



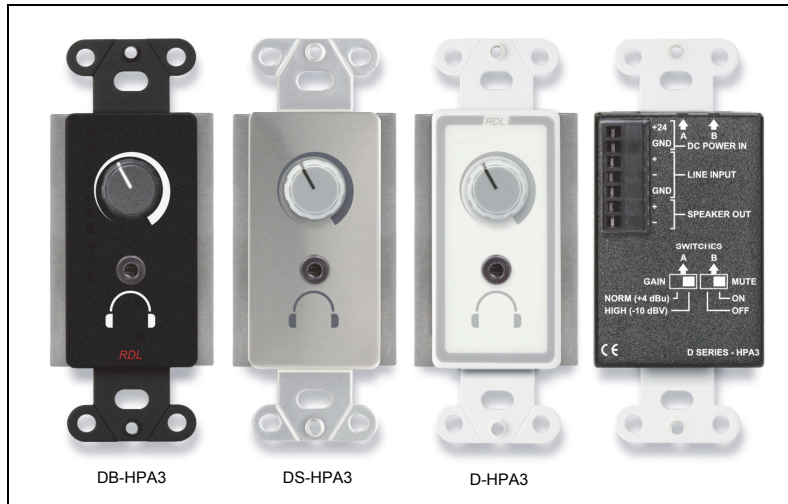
**RDL**®  
Radio Design Labs

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## ACCESSORIES

### Models D-HPA3, DS-HPA3, DB-HPA3

### 3.5 Watt Audio Power and Headphone Amplifier



- Wall-Mounted Amplifier with 2 Outputs
- Balanced Input on the Rear Panel
- Speaker Output on the Rear Panel
- Mini-Jack Headphone Output on the Front Panel
- Setting to Turn Off Power Amplifier upon Headphone Connection
- Amplifier Muting Using Solid-State Switching
- Single Gain Adjustment for the Speaker and Headphone Amplifiers
- 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
- High-Efficiency Class D Operation
- Speaker Output Connection on Detachable Terminal Block
- Ultra-Compact All Metal Construction
- Thermal and Short-Circuit Protection

The D SERIES-HPA3 is part of the group of versatile accessory products from Radio Design Labs. These modules combine durable construction with high quality components and attractive, professional graphics. The D SERIES-HPA3 mounts in separately available electrical wall boxes and cover plates.

**APPLICATION:** The D SERIES-HPA3 is a high efficiency 3.5 W power amplifier with one line input, an amplified output to drive a 4 or 8 ohm speaker and a separate headphone amplifier. The -HPA3 features a balanced line level input that may be connected unbalanced. The gain range will accommodate standard unbalanced levels as well as professional balanced levels. The amplified output levels are controlled by a front-panel volume control.

The amplifier features a Mini-Jack headphone output on the front panel. When a headset is plugged in, the power amplifier may be switched off. Two recessed slide switches located on the top of the rear enclosure are set prior to mounting the module. One switch is provided for setting the input sensitivity. The mute switch determines whether the power amplifier operates when headphones are plugged in.

Amplification for the speaker output 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.

The D SERIES-HPA3 is designed to be mounted in a wall box. The front panel does not include any illuminated indicators, making the -HPA3 ideally suited to installation in dark rooms or areas. Wiring is connected through a rear-panel detachable terminal block. Module operation is from a 24 Vdc ground-referenced power supply.

