

The GigRig™ Virtual Battery (BC/DC) Manual



The GigRig Virtual Battery is designed to deliver filtered, isolated 120mA of almost totally noise and hum free 9V DC power for guitar effects.

Isolation:

The Virtual Battery output is totally isolated up to 1000V. This means that there is no direct connection between the inputs and the outputs of the Virtual Battery. Isolation is achieved using a miniature toroidal transformer. This solves most hum and noise problems associated with many effects pedals and other guitar equipment.

Virtual Fuse:

The Virtual Battery contains an output safety fuse. This fuse is designed to blow at continuous currents of over 300mA. However, being a virtual fuse, it will re-heal approximately 4 seconds after the load has been removed.

Virtual Internal Resistance:

The Virtual Battery is designed with an internal resistance of 10 Ohms. Just like old carbon-zinc batteries the voltage will drop to 6.5V DC at a load of 250mA. The Virtual Battery is designed to emulate older carbon batteries as some effects pedals (such as vintage Fuzz & Wah-Wah pedals) can actually sound better when used with these older higher internal resistance batteries.

Variable 'Sag' Voltage:

The Virtual Battery also features a variable 'sag' control (this is a small user pre-set voltage control situated just above the Virtual Battery output lead) By using a small jeweller's flat-head screwdriver you can lower the voltage to emulate the 'dying battery' effect beloved of many Fuzz and other vintage pedal aficionados. The key here is experimentation – use your ears to see what works for you.

General Specification Parameters:

Input Voltage	9.0V +/- 10%
Output Voltage	+/- 5%
Isolation	1000V
Isolation Resistance	500Meg ohm
Case	Black ABS plastic.
Usable Temperature Range	-10 to +50 Deg C
Efficiency	74%
Isolation Capacitance	4.7nF

Using Multiple Virtual Batteries:

This is acceptable. Two Virtual Batteries can be connected to produce +9V and -9V, or for high voltage supplies +18V. Using a dummy load to reduce the output voltage, some 12V supplies can also be driven from two Virtual Batteries. Virtual Batteries can be connected in parallel to double the current; **do not try this with conventional batteries.**

Short Circuit Protection:

The short circuit current of the Virtual Battery is 300mA. After 20 seconds the Virtual Battery will shut down until the short is removed.

Reverse Input Voltage Protection:

The input of the Virtual Battery is reversed voltage diode protected. (6 amps maximum for 50 seconds).

Safety:

If the Virtual Battery shuts down your power supply, you have connected the DC 9v input the wrong way round. Remove the Virtual Battery from your power supply immediately. The Virtual Battery MUST use a centre negative supply.

No Load Output: With 9V input, the output voltage under 'no-load' conditions is 9.5V +/- 10%

No Load Quiescent Current and Virtual Leakage Current: 18mA.

Output Filter:

The Virtual Battery contains an output ripple filter.

Radio Frequency Emissions and Susceptibility:

The Virtual Battery contains RF suppression and RF susceptibility avoidance components in compliance with CE marking regulations.

Physical Size:

Physical size 40mm x 27.7mm x 17.8mm (1.56 x 1.09 x 0.7 inches)

Will fit most battery compartments.

The Virtual Battery is designed and hand-made in Great Britain by The GigRig Ltd.

Please note: The Virtual Battery IS **NOT** a rechargeable battery. **Do not attempt to re-charge.**

Warranty:

The GigRig Virtual Battery is covered by standard warranty of one year from the purchase date. However, The GigRig Ltd will abide by the warranty period for electrical and electronic equipment stated within your country. We support our customers, not just our products!

Disposal: The GigRig Virtual Battery contains no batteries, Lead, Cadmium or any other toxic material. As with all electronic products, please do not dispose of in household waste.

The Virtual Battery is ROHS compliant.

Legal Stuff:

In the unlikely event of a failure, The GigRig Ltd will not be held responsible or compensate for any loss of earnings or any other losses incurred by failure of this product. The use of this equipment is at the owners' own risk.

Small Print:

The GigRig Virtual Battery is protected by copyright, moral rights, patent and design registration.

Patent Pen GB0719767.6 GigRig Patent Granted GB2405987 USA Patent Pending US10/937,997

GigRig Design Registration # 3014412

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Compliant to BS EN 60950-1:2002 Safety regulations.

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