

# IZOTOPE Spectron

With iZotope's plug-ins finally released for Mac OSX, a timely re-evaluation is in order. **Mark Cousins** looks at the company's latest offering – Spectron.

Since the release of its Ozone mastering software, iZotope has been hard at work developing a range of innovative, high-quality products. A feature of all of the company's plug-ins is the impressive attention to detail and their exemplary audio quality – plug-ins such as Trash have several pages of editable parameters, alongside a detailed spectral overview of the processing taking place. Having gained a strong foothold in the PC market, many Mac musicians have looked upon iZotope's work with a fair amount of jealousy, hoping that versions would eventually be released for Mac OSX. Thankfully, the wait is at last over!

## iZotope has struck a good balance between a plug-in that is both innovative and useful.

iZotope's most recent plug-in – Spectron – is easily the company's most imaginative work to date. Developed as part of a unique collaboration between the Boston-based company and Moscow University's Alexey Lukin, Spectron is an intriguing blend of conventional processing like filtering and delays, alongside the latest developments in spectral technology. Spectral processing, as found in plug-ins such as Native Instruments'



The presets included with Spectron give some indication as to what can be achieved with this innovative plug-in. Even so, there's plenty to discover yourself.

Spektral Delay, involves splitting an incoming signal into a series of frequency bands (up to 2,048 in Spectron's case) and processing each band accordingly. Spectron's unique spin, however, is the range of processes that can take place in the spectral domain, including morphing, panning, filtering and delays.

Spectron, as with iZotope's other plug-ins, can be purchased as a download from the iZotope website. If you prefer a 'hard' copy, a CD can be dispatched for an extra \$29. Copy protection is via the usual challenge-and-response system. All plug-ins now work under Pro Tools 6.x (RTAS, AudioSuite and HTDM) and there are also versions for VST, MAS, Audio Units and

DirectX. Logic Pro 7 users will also be pleased to note that Spectron, Trash and Ozone all pass the dreaded AU validation test.

### Spectral principles

Before we dive too deeply into what can be achieved using Spectron, it's worth taking some time to understand exactly what it offers through its unique form of spectral processing. If you've used equalisation before, you will already be used to one (slightly crude) form of spectral processing – the process of modifying a specific part of the audio spectrum, rather than the whole spectrum. Now, imagine that the same technique could be applied to pan or delay, for example, so that rather than panning the whole full-frequency sound, you could pan just a small spectral component. Alternatively, a delay could be used so that different harmonics could have different delay times and varying amounts of feedback. Sounds crazy, doesn't it?



Each Spectron module has a series of nodes which can be aligned to a real-time spectrum analysis of your given input signal.

The real power of Spectron is the accuracy with which it performs this processing – surgical precision wouldn't be an understatement here! By splitting up the input into 2,048 bands, Spectron offers precise control over every minute harmonic – indeed, a common feature of all the editing windows is a real-time spectrum analyser to preview the processing taking place. To cope with this wealth of parameters, Spectron divides itself into five modules, each with its own page of controls. By activating one or more of these units, Spectron can produce a diverse set of treatments, ranging from conventional delay effects through to extreme spectral morphing.

### Cracking the node

Despite each module of Spectron working in a different way, all make use of the same node-based editing system. Displayed via the Filter module, the nodes appear – and sound – reasonably similar to an EQ's cut and boost controls. The filtering becomes even more interesting when the Mute Unprocessed button is activated – only the harmonics being processed pass through, while all others are completely attenuated. By activating the Harmonics Only button, Spectron's output can be further stripped down to leave just the node's fundamental harmonic. In this mode, stretching the width of the node adds harmonic peaks above the fundamental, each corresponding to the harmonic series.

Having mastered the power of spectral processing using the filter and the principles of working with

### PC & MAC

#### SPECTRON

Manufacturer **iZotope**

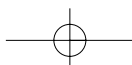
Price **\$130**

Contact **iZotope**  
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### METHOD SPOT Order of service

Clicking on the Graph button displays an overview of the processing order carried out in Spectron. Although the feature doesn't support complete re-ordering of all the modules, the Graph option does enable the relative placement of the spectral engine (Smear, Filter, Pan and Delay modules), the Smear module and the spectrum analyser. The placement of the meter, for example, can be quite crucial, so that you can visualise qualities of the input or the harmonic characteristics of the output.



► the nodes, the techniques can be easily transferred to Spectron's other modules. In the Delay module, for example, the nodes can be used to define the delay time and regeneration for each part of the audio spectrum. This enabled us to do some pretty amazing things with Spectron – creating long, regenerative delays that focus on the snare, simultaneously with a pseudo slapback effect on the hi-hats. If this isn't enough to get the creative juices flowing, Spectron also features different configurations for left and right channels to create a diverse and interesting stereo image.

### Morph fun

Spectron's most intriguing module has to be the Morph page – and it's certainly the biggest indicator of its spectral prowess. Morphing involves the real-time spectral blending of two sounds: one being a source .WAV file loaded into the Morph page, and the other an input signal being processed by Spectron. Sonically speaking, the output (at 100%) has distinct similarities to vocoding – the qualities of one sound being assumed by another. Indeed, many of the standard vocoder tricks work well in the Morph module (using a raw synthesizer waveshape to modulate a rhythm track, for example). In this situation, the nodes work by defining which parts of the input are blended. A kick drum, for example, could be morphed, while the rest of the kit remains unprocessed.

