

LACHAPPELLAUDIO

LACHAPPELL AUDIO 500DT USER GUIDE

Version 1.1
May 2019

SAFETY INSTRUCTIONS

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. CONTACT DIGITAL AUDIO LABS FOR SERVICING.

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. Refer all servicing to qualified service personnel. There are no user serviceable components inside the product.
6. 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.
7. 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 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 or missing ground connection.

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 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 may 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 or other comparable shipper. 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 may 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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LACHAPELL AUDIO MODEL 500DT

The LaChapell Audio 500DT is a 500 series microphone preamp that features two separate topologies or amplification paths. When the blend knob is fully to the TUBE side, the signal will pass through a transformer before being amplified by a TrueTube™ powered 12AX7 vacuum tube. TrueTube is LaChapell Audio's proprietary method of supplying a full 250V to the vacuum tube so you get loads of clean tube gain.

When the blend knob is turned fully to the OPAMP side, the signal passes directly to a solid state preamplifier. This input is transformerless and will provide clean gain with exceptionally low noise. Placing the blend control anywhere between the two extremes will "blend" the two topologies for a wide variety of tonal options.

BEFORE YOU GET STARTED

Please read the information below before you install and use the LaChapell Audio 500DT.

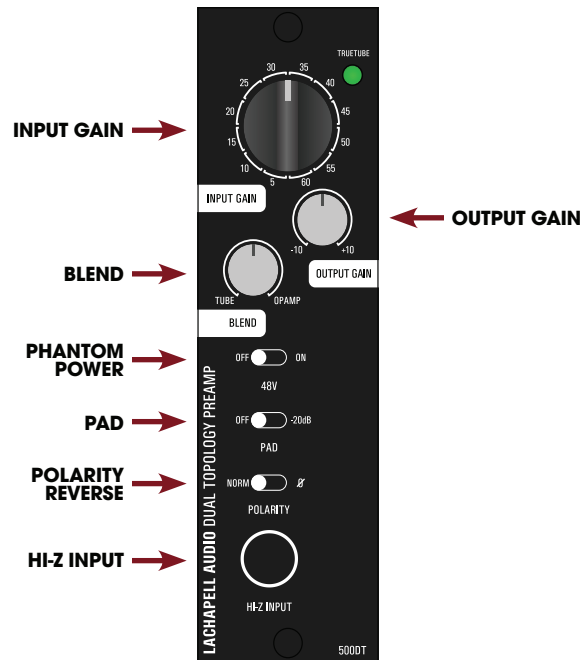
- **UNPACKING:** Inspect thoroughly. Although we take extreme care at final assembly and packing, things can happen during transit. It is very important that you contact Digital Audio Labs if there is anything broken or damaged upon receipt of package. Included in every package should be: (1) packet 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 potentially lethal voltages inside the 500DT. It is recommended that tube replacement be performed only when necessary by technically competent individuals.

Tube replacement: Turn power supply off and remove 500DT 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 double check that you've inserted the correct tubes into the 500DT's tube socket BEFORE powering up. *WARNING: Warranty may be rendered void if tubes other than those listed above have been used at any time.*

SAFETY PRECAUTIONS

- Always provide adequate ventilation by allowing the top vents of your 500 series power supply chassis to remain unobscured. Due to the vacuum tube and the internal secondary power supply, the 500DT will get warm, blocking or defeating any existing vent is not recommended.
- Never position the power supply directly above heat generating sources such as a power amplifier.
- Always provide a source to ground (earth.) Never under any conditions should a power cord that has the third prong for ground missing or defeated be used with the power supply.
- Do not place the 500DT in an area where there is a potential for fluids to fall, spill into or come in contact with the 500DT. If you notice fluids or moisture present inside the 500DT DO NOT turn power on! Contact Digital Audio Labs for direction.
- The 500DT should only be used with power supply frames that have a >180ma rating per bay.

500DT DUAL TOPOLOGY CONTROLS



CONTROLS

- **INPUT GAIN:** The GAIN controls how much of the source signal is fed to the preamplifier. This is a stepped gain control and may allow some sound to pass between the steps.
- **OUTPUT GAIN:** The OUTPUT GAIN controls the overall output of the preamplifier. By using both the INPUT GAIN and OUTPUT GAIN together, a wide variety of sound options are possible.
- **BLEND:** This controls how much of the signal is fed into each amplification path. Fully clockwise will send 100% of the signal to the solid state OPAMP amplification. Fully counter-clockwise will send 100% of the signal to the TUBE amplification path.
- **48V:** This toggle provides a 48V phantom power (DC) for condenser microphones.
- **PAD:** When engaged, the -20dB pad will reduce the signal going into the amplifier stages by -20dB. This is useful for recording hot or loud sources. The PAD is inactive when using the Hi-Z input.
- **POLARITY:** Reverses the polarity of the output line level signal.
- **HI-Z INPUT:** The Hi-Z input provides a direct input for high impedance instruments like guitar or bass.

