DACS

HeadLite

FOUR CHANNEL HEADPHONE AMPLIFIER

USER GUIDE

DACS

HeadLite

Instructions for use and installation

Welcome

At DACS we are very pleased that you have chosen to purchase one of our products. We take pride in our work and are sure that this HeadLite will give you years of exemplary service. If you have any suggestions or comments about this product please call, fax, write or e-mail us with your thoughts. Thank you.

Introduction

The **HeadLite** is a four input, four output headphone amplifier, with a six postition self cleaning monitor select switch for each amplifier. It is designed to be as flexible as possible without introducing needless complexities. The input buffering ensures a flat frequency response down to below 1Hz.

Its outputs are capable of driving virtually all headphones; we know of none it has problems with. The outputs are also designed to drive down long lines to cubicles with little or no loss of quality. The unit is compatible with -10dBV and +4dBu inputs (see next page- 3&7 Inputs).

For power users who require the ultimate loudness and power we offer the Loud modification (Line Output Upgrade to Device) with significant increases in power output, giving very very loud playback. The Loud modification is fitted to one channel as standard (look for the white cap), but can be fitted to two, three or all four channels of the HeadLite. It has built in limiting (soft clip) to help protect low impedance headphones from burn out. Additional Loud modifications can be retrofitted any time after purchase. Please speak to your retailer or direct to us for details.

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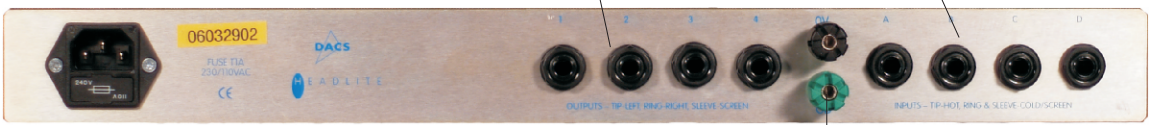
1. IEC inlet factory set to 240V for 110V supply remove fuse holder and rotate so that 100V legend is on top/correctr way up

2. Four headphones outputs hard wire to booths, recording areas etc

3. Four headphone inputs hard wire from patchbay or direct from console



4. Audio 0V, isolated from mains earth

5. Headphone ouputs for engineer or performers in control room

6. Volume control for headphone outputs

7. Input Select switch use this to select which combination of inputs you wish to monitor on your headphones

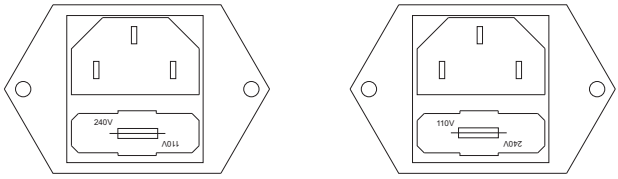
8. Power Switch

Using the DACS HeadLite

Installation

1 Connecting the Power

The unit will accept 240 VAC and 110 VAC mains supplies. The IEC inlet's fuse holder is used as a selector as shown in Fig 2. The factory setting is for 240 VAC.
Figure 2



Set for 240VAC Set for 110VAC

2 & 5 Outputs Connections

The outputs are on three pole ¼" jack, tip=left, ring=right, sleeve=0V. They are connected in parallel. The output circuitry is designed to drive down long lines with minimal high frequency loss. If you are sending headphones signals down long lines using screened twin conductor cable (such as foil screened twin, FST), we would recommend using two separate cables if you can. This would reduce any *possible* cross-talk between the left and right channels. There are installations we know of where left and right are sent down the two conductors and all reports have been good.

If two or more pairs of headphones are to be driven by an 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. One will be too quiet, and to achieve the required level in that pair the other pair will overload.

Remember that for headphone feeds the screen must be connected at both ends of the cable.

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Levels

The amplifier section can deliver up to .5W 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 here 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 this level see below - 3 & 7 Inputs.

Note on the problems of Loudness and Headphones

Our amplifier cannot do the impossible! We can only make headphones as loud as they are capable of being. Beyond that they distort and clip, which is very bad for your ears, short and long term. The problem usually is not so much that the headphones are not loud enough; it is more that the sounds *outside* are too loud and are breaking through into your ears. Approached from this direction the problem can be solved more easily.

