

EDAX

AUDIO LABS

OPERATION MANUAL

MAX-800

8 CHANNEL VACUUM TUBE
MICROPHONE PREAMPLIFIER

SAFETY AND OPERATING PRECAUTION

Important Information:



This symbol indicates the presence of dangerous voltage within the product enclosure that presents the risk of electric shock injury. When this symbol appears next to an operation discussed in this manual, only qualified technical personnel should perform that operation



This symbol indicates important operating or maintenance instructions that should be read carefully. Failure to observe these instructions could result in damage to the product or other property.

WARNINGS:



To reduce the risk of electric shock injury, do not remove the top cover or rear panel. Uninsulated dangerous voltage exists within the product's enclosure. Refer servicing to qualified personnel

Do not defeat the earth ground connection in the AC power cable.

Do not operate this unit in the presence of rain, liquids or condensing moisture. Liquid entering the product enclosure presents the risk of electric shock injury. Do not touch the AC plug or enclosure with wet hands.

Do not defeat intended AC power connection polarization.

Do not use a damaged or excessively worn cord to connect this unit to AC power.

CHECK LINE VOLTAGE SETTING

The MAX-800 has been set from the factory to operate at the voltage required for your part of the world. However, it's important to double-check this in order to ensure no damage will come to the unit if power is applied while the setting is incorrect.

CAUTIONS:

Severe damage may be caused to your unit if it is connected to an 230VAC/50Hz AC power if the voltage switch is setting in 115VAC position.

Important: Failure caused by improper voltage application will not be covered under warranty.

This product is designed to operate in an ambient temperature environment not to exceed 50°C (122°F). Please ensure that this unit is mounted in such a way that vents are not blocked and ambient temperature does not exceed 50°C.

INTRODUCTION

The MAX-800 offers eight channel microphone preamplifier and Optical/Fet compressor/ limiters. The MAX-800 preamp has switches for 48V phantom power, Hi pass filter, -20dB pad, phase reversal, LEDs for signal present, input and output overload and phantom indicators.

The MAX-800 compressor limiter has a AC threshold with soft knee transition control, recovery(release)control and Fet and Optical reduction system, compressor and limiter switch, and 3 position attack time.

The MAX-800 compressor / limiter has a LED peak reading gain reduction meter per channel

The MAX-800's unique design yields a preamplifier that offers a huge dynamic range. Its ruler-flat frequency amazing response -0.75 dB 20Hz to 20KHz makes it the ideal preamplifier for such demanding applications as the live recording of classic music amongst others.

Thanks to its sophisticated discrete state-of-the-art input, transformerless output design and Class-A vacuum tube technology, the MAX-800 offers pristine sound, ultra low noise, super low distortion, excellent signal to noise ratio and a perfectly linear frequency response.

The transformerless input and output design's provides superior sound performance to that of the mic preamps (with input transformers) used in professional audio mixers.

Using Class A vacuum tube parallel topology with only the finest semiconductors in their architecture, gives you a preamplifier with sound characteristics that bypass, in performance, the preamp modules of the most expensive consoles in the world.

All the commutation functions are carried out through 32 sealed internal relays, any type of FET, VCA or CMOS are employed, this allows it to maintain, at any given moment, a surprising dynamic range.

By being free of audio transformers in the audio signal, the in/out technology employed results in low distortion, and scarce phase deviation less than and improves linearity across the full frequency range.

It also provides the exceptionally low shelf noise and increased dynamic range necessary for highly critical studio recording

All of the components used have been selected meticulously by hand and measurements with proprietary techniques.

The MAX-800 is the ideal dream multichannel preamplifier where stunning sound quality is required.

Sturdy construction and housing makes it ideal for use in live applications.

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FEATURES

- * Pure class A Tube design with cell parallel triodes.
- * Fully balanced transformerless mic input and outputs.
- * High headroom +30dB.
- * High precision active balanced output circuit.
- * 11 position sealed rotary gain switch 4dB steps
- * Passive 12dB/Oct HP Filter (90Hz)
- * Optical and Fet reduction system.
- * Compressor and Limiter switch.
- * Gain reduction Led meter.
- * Aluminium knobs.
- * Plastic conductive potentiometers.
- * Ultra clean 48 Volt phantom power.
- * LED green show signal present conditions.
- * LED yellow show input peak conditions.
- * LED red meter show output overload peak conditions.
- * All signal routing with 32 sealed relays.
- * Minimal internal signal wiring.
- * Fully regulated high voltage,phantom and dc power supplies.
- * Gold plated Neutrik XLR input and output and jack connectors.
- * Custom Dual toroidal Hum canceller power transformers with silicon foil shielding for minimum hum.
- * Dual voltage AC selector.
- * Sturdy construction and housing makes it ideal for use in live applications.

