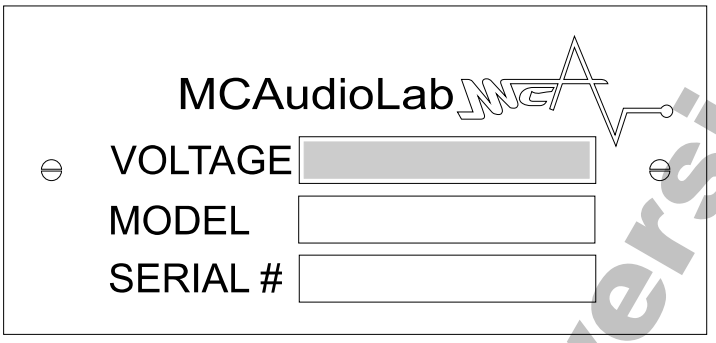
Thank you for your purchase of the MCAudioLab TP1ch Microphone Pre-amplifier.



IMPORTANT

Fill in the boxes above with voltage, model and your serial number to personalize your unit . The informations and serial number can be found on the back of the product.

The serial number must be quoted in all comunication in order to obtain technical support and spare parts.

Please register your new MCAudioLab product on “product registration” section in www.mcaudiolab.com web site

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INTRODUCTION

The MCA team have spent more than two years on researching and designing the TP1ch microphone preamplifier.
The TP1ch has the warmth, character and funtionality required by modern recording studios.
The TP1ch is a valve class A single ended device. It provides a high quality Mic and D.I. preamp, suitable for any type of microphone or high impedance sources.
TP1ch is typically used in recording studios for individual tracks. When a quality microphone is connected to the input (or an instrument to the Hi-Z one), the TP1ch provides a line-level balanced output. In most situations the TP1ch will feed directly to the input of the recorder.
The TP1ch preamp is a "vintage like" classic tube preamps of the '60s, updated with modern electronic components, but its modern design and construction allows the TP1ch to exceed the performance of vintage vacuum tube preamps. Vacuum tubes give to the TP1ch a clarity, transparency and warmth sound that the solid state can't give. TP1ch is designed for the use in the professional recording environment and it accepts all low impedance balanced microphones. It features a regulated +48 volt supply for phantom powering condenser microphones, a switchable -20 dB input pad, a phase reversal switch, a true led level meter and a vintage VU meter. All panel switch (except gain control) drive a low voltage relay to ensure the shortest path to signal.
Each unit is built for a great and to last. All power supplies are solid state and fully regulated for long hum-free operation. Each mic preamp is hand-built and meticulously tested and listened to before shipment to the customer.

WARNING!

Before you start your new MCA Tube Microphone preamp, please read the following:
Any tube product is sensitive to a high sound pressure level environment. This may cause microphonics in a recording situation. Make sure you are able to fit and/or place the unit in isolation if necessary. Direct light will also effect tubes as well.
PLEASE be sure to have enough space between any stuff; this will ensure your tube unit will not be over heat. Over heating will cause damage to the tubes and shorten their life span.

Included in the box:
- The TP1ch Microphone Preamplifier
- Power cord
- This instruction manual

TP1ch model layout

FEATURES

All vacuum-tube design electronically optimized by SUTERA
Out level volume control
Hi-Z input (front panel)
Mic/Hi-Z switch selector
12 step gain control switch
Pad switch
Polarity switch
Phantom switch
True analog VU-meter
True led signal level
XLR Input connector
XLR Output connector
Lundahl Input and Output transformers
One 12AX7 and one 6DJ8 Tubes
Ground lift switch (output only)
Earth lift with 4mm external plug earth connector
19" / 2U - rack space

UNIT SIZE:

Width: Standard 19 inches for rack mount installation.
Height: Standard 3.50 inches or 2U rack space.
Depth: 30 cm - 12.2 inches
Weight: 5 kg - 13.2 lbs.

TECHNICAL DATA - TP1ch specifications

Input Mic Impedance 1k Ohm
Gain Range 20 - 75dB
Mic Phantom Switchable 48 Volt Power Source
Output Phase Switchable 0 - 180°

Instrument Jack Input 1/4 phono
Input Instrument Impedance 1.5M Ohm
Instrument Gain Range 10 - 65dB
Maximum Input Signal 0.775mV (0dB)

Balanced XLR Output:
Recommended minimum load output Impedance 600 Ohm
Maximum Level +19 dBu
Output Low-Z, transformer-balanced
Frequency Response 10Hz - 60kHz - 3dB
Distortion THD: > .02 @ 1 Khz

Power Requirements:
230 Vac - 160 Watts
Dimensions (W x H x D) 19" x 3.5" x 12.2"
Weight 6 kg (Shipping weight 8,2 Kg.)

