



f Output's eclectic line-up, last year's granular effect tool Portal is a highlight; taking a complex and experimental process and putting it into a plugin package that makes it accessible without losing any of the depth.

Their latest, Thermal, is a close sibling, sporting a similar UI and once again striking a balance between ease-of-use and creative depth. The core concern here is distortion, with algorithms ranging from analogueemulated overdrive through digital clipping and various forms of wavefolding. There is, however, such an abundance of additional processing tools here that it would almost be more accurate to describe Thermal as a multi-effect plugin.

As with Portal, Thermal uses a two-level UI. Upon opening it, users are greeted with a straightforward interface focused around a stylish XY pad, two corresponding macro controls and a dry/wet slider. A click of a tab switches Thermal to its Advanced View, opening up full access to the inner workings of the multi-stage effect processing.

Thermal makes use of a three stage design, whereby each stage has a band split option with high and low cutoff controls allowing the effect to be targeted at a specific frequency

range. Each stage's cutoff controls can be freely adjusted from 30Hz up to 22kHz, with as much separation or overlap between stages as desired. As a result Thermal can act as a multi-band tool, a multi-stage processor for stacking distortion types, or be used to create bandpass/ reject filter effects.

Each stage features two processing slots. The first is the distortion effect, with 19 wave types, each with controls for adjusting the tone and time of the effect. The second slot is a multi-effect that can act as one of nine effect types, covering compression, filtering, delay, reverb and modulation effects, each with its own shaping parameters and a dry/wet control. Each stage also has a high-/low-shelf EQ, plus a width control that can adjust both side signal volume and time-based width.

Beyond the stage processors, Thermal has two master multi-effect slots, which can host the same nine effect types as the stage effects. Finally, the signal flow is completed by a master section with high- and low-cut filters and a compressor.

Modulation is handled by a pair of customisable looping envelopes, which can be routed to pretty much any parameter within Thermal. These come with a stash of preset shapes plus a randomisation tool, and have sync, rate and humanise options for tailoring their behaviour. They're

handy tools, but they lack a one-shot mode or the ability to trigger them via an external MIDI input.

It's well-equipped on paper then, but crucially Thermal also sounds excellent. Its multiple distortion types and shaping tools mean it can adapt well to various types of material, from adding mid-range presence to sub-bass to squashing drum loops or adding gritty movement to pads. The additional effects slots make it a fun creative tool too - adding delay or reverb in amongst distortion stages is great for sound design, particularly with percussive material. The 250+, well organised presets mean there's plenty of inspiration at hand. This is the sort of creative, flexible effect you'll find yourself turning to when you need to overcome a creative roadblock. Recommended. FM

FM VERDICT

A well-equipped and creative distortion effect that's capable of a wide range of musical, ofteninspiring results

THE PROS & CONS



Broad range of impressive distortion styles

Additional processors go well beyond distortion

Lots of handy, well-organised presets



No one-shot/MIDI triggered option for the envelopes