



Operation Manual

v2





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Thank you for buying this Audient Product.

MiCO is a compact, feature packed dual-channel Mic Pre with built in ultra-high quality ADCs, making it an ideal front-end for desk-top users. The front-end design is Audients renowned balanced discrete Class A design which is also used in the ASP008 and the ASP8024 mixing console - guaranteeing outstanding sonic transparency and detail.

MiCO also features one channel of the unique "HMX" harmonic sculpting technology from the Audient Black Pre making the creation of vintage style character and complexity as simple as turning one knob. For recording a single source with twin mics or mic+DI, the Variphase control on MiCO's second channel allows precise phase alignment (or creative mis-alignment) of the two signal paths.

SAFETY INFORMATION

EARTH - This unit can be connected to safety earth via the chassis screw hole on the rear panel. Alternatively if your MiCO is rack mounted, earth the rack itself.

COVERS - DO NOT remove the covers. Refer servicing to qualified personnel only.

VOLTAGE - Your MiCO external power supply is designed to operate between 96 and 260 Volts.

MOISTURE - DO NOT expose the unit to rain or moisture. If any part of your MiCO should become so exposed, REMOVE the mains power immediately.

HEAT - ALWAYS site your MiCO away from sources of heat including direct sunlight and ensure adequate ventilation around the unit.

Unpacking

Your MiCO has been carefully and meticulously tested and inspected before despatch.

Please check for any signs of transit damage. If any signs of mishandling are found please notify the carrier and your dealer immediately.

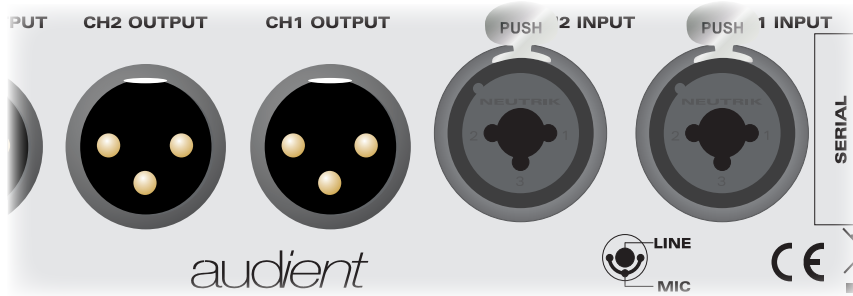
Your MiCO packaging should contain a MiCO unit, an external PSU, along with this manual. If the manual is missing you won't be reading this, so you'll be none the wiser.

Mains Power Supply

MiCO is despatched with an external PSU which will accept voltages between 100-240V. MiCO itself requires a DC input voltage between 10-16V to operate correctly.

Mechanical Installation

Your MiCO's compact form factor allows the unit to be slipped into a bag for location recording, or secured in the optional 1U 19" rack tray. Up to 2 MiCOs can be mounted in a 1U rack space.



Analogue interfaces

MiCO has been designed and developed to enable easy integration with a wide range of systems.

Inputs and outputs use advanced electronically balanced topologies and are fitted with extensive RFI rejection networks. This means signal integrity will be maintained from the input stage through to the output stage.

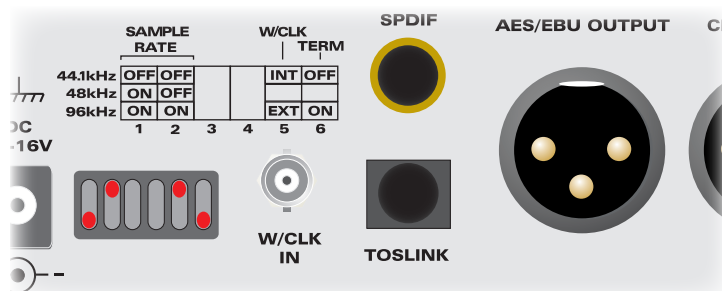
Pin conventions

Electronically balanced microphone and line level inputs are provided on 3 pin XLR Neutrik Combo female connectors with Pin 2 hot and Pin 3 cold. Pin 1 is permanently connected to MiCO chassis.

