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Above: IsoTek EVO3 Genesis multiple mains generator

ISOTEK GENESIS: THE SOURCE OF GREAT SOUND

Introducing the Genesis from IsoTek – the first mains generation device for high-performance audio systems that creates an entirely new, fully optimised mains sine wave

Hampshire, England -- Mains electricity is distorted by numerous factors as it travels from power stations to be distributed throughout our homes, eroding the performance of high-quality audio and AV systems. For more than a decade, IsoTek has manufactured class-leading mains conditioning components that filter and distribute the mains supply to deliver pure, consistent power that instantly improves sound quality. But what if, instead of filtering the existing mains supply, a device could build an entirely new, fully optimised mains sine wave from scratch? That is precisely the role of IsoTek's new Genesis – the world's first multiple mains generator for audio and AV systems.

There are a number of devices already on the market that are commonly referred to as 'mains regenerators'. Typically, these attempt to synthesise an 'ideal' mains sine wave by subjecting the incoming mains supply to a 50Hz 'template'. The effectiveness of these regeneration systems is at least partially dependent upon the level of distortion of the incoming supply.

IsoTek's Genesis is distinctly different. Unlike existing regenerators, it builds a completely new sine wave with two 300W generation engines running in class AB, giving a total output of 600W of continuous, newly

generated power built within an extremely low-distortion sine wave generator. Two class AB amplifiers then amplify this signal; these have high-quality output transformers with copper foil between the primary and secondary output, thus preventing distortion and noise passing through the unit.

A critical part of the process is IsoTek's unique synchronous sine wave system, which replicates the frequency with zero variation so as not to create destructive harmonic distortions (beat frequencies) between the incoming mains supply and the generated electricity. In addition to eliminating distortion and producing an ultra-stable sine wave, the Genesis also controls mains voltage, ensuring the output voltage is maintained at 230V +/- 2%. By way of comparison, the European standard is 230V +/- 10%.

The end result is an extremely precise and consistent 230V/50Hz mains sine wave with vanishingly low levels of distortion, independent of the input quality of the power line. Whatever the level of distortion of the incoming mains supply, Genesis delivers exceptionally low THD (Total Harmonic Distortion) of between 0.05% and 0.17% with typical loads, remaining well below 0.3% with even the most complex loads.

The Genesis was born from a desire to make a more effective mains generative component, as Keith Martin, IsoTek's founder and managing director, explains. "We looked at existing regeneration systems and thought 'we can build something better'; six years of extensive R&D later and this is the result. We call the Genesis a multiple mains generator, rather than a regenerator, to emphasise the unique way in which it operates – using two 300W Class A/B generation engines to create a fully optimised mains sine wave from scratch. No other device delivers such ultra-low levels of distortion with such unerring consistency, and the resultant uplift in sound quality is remarkable: clearer, smoother and better defined, more open, dynamic and engaging."

Tailor-made for front-end components

The Genesis is ideally suited to front-end components – source components and preamplifiers – because they are Class A devices and use almost constant current regardless of the music being reproduced. (Power amplifiers and electrostatic speakers that do not consume more than 300W are also suitable, although power amps are generally better suited to mains conditioners with a very low impedance rather than mains generative components.

Four high-quality outlets are provided, each one fully isolated; no two outputs are connected together, thus eliminating differential mains noise created by cross-contamination between the connected audio components. At the front of the unit, a bright, clear OLED display shows input/output voltage, input/output THD, power consumption of the connected audio equipment and the power status of the generation engines.

In addition to the exceptional sonic benefits delivered to every connected component, the Genesis delivers complete and unlimited surge protection, spike protection and over-voltage protection for valuable audio equipment. No disturbance to the incoming mains supply will be transmitted to the output sockets.

The Genesis joins Super Titan – the world's most powerful mains conditioner – at the vanguard of IsoTek's flagship Ultimate Series. While the former is perfect for front-end components, the latter's huge current delivery is ideal for big, current-hungry power amplifiers. Together, they form a unique, and uniquely effective, mains optimisation system – a new benchmark in clean power for the world's finest audio and AV