A quick scan through some of Spectron's excellent presets indicate how movement forms a vital part of the sound of this plug-in. Nodes, in any module of Spectron, can be modulated in two principal ways: either by an internal LFO or an Envelope Tracker based on the incoming sound levels. As with all the other aspects of



▲ The Options page enables complete control and customisation of Spectron. As with all of iZotope's plug-ins, the implementation is detailed and thorough.

Spectron, the implementation is well thought-out and easy to visually comprehend. Once modulation is active, a small red line appears – this indicates the direction and distance of travel, alongside a small dot to indicate the speed of movement taking place. Node modulation is, undoubtedly, one of Spectron's greatest assets, and lifts the plug-in to a whole new level of complexity and interest.

Smear, the last of Spectron's modules, is the only module that doesn't perform any spectral processing. Instead, it works as a

## Spectron is a truly excellent product, with a huge range of treatments to offer.

simple, four-stage delay line, specifically targeted at generating phasing, chorusing or flange effects. Of all the various functions included in Spectron, the Smear module proved to be the only minor disappointment, but useful nevertheless. By contrast, any one of the other modules would justify this plug-in's existence, but combined together they form an awesome sound-design tool.

### Not forgetting...

As with Trash and Ozone 3, Spectron features several pages full of parameters and options – the more you understand it, the more you realise how much there is to learn. Every aspect has been carefully thought-out to maximise the sonic effectiveness and ease of working with the interface. One particularly nice detail is the [Alt] key implementation. By pressing this, Spectron temporarily switches to a band-pass filter, enabling you to identify specific frequency points to place nodes at. You can also copy and paste node widths and bandwidth, either by right-clicking (PC) or [Ctrl]-clicking (Mac) with the mouse. Finally, the Graph and Options pages govern the overall operation of Spectron, from the ordering of Spectron's modules and meters, to the amount of bands used for processing.

### Happy Macs

Being such a unique product, it's hard not to like Spectron. In developing Spectron, iZotope has struck a good balance between a plug-in that is both genuinely

innovative and practically useful. At their most extreme, the Filter and Morph modules can strip a sound down to the merest essence of its original form, yet by contrast, the Delay module can be musically sensitive and discrete. Arguably, Spectron's closest rival has to be Native Instruments' Spektral, but although the technology is similar, the sound and approach of the two are quite different. Whereas Spektral specialises in abstract spectral treatments, Spectron provides a more varied set of effects that could fall into several different categories.

The qualities that made Spectron, Trash, Ozone 3 and Vinyl so successful on the PC platform, have all been retained in the move over to OSX. If you're a Mac user and haven't heard much of iZotope's work, we would recommend you do so. Spectron's sound is as strong as all the previous offerings from iZotope and demonstrates precise audio control as well as an intuitive interface design. At the current exchange rate, Spectron is excellent value (about £70), and given the thoroughness of this product, many plug-in developers could learn a lot from its success. [MTM](#)

### RELATED PLUG-INS The iZotope range

**iZotope's most expensive product – now in its third version – is Ozone 3.06 (\$250), a plug-in that has defined the standard in respect to mastering plug-ins. Ozone 3.06 includes a paragraphic equalizer, mastering reverb and loudness maximizer, alongside multi-band versions of an exciter, compressor/expander and stereo image processors. Unlike certain other mastering processors, Ozone 3.06 can do a good job at both sensitive mastering and the brick-wall limited sound so prevalent today. In contrast to the hi-fi detail of Ozone, Trash 1.06 (\$200) provides everything for the lo-fi enthusiast: a gutsy compressor, 48 distortion modes, 36 filter types, 85 cabinet and speaker models and a delay that specialises in (either digital or analogue) noise and grit. For a free introduction to the world of iZotope, point your browser towards the free download of Vinyl 1.7 and add a little more warmth and crackle to your sound.**

### SUMMARY

#### MINIMUM SYSTEM REQUIREMENTS

- PC Pentium III 600MHz, Windows 98SE/ME/2000/XP, 256MB RAM
- Mac G4 600MHz, Mac OSX 10.2.1, 256MB RAM

#### KEY FEATURES

- 2,048 bands of spectral processing
- Morph, Filter, Pan, Delay and Smear modules
- Multiple nodes with dynamic control
- 64-bit internal processing
- Pro Tools 6.1 (RTAS/AudioSuite/HTDM), VST, MAS, Audio Unit and DirectX support

#### WHY BUY

- Innovative and unique sound
- Well-designed user interface
- Good range of effects and permutations

#### WALK ON BY

- Spectral processing might not be your cup of tea
- Valid applications may not be immediately apparent

### VERDICT

iZotope's plug-ins finally make their debut in Mac OSX – and it's been well worth the wait! Spectron is a truly excellent product, with a huge range of treatments and possibilities to offer.