In line with our company policy of continuous development, the above specifications are subject to change without notice

FUNCTIONS

OUTPUT
The output knob is the master volume control (attenuation control potentiometer).

It determines the amount of signal sent to the output stage. The rang is from - (knob hard left) to the maximum amount of gain stage (knob hard right).

INPUT
The input selector determines which input is set active: Mic or Hi-Z.
Mic: Selects the rear panel XLR (balanced) input connector. The mic input is optimized for low impedance condenser microphones. Each microphone connected may reveal different tonal quality and/or gain.
Hi-Z: Selects the front panel 1/4" jack (unbalanced) as input. This input is optimized for any instrument with a magnetic or acoustic pickup, tipically bass and guitar (both active or passive). In general all musical instrument pickups need to work into a very high load impedance.

GAIN
The Gain control switch sets the gain of input stage in 5dB step increment from 20dB (pos=1) to 75dB (pos=max). Turning the switch clockwise rise the gain. The gain control alters the amount of tube armonic distortion, a contribution to the warm sound of tube equipment. To use The TP1ch as a clean, high quality, valve mic preamp, set the output level control to maximum and use gain switch to obtain the right desired amount of signal.

PAD
When active, the green LED lights up. The incoming signal from the rear XLR input connector is attenuated of -20dB. Attenuate the input signal to accomodate very high signal to avoid distortion. The input pad has effect on the rear XLR input only.

PHASE
The front panel toggle switch labeled phase determine the polarity of XLR (balanced) output connector. When active the yellow led ligth up and the pin2 of XLR out is negative. The signal phase is inverted of 180 degree (mirrored respect to zero).

Phantom power
The phantom power become active when the toggle switch (labeled +48V) on the front panel is on and the red led lights up. The +48Vdc supply is fed to the microphone through pin 2 and 3 of rear XLR input connector. The phantom voltage is required by modern condenser mics to operate. We recommend checking the requirements of your microphons before connecting them. Always keep the phantom power off when connecting or disconnecting microphones, when it is not required, when ribbon microphones are used or any other equipment in the signal chain is connected to input XLR. When you turn the Phantom Power Switch off there will be a few second delay before it is completely off.

METERS
LED METER: Three led indicates the amount of signal present at the XLR output according to +4dB standard:
The "sgn" green led indicates that a signal of (at least) -15dB is on XLR out.
The "0dB" orange led indicates that a signal of +4dB is on XLR out.
The "ovr" red led indicates that a signal of +15dB or more is on XLR out.
Values of amount signal are given by IC comparator;

VU analog METER: It's useful when you want a visual and continous approch to the amount of signal present at the XLR output. The "0" on the scale represent a +4dB level on pin 2 and 3 of XLR output.

Power
Use this switch to turn the unit on and off.
Controls primary AC power to the unit. Primary power is applied to the TP1ch circuits when the Power switch is in the up position. The power toggle switch connect or disconnect the phase wire of main AC power supply (IEC connector on rear). When off, the apparatus is not completely disconnected from AC power source. Detach IEC power cord if preamp is unutilized for a long period.

GROUND LIFT
When active unlink pin 1 from signal ground (GND) to avoid hum. Ground lift act on XLR out connector only.

EARTH LIFT
This will lift the mains earth connection of the chassis from signal ground (GND) thus avoiding hum loops. Chassis is permanently earth connected via centarl pin of IEC socket. The earth is always connected with standard 4mm plug on the rear of any TP1ch.

AC Plug
TP1ch uses a standard, detachable IEC power cord. Insert the AC power cord firmly into this socket.
Caution: please, check to see which voltage your TP1ch is set to. The voltage setting is marked on the serial badge on the rear panel. Make sure the voltage is properly set for your area before applying AC power to the unit. Check that this complies with your local supply; if not, please notify MCAudioLab before powering up. Your TP1ch has been factory set to the correct mains voltage for your country. If you plan to take the unit to countries with a different mains voltage you will need to send the TP1ch to the MCAudioLab Service Center for the correct transformer primaries wiring conversion and fuse changing.
Do not attempt to defeat the safety ground connection!

Fuse
This unit employs an external AC line fuse (easy access to change your fuse, as necessary) to help protect it from damages due to overload conditions. If the fuse fails, replace it. If the fuse fails repeatedly, discontinue use of the unit and contact MCAudioLab for service information.
Remove the power cord before checking or changing the fuse.
To avoid any permanent damage replace fuse with the same rate and type only:
a 2A (5 x 20mm type) fuse is required for operation at 230V;
a 4A (5 x 20mm type) fuse is required for operation at 115V.

