

# Eventide H8000

Known as a major player in outboard effects from the very beginning, Eventide's approach has always been individual and uncompromising. **JON THORNTON** says its new flagship unit is complex but incredibly powerful and qualifies for top effects box status.



**R**EADERS WILL BE AWARE of the fact that the editor has something of a penchant for blue coloured outboard devices hailing from Denmark, and I have to confess to a similar fondness for Eventide's products.

I can trace this back to a point when, as a young teenager, I saw a documentary on television that showed the Radiophonic Workshop's Elizabeth Parker putting together the music for the BBC's seminal natural history series *Life on Earth*. In among all of the vaguely Heath Robinson arrangements of early 1980s recording equipment, there came a point when she languidly gestured towards a piece of equipment in a rack. 'And this', she said, 'is my Harmonizer. And it let's me do this...' Cue the sound of a plastic comb being plucked and then transformed into the most incredible cascade of pitch shifted delays (to accompany the mating of seahorses if memory serves.) (*It was the comb, Jon, it was the comb. Ed*)

I'm not entirely sure what it says about me that I can recall the event so vividly — but I knew even then that some day an Eventide processor would be mine, and I've been an enthusiastic owner of a DSP4000 for the last 10 years. But times move on, and higher sample rates, increased bit depths, faster and cheaper DSP and the emergence of multichannel audio have all forced manufacturers to constantly raise their game — the H8000 is Eventide's response (UK£4295 + VAT).

Unpacking the unit reveals a reassuringly familiar looking product — Eventide has chosen to maintain the same layout of controls and user interface on the front panel that earlier models sported, even down to the fairly antique looking numerical keypad.

Closer examination reveals a few changes though, as the LED bargraph meters have been replaced by a matrix of very small pin-point LEDs that allow 8 channels of metering in a very small space. At this point, a small moan — these meters are very hard to read in some situations. While you can see indicated level very clearly, discerning which channel is which at any distance is nigh on impossible.

The reason for this very dense metering arrangement becomes apparent when inspecting the rear panel, and here things have changed an awful lot. A veritable connection-fest greets you, comprising 8 channels of AES I-O, two analogue I-Os, a SPDIF I-O, and an ADAT type lightpipe I-O giving another 8 channels of digital. While there are some restrictions



on the use of some of these interfaces — for example, the ADAT interface only supports sample rates up to 48kHz, and Eventide don't recommend using the SPDIF interfacing at sample frequencies higher than this either, it is nice to see such a range of possibilities included as standard fit.

Wordclock in and out, the usual trio of MIDI sockets, and serial communications ports (RS232 or Eventide's own Eve/Net) are also in evidence. Finishing off the rear panel line-up are a selection of TRS jack sockets. These allow the connection of external controllers such as footswitches or volume pedals, and control of external equipment by relays that are integrated into, and addressed by, certain programs in the H8000.

The unit's internal architecture is built around two DSP processing blocks, referred to as DSP A and DSP B. They can be configured so that each DSP block is running completely separate programs, or their collective processing power can be combined to run very DSP-intensive programs — which Eventide refers to as monolithic programs. In addition to this, the different presets supplied with the unit are configured in a variety of ways — from mono in, mono out, up to eight inputs and eight outputs, and pretty much every permutation in between. When you add to this fact the number of possible physical inputs and outputs, signal routing on this device is far from straightforward.

Eventide has attempted to help by providing a number of predefined routing maps, which take a particular set of inputs and outputs and apply them to the two DSP blocks either separately, or in a daisy-chained fashion (the outputs of DSP block A feed the inputs of DSP block B). Nevertheless, this aspect of the unit's operation is likely to cause the most head-scratching. The principle is easy enough to grasp, but navigating around the permutations of display screens and soft keys to accomplish it certainly isn't!

But you can forgive the unit this when you start investigating the presets on offer — and there are a lot of them, over 1000 in fact. Again, this could almost be overwhelming were it not for the ways in which the unit classifies them and allows you to search for or sort presets by a number of parameters. Broadly speaking, the presets on offer are based around combinations of samplers, reverbs, modulation, EQ or filters, pitch shifters, delays, complex effects and dynamics. Each preset name is followed by a two digit number, which indicates the number of inputs and outputs, and a series of letters.

Thus, a name followed by 22 RD would indicate a preset based on reverb and delay, with two inputs and two outputs. Not all of the presets work at sampling rates higher than 48kHz, but those that do are signed with a small '96' symbol. Not only this, but all of the presets are flagged with a source type — in other words, whatever signal source, such as vocals or guitar, they were primarily devised for. Using all of this data, you can easily search, for example, for presets using pitch shifting with two inputs and two outputs that were devised for guitars — and up pops a shortlist of contenders. Loading presets is very straightforward, as is the process of altering parameters, generally by a combination of soft keys under the display, the cursor keys and the (huge) data entry wheel.

