

# RICHTER ELECTRONIC ENGINEERING

## RICHTER HA-1

### Onboard Headphone Amplifier

Outstanding Audio Performance II Low Noise Amplifier Design  
Rugged and Shielded II 3,5 mm Output Jack

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The RICHTER HA-1 onboard headphone amplifier was designed for the use inside a bass or guitar. It provides low noise, smooth, full and precise signal reproduction without losing any details on sound even in deep bass frequency band. The audio performance was tested with a Sennheiser DT770, 80  $\Omega$  headphone.

The HA-1 is turned on by plugging the headphone into the 3,5mm output jack.

Turning on the HA-1, a recent onboard electronic will be switched on too, provided by the switched ground (GND) of the headphone amplifier.

You will get the active sound from your instrument via headphone.

#### Features:

- Low noise amplifier design with precise and smooth sound reproduction.
- High impedance input for direct amplification in passive instruments.
- 0,1% precision metal film resistors in the signal path with a resultant noise factor of up to 10 times lower than standard thick film resistors.
- Low tolerance film capacitors in the signal path featuring lowest distortion and superior linearity.
- Cermet trimming potentiometer for gain adjust
- Screw input terminals with marking for signal-input (red) and GND (black)
- The switched ground terminal GND provides to switch on an recent onboard preamp or EQ.
- Completely shielded and encapsulated - no shielding inside the instrument required.

#### Technical Data:

- Input Impedance: 1M $\Omega$
- Headphone Output Impedance:  $\geq 32 \Omega$ ,  
- recommended 80  $\Omega$
- Frequency Range: 10 Hz to 30 kHz, -3dB
- Supply Voltage: 9V to 18V
- Current Consumption: 3,6 mA
- Gain: 1 to 5 via trim pot.
- Weight: 15 g
- Dimensions: L 20 x W 20 x H 24 mm
- Reverse Polarity Protection
- Input screw terminals

