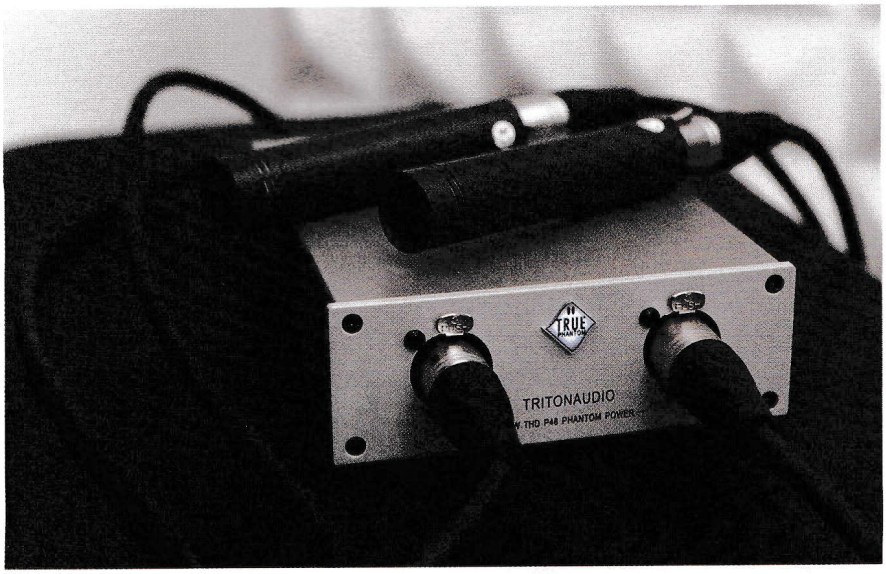
Triton True Phantom

Phantom Power Supply



Dutch company Triton Audio are probably best known for their FetHead low-noise mic boosters, but they make a variety of other useful gadgets and the 'True Phantom' power unit, reviewed here, is (as far as I'm aware) unique. Externally, it appears to be a typical two-channel phantom power supply box but inside it involves a far more sophisticated and elegant engineering approach than the standard IEC-specified phantom supply arrangement. The company claim the relatively high cost associated with this extra complexity is worthwhile because the clever arrangement potentially reduces distortion, increases headroom and output levels, and lowers the noise floor of many phantom-powered mics.

On the rear panel of the True Phantom's small (128 x 54 x 165 mm, about 1.2kg) grey box are an On/Off switch, a C6 ('clover leaf' or 'mickey mouse') mains inlet, and a supply voltage selector (115 or 230 Volts AC). Two male XLRs provide output signals from the attached microphones, and a pair of recessed buttons bypass the output DC-blocking capacitors (used to prevent phantom from being sent to the mic preamp), and separate the audio ground from the mains safety earth. Mics requiring phantom power are plugged into the two female XLRs on the front panel, and a True Phantom badge illuminates when the unit is powered up and providing 48V phantom power.

As shipped, the audio and mains safety grounds are connected and the DC-blocking capacitors are in the signal path, but many users would probably reconfigure both settings, since most preamps are already grounded and incorporate their own DC-blocking input capacitors anyway; for most people this would be a case of set-and-forget.

Other than this, there's no user configuration to worry about. Mics are plugged in, outputs are connected to the recorder or preamp, the box is switched on, and that's it. The mics receive the required phantom power, the preamp receives the anticipated audio signals, and everything works exactly as expected.

The obvious question is whether the internal complexity and expense of the Triton True Phantom box results in a tangible, practical benefit? Triton's own technical analysis establishes the theoretical validity of the underpinning physics and engineering, and the company's web site carries many impressive graphs validating the claimed benefits. But close examination reveals that the real-world benefits are, in reality, vanishingly small — and that the potential benefits will inevitably also vary according to the precise nature of the internal circuitry of different mics.

Triton's own modelling and lab measurements demonstrate that the total harmonic distortion (THD) from a 'typical' microphone's output driver running on a standard phantom supply will be in the region of 0.0003 percent. When powered with the True Phantom system, that THD figure falls to 0.0002 percent, with most of the reduction stemming from reduced third-harmonic distortion. The other claimed benefits are again small ones, and include a rise in the mic's output level (by around 0.06dB), an improvement in LF extension from 12 to 10 Hz (at the -3dB point), and a fractionally lower noise floor.

While this is all clearly a very good thing from a technical purist point of view, I was unconvinced that a reduction of 0.0001 percent THD or a 0.06dB increase in the output level of a mic will radically change my perception of a recording — and my subjective listening tests did nothing to change that view. I couldn't hear any difference switching between a standard phantom power supply (from a GML 8304 mic preamp) and the Triton True Phantom unit, when using Sennheiser MKH20, 30 or 40 microphones, or with a Neumann SM69FET stereo mic. I did, though, convince myself I could just detect a subtle difference in character when using some vintage Neumann KM84s, and also with a Blue Baby Bottle microphone — but the difference was *so* subtle that it was far outweighed by a change in mic position, let alone a change in the choice of mic itself.

So we really are talking of very, very small technical improvements here, which in my view are well into the realms of diminishing returns, and are of a kind which is likely to be detectable and appreciated only by the most critically exacting of purists working with the most aurally demanding sources in perfect recording and monitoring conditions; the engineering sophistication and elegance involved here is unnecessary in 99.5 percent of real-world recording situations.

Nevertheless, this isn't a case of snake-oil selling: there can be no doubt that this is a very good product and the marketing claims are completely legitimate. And any reduction in systemic distortion, no matter how small, is a welcome advance in the science of recording — in an ideal world all phantom supplies really should be built this way. But for the vast majority the cost/benefit ratio will be very hard to justify, so I suspect the potential market for Triton's clever little box — in its current form, at least — will be rather limited. Nevertheless, Triton have applied for a patent on their design and have advanced plans in place for a miniaturised 'chip' version of the circuitry to permit easy and low-cost integration of the system in other manufacturer's products. It will be interesting to see which manufacturers, if any, choose to adopt Triton's system in the future. *Hugh Robjohns*

£ 399.00 excluding VAT

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