## ACCESSORIES

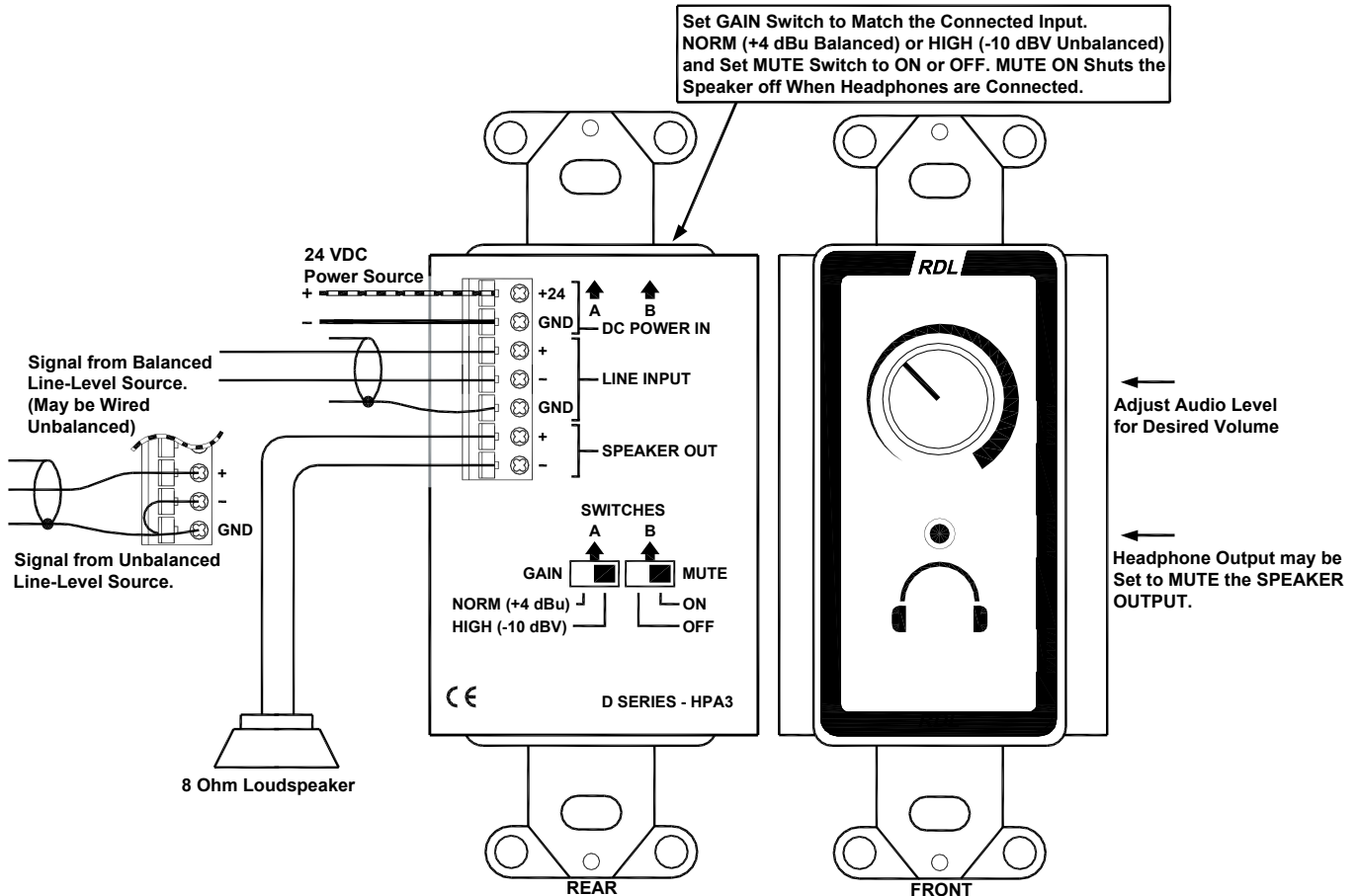
Models D-HPA3, DB-HPA3, DS-HPA3

3.5 Watt Audio Power and Headphone Amplifier

## 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.



## TYPICAL PERFORMANCE

|                                |                                                                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------|
| Input:                         | 20 kΩ balanced or unbalanced bridging                                                                  |
| Input Level:                   | +4 dBu nominal (Balanced, Low input sensitivity); -15 dBV nominal (Unbalanced, High input sensitivity) |
| Minimum Input Level:           | -18 dBu (Balanced, Max. gain)                                                                          |
| Maximum Input Level:           | +22 dBu (Low input sensitivity); +4 dBu (High input sensitivity)                                       |
| Gain Adjustment:               | Single-turn audio taper (front-panel)                                                                  |
| Output Power (Headphones):     | 10 mW into 100 ohms (normal); 30 mW into 100 ohms (maximum)                                            |
| Output Power (Speaker):        | 3.5 W RMS (Max., into 8 ohms); 6.5 W RMS (Max., into 4 ohms)                                           |
| Frequency Response:            | 20 Hz to 50 kHz (Headphones, ± 1 dB); 20 Hz to 20 kHz (Speaker, ± 1 dB)                                |
| THD+N:                         | < 0.1% (Headphones, 20 Hz to 20 kHz, 10 mW into 100 ohms); < 0.1% (Speaker, 1 kHz, 1 W)                |
| Noise:                         | < -85 dB (Headphones, below 10 mW into 100 ohms); < -80 dB (Speaker, below 1 W into 8 ohms)            |
| CMRR:                          | > 50 dB (50 Hz to 120 Hz)                                                                              |
| Power Requirement:             | 24 Vdc @ 30 mA (Idle); 55 mA (1/8 power; normal voice or music); 225 mA (3.5 W into 8 ohms)            |
| 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: 2.05 in. 5.21 cm                             |

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