

# Power house

Paul Rigby looks at the Isotek Genesis dual cell mains generator.

## DIAGRAM KEY

1. After passing through a sophisticated filter network, mains electricity is converted into DC, which is subsequently delivered to a high-voltage generation engine (300W amplifier). All of the mechanical noise caused by a low-quality mains supply is entirely avoided, as there is no input transformer to vibrate.

2. A high-quality synchronous sine wave generator feeds the generation engine at the same frequency and exact phase as the incoming mains supply. This ensures that no unwanted phase shifts are created between components connected directly to the mains and components connected directly to the Genesis. The phase shift between the mains input and output is zero – it is entirely synchronised with the mains.

3. Current positive feedback in the design allows the Genesis to deliver constant voltage, low distortion and zero phase shift to all connected loads.

4. The output from the generation engine is a pure sine wave with exceptionally low distortion.

5. An extremely high-grade isolation transformer brings the voltage back up to 230V AC.

6. Bright, clear 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.

7. Sophisticated protection systems include input protection, overvoltage protection and intelligent temperature protection, the latter incorporating a variable-speed, super-quiet fan that only comes into operation if needed.

Isotek treats mains-related problems with a seriousness that has to be seen (and heard) to be believed. New to the top of their wide range of mains conditioning products is the extraordinary Genesis power generator that I had for review. This is a statement product that comes at a lofty £12,995, no less!

Isotek's boss, Keith Martin, told me the Genesis is, "...the world's first dual-cell power generation system." So, rather than scrubbing your mains clean, as a power conditioner does, the Genesis creates a new, clean, sine wave, synchronised to the incoming mains. This is then amplified by two 300W amplifiers and stepped up through transformers to a precise 230V output.

For mains power, such a signal is a sort of Holy Grail. "An industrial electricity generator will give you a THD (Total Harmonic Distortion) of around 2-3% which is not good. To get a THD down to a preferred 0.3% is very difficult. Others have claimed such figures but we have independent tests that prove it. In fact our THD is always less than 0.2%, in general terms, and in the critical fifth harmonic it's down to 0.06% which is extremely low. Rebuilding the mains is not a new concept, but to do it with a low distortion figure is hard."

Whenever you play music through your hi-fi, your system has to cope with noise in the power line such as: common and differential mode noise, power surges and spikes and asymmetry.

Whatever rubbish you throw at the Genesis, it will take that garbage, turn it into DC and rebuild from new a complete, full 230V sine wave

with incredibly low distortion. As such, your equipment will be working in the most optimal way. It will be receiving the best possible power with 600W headroom; CD players and DACs, for example, only draw between 35W and 50W.

"We didn't want to do what some companies do which is to rebuild half of the main sine wave or create a perfect sine wave template to match to and call the product a 'generator'. We wanted to rebuild a sine wave completely from scratch.

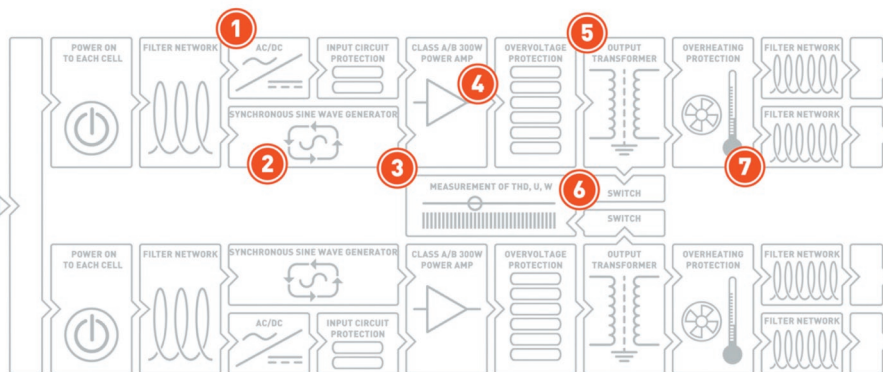
Yes, it costs a lot of money but it is an incredible solution that no-one else has done. Looking at the specs of the competition, no-one is doing it like us or with such low distortion."

Ah, the price. Well, you have

four sockets, intended primarily for front-end source items, although low power amplifiers and electrostatic loudspeakers that consume less than 600 Watts are suitable.

