

## Microphone Preamplifiers

# 500 SERIES MICROPHONE PREAMPLIFIER 501

Ultra High Performance 500 Series  
Microphone Preamplifier

- Ultra high performance microphone/line/DI preamplifier offers you outstanding signal integrity
- Significantly upgraded version of the award-winning MIDAS mic amp design gives you the best preamp ever in our 40-year history
- Ultra-low noise octal discrete input transistors provide incredible sonic flexibility and exceptional dynamic control
- Legendary MIDAS input allows up to +24 dBu signal levels with no pad and gives you our signature soft-clip coloration on overload
- Unique "Warm" feature reconfigures the input stage with a premium input transformer for lower input impedance and authentic vintage sound
- Separate high-performance DI input through secondary rack connector and easy-access front panel switch let you effortlessly change between mic and instrument
- Twin circular 31-segment meters with precision full wave rectifiers for unprecedented visibility into your input and output levels for the ultimate signal monitoring experience
- Stunning looks feature a distinctive fusion of vintage and modern design with anodized fascia, metal controls and 4 genuine gold-plated rings for class-leading style
- Separate discrete transformer and electronically balanced outputs provide a splitter function and give you a choice of sonic character



In response to the many customer requests received over the years, the award-winning MIDAS Microphone Preamp is now available as an add-on to any mobile or recording system. When used in conjunction with the LEGEND L10 or L6 500 Series Rackmount Chassis, the MICROPHONE PREAMPLIFIER 501 provides the ideal solution for users seeking the legendary MIDAS sound in a highly-flexible, modular format that boasts significantly-upgraded, premium-quality performance. Additionally, the 501 features a separate robust DI input (through secondary rack connector) with a convenient front panel switch that lets you change effortlessly between mic and instrument inputs.



## Award-Winning Mic Preamp

The MIDAS Microphone Preamplifier is considered by leading live sound and recording engineers as the very essence of the famous MIDAS sound. Decades of design experience paired with premium-grade components is the foundation of that acclaimed warmth and depth, which brings out subtle ambience, maintains spatial positioning, and more effectively captures a precise sound image. That warm and organic MIDAS sound has been heard by millions of concert goers – and recorded for posterity on countless live albums. The award-winning mic preamplifier in the 501 module has been upgraded via implementation of



ultra-low noise octal discrete input transistors, which provide incredible sonic flexibility, exceptional dynamic control – and an even more transparent sonic performance.

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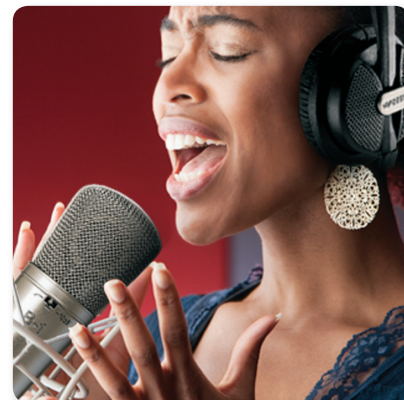
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Microphone Preamplifier

- High-accuracy Mil-Spec rotary switch gain and output gain trim controls give you a phenomenal combined mic input gain range of -20 dB to +80 dB
- Fully variable high- and low-pass wide spectrum filters with independent selection switches let you perfectly sculpt the frequency spectrum to your exact preference
- Front-panel toggle switches for easy-to-use control over input select, filters, +48 V, polarity, output mute and “Warm” mode
- Protective auto-mute feature guards against accidental unwanted noise from input switching in live and studio applications
- Premium quality components throughout, including high-end op-amps, micro melf resistors and discrete FET's, provide you with the highest form of signal integrity
- 3-Year Warranty Program\*
- Designed and engineered in the U.K.

## Sweet Forgiveness

Over the years, many mix engineers have found this robust and overload-tolerant preamp design takes on a whole new dimension when driven hard. The 501 module's input stage allows up to +24 dBu signal levels with no pad requirement, while featuring the much loved soft clipping characteristic that provides crystal-clear audiophile reproduction – with just the right amount of harmonics.



## More Warmth

The 501's input is electronically balanced, which provides a very clean signal – even at extremely high signal levels. However, engaging the Warm toggle switch inserts a premium-quality balanced input transformer in front of the preamp. This not only adds the benefits of galvanic isolation to the mic input, but also lowers the input impedance from 10 kΩ to 1.5 kΩ for a more vintage setup and sound. A switchable DI (Direct Injection) input is also provided for connecting instrument level signals without requiring any additional hardware.