INSTALLATION

5.1 Unpacking and Inspection

We recommend that you inspect your MAX-800 upon unpacking it from the factory shipping carton. In the unlikely event that the unit exhibits any physical damage, DO NOT connect it to the AC mains power, but contact your dealer immediately.

The shipping carton should contain the following items: the MAX-800 Preamp, an IEC 3 Prong power cord, and this operating manual.

We recommend that you keep the shipping carton and supports in the event that the unit must be shipped at some time in the future.

DO NOT package the unit in packing peanuts” or similar material as it will settle during Shipping and damage will likely occur.

If original packing materials cannot be located, wrap the unit with a liberal amount of Plastic “bubble wrap” material extending at least 2” beyond the extremities of the MAX-800 enclosure.

5.2 Mounting

The MAX-800 can be mounted in any standard 19 inch (483mm).

If the MAX-800 is mounted in a mobile rack or road case, it is important that the rear of the chassis is supported to prevent possible damage from mechanical shock and vibration. Excessive shock and vibration can cause damage or premature failure of the vacuum tubes, or cause them to be shaken loose from their sockets.

Please avoid rough handling.

5.3 Ventilation

For proper operation, it is **very** important that adequate ventilation is provided. Vacuum tubes produce a significant amount of heat that must be removed from inside the chassis. The top panel vents should never be blocked in any way. We recommend that you provide adequate ventilation so that the air temperature surrounding the unit does not exceed 55°C (122°F). If multiple units are to be mounted in a poorly ventilated rack or travel case, a 1 3/4” blank space should be located after every two units (two units mounted together, blank space, two more units, etc.).

5.4 Power Requirements

The MAX-800 is equipped with a 3-prong IEC power connector and detachable cord. Never operate the MAX-800 with the ground on the power cord defeated.

This unit operates from 115V/60 Hz and 230V/50Hz.(Export option)

The ac fuse and the voltage switch are accessible from the rear panel.

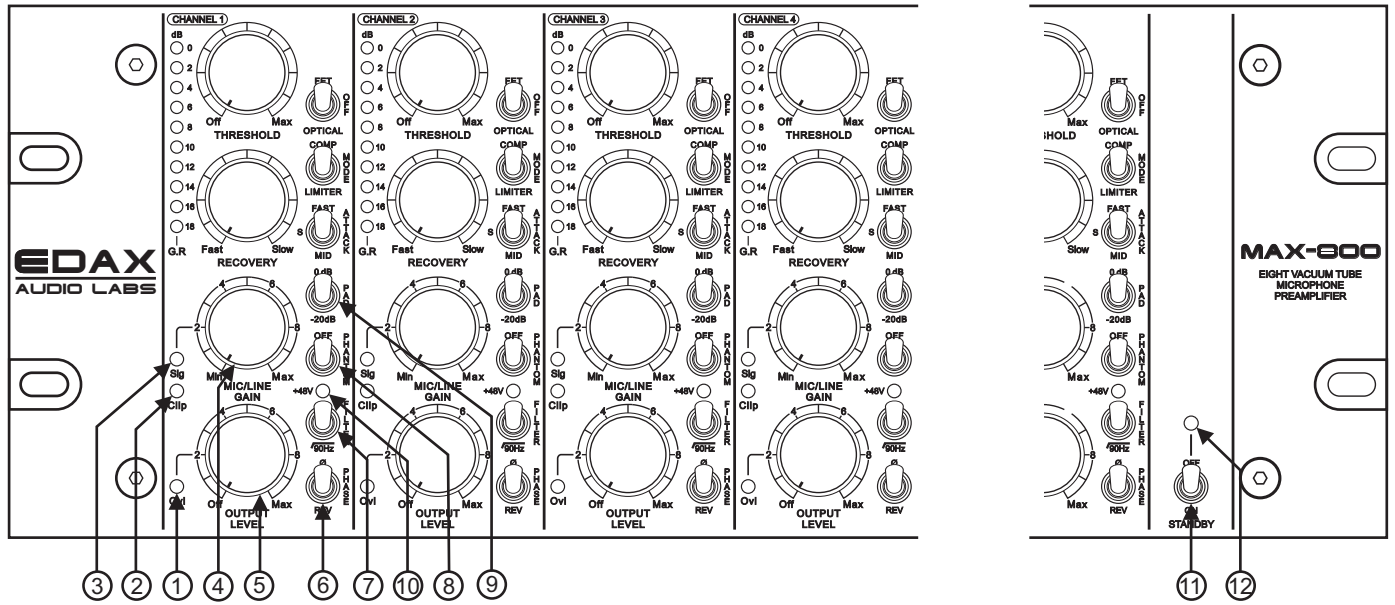
To check or replace the fuse, make sure the unit is unplugged.