USING THE 500DT

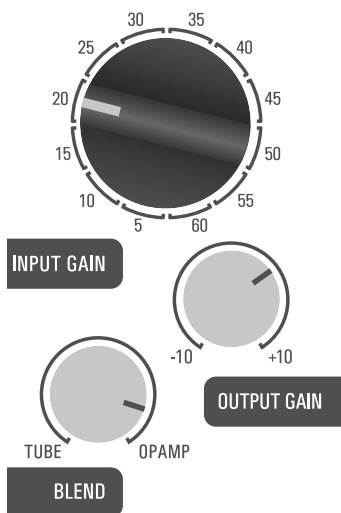
A properly powered vacuum tube, like the one in the LaChapell Audio 500DT, will give you lots of clean headroom with some added harmonic richness and compression as you increase the gain. At higher input gains and/or with hot signals, the tube on the 500DT will go into overdrive providing tube distortion.

The solid state signal path is clean and transparent with very low distortion characteristics. Because it doesn't add harmonics like the tube path can, it will have more clarity.

Because the LaChapell Audio 500DT allows you to use either path or a combination of the two, the sonic possibilities are nearly endless.

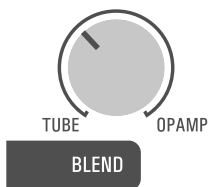
GETTING STARTED

The input and output controls on the LaChapell Audio 500DT work together to provide a rich array of sonic possibilities. Here are some things to try to get started for a variety of sources.



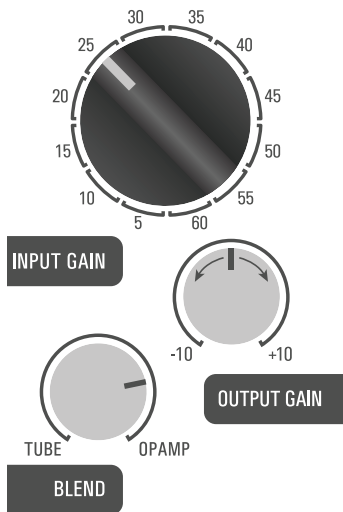
KICK

On Kick, try leaning on the OPAMP path so that the attack of the beater comes through. Blend in some of the TUBE path to get more weight and body with the INPUT GAIN lower than the OUTPUT GAIN.



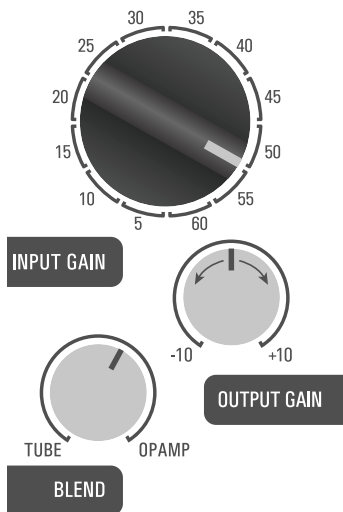
SNARE

On snare drums, the OPAMP path will provide fast transients where the TUBE path will provide natural compression and a bit slower transients. To let some transients through, with some natural compression, try setting the BLEND at about 30%.



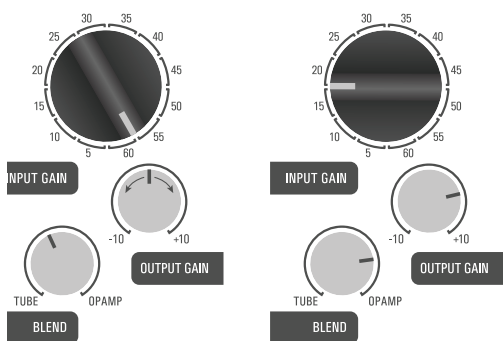
DRUM OVERHEADS

Drum overheads need clarity so try the BLEND at around 70-80%, the INPUT GAIN around 20-30 and the OUTPUT GAIN making up the rest of the needed amplification.



