



# dBooster2

Stereo in-line Microphone and DI (Direct Injection) Signal Booster

With the introduction of the original **dBooster**, low-output passive microphones could be boosted with up to 20dB of clean signal boost and superior sound quality. The **dBooster2** takes that concept to the next level.

The Royer model **R-DB22** is a phantom powered two-channel in-line level booster/buffer for passive low-output ribbon and dynamic microphones and incorporates a high-impedance Direct Injection input for guitars and other Hi-Z sources.

An integrated combination input jack accommodates standard 3-Pin microphone XLR inputs and ¼-inch high-impedance inputs. The **dBooster2** is designed for professional applications and provides two levels of clean boost in both the low-impedance microphone mode; 12dB or 20dB and the high-impedance mode; 0dB (unity) or 8dB, selectable by a front panel switch.

## How to set up your dBooster2

*NOTE: It is a good idea to make all of your connections before activating phantom power and turning up your preamp level control!*

One of the unique features of the **dBooster2** is that each channel of this stereo unit is completely isolated from the other. They are completely independent. This minimizes the chance of ground loops developing when used with stereophonic microphones or different independent channels of microphone preamplifiers and interfaces.

The **dBooster2** goes between any non-powered ribbon or dynamic mic, ¼ Hi-Z source and your preamp, DAW or audio interface. In the mic mode it will provide either 12dB or 20dB of signal boost for low-output microphones. In the Hi-Z DI (direct injection) mode it will deliver unity gain (0-dB) or +8dB of gain. A front panel switch establishes the gain setting.

When used for microphones, the microphone is connected to the INPUT of the **dBooster2** via a standard 3-conductor XLR microphone cable. In the DI mode the source is connected via a standard two-conductor ¼-inch guitar type cable. The OUTPUT of the **dBooster2** is connected to any preamplifier, DAW or interface that is enabled with phantom power capability.

The **dBooster2** is a mic-level device and not intended to drive line-level inputs directly. After your connections are made, apply phantom-power, and slowly bring up the preamp level to verify that the microphone or DI input is passing signal. To achieve the best performance from your **dBooster2** with minimal noise and distortion at



the preamp, use the lowest gain setting that will provide satisfactory results. The higher gain settings are best for use with very low-output signal sources or low-gain preamplifiers.

Each application will vary based on the microphone, signal source and preamplifier, so feel free to experiment and familiarize yourself with the **dBooster2** and its capabilities. If you have any questions regarding the use of this product you can always contact us by visiting our website: royerlabs.com

#### NOTE:

The **dBooster2** will not work with phantom-powered condenser microphones because one of its features is to block phantom-power from being fed to the microphone. This is a safety feature designed to prevent possible damage to ribbon microphones that are susceptible to damage as a result of being exposed to phantom -power.

The combination input jack can be used with either a 3-Pin XLR connector or a ¼-inch guitar type connector, but not both simultaneously. You can, however, use either channel in the “mic mode” and the other “DI mode” simultaneously.

The **dBooster2** is designed to work with stereophonic microphones without ground loops issues, channel 1 (left input) is connected to the chassis via Pin-1 of the XLR input, while channel 2 (right input) is connected capacitively to Pin-1 of XLR connector. If you are using the dBooster2 as a monaural device (only one channel), use channel 1 for best grounding performance in electrically noisy environments.

For microphones, Pin-2 is the in-phase signal and Pin-3 is the out-of-phase signal, with Pin-1 being GROUND. In the Hi-Z mode the TIP is the signal HOT and the sleeve is signal GROUND.

#### Circuit Description

The **dBooster2** is an electronically sophisticated device. For the microphone input mode, the **dBooster2** design starts with a differentially configured input stage consisting of multiple paralleled PNP semiconductors for low noise performance. In the DI mode, a single-ended FET is configured for the input buffer. These semiconductor devices run in pure Class A for minimal distortion. The preamp uses a current feedback mechanism and high-quality, thin-film resistors to further keep noise and distortion low.

The output section utilizes a pair of operational amplifiers that act as output buffers and low impedance line-drivers. The output stage enables the **dBooster2** to drive difficult loads without sacrificing gain or performance while maintaining excellent headroom. Circuit power is derived from a phantom-powered source and is fully regulated and decoupled internally, providing clean voltage and current for optimum circuit operation.

#### Warranty

The **dBooster2** is covered by a one-year bumper to bumper warranty. This warranty covers parts and labor but does not cover damage as a result of misuse or abuse.

This product was designed and assembled in the U.S.A. from components and materials sourced globally.

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