

BLUETUBE

Two Channel Microphone/Instrument Preamp



USERS MANUAL



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1.1 INTRODUCTION

Thank you for purchasing the PreSonus BLUETUBE DP two channel Dual Path mic/instrument preamplifier. This preamp was designed using state of the art components to deliver crystal clear audio for an infinite period of time. We believe the BLUETUBE DP to be an exceptional sounding unit and an exceptional value. Please contact us at 1-800-750-0323 with your questions or comments regarding this product. PreSonus Audio Electronics is committed to constant product improvement and believes the best way to accomplish this task is by listening to the *experts* on our gear, our valued customers. We appreciate the support you have shown us through the purchase of this product.

Please pay close attention to how you connect your BLUETUBE DP to your system. Improper grounding or bad cables are the most common cause of noise problems found in studio or live sound systems. We urge you to scan this manual before hooking up your BLUETUBE DP to familiarize yourself with its features and various applications.

Good luck and enjoy your BLUETUBE DP!

1.2 FEATURES

The following is a summary of your BLUETUBE DP's features:

- ? **Dual Path Gain Stage.** Each channel of your BLUETUBE DP contains both a solid state preamp stage and a vacuum tube preamp stage, allowing for solid state and tube operation. The use of discrete components in the preamp stage ensures ultra low

noise performance and wide dynamic control. This gives the BLUETUBE DP the ability to boost your signal without increasing unwanted background noise.

- ? **Phantom Power.** Each channel of your BLUETUBE DP has 48V phantom power available. When the phantom power switch is engaged on either channel, power is supplied at a constant rate to that channel. This assures optimum performance of your condenser microphone(s) and that the signal will be free of distortion due to insufficient power.
- ? **Polarity Reversal.** A polarity reversal switch is provided on each channel. This switch enables the user to invert the polarity of a microphone if phase cancellation is noticed when using identical microphones in close proximity to one another. The polarity reversal switch also can compensate for different XLR connector hook-ups where pin connections have been inverted.
- ? **-20dB Pad.** A -20dB pad is available on each channel for reducing the in-coming signal level. This pad provides a more manageable signal from high output devices giving the operator greater control over the in-coming signal and a much reduced chance of over-driving the input and thereby avoiding distortion.
- ? **80Hz Filter.** A rumble filter is available to eliminate low frequency noise. This lets you greatly reduce background noise such as air conditioners or wind noise with the flick of a switch without effecting the desired frequencies.
- ? **Mic/Instrument Input.** Each channel of the BLUETUBE DP has a separate Neutrik Combo? XLR / ¼ inch connector is provided on the back of the chassis for signal input from microphone XLR or instrument ¼ inch

input.

- ? **Tube Drive.** The BLUETUBE DP provides a Tube Drive potentiometer on each channel for controlling the amount of saturation produced by the 12AX7 vacuum tube. Greater levels of tube saturation give the signal greater warmth and a richer sound. This works equally well on mics and instruments.

2.1 FRONT PANEL BASIC LAYOUT



The front panel of the BLUETUBE DP has analog VU meters for channel 1 and 2 to the far left and far right respectively, which measure the input level. VU stands for 'volume unit', which is an average measurement of the input signal level. This means that not all transients will be displayed by the VU meter.

Both preamp channels contain:

- ? +48V Switch
- ? Polarity Reversal Switch
- ? -20dB Pad
- ? 80Hz Filter
- ? Gain Control (0 to 54dB)
- ? Tube Drive Control (0 to 100%)

2.2 PREAMPLIFIER SECTION

Phantom Power is available to each channel input of the BLUETUBE DP. The 48 volts is supplied by way of the XLR connector for condenser mics and any other devices requiring continuous power through the XLR input. This power is supplied at a constant level allowing use of both inputs simultaneously.

PIN 1	GND
PIN 2	+48v
PIN 3	+48v

XLR connector wiring for Phantom Power

Polarity Reversal Switch. This allows the user to invert the polarity of the XLR connector by switching pins two and three. The inversion of the pins of the XLR connector may be necessary to alter the audio phase of two like microphones to compensate for phase cancellation. It may be required that the wiring of a cable's XLR connector be switched to successfully utilize Phantom power.

-20dB Pad. This provides -20 decibels of attenuation with the push of a button. This is a very useful feature for rapidly reducing the level coming into the BLUETUBE DP and thus preventing the input signal from over-modulating (distorting) the input. This may occur due to high output level from a microphone or line device. Padding the input serves to provide increased "headroom" for the operator.

