



**RDL**<sup>®</sup>  
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## TWISTED PAIR FORMAT-A Model FP-TPSR4A Format-A Two-Pair Audio Sender/Receiver

### Features:

- Combination Sender and Receiver Module
- Ideal for Hotel Room Audio Systems
- Distributes Power to All Connected Modules
- Automatically Resetting Fuse for Output Voltage
- Ultra-Compact All Metal Construction

### Sender Section

- Format-A Sender from TV Fixed Audio Output
- Sends Left and Right Audio Channels
- Unbalanced Stereo Input from Fixed Level Audio Source
- Balanced Audio Input from Mono Amplifier
- High Quality Audio Distributed to Each RJ45 Output
- Two Format-A Outputs on RJ45

### Receiver Section

- Format-A Receiver Compatible with 2 Pair Senders such as D-TPS8A
- Two -10 dBV stereo unbalanced outputs on RCA connectors
- L (Left) Output From Pair B; R (Right) From Pair C
- The output feeds the AUX input of the television



The FP-TPSR4A is part of the group of versatile FLAT-PAK products from Radio Design Labs. The unique FLAT-PAK case can be directly screwed or bolted to cabinets or shelves. Optionally available rack-mounting accessories permit single or multiple FLAT-PAK module mounting.

**APPLICATION:** The FP-TPSR4A is a sender and receiver that provides the interface between a hotel room television and listening stations and audio input panels.

The Sender Section is an RDL Format-A audio sender that accepts either a stereo line-level or 1 to 3 Watt mono amplified fixed-level signal, usually from a commercial hospitality equipped TV. The FP TPS4A distributes the source signal to two Format-A RJ45 output jacks to feed multiple Format-A receivers.

The input accepts either an unbalanced stereo or an amplified mono input. The FP-TPSR4A sends the unbalanced Left and Right sources over balanced twisted-pair cables on pairs B and C. If a mono amplified signal is connected, the mono source is fed to both pairs B and C. Audio circuitry is active balanced for superior audio fidelity and low-noise performance.

The Receiver Section is an RDL Format-A receiver with an RJ45 input fed by sender modules such as the D-TPS8A stereo input panel for portable computer or media player. Audio signals received on pairs B and C are amplified to feed two stereo RCA connectors at a standard -10 dBV consumer level. One of these outputs connects to the TV AUX input, the other is available to feed the input of a stereo amplifier in the room.

The FP-TPSR4A is normally mounted behind a TV where AC power is available. A 24 Vdc power supply, available separately, provides power to the FP-TPSR4A and to the connected sending and receiving modules. It is not necessary to connect power supplies to the connected senders and receivers, facilitating installation. A front-panel blue LED is illuminated when the FP-TPSR4A is receiving and distributing 24 Vdc to all three RJ45 jacks. The distributed output dc voltage is short-circuit protected by an automatically resetting fuse. A power fault on either output jack causes the blue LED to extinguish.

The FP-TPSR4A is ideally suited to guest room installations with bedside and restroom listening stations. The inputs and outputs are fully compatible with all RDL Format-A receivers.

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.

