



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

SPECIALISTS IN PRACTICAL PRECISION ENGINEERING™

## STICK-ON<sup>®</sup> SERIES

### Model ST-SH2

### Stereophonic Headphone Amp

- Stereophonic Headphone Amplifier
- Provision for External Stereo Level Control
- Balanced or Unbalanced Inputs
- Bridge a Line and Feed Headsets
- Amplifier To Drive High or Low Impedance Headsets



The ST-SH2 is part of the group of versatile STICK-ON products from Radio Design Labs. STICK-ONs feature the advanced circuitry for which RDL products are known, combined with unequalled versatility in mounting possibilities. The durable adhesives provided with the ST-SH2 permit permanent or removable mounting. Numerous available mounting accessories, brackets, rack-mount and tabletop chassis are optionally available to facilitate any system design. STICK-ONs are designed, built and rated for continuous duty in professional AV systems.

**FUNCTIONAL DESCRIPTION:** The ST-SH2 is a dual channel headphone amplifier with balanced/unbalanced left (L) and right (R) inputs. Each input is designed to accept an input signal with operating levels between -20 dBV and +8 dBu. A multi-turn gain potentiometer is provided for setting the maximum gain independently for each input channel. Terminals are provided for optional connection of an external audio taper 10 k $\Omega$  potentiometer. Three terminals are used for an external stereo control: Left-channel pot wiper (**LEVEL ADJUST: L**), Right-channel pot wiper (**LEVEL ADJUST: R**), and Ground (common to both pot channels). The output amplifiers can each drive either high or low impedance headphones, producing up to 250 mW into 8  $\Omega$  or 20 Vp-p into 2 k $\Omega$ .

Module operation is from a 24 Vdc ground-referenced power supply.

**TYPICAL APPLICATION:** The ST-SH2 is used in applications requiring headphones of any impedance to be driven from consumer or professional audio sources. For fixed level installations not requiring user volume control, the ST-SH2 is wired to the audio source and to a headphone jack. Frequently, it is desirable to mount a volume knob by the headphone jack. The **LEVEL ADJUST** terminals (L) and (R) may be wired to the respective wipers of a stereo 10 k $\Omega$  potentiometer to provide volume adjustment. It is recommended that the ST-SH2 be located less than 39 in. (1m) from the jack and volume control.

The exceptional low noise (better than 100 dB below operating level), low distortion, audio clarity and excellent crosstalk performance makes this module ideally suited to a wide variety of demanding audio applications. Use this module in conjunction with other RDL modules as part of a high quality, flexible audio/video system.



