



HeadLite 3+

Four channel headphone amplifier



User Guide

Instructions for use and installation

Welcome

At DACS we are very pleased that you have chosen to purchase one of our products. Fully assembled and tested in the UK, this **HeadLite 3+** will give you years of exemplary service. We're so confident in the quality of our products that our standard warranty is double the statutory one year, and by registering, you can extend it for another year. Please visit our web site for details—www.dacs-audio.com.

If you have any suggestions or comments about this product please call or e-mail us with your thoughts.

Thank you.

Introduction

HeadLite 3+ is a four input, four output headphone amplifier, with a six position source selector switch for each amplifier. It is designed to be as flexible as possible without introducing needless complexities.

THAT InGenius® balanced inputs ensure very low distortion, transformer like rejection of interference, and very good frequency response. The input connectors are three pole 'TRS' jack sockets; they will also accept unbalanced signals on 2 pole jacks.

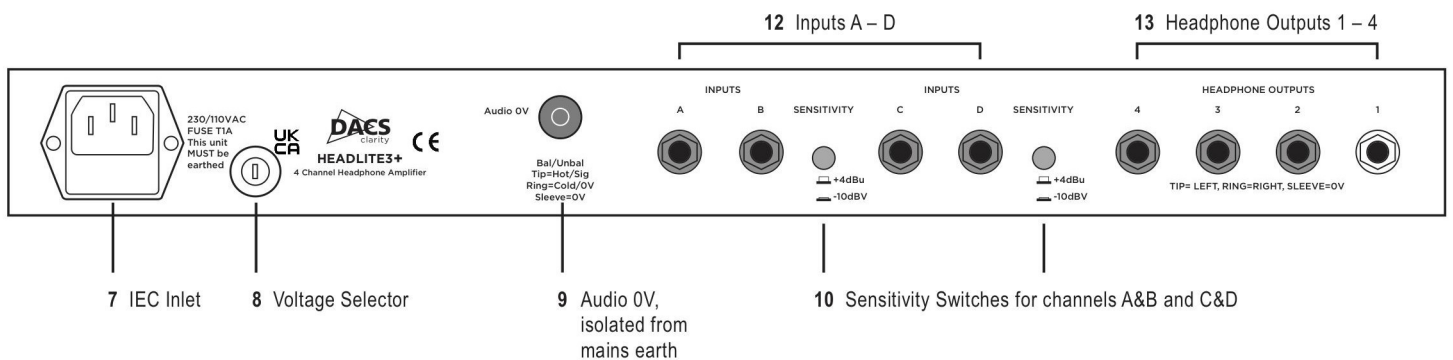
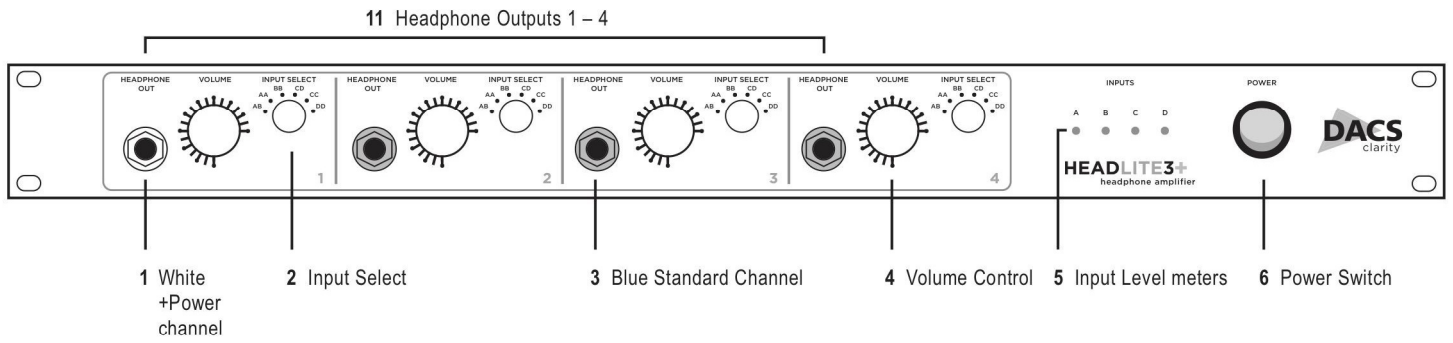
Its standard outputs can drive virtually any headphones; with the **+Power** module fitted to Channel 1 even the most demanding low impedance high power headphones are driven cleanly. The outputs are also designed to drive down long lines to cubicles with no loss of quality. The unit is compatible with -10dBV and +4dBu inputs (see - ["10 Sensitivity Switches"](#)). The **+Power** module, as well as driving power hungry headphones, will drive multiple headphones - we have used up to 6 pairs of 400 Ohm headphones and experienced no level drop. Additional **+Power** modules can be fitted to other channels at the time of order or retrofitted any time after purchase. Please speak to your retailer or direct to us for details.

