

**B173** | User Manual

# TABLE OF CONTENTS

- Introduction .....3
- Features .....3
- Specifications .....3
- Package Contents .....4
- Front .....4
- Back .....4
- Connection Diagrams .....5
- Signal Flow/Hardware Block Diagram .....5
- Repair .....6
- Warranty .....6
- Disclaimer .....6
- Copyright .....7

## INTRODUCTION

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The B173 is largely based on the classic design of a Neve 1073. We originally set out to create a direct clone, but ultimately decided to pursue our own unique design that combined both modern and vintage characteristics in a portable, compact enclosure.

The B173 is a "Class A," fully discrete preamp with a single-ended microphone amplifier and a balanced output amplifier. It is a single channel preamp with input and output transformers, stepped gain, an output attenuator, phantom power, and switchable phase. It features up to 80dB of gain, is housed in a 1U, 1/2 rack chassis, and has a high-impedance DI input that will work with anything from guitars to keyboards.

Our aim was to combine the creamy fullness of a Neve 1073 with the polished clarity found in many expensive, modern preamps. The result is a well-balanced, smooth-sounding preamp with low noise and plenty of gain.

## FEATURES

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- Cinemag Input Transformer
- Edcor Output Transformer
- 80dB Gain
- D.I. Input (active, unbalanced)
- Phantom Power
- Phase Switch
- Output Attenuator
- XLR Microphone Input
- TRS Line Output (balanced)

## SPECIFICATIONS

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### MIC SECTION

Max Microphone Input Level: +1dBu

Input Impedance: 200Ω

Pad: None

Gain (no pad): +13dB to +80dB

Equivalent Input Noise (noise floor):  
-105dBu

THD+N (@ +4dBu output):

- .10% @ +9 dBu
- .12% @ +35 dBu
- .13% @ +45dBu
- .16% @ +60 dBu
- .85% @ +76 dBu

Bandwidth (1kHz, 150Ω source,  
unweighted): 10Hz to 30kHz

### D.I. SECTION

Max D.I. Input Level: +18dBu

Input Impedance: 1.1MΩ

Pad: None

Gain: Up to +25dB of gain

Equivalent Input Noise (noise floor):  
-100dBu

THD+N (@ +4dBu output):

- .021% @ +10 dBu
- .016% @ +20 dBu

Bandwidth (1kHz, 600Ω unbalanced  
source, unweighted): 10Hz to 30kHz

### OUTPUT SECTION

Max Output Level: +28dBu

Output Impedance: 600Ω

**Power:** 24VAC, 500mA External Supply

**Weight:** 3.2 lbs

**Dimensions:** 9.5" x 6.5" x 1.75"

**Shipping weight:** 5.5lbs

**Shipping dimensions:** 13" x 11" x 5"

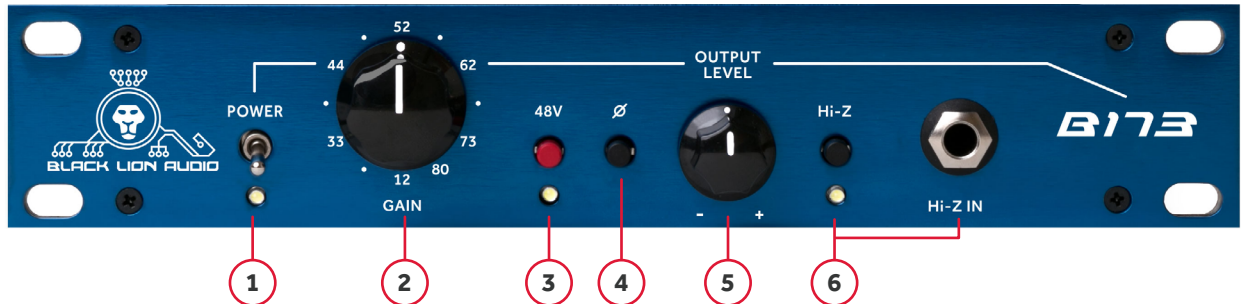
## PACKAGE CONTENTS

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- B173
- Power Supply (wall wart)
- ½ Rack Connector Plate

