

LACHAPPELL AUDIO

---

Model 992 Vacuum Tube Preamplifier for Microphones and  
Instruments

Operating  
Manual

**Introduction:** Congratulations on your purchase of the LaChapell Audio 992, a fully balanced pure class-A vacuum tube preamplifier and instrument input amplifier. LaChapell Audio has gone to great lengths in making sure this preamp not only deliver world class performance numbers but more importantly, deliver them with warmth and character while using only the finest components.

**Target Application:** Depending on which variant you've purchased (TLS or EG...) the 992 can easily accommodate virtually any recording requirement. The 992 TLS, with its' transformerless/6072 input configuration, excels on sound sources such as voice, acoustic guitar, violin, drums or any active hi-Z instrument source.

The 992 EG (Extended Gain) utilizes the Jensen JT-115k input transformer with dual ECC83 vacuum tubes per channel. With improved noise performance (EIN: -129 loaded/A-wtd.) and >74dB of internal gain this 992 variant closes the gap for those using ribbon mics, recording distant or faint sound sources and/or passive hi-Z instruments.

## Before You Get Started:

Stated below are a few areas that you must take the time to read before you power up and use the 992. You as the owner/user are responsible for completely understanding how to operate this device safely and properly.

- **UNPACKING:** Inspect thoroughly! Although we take extreme care at final assembly and packing, things can happen during transit. It is very important that you contact LaChapell Audio if there is anything broken or damaged upon receipt of package. Shipping is always insured and we will do our absolute best to satisfy any legitimate claim as long as it is made within 10 days of receipt. Included in every package should be: (1) Model 992 preamplifier, (1) AC power cord, (1) packet of mounting screws, (1) owner's manual w/registration card. It is a good idea for you to retain the packaging (box, foam caps and plastic bag) in case there is a need to return the unit for service or repair at a later date.
- **MOUNTING:** Always allow for plenty of ventilation around the sides and top of preamp. Unlike most 2-channel vacuum tube units, the 992 uses a total of eight tubes; this generates a lot of heat. It is also important to NOT mount this unit above other sources that generate heat such as power amplifiers or other tube gear. Always provide at least 1U (1 rack space) of clearance above the 992. Mounting in travel racks is not recommended. Keep in mind that the vacuum tubes are mounted in sockets and on rare occasions can shake lose if subjected to prolonged rough handling. Finally, the 992 should never be mounted or placed in areas that would expose it to any form of moisture.

- **SERVICE/REPAIR- WARNING:** With the exception of tube replacement (see below) the user should NOT attempt to service this unit. Due to the risk of electrical shock and the presents of lethal voltages inside the chassis. Only LaChapell Audio or other highly qualified personnel are to perform maintenance and service activities.

**Tube replacement:** Turn the unit off, disconnect the power cord and let the unit stand for at least 20 minutes. Vacuum tubes run very hot, replacing them when they've had enough time to cool to room temperature is recommended. It is also VERY important that enough time is given to allow power supply voltages to drain. After 20 minutes has past remove the top panel using a standard Phillips type driver.

To remove the tubes apply a slight circular/rotating motion as you pull it away from the socket. DO NOT pull strait up as it will stress the PC board and the tube. **It is important to replace tubes with the same type of tube!** When new tubes are installed double, triple check that you've inserted the correct tubes into the V1~V4 sockets BEFORE you power-up.

**NOTE:** Each tube socket has a designation (V1 to V4) silk-screened onto the P.C. board of each channel. V1 & 2 are the input tubes (12AX7/ECC83 or 6072), V3 & 4 are the output tubes 12AU7/ECC82/6189 (The 5814 is also an acceptable 12AU7 replacement.) *We recommend that you send the unit back for tube replacement as there will likely be the need for grid balancing.*

**WARNING: Warrantee may be voided if tubes other than those listed above have been used at any time.**

**Rear Main Fuse replacement (lamp slow-blow):** Located within the rear power entry module (PEM) are the two main AC fuses. To replace these fuses make sure the rocker power switch is turned off then, disconnect the AC cord. Locate the two small slots along the top edge of the PEM; place your screw driver in one of these slots and pull back on the housing door. *Do not attempt to pry back the PEM from the rear panel itself!* The housing door will rotate back and expose the red sub-module. Note the fuse orientation inside this module before you remove the fuses. Re-insert the housing back into the PEM making sure the 115v/230v text is correctly oriented. Always replace fuses with same type from factory. **See International Power Settings below.**

Contact LaChapell Audio for any other servicing questions at **209-383-3486.**



- **SAFETY PRECAUTIONS:** Never operate the 992 with the top panel removed. The top panel's perforations provide more than enough ventilation for cooling. The top panel also plays an important role in maintaining good signal to noise ratio performance.

Always provide a source to ground (earth.) Never under any conditions should a power cord that has the 3<sup>rd</sup> prong for ground missing or defeated be used.

Do not place the 992 in an area where there is a potential for fluids to fall, spill into or come in contact with the 992. If you notice fluids or moisture present inside the 992 **DO NOT** turn power on! Although there are plenty of safety measures built into the unit for the protection of the user, it is best if you contact LaChapell Audio for direction.

## Hookup:

AC PEM: Double check the power setting on the power entry module (PEM) is correct. In the USA it should always read 115v on the red voltage indicator located just above the rear power rocker switch. As stated above, use only a 3 prong detachable AC power cord. See the SERVICE/REPAIR section for replacing the fuse(s).