## Microphone Preamplifiers

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## Dual Balanced Outputs

The default output of the 501 module is its discrete transistor-driven premium transformer output and provides all the benefits of galvanic isolation. Output 2 utilises an enhanced version of the electronically balanced output drivers found in most MIDAS mixing consoles. This output is ideal for connecting to other modules in your rack, such as an EQ or compressor, or directly to the line-level inputs of recording equipment, power amplifiers, or powered loudspeakers – plus both outputs can be used simultaneously.



## Precision LED I/O Metering

A mic preamp of this calibre requires equally impressive I/O metering – and the 501 delivers in a big way. The high precision 31-segment rotary LED meter reads the signal post amplifier/pre filter, providing input metering from -20 dBu to +20 dBu in 1 and 2 dB steps. A similar meter is provided for output trim adjustment from -20 dBu to +20 dBu in 1 and 2 dB steps.

## High Accuracy I/O Rotary Controls

Gain control is provided by a large precision 12-position rotary switch with gain settings from 0 (unity gain) to +60 dB in 5 dB increments, while a fully variable potentiometer is provided for the output trim across a  $\pm 20$  dB range. When used in combination, total maximum gain is an impressive +80 dB, more than enough to accommodate even low level ribbon microphones. Additionally, the output trim control can be: used to control colouration; set high to allow output transformer saturation; turned down to prevent the output level from running too high when taking advantage of the overload tolerant amplifier.



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### Readily Accessible Switches

All of the 501 module's toggle switches are conveniently located on the front panel. Switches include: the low pass filter switch, which inserts the low pass filter into the signal path; the high pass filter switch, which inserts the high pass filter (both post input-gain/pre output-trim); the phase reverse, which inverts signal phase 180°; the 48V, which supplies +48 Volts phantom power via the 500 Series Rackmount Chassis; the Mic/DI; the input transformer (Warm) selector; and the Mute switch.

All of this adds up to the ultimate 500 series mic preamp/DI for the road or the studio – the MICROPHONE PREAMPLIFIER 501.

### You Are Covered

We always strive to provide the best possible Customer Experience. Our products are made in our own MUSIC Tribe factory using state-of-the-art automation, enhanced production workflows and quality assurance labs with the most sophisticated test equipment available in the world. As a result, we have one of the lowest product failure rates in the industry, and we confidently back it up with a generous Warranty program.

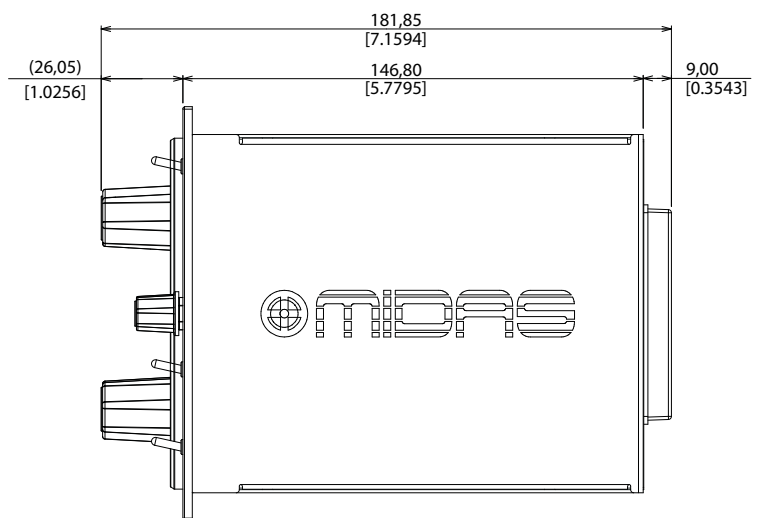
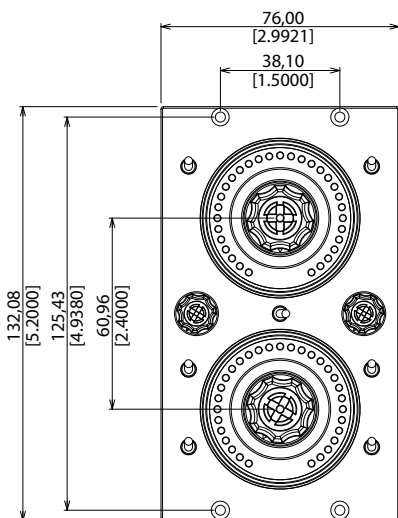