5.5 Servicing

Other than changing the tubes, the user should not attempt to service the MAX-800 beyond that described in this manual. Never remove the covers or attempt to replace the tubes until the unit has been disconnected from the ac power source, and all circuits inside have been allowed to discharge for a period of at least 30 minutes.

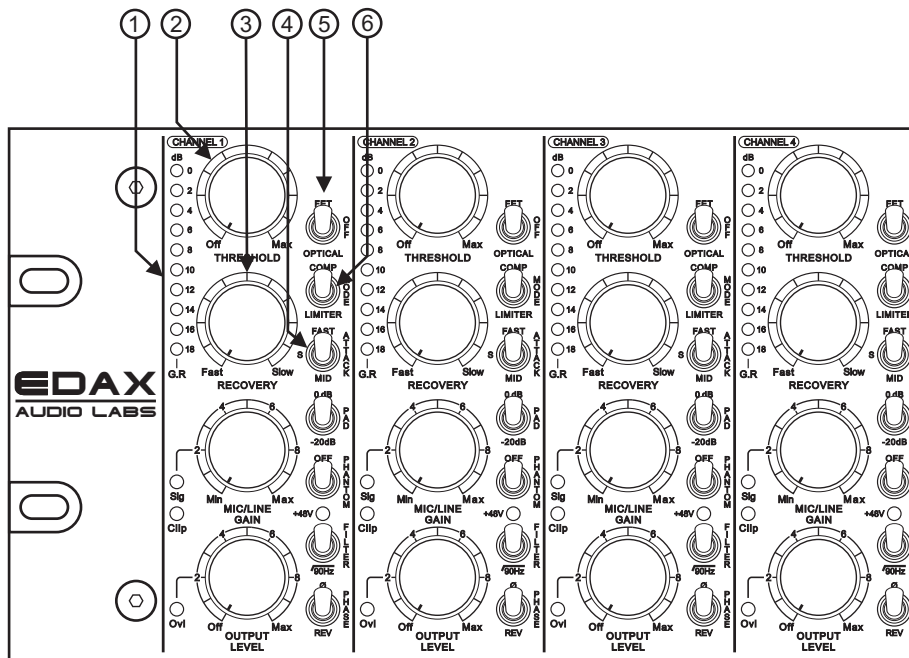
Since potentially lethal voltages are present inside the unit, it should only be opened by Qualified service personnel. Refer all servicing, or any questions about servicing, to Edax Audio Labs.

