

TC electronic System 6000 V3

We live in times in which the software upgrade is now as important as the hardware release. TC has pioneered the added value approach that a significant software enhancement can bring and extended product life as a consequence.

System 6000 owners now get 6.1.

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THINGS HAVE COME an awfully long way since the Great British Spring reverb. Today's audio production environments demand 24-bit, 96kHz digital audio, multichannel support, flexible routing and editing, and devices that are easy enough to use without constant reference to a three-foot thick manual that has suffered somewhat in translation.

And with the current trend towards plug-in based effects processing for DAWs, or the inclusion of sophisticated signal processing in the current generation of digital audio consoles, it's easy to believe that the days of the dedicated outboard effects unit are numbered.

But if, like me, you've struggled to manage the ever increasing load on a DAW's DSP capability (and 5.1 effects processing is a huge DSP hog), or hankered after a reverb that sounded a little more polished, then you'll realise that rumours of the outboard unit's death have been greatly exaggerated.

Enter tc's System 6000. Well, more accurately, enter the System 6000 a couple of years ago. Although it's not a brand new device, the company's policy of continuous upgrades to the core software ensures that it is constantly updated in response to user comments and industry changes.

So what's new in Version 3? The biggest change is with the addition of five new algorithms. The first of these is named DVR-2 (Digital Vintage Reverb) and is a simulation of a classic EMT-250 reverb. With a refreshingly small number of adjustable parameters, the DVR-2 presets do sound extremely good and faithful to the original. Because the algorithm also simulates the technical specifications of the original, including the noise floor as well as the bandwidth and A-D conversion circuits – an additional 'High Resolution' parameter has been added. Enabling this attempts to preserve the distinctive quality of the reverb, but with a 21st Century regard to bandwidth and noise-floor. I preferred this turned off, but it's a matter of taste.

Also new is the NonLin-2 algorithm, designed as an effects reverb and perfect for emulating those cheesy 1980s gated reverbs. A fully controllable envelope section is coupled with predefined reverb styles ranging from short, dense and rather nasty, to longer, more diffuse and naturalistic. The rather strangely, but aptly named 'Twist' parameter is a useful, if unpredictable, tool in creative sound manipulation. Other than saying that it seems to add what sounds like dynamic filtering to the reverb, its effect is rather hard to describe, but with options for the 'Twist Type'

ranging from 'Spaceship' to 'Chicken' I guess tc had the same problem.

The real crowd pleaser, for the postproduction community at least, is likely to be the new Reflector algorithms. Available in LCR and 6-channel variants, Reflector is a delay and boundary effect algorithm. A huge number of parameters allow control of individualised EQ, diffusion, level, phase, pan and feedback for each of 24 reflections. Placement of the dry signal with either an LCR or a 180 degree panner is also possible, which eliminates the need for a separate surround panner if the dry signal is mixed back into the effected signal.

The reality of this algorithm is much more impressive than its description. Careful manipulation of these parameters has generated factory presets that are a curious mixture of delay, early reflections, ambience and reverb. With some significant delay times and high levels of diffusion available, Reflector does an extremely good job of emulating large outdoor location effects, as well as smaller ambient spaces. This is particularly impressive with the 5.0 or 6.0 output modes enabled.

This last sentence also hints at the next big trick of Version 3 – the inclusion of the VSS-6.1 Reverb. Tc dubs this as the first professional reverb to acknowledge the advantages of 6.1 room simulation for wide audiences, such as cinema, or make the most out of SACD 6.0 reproduction. A large gulp here, along with everyone else who has recently refitted a studio to handle 5.1. Luckily, being in the middle of a major refit, we happen to have a rather large number of

Genelec 1030s sitting around. So, with a bit of heaving of speaker stands and some temporary cabling, a 6.1 test rig appeared.

VSS-6.1 is what tc refers to as a generic reverb rather than a source reverb. In other words it is designed to accept a complete 5.1 or 6.1 mix or stem at its inputs and simulate an acoustic space by adding complex early reflections and a diffuse reverb response to them. This is as opposed to a source reverb, which positions a sound source in a space and calculates a multichannel reverb response based on its position in the simulated space. In use, the 6.1 reverb certainly adds another dimension to the sound when compared to 5.1. The sweet spot is significantly wider, and there is a far greater sense of a diffuse surround field. In a smaller control room, the effect can prove almost overwhelming at times, but there are obvious benefits in covering larger audiences. The 6.1 mode is compatible with Dolby EX and DTS ES.