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Microphone Preamplifier

## Dimensions



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# 500 SERIES

## MICROPHONE

### PREAMPLIFIER 501

Ultra High Performance 500 Series  
Microphone Preamplifier

## Technical Specifications

### Controls

Input select	Mic/DI switch (relay)
Phantom power	48 V switch (discrete FET switched)
Input gain, mic/line	12 position rotary switch, 0 to 60 dB
Input gain, DI	12 position rotary switch, 0 to 40 dB
Polarity	0/180 degrees switch (discrete FET)
Low pass filter	In/out switch (discrete FET), frequency knob
High pass filter	In/out switch (discrete FET), frequency knob
Output trim	+/-20 dB knob, fully variable
Warm (input transformer)	In/out switch (relay)
Mute	In/out switch (discrete FET)

### Inputs and Outputs

Lower numbered module input	Mono, balanced mic or line
Higher numbered module input	Mono, balanced DI (Hi-Z)
Lower numbered module output	Mono, transformer balanced
Higher numbered module output	Mono, electronically balanced

### Noise, 22Hz to 22 kHz unweighted, transformer output

Mic/line/DI noise at unity gain, 150 Ohm source (warm disabled)	-98 dBu
Mic/line/DI noise at unity gain, 150 Ohm source (warm enabled)	-102 dBu
Mic EIN noise at +60 dB gain, 150 Ohm source (warm disabled)	-128 dBu
Mic EIN noise at +60 dB gain, 50 Ohm source (warm disabled)	-130 dBu
Mic EIN noise at +60 dB gain, 50 Ohm source (warm enabled)	-125 dBu
Noise when muted	-105 dBu

### CMRR, 1 kHz, transformer output

Mic/line input at unity gain (warm disabled)	Typically -70 dBu
Mic/line input at unity gain (warm enabled)	Typically -100 dBu
DI input at unity gain (warm disabled)	Typically -60 dBu
DI input at unity gain (warm enabled)	Typically -90 dBu
Mic input at +60 dB gain (warm disabled)	Typically -90 dBu
Mic input at +60 dB gain (warm enabled)	Typically -115 dBu

### Input impedance, 1 kHz

Mic/line input (warm disabled)	10 k $\Omega$
Mic/line input (warm enabled)	1.5 k $\Omega$
DI input (warm disabled or enabled)	1 M $\Omega$

### Frequency response, +0 dB/-1 dB, transformer output

Mic/line/DI input at unity gain (warm disabled)	20 Hz - 30 kHz
Mic/line/DI Unity at unity gain (warm enabled)	20 Hz - 30 kHz
Mic input at +60 dB gain (warm disabled)	20 Hz - 30 kHz
Mic input at +60 dB gain (warm enabled)	20 Hz - 30 kHz

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# 500 SERIES

## MICROPHONE

### PREAMPLIFIER 501

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Microphone Preamplifier

#### Distortion at 0 dBu output level, 1 kHz

Mic/line/DI input at unity gain (warm disabled) transformer output	<0.01 %
Mic/line/DI input at unity gain (warm enabled) transformer output	<0.01 %
Mic/line/DI input at unity gain (warm disabled) electronic output	<0.005 %
Mic/line/DI input at unity gain (warm enabled) electronic output	<0.01 %
Mic input at +60 dB gain (warm disabled)	<0.04 %
Mic input at +60 dB gain (warm enabled)	<0.08 %

#### Maximum input level, 1 kHz

Mic/line/DI input at minimum gain (warm disabled)	+24 dBu
Mic/line/DI input at minimum gain (warm enabled)	+18 dBu

#### Maximum output level, 1 kHz

Transformer and electronic outputs	+21 dBu
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#### Output impedance, 1 kHz

Transformer and electronic outputs	50 $\Omega$
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#### Mute

Mute cut off, 1 kHz, 0 dBu input level, unity gain	-100 dB
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#### Filters

Low pass	1 kHz to 40 kHz, 12 dB per octave
High pass	10 Hz to 400 Hz, 12 dB per octave

#### Meters

Input meter, peak reading full wave rectifier	31 segment, -20 to +20 dBu in 1 and 2 dB steps
Output Meter, peak reading full wave rectifier	31 segment, -20 to +20 dBu in 1 and 2 dB steps

#### Power Requirements

Voltage	+16 V, -16 V and +48 V
Power consumption (+/-16V)	<200 mA per rail, 6.4 W total

#### Physical

Dimensions (H x W x D)	132 x 76 x 180 mm (5.2 x 3.0 x 7.1")
Weight	1.0 kg (2.2 lbs)

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## Architecture & Engineering Specifications

The Midas 501 module shall provide a single channel mic/line/DI preamplifier with dual inputs and dual outputs in a standard format 500 series double width module.