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HeadLite 3+



1 +Power channel; 3 Standard Channel

The +Power Channel provides around 450mW into 50Ω headphones, and the Standard Channel around 150mW into 50Ω (see [Power Output](#) in Specifications). The HeadLite3+ comes with one +Power channel and three Standard, but can have +Power modules fitted to the other channels.

Connections

The headphone outputs are on three pole ¼" jacks, tip=left, ring=right, sleeve=0V. The front and rear outputs for each headphone amplifier are connected in parallel. The output circuitry is designed to drive down long lines with minimal high frequency loss. If two or more pairs of headphones are to be driven by one output, they should be of the same type and impedance. If they are different (eg. low and high impedance), power sharing will not be even and their volume may be significantly different.

2 Input Select

With up to four inputs connected to the unit, decide which headphone amplifier output you wish to use. To select the input(s) you wish to listen to, rotate the selector switch to the appropriate point: AB means inputs A and B on the Left and Right output respectively; AA means input A on both Left and Right, BB means input B on both Left and Right etc. Plug your headphones in and adjust the volume to an acceptable level.

4 Volume Control

The HEADPHONE VOLUME control adjusts the signal level going to the amplifier. This control allows independent volume control of each amplifier's output.

5 Input Level Meters

These tri colour LED meters indicate the level on the 4 busses feeding the headphone amplifiers. They are calibrated as follows:

Green starts to glow at -24dBu and is fully on at -8dBu to 0dBu

Orange starts at 0dBu and is fully on at +10dBu to +16dBu

Red starts at +16dBu and is fully on over +18dBu

For optimum performance operate HEADLITE 3+ at 0dBu to +10dBu.

6 Power

This switches the power on and off, and is illuminated when the unit is on. If the switch does not illuminate, the fuse may be blown. The unit comes with a spare fuse in the fuse carrier (T1A). Clarity HEADLITE 3+ is fitted with an ultra quiet regulated linear power supply.

7 IEC Inlet

The unit will accept 240 VAC and 110/115 VAC mains supplies, selected as described below.

8 Voltage Selector

Using a flat head screwdriver, insert the tip into the slot and turn it to point to either 240 (for 240/230VAC) or 120 (for 110/115VAC).



9 Audio 0V

The Audio 0V is separate from the mains earth. This separation allows unbalanced operation with a large measure of immunity to hum problems, since the amplifier is not referenced to or connected to any earth other than the signal source. The mains earth is connected to the case of the device. If you wish to connect the signal earth to the mains earth or a technical earth, this may be done by running a wire from the 0V terminal. **This connection should only be made by qualified personnel, if it is necessary. If in doubt please call us.**

10 Sensitivity Switches

On the rear panel, there are sensitivity switches for channels A&B and C&D. This allows user selection of input sensitivity as an operational control; -10dB adds 12dB gain to the incoming signal (-10dBV to +4dBu), while +4dBu adds no gain.

12 Inputs A-D

Use TRS ¼" jack plugs for balanced sources, two pole jacks for unbalanced. Input impedance is 10kΩ. If no connector is plugged in, the inputs are shorted to 0V; if connected to a patchbay, it is advisable to normalise them at the patch bay to avoid the potential for interference pick up. In case of accidental patching of phantom power in OB or studio applications we have included overvoltage protection on the inputs so 48V cannot damage the input stage.

11/13 Headphone Outputs 1-4

Headphone outputs 1-4 on the front are the same as those on the rear. It is fine to plug in to both front and rear simultaneously as long as the headphones are the same. The amplifier section can deliver up to 450mW RMS per channel and has a fixed gain of 20dB. The volume potentiometer varies the input level to the amplifier stage. Too high an input level will reduce the useful control over the output volume, since it will have to be set very low to ensure that the output does not clip. To adjust Input Sensitivity see [10](#) above.

Specifications

Noise floor:	<-100dBu (120dB below peak)
Maximum input level:	+18dBu
Dynamic range:	>114dB
THD+N 20Hz to 22kHz, +10dBu into 600R:	<.00087%
Frequency response:	5Hz to 30kHz \pm .2dB
CMRR	>84dB 50Hz to 20kHz
Slew rate:	>20V/ μ s
Max inter channel phase difference:	20Hz .03 deg, 1kHz .03 deg, 10kHz .30 deg, 20kHz .55 deg
Crosstalk:	<-95dB

HeadLite 3+ Max Power Output (RMS) Into Simulated Load
1kHz Sine - Sustained for 1 Minute