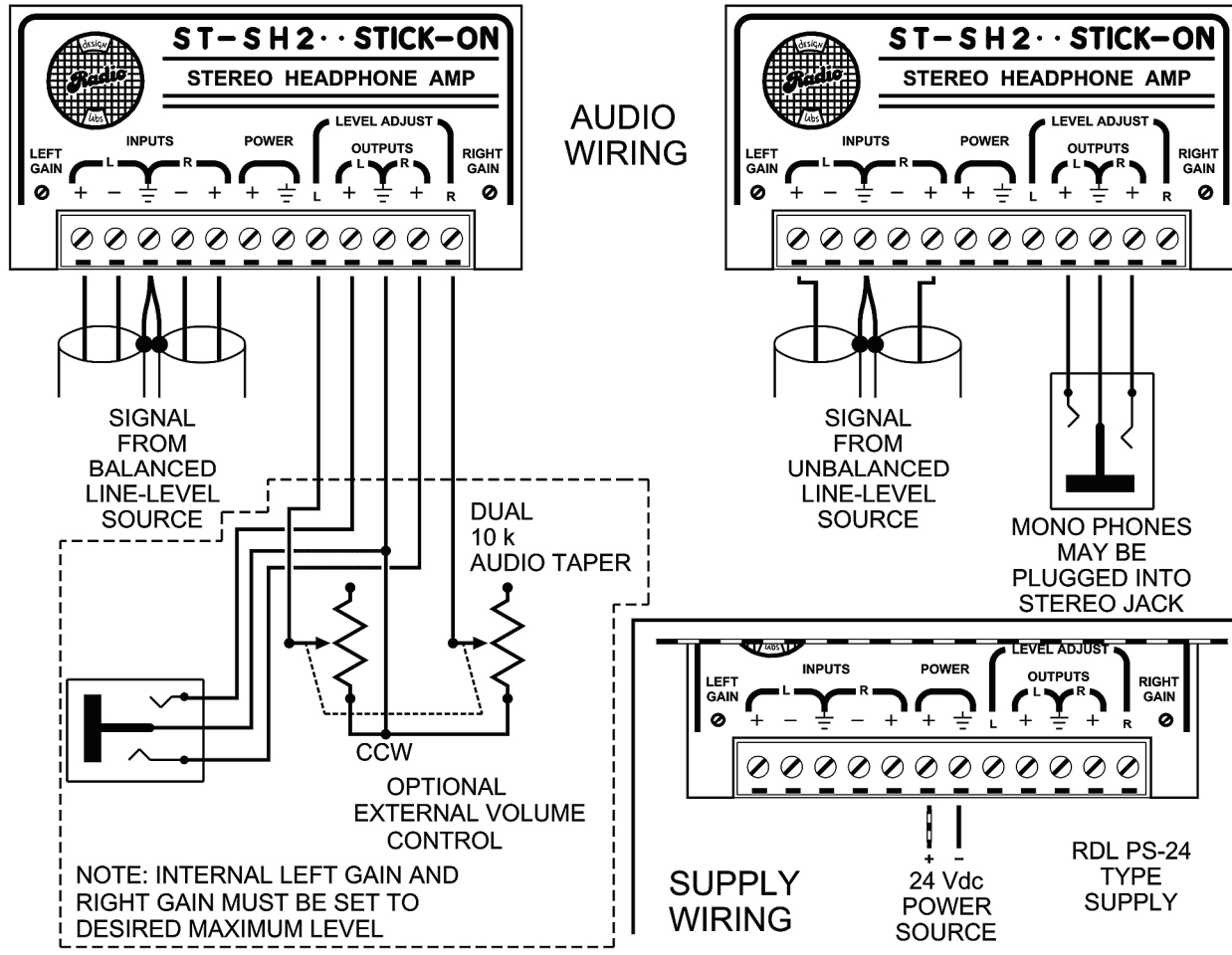
## STICK-ON<sup>®</sup> SERIES

### Model ST-SH2 Stereophonic Headphone Amp

### 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:                         | 10 k $\Omega$ balanced or unbalanced bridging  |
| Input Signal:                  | -20 dBu (-22 dBV) to +6 dBu (for normal output level: +4 dBu, 100 $\Omega$ )<br>-10 dBu to +16 dBu (for 250 mW, 8 $\Omega$ output) |
| Output Load Impedance:         | 8 $\Omega$ to 5 k $\Omega$ (Drives low or high impedance headphones)   |
| Output Signal (normal rated):  | +4 dBu into 100 $\Omega$   |
| Output Signal (maximum):       | 250 mW into 8 $\Omega$ , 20 Vp-p into 2 k $\Omega$   |
| THD+N:                         | < 0.005% (0.0015% typical @ 1 kHz)   |
| Frequency Response:            | 20 Hz to 40 kHz ( $\pm$ 0.25 dB)   |
| Noise:                         | < -100 dB below normal operating level   |
| Total Dynamic Range:           | > 115 dB   |
| Gain:                          | Adjustable from -2 to 24 dB  |
| CMRR:                          | > 50 dB at 100 Hz  |
| Crosstalk:                     | < -65 dB (10 Hz – 20 kHz);<br>< -80 dB @ 1 kHz   |
| Ambient Operating Environment: | 0 $^{\circ}$ C to 55 $^{\circ}$ C  |
| Power Requirement:             | GROUND-REFERENCED, 24 Vdc @ 200 mA   |

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