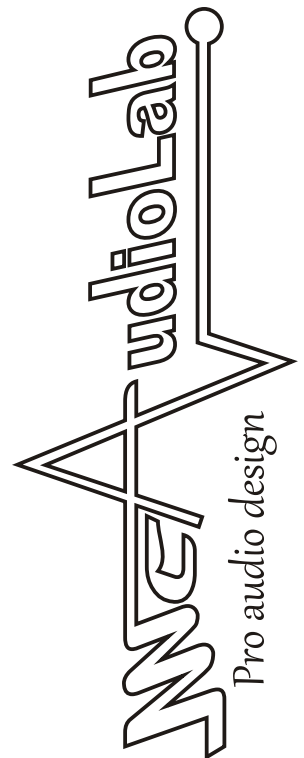


TP2ch

Vacuum Tube Microphone Preamplifier



OPERATING INSTRUCTIONS



Thank you for purchasing the
MCAudioLab TP2ch Microphone Preamp

IMPORTANT

The TP2ch is designed to operate at the voltage/frequency specified on the label on the back of the unit as well as the serial number.

The ground pin of the power cord is internally connected to the chassis. This is the standard configuration in professional equipment and is required by most electrical codes. Please carefully check the studio grounding scheme if ground loop hum is detected.

The serial number must be quoted on every communication in order to get technical support. Please register your new MCAudioLab product on “product registration” page on the MCAudioLab website.

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INTRODUCTION

The TP2ch is a valve, class A, single ended, two channels Mic Preamp. The TP2ch features two independent channels for dual mono recording, stereo or mid-side recording technique. It has the warmth, character and functionality required by modern recording studios.

The TP2ch provides a high quality preamp, suitable for any type of microphone.

The TP2ch is typically used in recording studios for individual tracks. When a quality microphone is connected to the input, the TP2ch provides a line-level balanced output. The TP1 preamp is a "vintage like" classic tube preamp of the '60s, updated with modern electronic components but, its modern design and construction delivers performance exceeding the vintage valve equipments. The TP2ch is designed for the use in the professional recording environment and it accepts every low impedance, balanced and unbalanced, microphones. It features a regulated +48 volt supply for powering condenser microphones, a -20 dB input pad, a phase reversal switch, a peak LED meter and a vintage style RMS VU-meter. All panel switches drive low voltage relays to guarantee the shortest signal path. All power supplies are fully regulated for long hum-free operation. Each mic preamp is hand-built and carefully tested before the shipment .

The two channels of the TP2ch have the same circuitry and features. One channel only is descibed on this manual; the other channel has the same specs and controls.

WARNING!

Please read the following before you start your new MCAudioLab Tube Preamp :

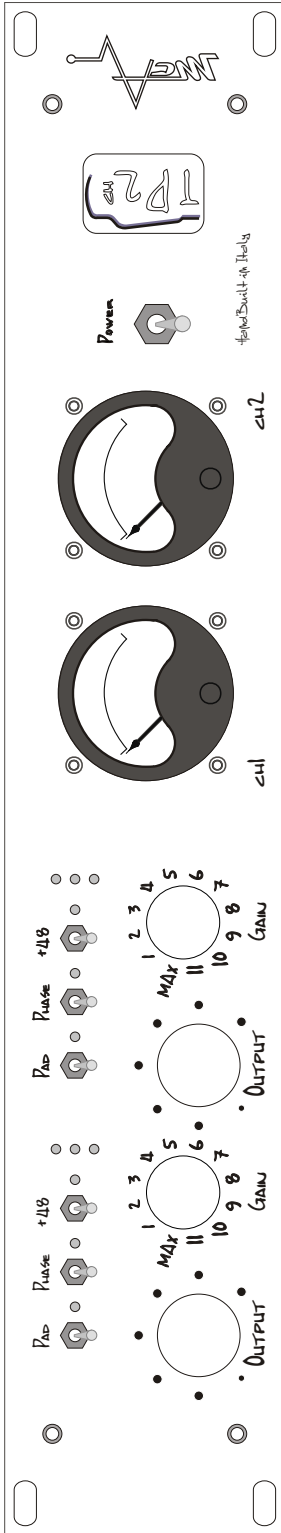
Any tube product is sensitive to a high sound pressure level environment. This may cause microphonic response in a recording situation. Make sure you are able to fit shock mount and place the unit in isolation if necessary. Direct light will effect tubes as well. It is a good practice to avoid installing the tube mic preamp to very high sound or vibration levels.

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.