Balanced line inputs are provided on Neutrik Combo connectors which accept either 1/4" jack or XLR allowing Variphase and HMX to be available in either tracking or mix situation.

A front panel high impedance, unbalanced DI input is also provided on channel 1 to allow instruments to be directly connected to MiCO. This provides a great way to record bass or electric guitar by plugging straight in.

Electronically balanced outputs are available on 3 Pin male XLR connectors.



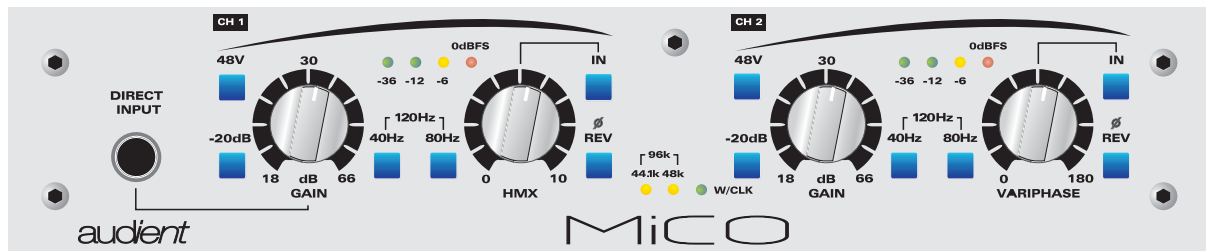
Digital interfaces

MiCO includes as standard, high quality analogue to digital converters supporting sample rates up to 192kHz (external WC only). AES/EBU connectivity is provided on 3 pin XLR, whilst S/PDIF is available on both Phono and TOSLINK connections.

Internally, MiCO supports sample rates of 44.1, 48 and 96kHz, with sample rate selection available on the rear panel DIP switches. Higher sample rates are supported when MiCO is slaved to a master word clock connection via the BNC Word Clock input.

MiCO is configured to achieve optimum performance on each of the digital interface formats provided.

To ensure compatibility is not compromised it is recommended that the AES output is disconnected when using the SPDIF or TOSLINK connections.



Common Features

+48V

Provides phantom power to the microphone inputs. Avoid switching on when monitoring the input to avoid potential damage to speakers.

-20dB

Inserts 20dB of attenuation before the pre amp, allowing for louder signals such as snare drums, without clipping.

GAIN

A gain range of 18-66dB is available (-2 to 46dB with -20dB pad in)

40Hz, 80Hz, 120Hz

Switchable 12dB/octave roll off frequency for the high pass filter. When both switches are out the filter is bypassed, when both 40Hz and 80Hz are pressed the roll off frequency is 120Hz.

Ø REV

Inverts the polarity of the signal.

-36dB, -12dB, -6dB, 0dBFS

LED meters representing input signal level in relation to 0dB digital full scale. 0dBFS will peak the ADC so is best avoided!

0dBFS is equivalent to +18dBu.

Channel 1 Features

DIRECT INPUT

For connecting instruments such as an electric guitar. Inserting a jack overrides the XLR or Line input.

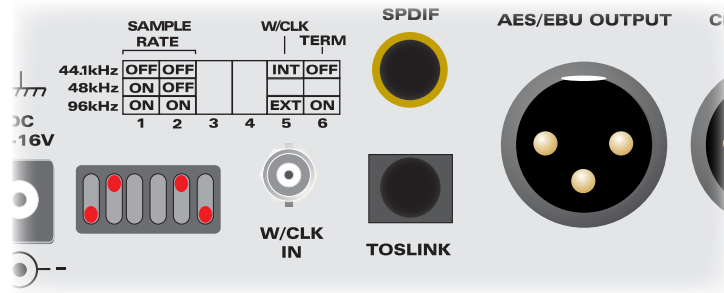
HMX

Adds harmonically related colouration to the signal via Audients unique solid state triode circuitry. With IN depressed the circuit is active. The HMX level control allows for the amount of HMX to be varied, 0 being none, and 10 which is a lot. If thats not intuitive I don't know what is.

