RDL® 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

DB-TPA1A DS-TPA1A D-TPA1A

- 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.

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SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

D- SERIES

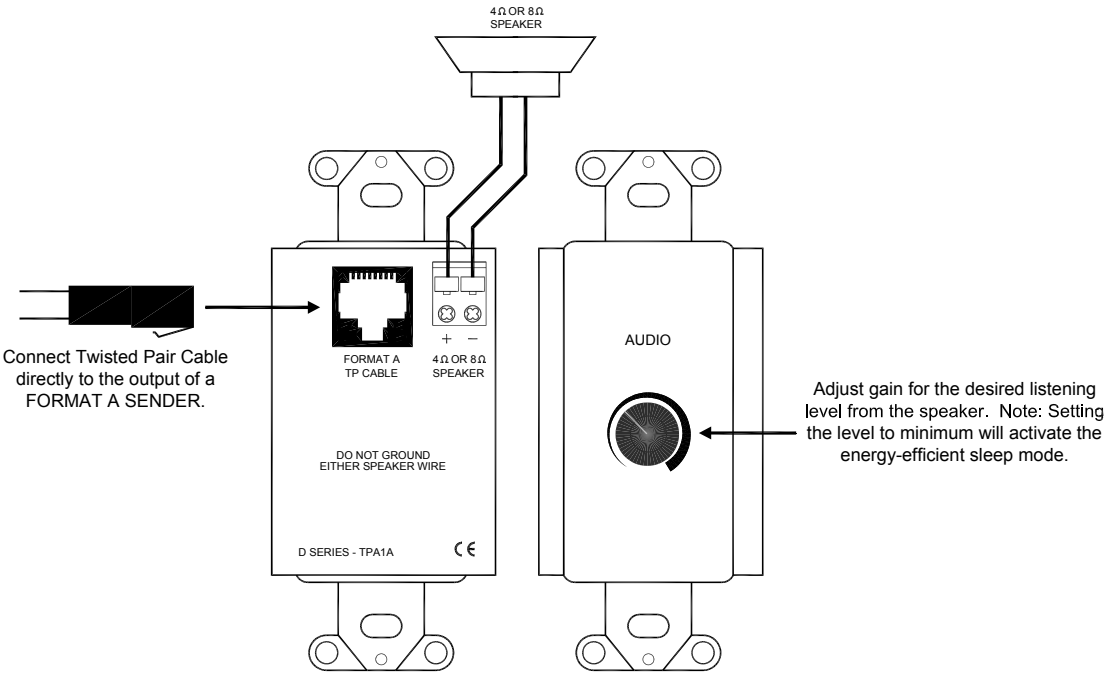
Models **D-TPA1A, DS-TPA1A, DB-TPA1A**

3.5 W Audio Power Amplifier

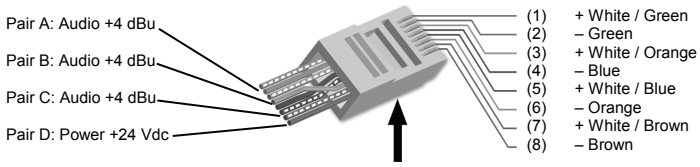
Installation/Operation

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



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-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

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