The 501 module shall provide a 12 position rotary gain switch with mic/line input gain settings of 0, +10, +15, +20, +25, +30, +35, +40, +45, +50, +55, +60 dB. The maximum input gain shall be limited to +40 dB when the separate DI input is selected.

The 501 module shall provide a fully variable output gain trim potentiometer with a gain range of +/- 20 dB.

The 501 module shall provide both input and output 31 segment peak reading LED meters with a range of -20 dBu to +20 dBu in 1 and 2 dB steps.

The 501 module shall provide a fully variable low pass filter with a frequency range of 1 kHz to 40 kHz (-3 dB points) with an independent in / out toggle switch.

The 501 module shall provide a fully variable high pass filter with a frequency range of 10 Hz to 400 Hz (-3 dB points) with an independent in / out toggle switch.

The 501 module shall provide a +48V toggle switch which enables phantom power for the mic/line 500 series rack input connector only.

The 501 module shall provide a phase toggle switch that reverses the signal polarity by 180 degrees.

The 501 module shall provide a mic/DI toggle switch that selects between the mic/line input and DI input rack connectors.

The 501 module shall provide a soft mute toggle switch that shall mute both audio outputs when selected.

The 501 module shall provide a warm toggle switch which converts the default mic/line electronically balanced input with an impedance of 10 k $\Omega$  into a transformer balanced input with an input impedance of 1.5 k $\Omega$ .

The 501 module shall provide a mic/line audio input connected to a standard 500 series rack via the modules left hand 15 pin edge connector.

The 501 module shall provide a separate electronically balanced DI (Instrument) input with an input impedance of 1 M $\Omega$  connected to a standard 500 series rack via the modules right hand 15 pin edge connector.

The 501 module shall provide independently driven dual balanced audio outputs with an impedance of 50 $\Omega$  each. Output 1 shall be transformer balanced. Output 2 shall be electronically balanced. The outputs are connected to a standard 500 series rack via the modules dual 15 pin edge connectors.



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# 500 SERIES MICROPHONE PREAMPLIFIER 501

Ultra High Performance 500 Series  
Microphone Preamplifier

The 501 module shall provide an auto mute system which reduces switching noise at the outputs.

The 501 module shall be powered from a standard 500 series rack unit and requires +/- 16 VDC @ 200mA maximum and a +48 VDC supply to enable phantom power.

The 501 module dimensions shall be 132 mm high x 76 mm wide x 180 mm deep (5.2 x 3.0 x 7.1"). The nominal weight shall be 1.0 kg (2.2 lbs).

The mic/line preamp shall be the Midas model 501, and no other alternative shall be acceptable.

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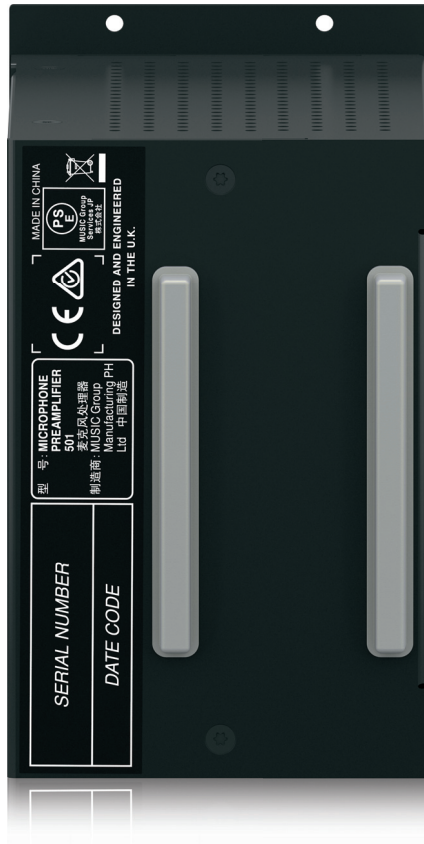
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Microphone Preamplifier



Microphone Preamplifiers

# 500 SERIES MICROPHONE PREAMPLIFIER 501

Ultra High Performance 500 Series  
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