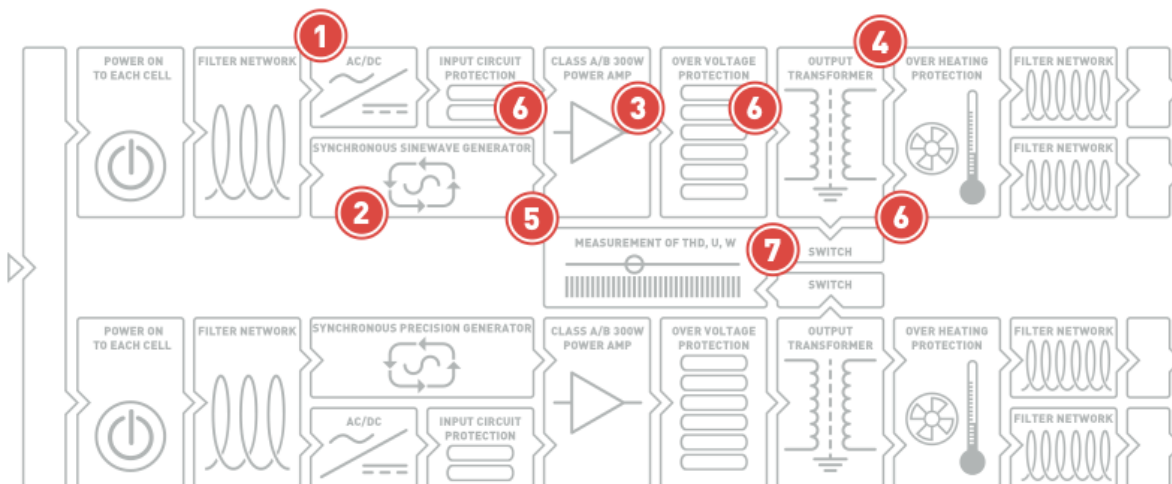
systems, resulting in terrifically enhanced performance.

Integral isolation support

Like the Super Titan, the Genesis' rigid aluminium casework is cradled in a specially developed support structure called ISIS (Independent System Isolation Support). The main unit is point-clamped between two panels at the top and bottom, each of which is formed of a special resonance-damping material sandwiched between two ultra-dense plates, with the overall structure supported by four substantial aluminium pillars.

ISIS was developed in conjunction with Kurt Olbert, the founder of Clearlight Audio and an acknowledged expert in developing proprietary materials for audio applications. Its purpose is two-fold. First, it reduces the effect of airborne vibration and microphony, as well as subsonic vibration and resonance in the device itself, which are detrimental to the performance of electronics. Second, its shape, strength and resonance-damping abilities provide a perfect platform on which to place other components, its stackable design saving space when using several IsoTek units – Genesis and Super Titan, for example – together in one system.

How it works – a summary



1. Mains electricity is converted directly into DC. This is fed into high-voltage generation engines (amplifiers); the benefit of this is that all of the mechanical noise caused by a low-quality mains supply is completely avoided, as there is no input transformer to vibrate.
2. A very high-quality synchronous sine wave generator feeds the generation engines at the same frequency and exact phase as the incoming mains supply. This insures that the system does not create unwanted phase shifts between electronics connected directly to the mains and electronics connected directly to Genesis. The phase shift between the mains input and output is zero – it is entirely synchronised with the mains.
3. The output from the generation engines is a pure sine wave with exceptionally low distortion.

4. An extremely high-grade isolation transformer brings the voltage back up to 230V AC.
5. Current positive feedback in the design allows the Genesis to deliver constant voltage, low distortion and zero phase shift to all connected loads.
6. Exceptionally sophisticated protection systems consisting of input protection, overvoltage protection and intelligent temperature protection using a variable speed super-quiet fan that only comes into operation if needed.
7. Full graphics OLED display shows 'snap shot' measurements for THD, voltage and power consumption. The advantage of this system is to avoid any pollution to output signals via the display circuit through continuous measuring.

IsoTek Genesis – at a glance

- World's first multiple mains generator for audio and AV systems.
- Eliminates both Common Mode and Differential Mode mains noise.
- Exceeds 80dB of noise elimination down to 3.5kHz and 60dB down to DC (0Hz).
- Reduces THD in the mains supply to between 0.05% and 0.17% with typical loads (0.05% with no load attached, remaining well below 0.3% with even the most complex loads).
- Intrinsic noise floor extends down to -120dB from 20kHz into the MHz frequency range.
- Stabilises voltage to 230V +/- 2%.
- Delivers 600W of 100% clean power for front-end components.
- Independent outlets – no outlets are connected together, stopping Differential Mode mains noise cross-contamination.
- Unique ISIS isolation system – eliminates resonance from the sub-chassis of the Genesis.

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