FRONT PANEL Input & Output module



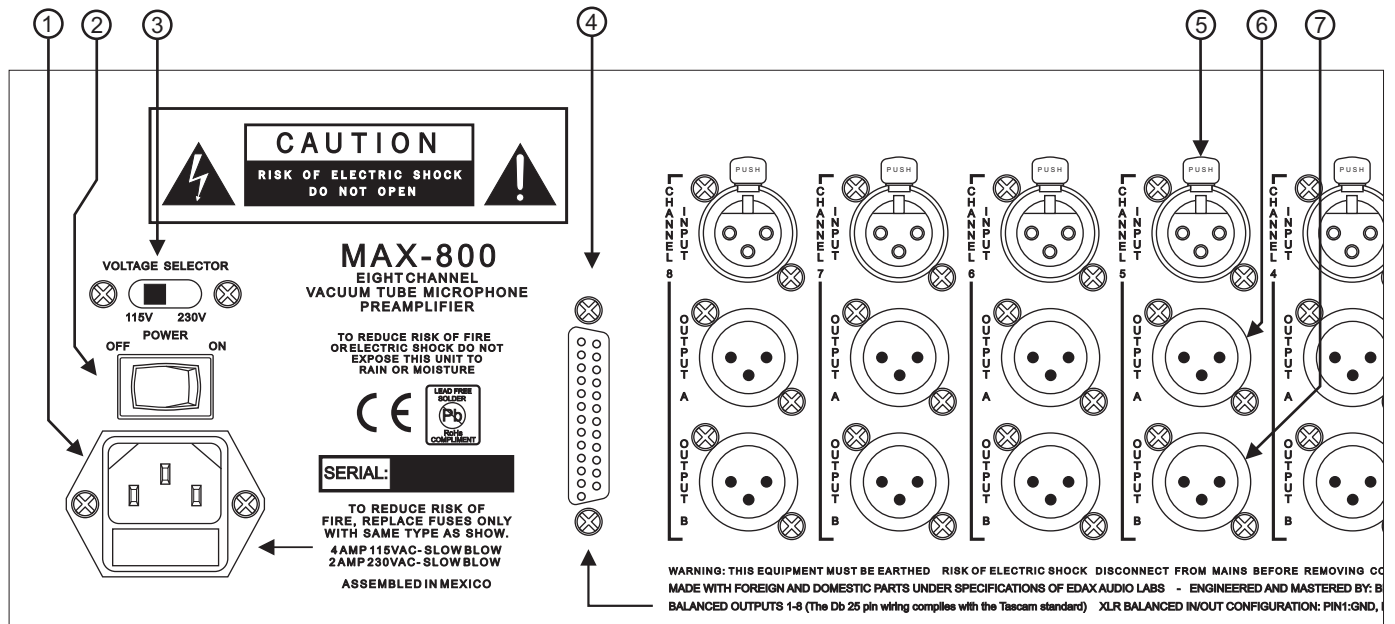
- 1) **Ovl led:** The Red Led illuminate when level exceeds the maximum output level which is 3 dB below the overload point.
- 2) **Clip led:** The Yellow Led illuminate when the input level exceeds the maximum XLR input level which is 3 dB below the overload point.
- 3) **Signal led:** The Green Led illuminate when the input level exceeds -20dBu.
- 4) **GAIN Mic/Line:** An 11 position rotary switch that controls the gain of the discrete input stage.
- 5) Output level control.
- 6) **PHASE:** Phase reverse switch, where '+' is normal phase (input pin 2 hot), and '-' is inverted phase (input pin 3 hot).
- 7) **HPF:** Provides 12dB/octave low frequency rolloff 90Hz.
- 8) **+48V:** Supplies 48 volts to the XLR inputs for condenser microphones requiring phantom power. Avoid selecting phantom power if you are using a dynamic, ribbon or tube mics.
- 9) **PAD:** Selects between the MIC input (via the XLR input connectors on the rear panel) and Line levels
- 10) **Phantom led:** The Red Led illuminate when the phantom power is on.
- 11) **STANDBY** switch.
- 12) **POWER:** The red Led light indicates that the unit is on.

FRONT PANEL Compressor/Limiter module

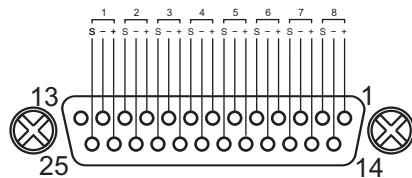


- 1) **GAIN REDUCTION METER:** GAIN REDUCTION LEDs show the amount of average signal reduction in dB. This aids in setting the THRESHOLD control by showing how much compression or limiting is occurring.
- 2) **THRESHOLD CONTROL:** The threshold control determines the audio level above which gain reduction occurs. The threshold control has a range of infinite to +22 dB, allowing applications from low level compression to high level limiting.
- 3) **RECOVERY CONTROL:** The time required to restore system gain to normal after the input signal has fallen below threshold level. Again, proper release time will depend on the type of program material being processed and the way in which the limiter is being used. threshold.
- 4) **ATTACK SWITCH:** Attack time is the amount of time that the unit takes to attenuate the output level after threshold has been reached.
- 5) **FET/OPTICAL /OFF SWITCH:** Allows to select two different gain reduction type systems.
- 6) **COMPRESSOR & LIMITER SWITCH MODE:** Allows to select compressor or limiter ratios.

REAR PANEL



- 1) Main connector & fuse
- 2) Power switch.
- 3) AC line voltage selector.
- 4) D25 output connector according to the Tascam 8 channel analog configuration.