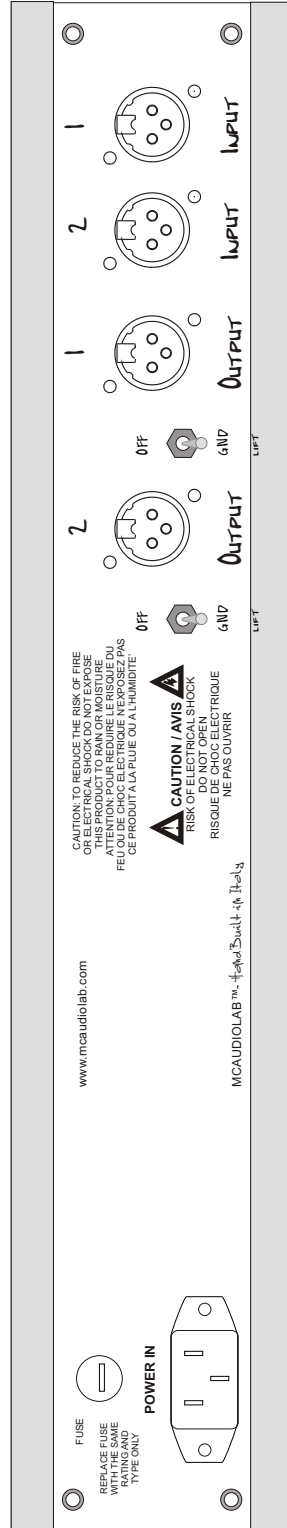


TP2ch layout

FRONT PANEL



REAR PANEL



FEATURES

Passive Out level volume control
12 steps gain control rotary switch
Pad - 20dB switch
Polarity flip switch
Phantom power switch
RMS analog VU-meter
Peak LED level meter
XLR Input connectors
XLR Output connectors
Lundahl Input and Output transformers
One 12AX7 and one 6DJ8 Tubes per channel
Ground lift switch separate per channel (output only)
19" / 2U - rack space

UNIT SIZE:

Width: Standard 19 inches for rack mount installation.
Height: 2U rack space.
Depth: 33 cm
Weight: 5 kg

TECHNICAL DATA (ref. to one channel only; the other is identical)

Input Mic Impedance: 1.2k Ohm
Gain Range 20 - 75dB
Mic Phantom Switchable +48 Volt Power Source
Switchable Output Phase reverse 0 - 180°

Balanced XLR Output
Recommended minimum load output impedance: 600 Ohm
Maximum Level +19 dBu
Output Low impedance, transformer-balanced
Frequency Response 15Hz - 60kHz - 3dB
Distortion THD: > .07 @ 1 Khz

Power Requirements:

23 Watts
Dimensions (W x H x D) 19" x 3.5" x 12.2"
Weight 6 kg

FUNCTIONS *(one channel only described)*

OUTPUT

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

It sets the amount of signal sent to the output stage. The range is from $-\infty$ (knob hard left) to 0 (knob hard right).

GAIN

The Gain control sets the gain of the preamp. It is a 5dB step increment from 20dB (pos=1) to 75dB (pos=max). High volume gain may affect the tube harmonic distortion, actually the contribution to the warm sound of tube equipment. In order to use the TP1 as a clean mic preamp, set the output level control to maximum and use the gain switch to get the right amount of signal.

PAD

The green LED lights up when active, . The incoming signal from the XLR input connector is attenuated of -20dB. Attenuate the input signal to accomodate very high signal and avoiding distortions. The input pad has effect on the XLR input only. The attenuation does not affect the microphone impedance.

PHASE

The front panel toggle switch reverses the polarity of the output. The yellow LED ligths up when active . The signal phase is inverted of 180 degrees.

Phantom power

The phantom power becomes active when the toggle switch - labeled +48V - on the front panel is on and the red LED lights up. The +48V DC supply is fed to the microphone through pin 2 and 3 of 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 microphones. Mind that ribbon microphones usually do not require phantom power as well as vacuum tube condenser and dynamic microphones.

LED METER

It is *PEAK LED METER*: A three LED meter shows the amount of signal at the XLR output according to the +4dB standard:

The "sgn" green LED means a signal equal or greater than -15dB is on the XLR out.

The "0dB" orange LED means a signal equal or greater than +4dB is on the XLR out.

The "ovr" red LED means a signal of +15dB (or greater) is on the XLR out.

VU-METER:

It is RMS output meter and it is useful when you want a visual and continous approach to the amount of signal at the XLR output. The "0" on the VU scale is the +4dB level of the XLR output.

Power

Use this switch to turn the unit on and off.

The power is applied to the TP2ch circuitry when the Power switch is in the up position. Please remove the power cord if you plan not to use the preamp for a long period.