The Genesis is not meant to be used with high-power power amplifiers. That's what the Super Titan is for. Ideally, you sit the Genesis on top of the Super Titan and use both as a complete mains supply for the hi-fi.

On the front of the Genesis sits a bright clear OLED display that shows input/output voltage, input/output THD, power consumption of the connected audio equipment and the power status of the generation engines. It all looks very technical and impressive.



to keep the price of the Genesis in perspective. It's not designed for your iPod, after all. It has been made for high specification equipment and for those people who want the best that can possibly be achieved. It's an aspirational product like a Ferrari or an Aston Martin. That's how you need to look at the Isotek Genesis (and its sister, the £6,000 Super Titan, for that matter). It demonstrates what can be done.

There is a main power switch plus two other power switches to start each half of the Genesis in order to save energy if only half of the Genesis is required. On the rear you have a C20 power socket (to take the high load of 16A) plus

Protection and monitoring circuits are fitted, plus fans that switch in if necessary. There's even an output filter network, Isotek's block diagram shows.

## SOUND QUALITY

I initially hooked up my reference system to a basic electrical distribution block of the type you might pick up from a hardware shop for a few pounds. Playing the vinyl version of Frank Zappa's 'Bamboozled By Love', the music sounded a tad disorganised through the block. The upper mids were strident, guitar was piercing while vocals could shriek on crescendos. The sound stage was incohesive and displayed midrange



bloom while the bass and midrange were not clearly delineated.

The Genesis cured these ills. The soundstage filled with space, and both calm and discipline reigned. That didn't mean the music lost fluidity or flair, far from it. Guitars sounded aggressive, but detailed too. A widened dynamic spectrum provided the instrument with more character. Vocals found their place within the mix, stopped blaring and started informing.

I then plugged my Icon power monoblocks and Quad electrostatics in to a Super Titan mains conditioner and connected that to the Genesis. This firmed up bass. The stereo image also became firmer and more clearly centred, while cymbals now displayed lightness and a layered metallic sheen.

I then compared the Genesis with Isotek's last, best front-end solution, their excellent Aquarius. While the sound was very good indeed, a testament to the Aquarius' design, the Aquarius is very much a power conditioner. When compared to the Genesis, the sound was a little flat in the midrange and a touch plump in the upper bass regions.

The Genesis' ability to remove 'distortion' from the playback also meant that the Aquarius wasn't as clean in its sonic representation. Of course, you would expect – nay demand – such results considering the vast difference in price, but it was reassuring to hear the difference, nevertheless.

I have to emphasise the Super Titan's part in the Genesis' success,

however. Using Genesis or Super Titan alone adds greatly to a system's sound quality I have found from my experience with them, but music benefits when both boxes are hooked together.

Playing Yehudi Menuhin's 'Mendelssohn and Bruch Concertos' on vinyl, it was evident just how much silence there was behind the solo violin with the Genesis in place and how much Menuhin was compromised by the noise floor without it; the delicacy and fragility of his violin was more evident.

Compared with the Aquarius, the backing orchestra was truly involved via the Genesis, acting as a partner to Menuhin, not just sonic wallpaper behind him, while the Genesis was revealing of individual instruments within the orchestra, especially during high tempo sequences.

Turning to Horace Silver's 'Cape Verdean Blues', via my B-475 Densen CD, this jazz LP provided far more coherence via the Genesis, when compared to the basic power block, with a dramatic reduction in the noise floor. All of the musicians played at ease it seemed, free from background noise and distortion. Instrumental separation was impressive while individual instruments exhibited character and poise.

Similarly, against the Aquarius, the Genesis showed improved transparency, the edges of each instrument exhibiting better delineation, separating it from the silence surrounding it and from other instruments.

## CONCLUSION

The Genesis shows you how important the mains electricity is in determining sound quality. In the hands of the Genesis, the mains electricity becomes a force for good. It provides a vibrant, exciting listen that shines a light on all aspects of a music mix. Here is a statement product that shows what is possible, setting standards in mains synthesis.

*"You sit the Genesis on top of the Super Titan" says reviewer Paul Rigby, for the ultimate in mains conditioning and generation. The Super Titan feeds large power amplifiers; the Genesis handles all else.*



## ISOTEK GENESIS £12,995



### VERDICT

The Isotek Genesis enables you to hear – really hear – your hi-fi system, possibly for the very first time.

### FOR

- clarity
- low distortion
- detail
- dynamics

### AGAINST

- size
- weight

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