

**LACHAPPELL**AUDIO

# **LACHAPPELL AUDIO 983S MK2**

## USER GUIDE

Two Channel Vacuum Tube Preamplifier for  
Microphones and Instruments

Version 1  
February 2019

# SAFETY INSTRUCTIONS

*TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. CONTACT DIGITAL AUDIO LABS FOR SERVICING.*

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated and/or potentially dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



## POWER CORD NOTICE FOR INTERNATIONAL OPERATION

Please call Digital Audio Labs Support at 952-401-7700.

## IMPORTANT SAFETY INSTRUCTIONS

1. Read and understand this entire manual.
2. Keep this manual available for reference.
3. Heed all warnings and precautions in this manual and notices marked on the product.
4. Do not use this product near water or damp environments.
5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
6. Provide for proper airflow around product. Do not install near products that produce high levels of heat. Do not expose the unit to direct sun light or heating units as the internal components temperature may rise and shorten the life of the components.
7. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they connect to the product. Do not use the unit if the electrical power cord is frayed or broken.
9. Only use attachments/accessories specified by the manufacturer.
10. Unplug this product during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified service personnel.
12. The product shall not be exposed to moisture. Do not touch the unit with wet hands. Do not handle the unit or power cord when your hands are wet or damp.
13. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.

## CARE

- From time to time you should wipe off the front and side panels and the cabinet with a dry soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.
- The manufacturer cannot be held responsible for damages caused to persons, personal possessions, or data due to an improper use of product.

# DIGITAL AUDIO LABS LIMITED WARRANTY

Digital Audio Labs warrants their products against defects in material and workmanship for a period of two years from date of purchase. During this period, Digital Audio Labs will, at its option, repair the defective unit or replace it with a new or rebuilt one.

The warranty does NOT cover:

- Damage due to abuse, misuse, or accident.
- Damage due to operation contrary to the instructions in the product instruction manual.
- Units on which the product serial number has been removed or altered.
- Units that have been serviced by unauthorized personnel.

All implied warranties, including warranties on merchantability and fitness, are limited in time to the length of this warranty. Some states do not allow time limitations on implied warranties, so this limitation may not apply to you. Digital Audio Labs' liability is limited to the repair or replacement of its product. Digital Audio Labs shall in no way be held liable for incidental or consequential damages resulting from the use of their product or its software, including, without limitation, damages from loss of business profits, business interruption, loss of business information or other pecuniary loss. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

## REPAIR POLICY

Please do not return the product without obtaining an RMA number first. Contact Digital Audio Labs at [support@digitalaudio.com](mailto:support@digitalaudio.com) to acquire an RMA number. Do not return the product to the place of purchase. Please write the RMA number on the outside of the shipping carton. Any product sent to us without a valid RMA number will be refused. Include the following with the product: a brief description of the problem, your name, return shipping address, phone number and the RMA number. Do not include any accessories. DAL is not responsible for any damage to or loss of the product during transit. We recommend that customers obtain a receipt and tracking number for all packages shipped to us. Turnaround time on repairs is generally ten business days. If you live outside of the United States, please contact your local distributor for warranty service.

Please return product to:  
Digital Audio Labs  
Attn: RMA Number  
1266 Park Road  
Chanhassen, MN 55317  
USA

## WARRANTY SERVICE

You will be required to pay the shipping charges when you ship your product to DAL. DAL will pay for return shipping via UPS ground. We reserve the right to inspect any product that may be the subject of any warranty claim before repair is carried out. For warranty service, we may require proof of the original date of purchase if you have not registered your product with DAL. Final determination of warranty coverage lies solely with Digital Audio Labs.

## NON-WARRANTY SERVICE

If it is determined that the product does not meet the terms of our warranty, you will be billed for labor, materials, return freight and insurance. There is a \$80 USD minimum charge for materials and labor. Appropriate shipping charges will be applied. We require payment in advance of repair by credit card; we accept Visa and Master Card. In the event the charges are over the minimum charge, DAL will contact you and inform you of the cost of the repair before any work is completed.