GROUND LIFT

When it is activated, pin 1 (signal ground on XLR connector) is not connected to ground to avoid hum. Ground lift acts on XLR output connector only.

AC Plug

The TP2ch uses a standard, detachable IEC power cord. Insert the AC power cord firmly into this socket.

Caution: please check the voltage setting on your TP2ch. The voltage setting is printed on a label on the rear panel. Make sure the voltage setting complies with your local supply; if not, please notify MCAudioLab before powering up. Your TP2ch mic preamp has been factory set to the correct mains voltage for your country. If you plan to take the unit to countries with a different main voltages, you will need to send the TP2ch 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 has an external AC line fuse (easy access to change your fuse, as necessary) to protect it from damages due to overload conditions. If the fuse fails, replace it. If the fuse fails repeatedly, do not use the unit and contact MCAudioLab for service information.

Remove the power cord before checking or replacing the fuse.

To avoid any permanent damage replace the fuse with the same rate and type only.

Survival Tips For Tube Equipment:

After using the equipment, let it cooling down properly prior moving it. A properly cooled gear prolongs tube life due to the internal components being less susceptible to the damage caused by vibrations.

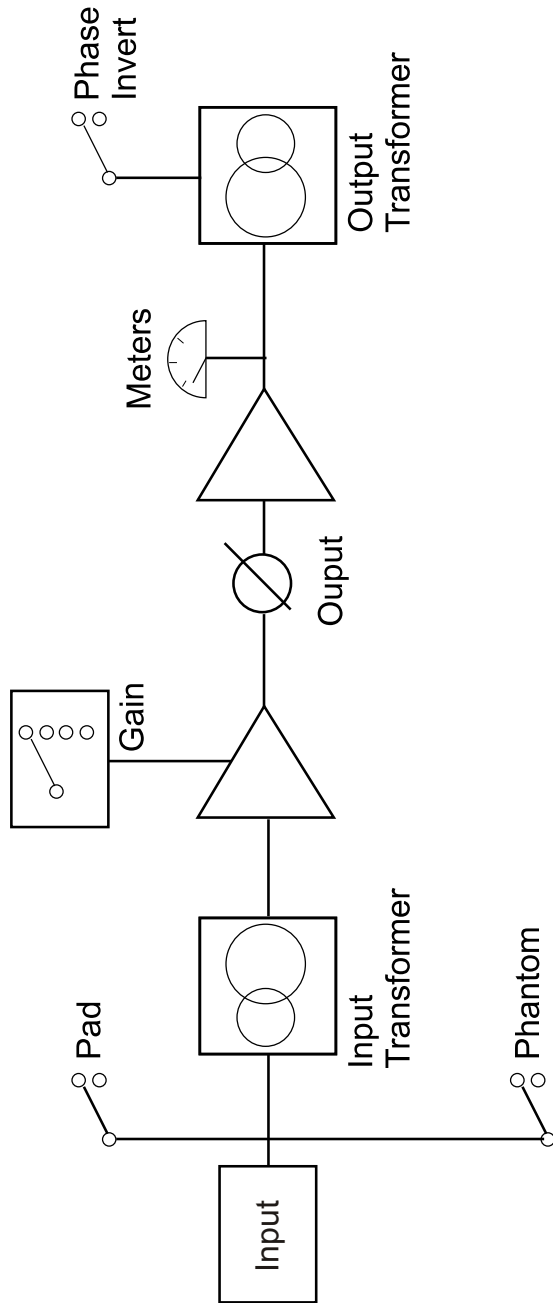
Be sure the tubes have room temperature before turning it on. The heat generated by the tube elements can crack a cold glass housing.

Protect the gear from dust and moisture. If liquid gets into, or if the gear 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, will ensure the best performance and longest life for both tubes and audio equipment.

CAUTION: Tube replacement should be performed when the power cord is unplugged from the unit. Capacitors keep the high voltage for long time after you switch the unit off. Do not try to replace the tubes before one hour from the last usage.

TP2ch signal flow schematic



Note:
One channel only shown; the other channel is identical.

All XLR connectors are wired according to AES standard: pin 1 is ground (GND), pin 2 is the “high” or “+” and pin 3 is the “low” or “-”.

A positive voltage on pin 2 of the input will result in a positive voltage on pin 2 of the output.

Grounding and Shields

The pin 1 (GND) of the input XLR connector is directly connected to the equipment ground.

The GND is connected to pin 1 of the output XLR connector by the ground lift switch.

Note:

MCAudioLab shall not be liable for technical or editorial errors or omissions in this manual, nor for incidental or consequential damages resulting from the use of this material.

Features and specifications subject to change without notice.