3 & 7 Inputs

Connections

Inputs A, B, C and D are on three pole ¼" jack sockets, tip=signal, ring and sleeve=0V. Balanced signals may be used on three pole jack plugs (with the screen removed at one end as per your earthing strategy), or unbalanced signals may be used on two pole jacks. The input impedance is 10k ohms.
If no connector is plugged in the inputs are shorted to 0V via the switch connections on the jacks. If the inputs are connected to a patchbay it is advisable, if possible, to normalise them do this at the patch bay, unless they are normalised and left floating, they may be prone to pick up interference, taxis or the radio over long lines between the unit and the patchbay.

Levels

The input buffer's sensitivity can be adjusted for +4dBu or -10dBV operation using links on the input buffer PCB in the unit. **This adjustment should only be made by qualified personnel**. The factory setting is for +4dBu input signal levels. Input signal levels should be around the nominal input level for best performance.

ı Calum Malcolm particularly liked the meters; he said that they gave him a really clear sense of what was happening with the signal, better even than PPMs

Listening

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, etc. Plug your headphones in and adjust the volume to an acceptable level.

4 Earthing

The signal 0V is separate from the mains earth. This separation allows us to run unbalanced 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 earth tag. **This connection should only be made by qualified personnel, if it is necessary. If in doubt please call us.**

6. Volume Control

The HEADPHONE VOLUME control adjusts the signal level going to the amplifier. These allow independent volume control of each output.

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8 Power

This switches the power on and off, and is illuminated when AC mains is preset. The switch is connected before the fuse, so if the switch is illuminated and the unit does not work, the fuse may be blown. The unit comes with a spare fuse in the fuse carrier (T100mA).

Specifications for HeadLite

Distortion at **+20dBm into 220t**	<.002%	(20Hz to 22kHz)
Signal to Noise (A Weighted)	<0124dB	(20Hz to 22kHz)
Frequency response	Flat 1Hz-20kHz	
Power output	>300mW/ch into 600R	

Compliance to European Standards

This unit complies with the following standard (see Declaration of Conformity):

Radiated Emissions to Specification EN50081-1
Conducted Emissions to Specification EN50081-1
Electro Static Discharge to Specification EN50082-1
Fast Burst Transients to Specification EN50082-1

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Other Fine Hand Crafted Audio Products from DACS Ltd

Clarity from DACS Ltd
A new philosophy, a new range of devices

DACS' range of high performance studio and stage devices embody our philosophy. We believe in simplicity, but above all else, Clarity; sonic Clarity and functional Clarity. The range initially includes the **DACS MicAmp**, a two channel microphone[1] (see also reviews in Sound on Sound and Studio Sound, both November 1997 viewable on our web site). Our recently launched (aug 2006) Eigthch, an eight channel volume control, won the Pro Audio Review PAR Excellence award.

For many years **DACS** has manufactured custom equipment for professionals the world over using a number of our own high performance audio *building block* circuits. The performance of these circuits has been honed over the years out in the field, and developed through fulfilling the changing professional requirements of their many customers in widely divergent sectors of the industry.

DACS has crystallised these years of experience to bring you this range of elegantly simple high performance units, all hand made throughout. Where they benefit performance we use expensive components and time consuming processes, but do not spend prodigiously on 'cosmetics'. Though we are bucking the trend towards *downsizing* work-forces and automating manufacturing processes these units are very competitively priced. This is achieved by a combination of good design, good organisation, low overheads, and the use of standard housings and other components where possible.

These visually striking, well engineered devices will last well into this century achieving levels of performance that digital technology, and much analogue technology, aspires to today.

YOU are what make your studio world class.
Our equipment it designed to help you continue to produce fine music well into this century.

[1] We are proud to announce that the MicAmp won the Studio Sound Audio Industry Recognition Award in the Outboard Pre-amp category. This was voted for by registered readers of Studio Sound worldwide.

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