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# INTRODUCTION

The LaChapell Audio 983S MK2 is a two channel microphone and instrument preamplifier. Each channel consists of a Jensen input transformer with a turns ratio of 1:10 and one ECC83/12AX7 vacuum tube. The instrument input stage bypasses the transformer and goes straight to the tube. The output stage utilizes premium Burr-Brown and THAT Corporation line drivers along with an 80% nickel alloy core transformer to generate a balanced line-level output signal with very low 8 ohm output impedance. With this precision, double-balanced output stage, the 983S MK2 is capable of driving many hundred of feet of cable without significant loss of signal quality

## BEFORE YOU GET STARTED

Please take time to read the information below before installing the LaChapell Audio 983S MK2.

- **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 Digital Audio Labs if there is anything broken or damaged upon receipt of package. Included in every package should be: (1) preliminary operating manual, (1) packet of mounting screws, (1) registration card. It is a good idea for you to retain the packaging (box & foam case) in case there is a need to return the unit for service or repair at a later date.
- **SERVICE/REPAIR - WARNING:** The user should NOT attempt to service this unit in any way, due to the risk of electrical shock and the presence of lethal voltages inside the 983S MK2. It is recommended that tube replacement be performed only when necessary by technically competent individuals.

Tube replacement: Turn power supply off and remove 983S MK2 from the chassis, wait five minutes to allow the vacuum tube to cool before attempting to remove it. Using your fingers, apply a slight circular/rotating motion as you pull it away from the socket. It is important to replace the tube with the same type. When a replacement tube is installed, ensure that the correct tube type has been inserted into the 983S MK2's tube socket BEFORE powering up.

- **MOUNTING:** Always allow for plenty of ventilation around the sides and top of preamp. Mounting in travel racks is not recommended. Keep in mind that the vacuum tubes are mounted in sockets and on rare occasions can shake loose if subjected to prolonged rough handling. The 983S MK2 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 in any way, due to the risk of electrical shock and the presence of lethal voltages inside the 983S MK2. The user should also take note that excessive 'swapping' of tubes will introduce undue wear on the tube socket. It is therefore recommended that tube replacement be performed only when necessary and by technically competent individuals

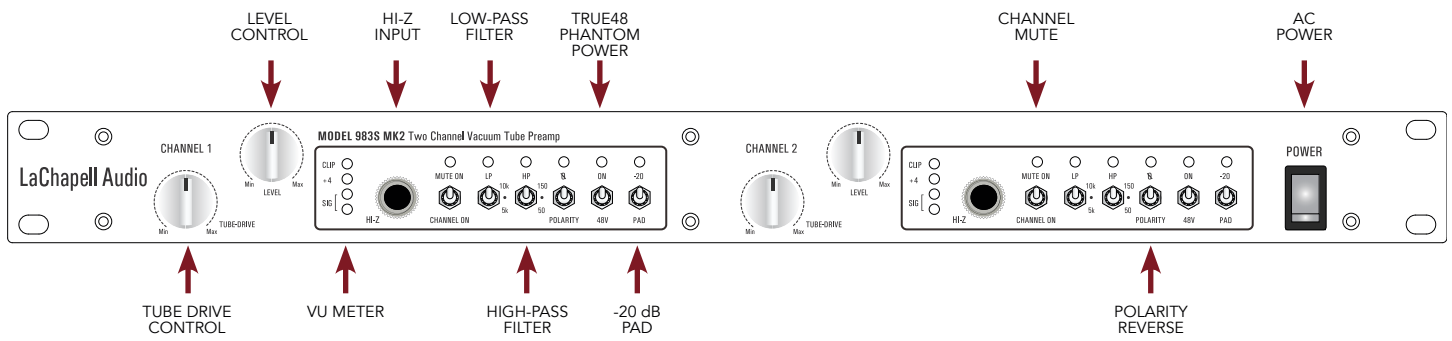
Tube replacement: Turn power off, disconnect the power cable and wait 20 minutes to allow the vacuum tube to cool before attempting to remove it. Waiting 20 minutes also allows the power supply caps to discharge adequately. Using your fingers, apply a slight circular/rotating motion as you pull the tube away from the socket. It is important to replace the tube with the same type of tube.

