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 includes the **DACS MicAmp 2**, a stereo ultra low noise microphone preamplifier; **DACS HeadLite2**, a four channel headphone amplifier of exceptional quality; The **DACS HeadMaster**, a full monitoring control solution for smaller control rooms and post production - it includes Crookwood D-A conversion with analogue inputs, 2 switchable speaker outputs and and independent headphone output. Also available is this **DACS MicAmp500**, a **MicAmp** in the API Lunchbox 500 format.

For many years **DACS** have 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 have 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 is designed to help you continue to produce fine music well into this century.

DACS LTD, Stonehills, Shields Road, PELAW, Gateshead, Tyne and Wear NE10 OHW
Tel:+44 (0) 191 4382500 | Fax: +44 (0) 191 4382511 | www.dacs-audio.com | sales@dacs-audio.com

DACS

MicAmp500

MICROPHONE PREAMPLIFER

USER GUIDE

MicAmp500

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 **Clarity MicAmp500** 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 **Clarity MicAmp500** is an ultra low noise microphone amplifier. It uses three super matched pairs of transistors for the main gain stage, giving low noise performance and very fine detail, even at very low input levels. The frequency response is flat down to below 1Hz at the bottom (DC for non phantom powered microphones) and does not start its tailored high frequency roll-off until above 45kHz. The CMRR is hand trimmed at mid and high frequencies to very high tolerances.

Each channel has a twelve position self cleaning rotary switch to set gain in 4dB steps from 20dB to 64dBd. There is then a gain trim from 0dB to +8dB, and a three position bass roll off filter, giving a flat response and two cut-off points at a nominal 80Hz and 30Hz. The cut-off point and slope of the filters have been chosen to give a smooth response, while removing very low rumble (30Hz) and more mains type noise (80Hz); “very useable” is how they’ve been described by one long time user of the MicAmp. In addition they have no effect above their cut-off frequency. The balanced output is a fully floating servo type output (ie delivers the same level into a balanced or unbalanced destination), with hand trimmed balance set to +/-1% accuracy, and delivering up to +22dB into 600R.

Aside from the input capacitors when using phantom power, the **Clarity MicAmp 500** is DC coupled throughout.

Working with the **Clarity MicAmp500** is straightforward. Settings are easily repeatable due to the stepped gain and detailed scaling on the trim control. There is ultra fast protection on the input so that any fault condition immediately triggers the protection circuitry, preventing damage to the amplifier circuitry.

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Specifications for MicAmp 500

Distortion	THD+N at Minimum gain typically 0.0035% THD+N at Max Gain with trim max typically. 0.048% (noise is the main contributor) Gain switch adjusts in steps of 4dB nominally Trim pot adjusts gain by approx 8dB Maximum Gain nominally 72dB with max gain Noise output Min Gain typically -80dBu (-72dBu with trim at max) Noise output at Max gain typically -63.5dBu (-55.5dBu with trim at max)

All figures with detector bandwidth 22Hz to 22kHz unweighted

Cross talk	<90dB
Frequency response	Phantom Power Flat <2Hz to ca 45kHz, tailored roll off; Non Phantom DC to ca 45kHz, tailored roll off
CMRR	50Hz typically -93dB @ 20dB gain, -98dB @ 62dB gain; 20kHz signal typically -61dB @ 20dB gain, -100dB @ 62dB gain

Compliance to European Standards

This MicAmp2 complies with the following standards (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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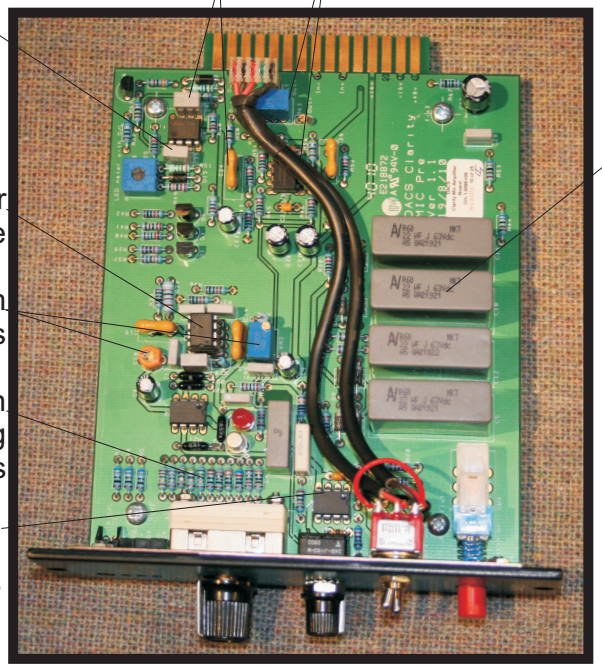
DACS Clarity MicAmp 500