Gain. This control governs the amount of boost to the signal being processed by the preamplifier. Dynamic mics and instruments without pre-amps will normally require more gain than condenser mics and instruments that have a built-in preamp (care should be taken with instruments having their own built-in preamp not to overdrive the input of the BLUETUBE DP). If you should require more signal out of the pre-amp for a hotter recording level or to drive an input of some down stream device harder, cranking up the gain should provide all the

signal that you'll need.

Tube Drive. The BLUETUBE DP Tube Drive control increases the amount of saturation produced by the 12AX7 vacuum tube. The Tube Drive can be turned on or off, and the effect achieved by this procedure can be subtle to extreme, depending on the setting being used. A “warming up” of the sound can be noticed with lower Tube Drive settings. This desirable effect is especially good for microphones and electric bass guitar, resulting in a warmer, “rounder” sound. An overdriven signal can be achieved by significantly raising the level of the Tube Drive control. This overdriven tube effect is extremely useful in creating vintage guitar sounds and great for use with harmonicas for that authentic “Blues harp” sound. The limits on the possibilities of the Tube Drive control are up to you, your application, and your imagination. Experiment!

2.3 BACK PANEL BASIC LAYOUT



PIN 1	GND
PIN 2	High (+)
PIN 3	Low (-)

Cable Wiring Diagram for Input and Output XLR

The **Output XLR Connector** is servo balanced and operates at +4dBu.

TIP High (+)
SLEEVE GND (-)

Cable Wiring Diagram for Input and Output 1/4" TS Plug

The **Output 1/4" TS Connector** is unbalanced and operates at -10dBv.

3.1 DYNAMIC MICROPHONES

Dynamic microphones are characterized by lower output levels. Hence, more gain is needed to amplify a dynamic microphone to operating level. Occasionally it is necessary to engage the -20dB pad to the microphone to avoid distortion (e.g. when recording percussion). Do not use phantom power when using dynamic microphones.

3.2 PHANTOM POWERED (CONDENSOR) MICROPHONES

Phantom powered microphones such as condenser microphones require external power for the microphone to operate. These microphones typically have much higher output than dynamic microphones. Use the -20dB to avoid distortion while recording loud sources.

3.3 INSTRUMENT INPUT

The instrument input is designed to handle $\frac{1}{4}$ " plugs from instruments such as guitars and basses. This instrument input is an ultra high impedance amplifier designed to allow the full audio potential of an acoustic or electric instrument pickup to be realized. Care should be taken not to overdrive the input with instrument preamplifiers.

3.4 SOME THOUGHTS ON VACUUM TUBES

The BLUETUBE DP comes supplied with a 12AX7 vacuum tube that meets or exceeds the stated performance criteria for the unit. We expect some owners of the BLUETUBE DP will try different tubes to investigate the various performance possibilities they might provide. Tube replacement can be easily accomplished by first unplugging the unit from the electrical outlet and removing the screws which attach the top to the chassis. The tube is mounted in a transverse fashion and care should be taken to properly align the pins on the tube to the corresponding holes in the receptacle. Make sure the tube is completely seated in the receptacle and replace the top of the unit before restoring power to it. Remember: Tube life and performance are affected by how often a tube is used and by how hard the tube is driven when in use. Signs of wear may be exhibited by poor performance or by the tube becoming "microphonic". Periodic replacement of vacuum tubes is recommended. The time between the suggested replacement varies greatly with use. If you notice a deterioration in sound quality then it's time to change the tube.

BLUETUBE DP Technical Specifications:

Number of Channels	Two
Performance	
THD + Noise (Unweighted)	0.005% @ 0dB Tube Drive 10% @ 100% Tube Drive
Noise Floor	-94dBu
Signal to Noise	>90dB
Power Supply Rejection	>98dB
Amplifier Type	Dual Path
Input	
Connectors	Neutrik? Combo
Input Impedance, XLR	1.3k Ohms
Input Impedance, High Z ¼"	1Meg Ohms
Output	
Output Impedance, XLR Balanced	51 Ohms
Output Impedance, ¼" TRS Unbalanced	51 Ohms
Panel Controls	
Tube Drive	0% - 100%
Gain	0dB to +54dB
Polarity Reversal	
-20dB Pad	
80Hz Filter	
+48V Phantom Power	
Metering	
Backlit VU Meter	-20dBu to +6dBu
Power Supply	
Type	Linear Supply
Input	16 VAC/1000mA
(The power supply that ships with the unit is for the country that it ships to.)	
Power	16 WATTS
Physical	
Weight	4lbs.
Size	½ U Rack
Dimensions	8" X 5" X 1.75"
Chassis	Steel
Front Panel	Brushed Aluminum

As a commitment to constant improvement, PreSonus, Inc. reserves the right to change any specification stated herein at any time in the future without notification.