Analog wiring Tascam Configuration

DO NOT USE TDIF CABLES

- 5) XLR: Mic/Line Balanced input.
- 6) XLR: Balanced A output connector.
- 7) XLR: Balanced B output connector.

Note: The Balanced A output, Balanced B and the DB -25 output connector are in parallel.

REPLACING THE TUBES

The vacuum tubes become very hot once the unit has been turned on, and they should not be touched until they have cooled to room temperature.

For the design of the MAX-800 we have chosen an especial tube model, this gives to the MAX-800 its special sound characteristic.

When you need to replace the vacuum tubes use allways original EDAX tubes.

All vacuum tubes have a limited life due to reduced electron emission from the oxide coating on the cathode and/or a buildup of impurity gases in the bulb. Due to the hi quality of the tubes in the MAX-800 the life is estimated to be several years.

When should you replace the vacuum tubes?

You should only replace the vacuum tubes in the preamplifier when you start to notice a change in the sound quality. This is usually evident when the tone becomes "dull", and transients seem to be blunted.

If you notice the sound quality deteriorating - higher distortion, muddiness, or microphonic behavior - it's time to change the tubes.

Allways we recommend changing the 8 tubes at once.

If you are uncomfortable with replacing the tubes yourself, please have it done by qualified service personnel.

- 1) Unplug the MAX-800 and wait at least 30 minutes for the high voltage in the unit to discharge and for the tubes to cool to room temperature.
- 2) Only remove the top cover by removing the two #8-32 Allen-head screws.
It is not necessary to remove the bottom cover.
- 3) Note the position of the eight tubes (V1-V8) in the porcelain sockets
- 4) Remove each tube and replace with the new one.
- 5) Reinstall the top cover and screws.

SPECIFICATIONS

Input Impedance(microphone): 2k2 ohm,nominal.

Maximum input level:+23dBu into 10Kohms.

Maximum output level:+30dBu into 10Kohms.

Output impedance:47ohms x 2.

Frequency Response: -0.75dB 20Hz and 20kHz with 10Kohm load.

Phantom Power:+48Vdc applied to pins 2 and 3, +/- 1Vcc.

Mic Pad: -20dB attenuation.

Mic Phase switch: inverts the phase 180 degrees at the transformerless output.

Hi Pass Filter : Passive 12 dB/octave rolloff 90Hz

Polarity: input and output XLR connectors are pin 2 hot.

Power: 100VAC to 240VAC, 50/60Hz, selectable.

Power consumption:100 watts maximum.

Dimensions: 3U enclosure, 19" x 5.25" x 14.37" (48.3 x 13,3 x 36.5 cm).

Weight: 12Kg

Net Weight: 13.5Kg

Notes: 0 dBu = 0.775 Vrms.

All specifications are subject to change without notice.

WARRANTY

Edax Audio Labs warrants to the first purchaser of a new MAX-800 Vacuum tube preamplifier that the unit is free of manufacturing defects in materials and workmanship for a period of one (1) year from the date of purchase. Edax Audio Labs sole obligation under this warranty shall be to provide, without charge, parts and labor necessary to remedy defects, if any, which appear within one (1) year from the date of purchase. All warranties expressed or implied made by Edax Audio Labs, including warranties of merchantability and fitness, are limited to the period of this warranty. Edax Audio Labs is not responsible for indirect, incidental or consequential damages arising from the use or failure of this product, including injury to persons or property.

This warranty does not cover damage due to: misuse, abuse, modification, accident or negligence. The warranty does not apply if the unit is repaired or altered by persons unauthorized by Edax Audio Labs in such a manner as to injure, in Edax Audio Labs sole judgment, the performance, stability or reliability of the unit. The warranty does not apply if the unit is connected, installed or used otherwise than in accordance with the instructions furnished by Edax Audio Labs. There is no warranty on vacuum tubes.

If the equipment requires warranty repair, return authorization must be obtained from Edax Audio Labs prior to shipment. Equipment should not be shipped to Edax Audio Labs until return authorization and the proper shipping address is obtained from us.

The equipment (with all its components parts and connecting cables) must be suitably packaged, including a note with the owner's name, address, telephone number and a description of the reason for return. The owner pays two-way shipping, and we suggest that the shipment be insured for its full value.

This limited warranty is in lieu of all other warranties, expressed or implied, and no representative or person is authorized to represent or assume for us any liability in connection with the sale of our products than set forth herein.

FREQUENCY RANGE CHART