*WARNING: Warranty may be voided if tubes other than the 12AX7/ECC83 are used.*

## **SAFETY PRECAUTIONS**

- Always provide adequate ventilation. Due to the vacuum tube and high voltage internal power supply, the 983S MK2 will get warm. Blocking or defeating any existing vent(s) is not recommended.
- Never position the 983S MK2 directly above other heat generating sources such as a power amplifier.
- Do not place the 983S MK2 in an area where there is a potential for fluids to fall, spill onto or come in contact with the 983S MK2. If you notice fluids or moisture present inside the unit DO NOT turn power on! Contact Digital Audio Labs for direction.

# CONTROLS



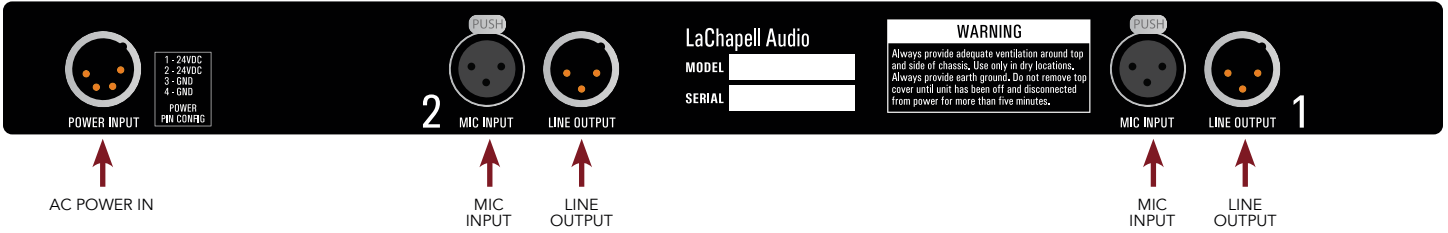
## CONTROL DETAILS

- **TUBE DRIVE:** TUBE DRIVE controls how much of the source signal is fed to the vacuum tube. Higher levels will drive the tube harder and result in more harmonics. Think of this control as your amount of tube coloration/harmonics (distortion).
- **LEVEL:** Provides variable control over line level signal strength. Think of this control as your source for clean gain. Typically, this control is used to establish the desired line level after the input gain has been set but it can work interactively with the TUBE DRIVE for a wide array of tonal possibilities.
- **48V:** The 983S MK2 features TRUE48™, a dynamic phantom power supply that provides a 48 volt supply of DC current for condenser microphones. Unlike other phantom power supplies, TRUE48 provides a full 44-48V of phantom power regardless of the source resulting in more headroom, lower distortion and quicker transient recovery.
- **HI-Z INPUT:** The Hi-Z input stage is transformerless and operates with an input impedance of 100kohm. The input pad has no effect on the Hi-Z input.
- **20dB INPUT PAD (-20):** When engaged, the microphone input source signal is reduced by 20dB.
- **POLARITY REVERSE:** Reverses the polarity of the output signal.
- **MUTE:** Output level mute. The MUTE LED will illuminate red when the channel is muted.
- **VU METER:** This detects the microphone input signal (not output level). The LED is calibrated to detect input signals as low as -50dBu. When +4 is illuminated, it indicates that line level has been achieved. The Clip LED is intended to be a warning that clipping may occur if output signal strength is pushed further. It is calibrated to illuminate when the output is driving +23dBu into a 40kohm source. It does not necessarily indicate that the output stage has reached its limit.
- **HIGH-PASS FILTER (HP):** Select no filter (center position), cut at 50hz (down position) or cut at 150hz (up position).
- **LOW-PASS FILTER (LP):** Select no filter (center position), cut at 5Khz (down position) or cut at 10Khz (up position).
- **POWER SWITCH:** Master power rocker switch. LED will illuminate red when power is on.