Survival Tips For Tube Preamps:

To prolong tube life, observe these simply recommendations:

After using the preamplifier, allow sufficient time for it to properly cool down prior to moving it. A properly cooled preamplifier prolongs tube life due to the internal components being less susceptible to the damage caused by vibration.

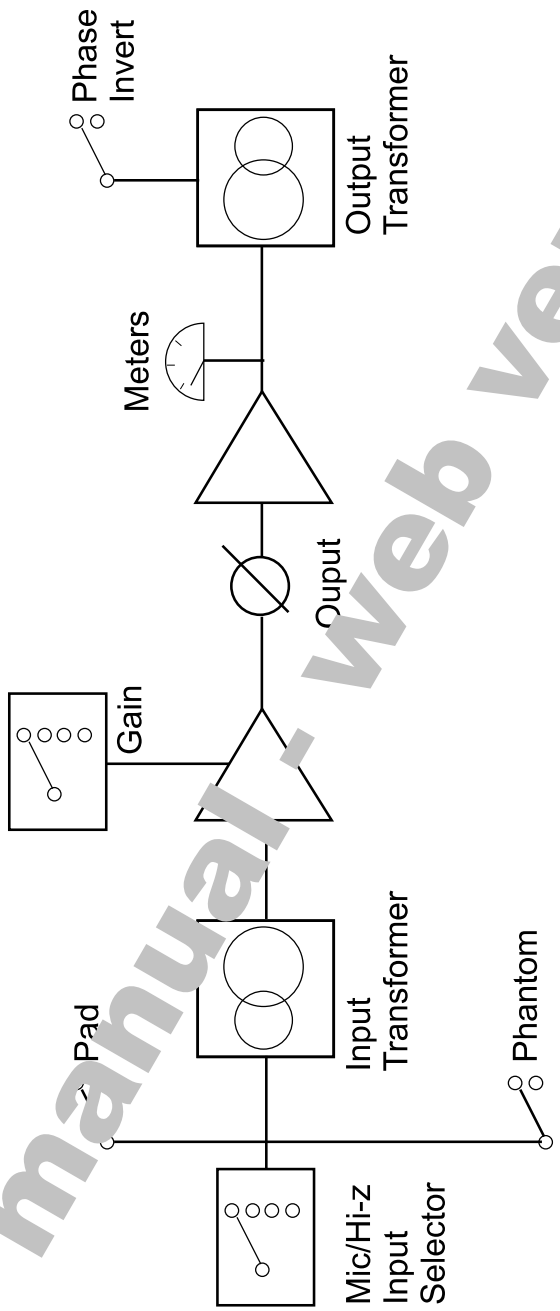
Allow the preamplifier to warm up to room temperature before turning it on. The heat generated by the tube elements can crack a cold glass housing.

Protect the preamplifier from dust and moisture. If liquid gets into the preamplifier proper, or if the preamplifier is dropped or otherwise mechanically abused, it must be checked out in an authorized service center before using it.

Proper maintenance and cleaning in combination with routine checkups by your authorized service center or dealer, will ensure the best performance and longest life from your preamplifier.

CAUTION: Tube replacement should be performed only by qualified service personnel who are familiar with the dangers of hazardous voltages that are present in tube circuitry.

TP1ch signal flow schematic



All XLR connectors are wired according to AES standard: pin 1 is ground (GND), pin 2 is “high” or “+,” and pin 3 is “low” or “-.” A positive voltage on pin 2 of the input will result in a positive voltage on pin 2 of the output (with the Phase Reverse switch set to Normal).

Grounding and Shields

The Input XLR connector pin 1 (GND) is directly connected to equipment ground. The GND is connected to pin 1 of the output connector and to earth depending on earth-lift switch position.

Limited 1 year Warranty
During the warranty period, MCAudioLab will repair or replace defective parts with new ones, at no additional charge.
This warranty does not extend to any equipment that has been damaged or rendered defective as a result of accident, misuse, or abuse; by the use of parts not manufactured or supplied by MCAudioLab; or by unauthorized modification of the equipment. Vacuum tubes are excepted from the warranty, but are warranted for 90 days from date of purchase. Except as expressly set forth in this Warranty, MCAudioLab makes no other warranties, express or implied, including any implied warranty of merchantability and fitness for a particular purpose

Warranty Repair
If the TP1ch should develop a problem during the warranty period, contact the factory to return shipping instructions. We will repair and return your MCAudioLab equipment quickly.

Note that the warranty does not cover vacuum tubes, which must be periodically replaced.

How to contact us

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