Ultra low noise microphone preamplifier

Component View



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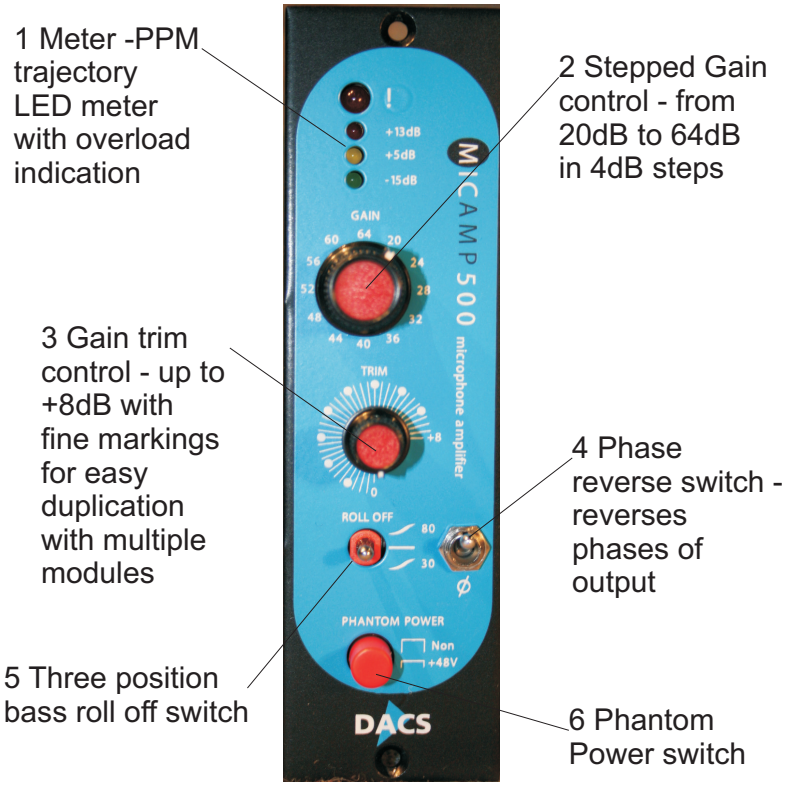
DACS Clarity MicAmp 500

Ultra low noise microphone preamplifier



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Using the DACS Clarity MicAmp 500

1 Metering

The signal level and condition is show by the unique tri-segment LED meter and the ultra bright overload LED*. The segments of the LED meter illuminate increasingly brightly as the signal level increases, with the Green LED illuminating first to indicate that signal is present, the Yellow LED illuminates at +5dBm, achieving full brightness at +13dB when the Red LED begins to illuminate. The Overload LED (!) illuminates when the signal clips, and remains on for a few seconds.

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

2 & 3 Setting Gain

The gain for the Clarity MicAmp 500 is set using the stepped GAIN control in 4dB steps, and then trimmed between 0dB and +8dB using the continuously variable TRIM control. The scaling on the trim control allows accurate repetition of settings. The main lines may be thought of as hours (0dB is 6 o'clock, and +8dB is 3 o'clock), while the secondary lines are half hours. The settings may then be remembered or noted down as times, making it easy to repeat them accurately. Optimum gain settings vary, but see above for operating levels and overload indication.

4 Phase Reversal switch

This gold plated contact switch reverses the signal phase when it is down. It has no other effect.

5 Bass Roll Off

The bass roll of is designed to minimise the pick up of unwanted rumble, and to have little or no effect on the signal above the roll off frequency. The slope of 12dB / octave and cut off frequency were selected to minimise very low earth borne rumbles (30Hz cut-off) and more buzzy mains type noises (80Hz cut-off). The filter has no effect on frequencies above the cut-off, and causes no 'bumps' in the frequency response.

6 Phantom Power Switch

Unlike most devices' phantom power switches, the **Clarity MicAmp 500** phantom power switch mimics the behaviour oft the rack mount **Clarity MicAmp 2**, in that when the phantom power is off, the signal bypasses the input capacitors, and couples directly to the transistor gain stage.

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This means that in Non Phantom mode, ideal for ribbon, dynamic and valve microphones, the frequency response is flat down to DC.

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