## FLAT-PAK™ SERIES

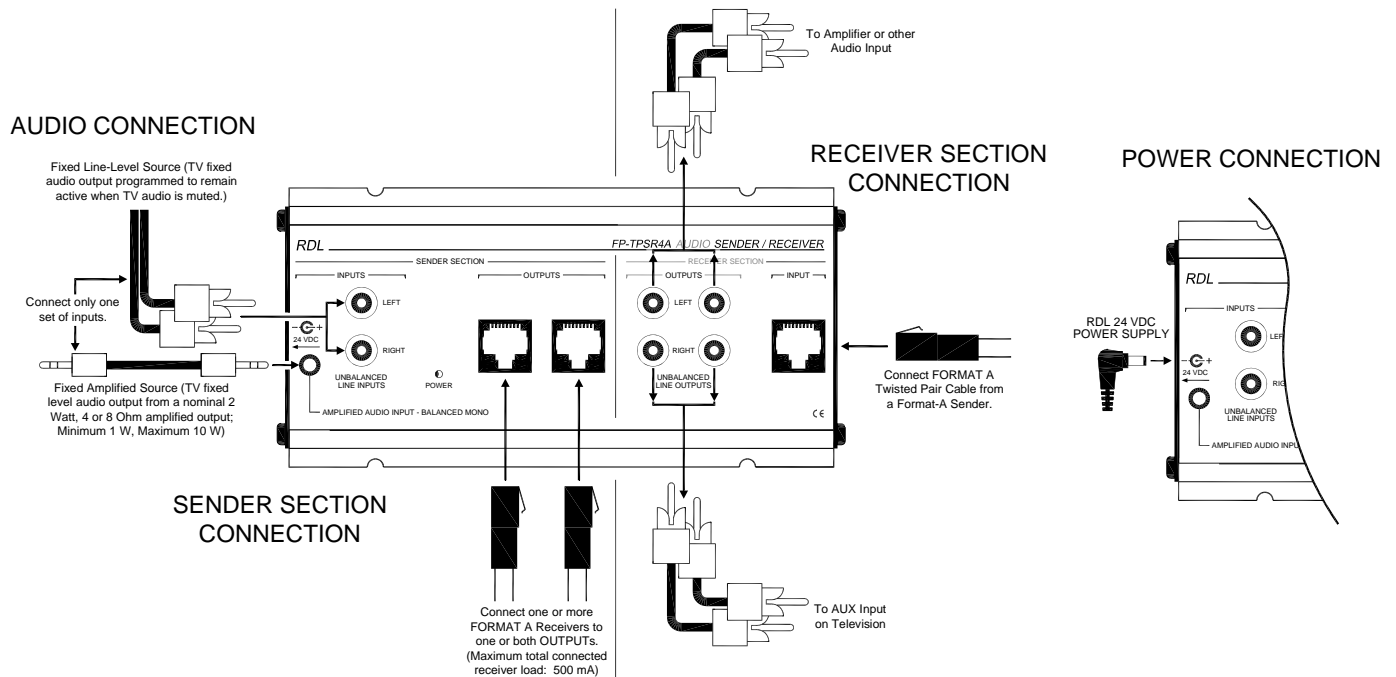
### Model FP-TPSR4A

#### Format-A Two-Pair Audio Sender/Receiver

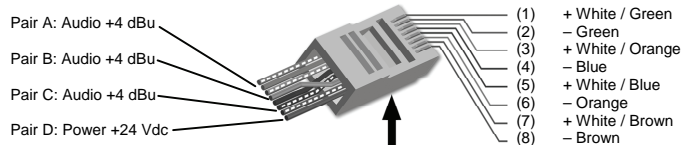
## Installation/Operation



EN55103-1 E1-E5; EN55103-2 E1-E4; EN60065  
 Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice. This product is Professional Apparatus.



## 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

#### Sender Section

Inputs (3): 20 kΩ unbalanced (2, left and right); 100 kΩ balanced (mono amplified)  
 Input Connection: Phono Jack (Unbal.); Mini-jack (Bal.)  
 Input Level: -10 dBV unbalanced; 1 W (8 Ohms) to 10 W (8 Ohms) balanced, 2 W nominal  
 Format-A Signal Pairs Used (2): B, C  
 Output: RDL TP Format-A  
 Output Connection: RJ45  
 Frequency Response: 10 Hz to 50 kHz (+/- 0.1 dB)  
 THD+N: < 0.05%  
 Noise below +4 dBu: < -85 dB  
 Crosstalk: < -85 dB (10 Hz to 10 kHz); < -80 dB (10 kHz to 20 kHz)  
 Headroom above +4 dBu: > 18 dB

Indicator: Power (Input and outputs active)  
 Power Connection: Power Jack (locking)  
 Power Requirement: 24 Vdc @ 35 mA plus connected loads  
 Maximum Load Current: 500 mA  
 Dimensions: 6.58" (16.7 cm) L; 3.25" (8.6 cm) W; 1.68" (4.27 cm) H

#### Receiver Section

Input: RDL FORMAT-A  
 Input Connection: RJ45  
 Format-A Signal Pairs Used (2): B (Left); C (Right)  
 Output: 100 Ω unbalanced  
 Output Connections (2): RCA Phono stereo  
 Frequency Response: 10 Hz to 40 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 -10 dBV: > 20 dB  
 CMRR: > 65 dB (50 Hz to 150 Hz)