A couple of things make this whole process far more satisfying than it might otherwise be. The first is the use of appropriate graphics on the large backlit display, whether it is a graphical gain reduction meter, a graphical bargraph level display, or simply a graphical representation of a parameter's level. The second is the inclusion of an 'about' or 'info' parameter with each preset. Selecting this gives a short textual explanation of the preset, together with information about any non-obvious parameters that can be adjusted. Eventide has been doing this for years now, and it's a mystery to me why more manufacturers don't.

## So many presets, so little space

In addition to the standard reverbs, delays and dynamic effects, the H8000 has a lot more up its sleeve. Yes, there are a lot of the trademark Harmonizer pitch shifting effects, working in conjunction with delays and EQ to provide some weird, but frankly wonderful effects. But there are also banks of presets for post work, which can generate useful sound cues or atmospheres from scratch, some sophisticated time compression/expansion programs for broadcast applications, a 174 second sampler, and even a bank of audio utilities, such as phase checkers, oscilloscopes, chromatic tuners and metronomes.

I particularly like the presets that emulate whole banks of effects racks. Sometimes these are effects connected in series, just like guitar pedals, sometimes a bunch of separate effects that are routed to their own inputs and outputs, but having four different stereo effects running simultaneously is trivial to set up with these presets.

But my absolute favourite was one of the simplest: a subharmonic synthesiser that is one of the best I've ever heard, fattening up bass ends without sounding at all overblown.



There isn't time or space to describe the presets in any detail (I've listed some of my favourites elsewhere), but two areas deserve a special mention. Eventide has long been synonymous with realistic pitch shifting, decades before programs like AutoTune were even dreamt of. The H8000 features its latest development in this area, a new pitch-shifting algorithm called UltraShifter. Eventide claims that this is the most natural sounding vocal shifter ever created, and that it is capable of shifting a vocal two octaves upwards or one octave down while preserving the natural formants of a voice — quite a claim. In practice it is impressive, particularly when formant scaling is handled automatically. It's rather more convincing when pitching up rather than down at its extremes, and like all pitch-shifters suffers from mis-tracking the input pitch from time to time, with the resultant wobbling of the output. Careful settings, though, yield impressive results.

The second area worthy of specific mention is the availability of 5.1 capable presets. These span delays, shifters, chorus and other modulation effects, compression and EQ, in addition to reverb. The 5.1 reverb programs on offer are split into two banks: the first for taking a stereo (or mono) source and creating a 5.1 early reflections and reverberant sound field, and the second for processing a 5.1 source directly. Presets in both banks give very credible and life-like results. I was particularly impressed with the abilities of the presets that generate surround early reflections from a stereo source. Fine tuning of these 5.1 effects is also simplified by the use of master parameters that are mapped and scaled to

individual parameters for each channel.

If all this wasn't enough, the H8000 is one of that rare breed of modern signal processors that allows you, if you wish, to really get your hands dirty. By this I mean editing and/or creating your own presets by going down to the individual building blocks of the system. And this is not just the core algorithms, such as compression or pitch shifting, but also individual delays, mixers, logical operations based on tables or values, even defining text boxes and user interface features on the display.

Going down to this level isn't for the faint hearted, and although you can do it to some degree by using the front panel controls and display, you really don't want to go there. It makes sorting out the routing configuration look intuitive and simple. Fortunately for inveterate tweekers everywhere, help is at hand in the form of Eventide's Vsigfile software package (not the catchiest name in the world, but never mind). This piece of software provides an enhanced GUI for editing and creating presets from module level, communicating with the H8000 via RS232 or MIDI.

Vsigfile is available to run on PC, although a third party port for Mac OSX, which is endorsed though not supported by Eventide, is also available. While the expanded GUI is far better than the front panel display for this purpose, the process of preset creation is still fairly daunting, and requires a fair amount of reading and study.

For those wanting something simpler, and possibly an acknowledgement by Eventide that the internal routing architecture isn't as intuitive as it might be, a

small software package that provides a computer GUI for the internal signal routing of the H8000 is also available, and this is a great improvement.

By any measure the H8000 is a serious bit of kit. Most importantly, the quality of its results hasn't been compromised by the breadth of its abilities, and in my view it could be seen as the Daddy of all outboard multi-effects processors. Yes, there are annoying things about its use and operation, but all of these can be forgiven by its sheer capability, and by the fact that it almost dares you to be creative. I'll be sad to see it go. And yes, I did relive that pivotal moment of my youth with the mating sea horses. A plastic comb and Preset 5715, if you're interested... ■

**PROS** Great sound; enormous range of presets; very flexible and infinitely editable; good range of interfacing provided as standard.

**CONS** Level meters hard to read at distance; I-O and internal signal routing complex and not terribly intuitive when using the front panel controls.

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