



HDA100 and HDA100-BAT

STEREO HEADPHONE AMPLIFIER

OPERATING AND MAINTENANCE MANUAL



Model HDA100-BAT



Model HDA100

© Copyright 2011, ATI Audio Inc.

Description

The HDA100 is a rugged, battery or AC powered headphone amplifier that will provide excellent performance driving a wide range of typical stereo headphones. It will drive the usual 32 to 600 ohm high efficiency stereo headphones to teeth rattling levels around 120dB SPL with a combination of high output voltage swing (16Vp-p) for high impedance phones and a protected high current capability (0.2Ap-p) for low impedance phones. It will do the above at distortion levels below .10% and response flat to -.25dB measured over the full frequency range of 20Hz to 20kHz.

The HDA100 will bridge (40Kohms) both balanced and unbalanced input lines with individual left and right XLR input jacks. Connect balanced inputs HI to XLR pin 2, or TRS-TIP and LO to XLR pin3 or TRS-RING, Shields go to XLR pin 1 or TRS-TIP and with the cable shield to XLR pin 1 or TRS-SHLD. Be careful to observe HI-LO input polarity to avoid monaural or center stage cancellation effects. The unused TRS or XLR connector pair may be used to loop through the input signal to additional HDA100 units. The wiring to the rear panel TRS connectors is not the same as the wiring for the stereo headphone jack/plug on the front panel.

The HDA100 is shipped setup for +4dBu nominal input level (+24dBu peak). An internal jumper plug P1 may be moved for additional input gain to accommodate RCA jack levels at -10dBu (.25V) nominal (+12dBu peak). To change P1, remove the top cover by removing the four upper Phillips head screws (two on each side). P1 is located on the PC board directly behind the volume control and has two positions. For -10dBu inputs move the plug toward the front. For +4dBu inputs move the plug toward the rear. Ensure that no internal wiring is caught or pinched, and replace the cover and screws.

The HDA100 will provide a comfortable listening level of 1mW at around 12 o'clock on the volume control for most headsets. The amplifier is capable of driving many headsets to dangerous levels over 120dB SPL. If you can hear distortion, it's TOO LOUD! Levels near 120dB SPL can easily cause PERMANENT HEARING DAMAGE.

The HDA100 is powered by 24VDC from an external power module such as the WA100-1. The DC power connector is center pin negative, sleeve position with a 2.1 mm center pin and a 5.5mm outer sleeve. Two HDA100 can share one WA100-1 with accessory DC loop-thru cable 20602-1. For universal operation from 90-264VAC mains, specify Wall Mount Power Supply WA100-2.

Model HDA100-BAT requires the use of two 9V Alkaline or Lithium batteries which are inserted in the unit's top cover.

SPECIFICATIONS

OUTPUT	120dB SPL driving typical 32 to 600 ohm headphones; provides 16V p-p for high impedance headphones and up to 0.2A p-p to low impedance headphones
INPUT	+4 or -10dBu nominal level (internal jumper plug selection) for 1mW output; +24dBu maximum input level, 40Kohm balanced input impedance
DISTORTION	.1% maximum THD, 20Hz to 20kHz, below clipping
RESPONSE	+0/-.25dB 20Hz to 20kHz
NOISE	-94dBm E.I.N., 20kHz measurement bandwidth
CONNECTORS	Input: ¼-inch TRS jacks and XLR connectors Output: ¼-inch TRS stereo jack Power: Cylindrical 5.5mm OD, 2.1mm 1D, pin negative
POWER	24VDC nominal at up to .2A from 115VAC external power supply, WA100-1 (included). Specify WA100-2-EXCH for operation from 90-264VAC. Model HDA100-BAT can be powered by two 9V batteries installed in top cover.
SIZE	1.72" (4.4cm) H X 5.75" (14.6cm) W X 6.0" (15.2cm) D
NET WEIGHT	1.5 lbs. (0.7kg); 3 lbs. (1.4kg) Shipping Weight
POWER SUPPLIES	
WA100-1	Wall mount power supply (UL, CSA), 24VDC @ .4 Amp, 115 VAC/60 Hz supplied as standard
WA100-2-EXCH	Universal wall mount power supply with interchangeable AC mains connectors, 24VDC @ .4 amp, 90-264VAC, 47-63 Hz (optional exchange for WA100-1)
WARRANTY	Limited, One Year Warranty

One Year Limited Warranty

ATI warrants this product to be free from defects in materials and workmanship to its original owner for a period of one year from date of purchase. ATI will repair or replace such product or part thereof, which upon inspection by ATI, is found to be defective in materials or workmanship.

The Proper Return Authorization Number must be obtained from ATI in advance of return. Contact ATI at 856-626-3480 or email sales@atiaudio.com to receive the number and instructions for return of your unit.

A written statement providing the name, address, daytime telephone number and email address of the original owner, together with receipt from the original purchase, and a brief description of any claimed defects, must accompany all returns. Parts or product for which replacement is made shall become the property of ATI.

The customer shall be responsible for costs of transportation and insurance to the factory of ATI, and shall be required to prepay such costs.

ATI shall use reasonable efforts to repair or replace any product covered by this limited warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, ATI shall notify the customer accordingly. ATI reserves the right to replace any product that has been discontinued from its product line with a new product of comparable value and function.

This warranty shall be void in the event a covered product has been damaged, or failure is caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, or lightning, power fluctuations and other incidental or environmental conditions. Further, product malfunction or deterioration due to normal wear is not covered by this warranty.

ATI DISCLAIMS ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR USE, EXCEPT AS EXPRESSLY SET FORTH HEREIN. THE SOLE OBLIGATION OF ATI UNDER THIS LIMITED WARRANTY SHALL BE TO REPAIR OR REPLACE THE COVERED PRODUCT, IN ACCORDANCE WITH THE TERMS SET FORTH HEREIN. ATI EXPRESSLY DISCLAIMS ANY LOST PROFITS, GENERAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM BREACH OF ANY WARRANTY, OR ARISING OUT OF THE USE OR INABILITY TO USE ANY ATI PRODUCT.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

ATI reserves the right to modify or discontinue, without prior notice to you, any model or style product.

If warranty problems arise, or if you need assistance in using your product contact us.