### International Power Settings

At this time power settings other than 115v are only available as a factory modification- **DO NOT** attempt to use the red voltage fuse sub module for voltage adjustments. If this modification has been performed you will see the corresponding check box marked on the rear panel accordingly. Contact LaChapell Audio if you have any questions.

- **XLR INPUT:** Located on the rear panel are the balanced Microphone XLR inputs. Pin orientation is standard.
- **XLR OUTPUT:** Above the XLR inputs are the balanced XLR outputs. These outputs are to be connected to your recording/broadcast console, recorder, or other device's that can accommodate a balanced line level signal (compressor, EQ, etc...)
- **Hi-Z INPUT:** Located on the front panel are the auto-switching Hi-Z instrument inputs. This Hi-Z stage is placed in front of the balanced microphone input stage and utilizes a Cinemag JT-DBX transformer for signal balancing.

# Controls:



FIGURE 2.1 the five LED tipped toggles on channel 1 are (from left to right) Meter, 48v, -20db, Polarity Reverse and Mute. The two lower knobs on the inside are for input gain and the two upper knobs are for output gain.

- **INPUT GAIN:** The user is given separate control of the input signal strength via a dual ganged potentiometer. The pot is placed between the first and second input tube and provides about 20dB of the >50dB of internal gain; 40dB of the >74dB of internal gain for the extended gain variant.
  - **OUTPUT GAIN:** Like the input stage, the user is given separate control of the output signal strength via a custom dual ganged Clarostat potentiometer. The pot is placed between the last input tube and the first 12AU7 output tube and provides all remaining amounts of gain from the input stage.
  - **POWER TOGGLE:** Controls the on/off power and is slave to the rear main rocker switch located on the AC PEM.
- **NOTE: For best S/N ratio performance with 992 TLS it is assumed the input gain stage is favored more than the output stage. It is not uncommon for the input pot to be in its' fully clockwise position before additional output gain is applied. Use this wisely as too much input gain (especially with the EG) may result in distortion.**

## Channel Specific Toggles:

- **METER:** This is a Sifam type AL29WF VU meter and monitors output signal strength. The VU meter is buffered from the audio path using high impedance precision isolation amplifiers running @40kohm. Use of a meter isolation amplifier is important for maintaining consistent gain and eliminating IMD regardless of the meter status (on/off). However, it is strongly recommended that the user switch off the meter when it becomes 'pegged', overdriven. This prolongs the life and accuracy of the meter.
- **48V (Phantom):** 48 volts available for condenser microphones. Each 992 is calibrated to exactly 48 volts at the input jacks at final assembly. It is important that you NOT engage the front panel 48v toggle with microphones that do not require it: *ribbon, dynamic, and tube mics*. Applying 48v from any source (not just this preamp) to some of these microphones can damage or destroy them.

- -20dB: If needed the user can pad the microphone inputs using the -20db attenuator. This adjustment takes place before the first input tube. This function is defeated while the Hi-Z inputs are engaged.
- POLARITY REVERSE: Some of the more common reasons to use this would be to reduce feedback in a live environment, enhance the stereo image of certain content or to assist in eliminating headphone signal bleed through during a recording session.
- MUTE: Each channel is equipped with its own mute function. The LED indicates the mute function is engaged; output signal is completely cut. However, the meter will still monitor the output level whether mute is engaged or not (unless it too is switched off.)

**Warranty:** LaChapell Audio warrants that for a period of one year after the date of delivery, the Products delivered hereunder shall perform in accordance with the written product specifications current as of the date of shipment and under normal use shall be free from defects arising from selection of material or process of manufacture. LaChapell Audio agrees to repair or replace at its principal business office in California or other authorized repair center, without charge, all defective parts in the Products which are returned for inspection to said center within the warranty period; provided such inspection discloses that the defects are as specified above, and provided further that the Products has not been altered or repaired other than with authorization from LaChapell Audio and by its approved procedures, not been subjected to misuse, improper maintenance, negligence or accident or otherwise had its serial number or any part thereof altered, defaced or removed. All shipping and insurance costs for the Products repaired or replaced under warranty are the responsibility of the party shipping the Products. All defective items replaced hereunder shall become the property of LaChapell Audio

## Specification

- Internal Gain: >52dB (>74dB 992EG)
- Max output gain: +24dBu (1% THD+N)
- Frequency Response: 12hz to >110khz (-3dB, output favored)  
10hz to >100khz (992 EG)
- THD+N: <.25% (@50db gain, 0dBu out)
- SNR: (30db gain) >85dB (91dB 992EG)  
(Rg=150, 22hz – 20khz)
- Input Impedence: 8.2k $\Omega$  (1.4k $\Omega$  992EG)  
1.2Mohm: Hi-Z (140k $\Omega$  992EG)
- Tube Complement: (4) 6072, (4) 12AU7  
(4) ECC83, (4) 12AU7 (992EG)

NOTE: Stated specifications are typical measurements but subject to change without notice due to individual traits unique to each tube. All measurements taken while driving a 40k $\Omega$  load and using a 1khz tone.

© 2005~2006 LACHAPELL AUDIO  
3144 N. G st. #125-354  
Phone 209-383-3486  
www.lachapellaudio.com