



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

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## TWISTED PAIR FORMAT-A Models D-TPA1A, DS-TPA1A, DB-TPA1A 3.5 W Audio Power Amplifier



- 3.5 Watt RMS Audio Amplifier into 8 Ohms
- 6.5 Watt RMS Audio Amplifier into 4 Ohms
- Output Drives 4 or 8 Ohm Speaker
- Setting Level to Minimum Activates Energy-Saving Sleep Mode
- High-Efficiency Class D Operation
- VCA Level Adjustment for Scratch-Free Long Life
- Input and Power Connection on RJ45
- Connects to Format-A Sender using Twisted-Pair Cable
- Powered from RDL Twisted Pair Format-A Sender
- Speaker Output Connection on Detachable Terminal Block
- Ultra-Compact All Metal Construction
- Thermal and Short-Circuit Protection

The -TPA1A is part of the group of versatile wall-mounted products from Radio Design Labs. The standard mounting case can be directly fastened in North American electrical boxes or in RDL International wall boxes.

**APPLICATION:** The -TPA1A modules are two-pair audio amplifier modules compatible with RDL Format-A twisted pair products. Each -TPA1A receives stereo audio and 24 Vdc power through a rear-panel RJ45 jack. The left and right audio signals received on pairs B and C of the twisted pair cable are summed to mono and amplified. The amplified output level is set by an internal VCA which is controlled by a front-panel volume control. The VCA attenuator provides years of scratch-free gain adjustment.

The -TPA1A circuits are all designed for low power consumption. Amplification is provided by a high-efficiency Class D power stage with audio filtering tailored for crisp, pleasant audio clarity. The high-efficiency Class D output stage produces negligible heat for all levels of expected voice or music modulation. When the user reduces the audio level to minimum, the class D output stage is switched off. This sleep mode remains active until the user turns up the output level.

The output drives either a 4 Ohm or 8 Ohm speaker. The speaker cable connects to the module using a detachable terminal block.

The front panel does not include any illuminated indicators, making the -TPA1A ideally suited to installation in dark rooms or areas. Installation is simple and quick, requiring only the connection of the speaker leads and the twisted pair RJ45.

The -TPA1A may be fed and powered from any RDL Format-A sender, and is ideal in hospitality installations fed from a sender connected to a TV monitor (for example: FP-TPS4A Audio Sender from TV with fixed audio output level).

Use the -TPA1A wherever a single speaker user-adjustable wall mounted amplifier is needed. Combine the amplifier with other RDL Format-A products for a cost-effective, high-performance audio system.



## D- SERIES Models D-TPA1A, DS-TPA1A, DB-TPA1A 3.5 W Audio Power Amplifier

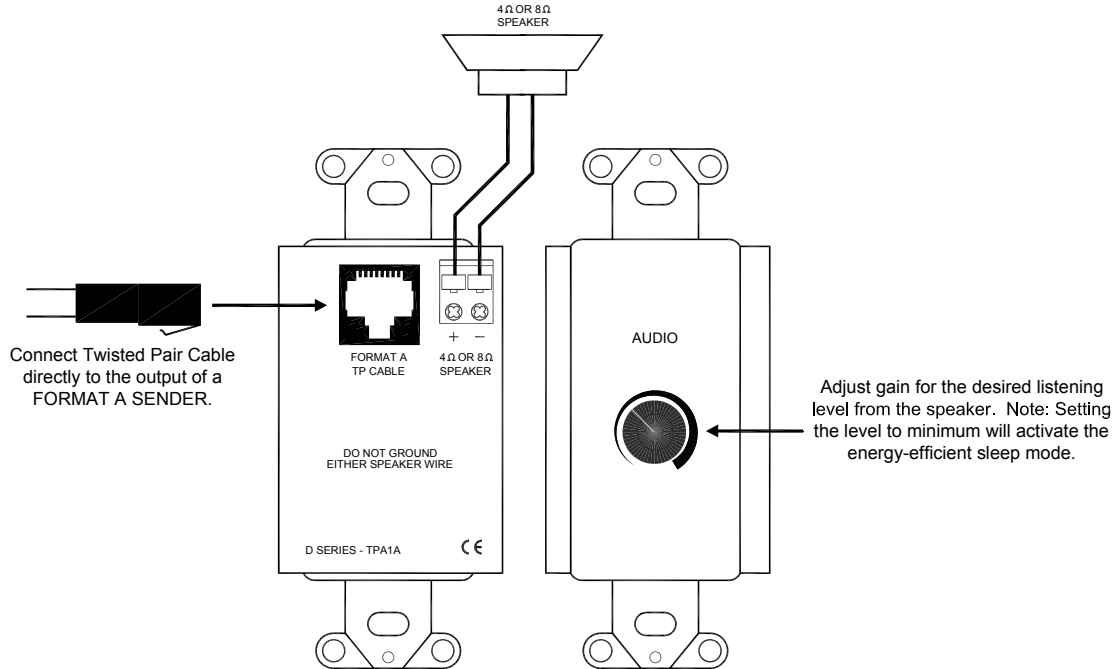
## Installation/Operation



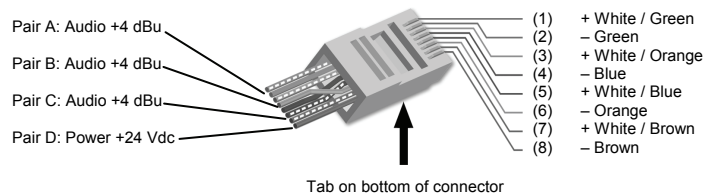
EN55103-1 E1-E5; EN55103-2 E1-E4; EN60065  
Typical Performance reflects product at publication time exclusive of EMC data, if any, supplied with product. Specifications are subject to change without notice. This product is Professional Apparatus.

### Mounting

The -TPA1A should be mounted in an RDL WB-1U wall box or equivalent. The ambient operating environment must not exceed 40 degrees C.



### 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.

### TYPICAL PERFORMANCE

Input:	RDL Format-A
Input Connector:	RJ45
Gain Adjustment:	Single turn audio taper, VCA attenuator
Frequency Response:	50 Hz to 20 kHz (+/- 1.5 dB)
THD+N:	< 0.1% (@ 1 kHz, 1 W)
Noise:	< -70 dB (below 1 W RMS)
CMRR:	> 60 dB (50 Hz to 120 Hz)
Output Power:	3.5 W RMS (max., into 8 Ohms); 6.5 W RMS (max., into 4 Ohms)
Power Consumption:	45 mA (idle), 95 mA (1 W into 8 Ohms), 150 mA (1 W into 4 Ohms), 215 mA (3.5 W into 8 Ohms)
Sleep Mode Power Consumption:	< 0.3 W
Sleep Mode Enable:	Active at audio gain < -60 dB
Ambient Operating Environment:	0° C to 40° C Maximum; 20° C Recommended
Dimensions:	Height: 4.13 in. 10.49 cm; Width: 1.7 in. 4.32 cm; Depth: 2.15 in. 5.47 cm

### Radio Design Labs Technical Support Centers

U.S.A. (800) 933-1780, (928) 778-3554; Fax: (928) 778-3506

Europe [NH Amsterdam] (+31) 20-6238 983; Fax: (+31) 20-6225-287