BASS

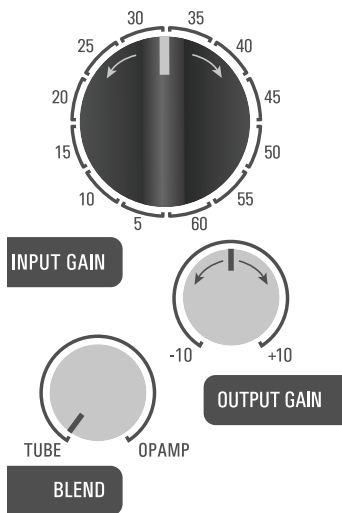
On bass guitar, run the INPUT GAIN at around 50-55, setting the level to your DAW with the OUTPUT GAIN. With the blend at 60% the bass will growl courtesy of the tube path yet have clarity and articulation from the OPAMP path.



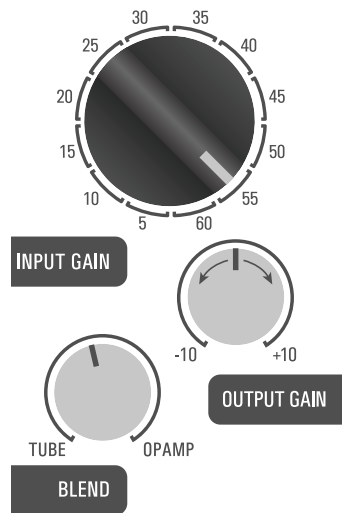
GUITAR

Try using the 500DT as the front end to a guitar modeler. With the INPUT GAIN up, you can add some true tube distortion to your tracks. With the INPUT GAIN lower and the OUTPUT GAIN up, the TUBE path adds some life to software modelers, while the OPAMP path adds some bite. Blend between them for your perfect tone.

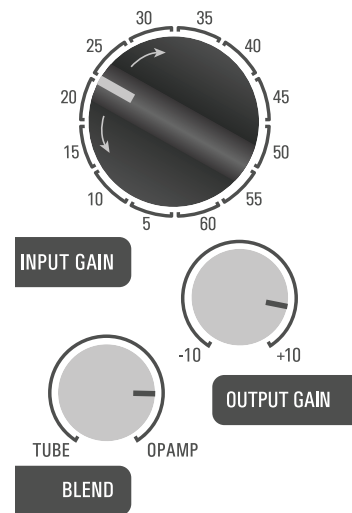
VOCALS



On vocals, try using the TUBE path for an intimate vocal, balance the INPUT GAIN and OUTPUT GAIN to accentuate a proximity effect on a condenser mic.



For an aggressive vocal, try moving the INPUT GAIN to the 50-60 range, set the OUTPUT GAIN so that it doesn't clip the converters and then play with the BLEND in the 30%-60% range.



For a gorgeous and soaring vocal, lean on the OUTPUT GAIN more, with the BLEND closer to the OPAMP path.

500DT SPECIFICATIONS

OVERALL

INTERNAL GAIN	67 dBu
INPUT IMPEDANCE	1.5 K Ω Mic / 10 K Ω Hi-Z
TUBE COMPLEMENT/TYPE	1x 12AX7 (ECC83)

TUBE PATH

THD+N	0.08%
FREQUENCY RESPONSE	20 Hz to 20 kHz
MAXIMUM OUTPUT	12 dBu
TYPICAL EIN	121

SOLID STATE PATH

THD+N	0.01%
FREQUENCY RESPONSE	20 Hz to 46 kHz
MAXIMUM OUTPUT	28 dBu
TYPICAL EIN	129

NOTE: Stated specifications are typical measurements but subject to change without notice due to individual traits unique to each tube.

TROUBLESHOOTING

COMMON ISSUES

My signal sounds distorted.	The 500DT is capable of a lot of gain. Distortion can be occurring in the DAW or Converter or in the 500DT itself. First try reducing the OUTPUT GAIN to minimize any non-500DT related distortion. Next reduce the INPUT GAIN. You can also apply the PAD to reduce the signal coming into the 500DT.
I dont have enough gain.	Make sure the PAD switch is turned off.
The pad doesnt work on the Hi-Z.	That is by design. The PAD will not function with the Hi-Z input.
I'm hearing noise.	We have found that not all 500 series frames are the same in terms of noise. Some will introduce noise into the signal path. Try to reduce the GAIN levels or use the PAD to reduce noise.
I hear a pop or loud signal when I switch the gain settings.	The 500DT uses a "variable fixed gain" or stepped gain setting instead of a potentiometer. This means that each gain setting switches between a gain setting network. The effect this has depends on whether the TUBE or the SOLID STATE side is active. When the TUBE side is prominent there will be a louder signal between the steps. When the OPAMP side is prominent, there will be a volume decrease bewtween the steps. It is recommended to switch quickly between the stepped gain settings.

LACHAPPELL AUDIO SUPPORT

Phone Support: 952-401-7700
Toll Free: 844-DAL-INFO
Email Support: support@digitalaudio.com
Website: www.digitalaudio.com/support

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