### CREATIVE TIP:

For near transformer-less sound, consider engaging this pad function and compensate for the loss of gain by increasing the input gain control. This approach effectively minimizes the input transformer gain while drastically increasing the character of the vacuum tube (this is only possible with the microphone path).

# BACK PANEL CONNECTORS

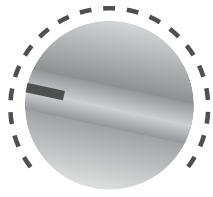


## BACK PANEL CONNECTOR

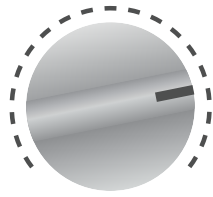
- AC POWER IN: Connect the included AC power supply to the AC POWER IN. Press it until it locks into place. To disconnect the power supply, press the locking mechanism on the AC POWER connector.
- MIC INPUT: This XLR connects to the microphone.
- LINE OUTPUT: Connect this XLR to your line level input.



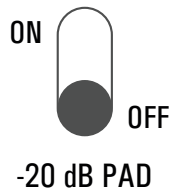
## GETTING STARTED



TUBE-DRIVE



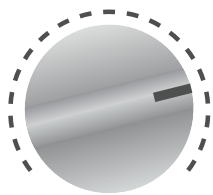
LEVEL



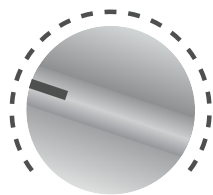
-20 dB PAD

### CLEAN GAIN, HIGH HEADROOM

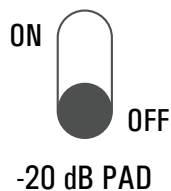
With the TUBE-DRIVE knob set at around 25% and LEVEL (output) around 75%, with the PAD off, you will get a very clean and pristine sound. The distortion is very low with no added harmonics and there is a ton of headroom. This is a great starting position for those wanting a clean tube sound regardless of the microphone type.



TUBE-DRIVE



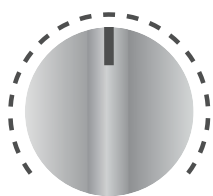
LEVEL



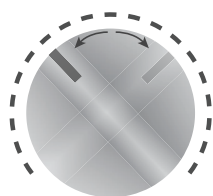
-20 dB PAD

### TUBE HARMONICS AND COMPRESSION

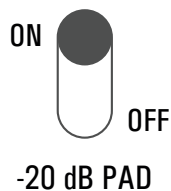
With the TUBE-DRIVE set at around 75%, LEVEL around 25%, and the PAD off, you will get incredible tube harmonics and natural tube compression. This would be a great starting position for those wanting to hear what the 983S MK2's harmonics are all about. It's also a great place to start when using ribbon or dynamic mics.



