

Cube5



**Ultra Low Noise
Preamplifier**

The **Cube 5** is a high performance, phantom-powered, compact preamp suitable for stage, studio, podcasting or front of house level boosting applications.

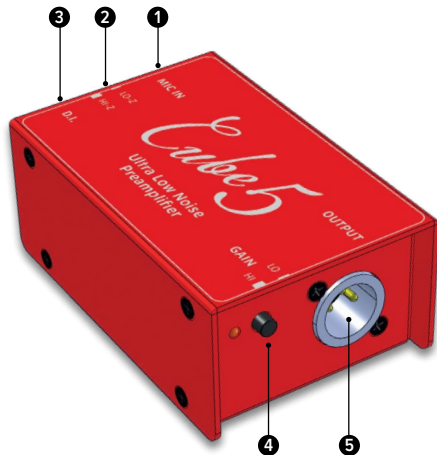
It features fully balanced, transformer-coupled input and output, with a JFET topology for low-noise boosting of microphone and instrument levels. Gain and impedance have been optimised for low-output microphones such as dynamic and ribbon types, as well as a high-impedance DI to amplify passive instrument pickups without excess loading, ensuring perfect tonal capture.

The DI input (TRS socket) can also function as a send-return effects loop for the microphone input, to insert vocal processing or other effects in the signal chain.

1 Microphone input

The microphone input is a standard XLR female balanced input suitable for all passive microphones such as dynamic and ribbon types.

The input is transformer-coupled and does not apply phantom power, ensuring there is never a risk of damage to delicate ribbon microphones. It is not possible to power active mics such as condenser types that require phantom power.



2 Input impedance

The input impedance button located adjacent to the input socket allows selection of high or low input impedance. Low impedance setting produces a standard input impedance of 600Ω , suitable for dynamic microphones.

High gives an input impedance of $4k\Omega$. This impedance is optimal for loading of ribbon microphones, tending to produce a better tonal quality. Either input impedance may be used as desired, select the option that sounds best for your microphone.

3 DI input / Send-return

The DI input is a standard $\frac{1}{4}$ " TRS socket. For instrument inputs, only the tip and sleeve connections are used, so any standard guitar lead is usable. The impedance at the DI input is $2.3M\Omega$. This high impedance input leads directly to the JFET amplifier circuit, bypassing the input transformer.

The DI impedance has been selected to optimise the tonal capture from passive instrument pickups, which tend to lose top-end tone when operated into lower impedances.

The TRS socket may be used as a send-return or effects insert point in the microphone chain. A TRS cable (stereo plug to two mono plugs) allows the boosted output from the transformer to be taken to an effects unit and returned via the tip terminal on the TRS socket. The output on the insert is boosted 12dB over the incoming microphone signal and has a nominal impedance of $10k\Omega$.

4 Gain control

The two fixed gain settings have been optimized for boosting low level mic or instrument signals before processing in a conventional mixing desk. Fine control of mix levels is handled in the mixer in the normal manner.

The mic input is set to a higher gain as the output levels of dynamic or ribbon microphones are typically lower than that of instrument outputs. The gain select button is active for both mic and DI inputs.

The microphone gain may be set to +26dB (High gain) or +13dB (Low gain). The D.I. input operates at +14dB (High gain) or +1dB (Low gain).

5 Output

The output XLR provides a transformer-coupled balanced output. The 200Ω output impedance means the signal is not degraded by long cable runs.

The **Cube 5** is suited for all types of phantom powered mixers and studio equipment.

Phantom power is indicated by the illuminated LED.

Specifications

Microphone input	XLR Female – transformer balanced (pin 1 shield, pin 2 hot, pin 3 cold)
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Input impedance	Low: 600 Ω High: 4k Ω
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Noise figure	-132dBV (A-weighted)
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DI input	¼" TRS (unbalanced)
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Input impedance	2.3M Ω
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Effects loop

Send (Ring)	10k Ω (unbalanced)
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Return (Tip)	2.3M Ω (unbalanced)
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Impedance and levels are optimised for guitar pedals and FX

Frequency response	20Hz – 20kHz, +/-1dB
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Output	XLR Male – transformer balanced (pin 1 shield, pin 2 hot, pin 3 cold)
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Output impedance	200 Ω
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Power	Phantom: +48V @ 5mA
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Dimensions	L: 108mm H: 45mm W: 70mm
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peach
audio

203 Parramatta Road,
Annandale NSW 2038

info@peachaudio.com
www.peachaudio.com



Manufactured in Sydney, Australia

 N10302