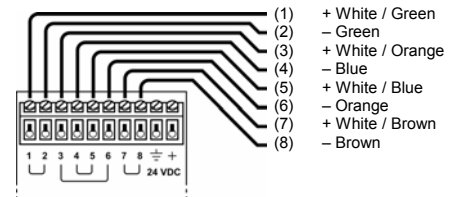


RJ45 Standard wiring



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.

EM Terminal Block Standard wiring



TYPICAL PERFORMANCE

Input: RDL FORMAT-A
Input Connection: RJ45 (Models D-, DS-, AF-); Detachable Terminal Block (Model EM-)
Format-A Signal Pairs Used (3): A, B, C
Outputs (3): 150 Ω balanced; 100 Ω unbalanced
Output Connection: XLR (balanced Mic or Line); RCA Phono Jack (2)
Output Level: XLR: -45 dBu Mic or +4 dBu Line Level, Switch-selectable on rear panel;
RCA phono: -10 dBV
Frequency Response: 10 Hz to 50 kHz (+/- 0.1 dB)
THD+N: < 0.005%
Noise below +4 dBu: < -90 dB

Crosstalk: < 90 dB (1 kHz); < 75 dB (20 Hz to 20 kHz)
Headroom above +4 dBu: > 18 dB
CMRR: > 80 dB (50 Hz to 150 Hz)
Indicator: Power In
Power Connections (2): Detachable terminal block; RJ45
Power Requirement: 24 Vdc @ 45 mA plus connected loads
Dimensions: EM-TPR3A: 1.77" (45 mm) W and H; 1.93" (4.9 cm) D
D-, DS-TPR3A: 1.6" (4.06 cm) W; 4.11" (10.45 cm) H; 1.89" (4.8 cm) D
AF-TPR3A: 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-)