## FRONT

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1. **POWER:** flip switch up to turn preamp on (there's a 2-3 minute "warm up" time for lowest distortion), flip switch down to turn preamp off
2. **MIC GAIN (stepped, 12-position switch):** clockwise rotation yields an increase in input signal amplitude, counterclockwise rotation yields a decrease in input signal amplitude
3. **48v:** engage to turn phantom power on, disengage to turn phantom power off
4. **PHASE (  $\Phi$  ):** engage to adjust input signal polarity by 180°, disengage to leave input signal polarity unchanged
5. **OUTPUT LEVEL:** clockwise rotation yields less attenuation, counterclockwise rotation yields more attenuation (for beginners, it's best to leave the output level fully clockwise and increase Mic Gain as needed so as not to saturate the input transformer)
6. **DI:** engage to select front panel TS jack as input source, disengage to select rear panel XLR jack as input source

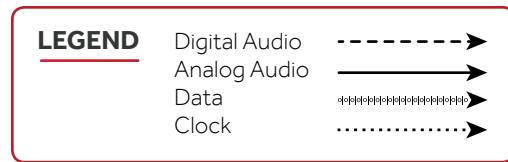
## BACK

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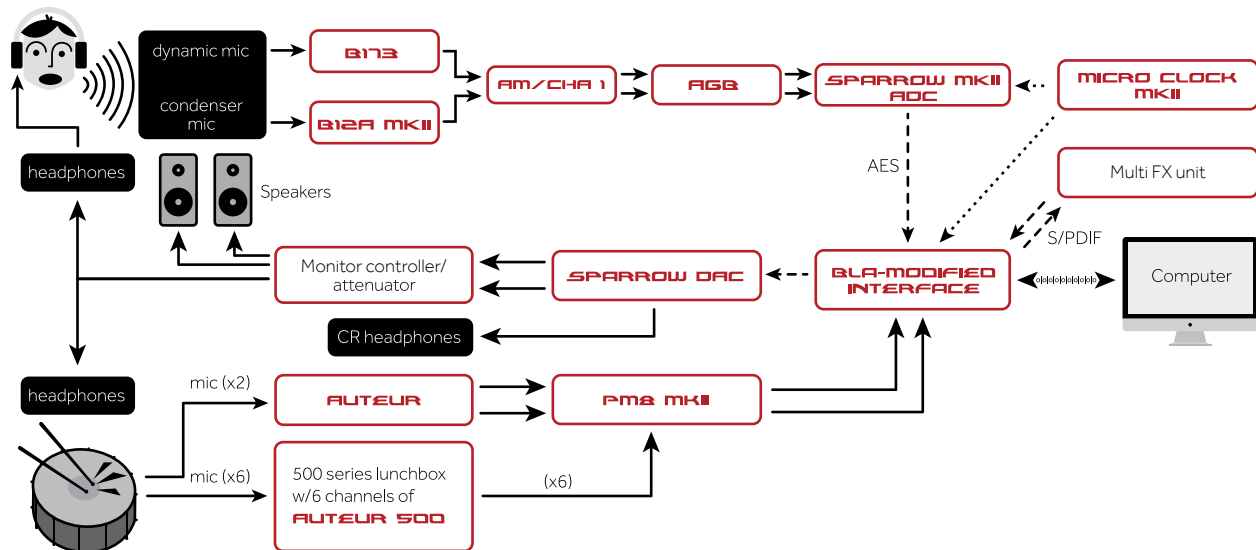


1. **OUTPUT:** balanced, line-level TRS output
2. **INPUT:** balanced, mic-level XLR input
3. **GND:** internal chassis ground
4. **POWER:** 24VAC input jack (only use a BLA-specified power supply)