TUBE-DRIVE



LEVEL



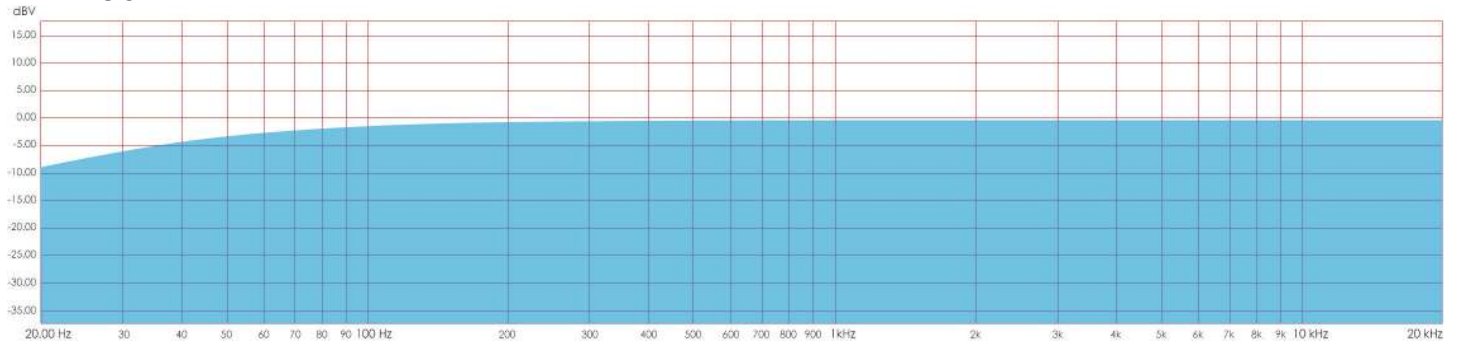
-20 dB PAD

### HEADROOM AND WARMTH

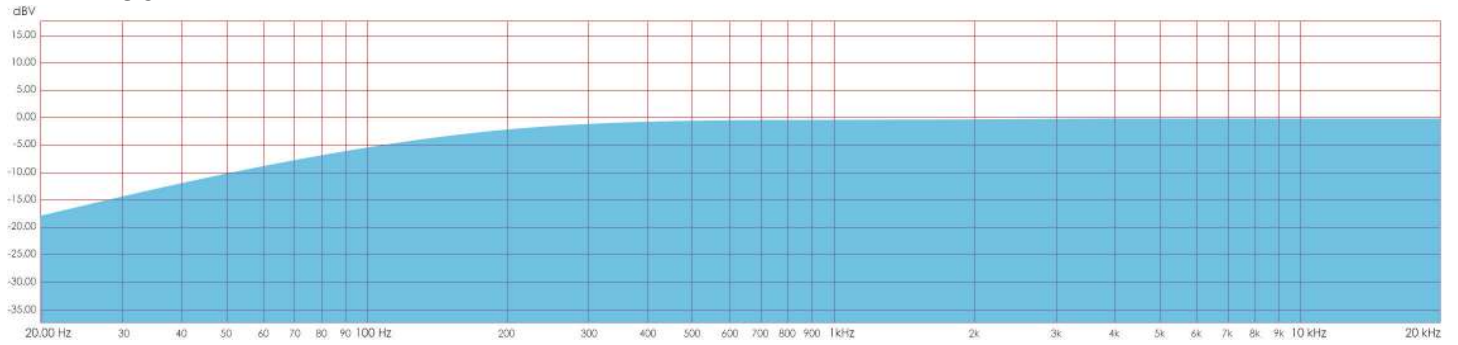
The 983S MK2 provides great sonic versatility. With the -20 dB PAD engaged and the TUBE-DRIVE set to around 50% you will hear a rich roundness and warmth. With these settings, the mid-range will move forward and the input headroom is increased as well.