Channel 2 Features

VARIPHASE

Provides between 0 and 180° continuously variable phase shift, by means of an all pass filter. In combination with the polarity invert switch this provides almost 360° phase shift. Perfect for phase aligning a double mic'ed source.



Digital Features

Rear panel DIP switch

Sample Rate

Switches 1 and 2 are used to set the sample rate of the converters, the table below shows how these can be selected:

	SW1	SW2
44.1kHz	Off	Off
48kHz	On	Off
96kHz	On	On

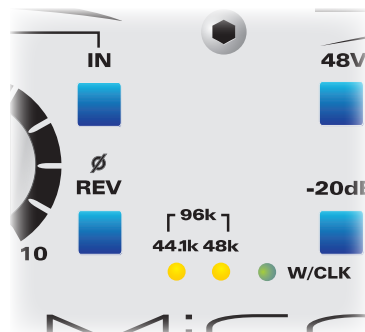
These should be set when clocking both internally and externally.

W/CLK

Switch 5 allows for selecting internal or external (via BNC) clock source. With the DIP switch up the word clock is taken from the internal clock. When the DIP switch is down the Clock source is taken from the Word Clock input.

TERM

When MiCO is at the end of a Word Clock chain the 75 ohm load must be inserted (DIP switch to On).



Front Panel Status LEDs

Internal sample rate is indicated by 2 LEDs, either 44.1kHz, 48kHz or - with both LEDs illuminated - 96kHz. If MiCO is locked to an external clock source the green W/CLK LED will illuminate.

What is Variphase?

Variphase provides a means of shifting the phase of a signal far more accurately than with a simple polarity invert switch, and without moving the microphone. Its important to note that Variphase does not delay the signal; instead it uses the phase response characteristics of analogue filters.

This circuitry provides another tool to use in combination with existing techniques, such as polarity inversion and careful microphone placement. In some situations such as a double mic'ed snare drum, Variphase may be more practical than moving the microphone as this may increase the amount of spill from other drums. In other situations such as Mic'ing and DI'ing an electric bass, moving the microphone may be more practical, and Variphase can then be tweaked to optimum position.

Of course variphase doesn't only have to be used to perfectly phase align signals, shifting signals in and out of phase can have some interesting results, so experiment!

Specifications

Analogue

Maximum Input:	+10dBu (+30dBu pad in) @ minimum gain
THD+N:	<0.009% @ 1kHz with +20dBu ouput <0.003% @ 1kHz with +4dBu output
Noise:	-87dB @ 18dB gain, 22Hz-22kHz, unweighted
EIN:	Better than -127dBu @ 66dB gain/ref 150ohm
Frequency response:	+/-0.2dB 20Hz - 22kHz @ 60dB gain

Digital

Internal sample rates:	44.1kHz, 48kHz, 96kHz
External sample rates:	Any between 32kHz and 192kHz
Bit depth:	24bit
Scaling:	0dBFS = +18dBu
THD:	-109dBFS @ 96kHz, A-Weighted
Dimentions:	430mm x 270mm x 80mm
Weight:	2.5kg

Warranty

Your MiCO comes with a manufacturer's warranty for one year from the date of despatch to the end user.

The warranty covers faults due to defective materials used in manufacture and faulty workmanship only.

During this warranty period Audient will repair or at its discretion replace the faulty unit provided it is returned carriage paid to an authorised Audient service centre. We will not provide warranty repair if in our opinion the fault has resulted from unauthorised modification, misuse, negligence, act of God or accident.

We accept a liability to repair or replace your MiCO as described above. We do not accept any additional liability. This warranty does not affect any legal rights you may have against the person who supplied this product - it is additional to those rights.

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