# CONNECTION DIAGRAMS

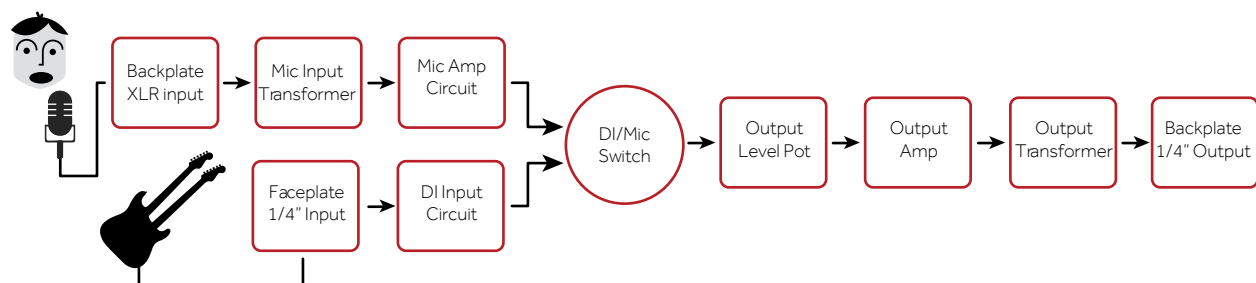


## TRACKING



## SIGNAL FLOW/HARDWARE BLOCK DIAGRAM

“MIC GAIN” is a 12-position, stepped switch ranging from +12dB minimum gain to +80dB maximum gain. The majority of the gain for the XLR microphone input comes from the mic amp gain stage. The signal passes through an input transformer before going to the mic amp gain stage, which is controlled by the “MIC GAIN” rotary switch on the front panel. The signal then passes to the DI switch, which selects which input signal (mic or DI) goes to the output amplifier. The “OUTPUT LEVEL” pot attenuates the signal before going to the output amplifier, which in turn goes to the output transformer (see chart below):



## REPAIR

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To reduce the risk of fire or electric shock, the user should not attempt to repair the device in the event of a failure. Repairs should be referred to qualified service personnel only. Please contact Black Lion Audio if you need assistance.

## WARRANTY

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We extend a two-year warranty on defects in materials and workmanship for all Black Lion Audio products from the date of purchase. This does not cover user error, wear, tear, or abuse. Should your B.L.A. product experience any problems or failures during the warranty period, immediately contact us, and we will gladly correct the issue at no charge (excluding shipping).

## DISCLAIMER

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**For your safety, please read the following!**

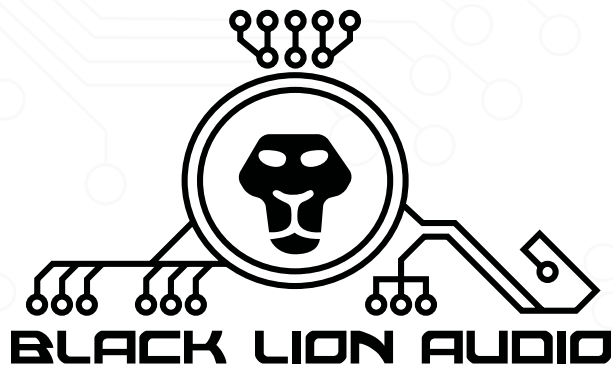
**Grounding:** For your safety, do not defeat the grounding connection. Use the device only when it is properly grounded.

**Liquids, water, and moisture:** The device should not be used near water, or when it is wet. Care should be taken so that it remains dry. Be sure to keep the device away from rain or other moisture.

**Power:** The device should be connected to a power supply only of the type described in the user manual and/or as marked on the rear panel.

**Power cables:** Power supply cables should not be routed under carpets, or where they are likely to be walked on or pinched by items placed upon or against them. Do not use power supply cables that have become worn or frayed.

**Multiple-input voltage:** The device may require the use of a different power supply, power plug, cable, or both, depending on the available power connection in your area.



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