# 983S MK2 FREQUENCY RESPONSE

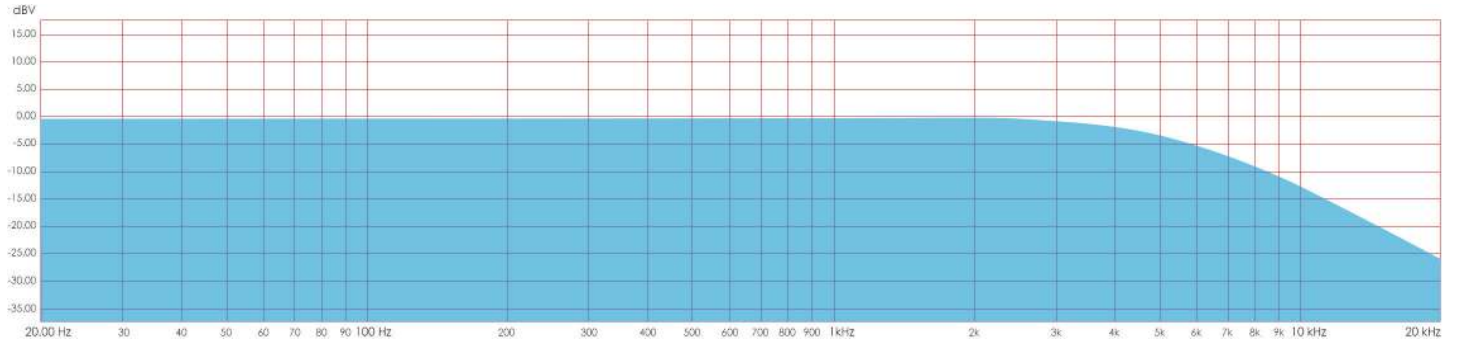
## HPF - 50HZ



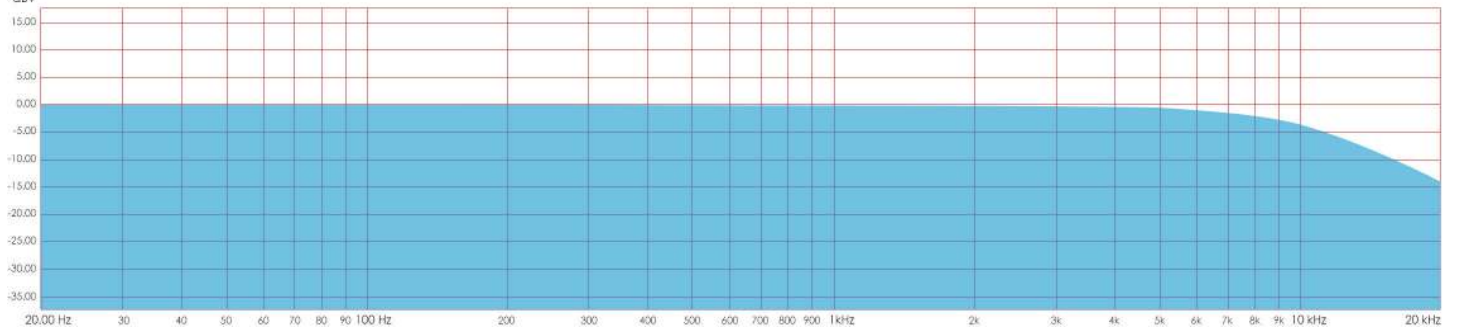
## HPF - 150HZ



## LPF - 5KHZ



## LPF - 10KHZ



# LACHAPPELL AUDIO 983S MK2 SPECIFICATIONS

Internal Gain (microphone)	72.5dB
Internal Gain (Hi-Z)	53.8dB
Max output gain	+27.8dBu (1% THD+N, 22Hz - 20kHz)
Frequency Response	9Hz - 40kHz
THD+N	Variable: 0.01% - 18% (per tube drive (input) gain control with -40dBu input at 1Khz)
Noise (EIN)	-124dB
S/N Ratio	92dB (30dB of gain, 22Hz - 20kHz)
Input Impedance (microphone)	1.5 KOhm
Input Impedance (Hi-Z)	100K Ohm
Output Impedance	8 Ohm
Tube Complement/Type	2 x 12AX7/ECC83 (one per channel)

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 100Kohm load and using a 1Khz tone.

## LACHAPPELL AUDIO SUPPORT

Phone Support: 952-401-7700  
Toll Free: 844-DAL-INFO  
Email Support: [support@digitalaudio.com](mailto:support@digitalaudio.com)  
Website: [www.digitalaudio.com/support](http://www.digitalaudio.com/support)

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