The final addition to the algorithms comes in the form of VSS-M4, which offers four discrete mono reverbs with individual inputs and outputs within one engine. This allows work in unconventional multichannel configurations with up to 16 main channels if necessary. Even if each of the mono reverbs have identically set parameters, the VSS-M4 algorithm can still achieve a decorrelated diffuse field response by setting each reverb to a different mode. This is something that all of the other multichannel algorithms achieve, and is important when considering how reverb and effects balances will sound should the mix be reproduced in a format other than the original.

Other minor additions in Version 3 include the addition of a Wizard to the Library Recall page which allows sorting and filtering of user and factory presets in a variety of ways, by type, algorithm, and name. That's very useful as the list of factory presets



grows ever larger.

The only real niggle that occurred was a seemingly random resetting of the routing page on successive power-ups. Sometimes the routing was restored to its last configuration, and sometimes it wasn't. Although not a big issue as the routing setup was saved and easily recalled, this could (and did) cause some head scratching and momentary panic in a live situation.

The Version 3 software update is an incremental change for the System 6000. But this last incremental jump has transformed it from a very good system into a devastatingly good one. It's not a cheap option, and for stereo music work, it could be seen as overkill. For serious multichannel music or postproduction work, this surely rates as a 'must-have'. ■

Version 3 is the latest software release for the System 6000, but its worth recapping briefly on the unit itself.

The heart of the System 6000 is the mainframe unit, which houses the main processor. Slots on the back of the mainframe house the main CPU board, which comes as standard with eight channels of digital I-O, and allow users to add cards for further analogue or digital I-O options to a maximum of 16 inputs and outputs. A floppy drive and a PCMCIA slot occupy the front panel, and allow users to store presets or update the systems software.

Each mainframe unit provides four separate effects engines, each one with eight inputs and eight outputs. Each engine has the capability to run most of the available effects algorithms by itself, effectively allowing four completely separate multichannel algorithms simultaneously. There are some exceptions to this, as some of the high resolution 5.1 algorithms, for example, require the DSP resources of two or three of the available engines. Each engine can

be flexibly assigned to any of the physical inputs and outputs, or the outputs of one engine routed to the inputs of another in a cascade fashion.

Connected to the mainframe unit via a standard RJ45 Ethernet cable is the Remote CPU. In addition to providing control inputs to connect keypads, joysticks and other USB devices, the Remote CPU acts as the bridge to the jewel in the System 6000's crown, the Icon remote.

Featuring a touch-sensitive colour screen and six motorised faders, the Icon is a stunning user interface. Indeed, so confident is tc about how intuitive it is, that they state in the manual that you probably won't need to read much of it. Ordinarily, I'd take claims like this with a pinch of salt, as other user interfaces have sometimes driven me to yearning for the aforementioned lump of plastic drainpipe. On this occasion though, it's true. Once you are familiar with the terminology employed for such things as libraries, frames and engines, navigating around the device is remarkably easy. Other than reading about the various algorithms on offer, I only had to refer to the manual once.

In terms of what signal processing is on offer, it would be easier to list what isn't there. Like its forerunner, the M5000, the System 6000 can be upgraded by the installation or unlocking of software to enhance its capabilities. You want reverb – you've got it, in flavours suitable for music and post work, from stereo to any multichannel variant. You want delay and modulation effects – they're there. You want multiband dynamics processing and mastering – all present and correct, again in stereo and multichannel formats. Add to this presets that allow the unit to function as a multiple source surround panner, a surround monitor matrix with flexible downmixing capabilities, intelligent noise reduction for removal of background noise such as air-conditioning rumble, binaural stereo generation for headphones from discrete 5.1 sources – well, you get the picture. On top of all this, the factory presets provided are all eminently useable, well ordered according to application, and, in the main, well described.



PROS

Incredibly flexible, high quality effects; excellent multichannel support; upgradeable and expandable; intuitive remote and operating system; build quality

CONS

None, except the price – adding all the software options raises this even further

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