

Groove Synthesis

3rd Wave Desktop

Wavetable Synthesizer



Groove Synthesis' PPG-inspired synth has grown considerably since we last reviewed it. It's also got a lot smaller...

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In March 2023 I reviewed the 3rd Wave, a PPG Wave-inspired keyboard synthesizer from California-based newcomers Groove Synthesis. Now they're back with a desktop version, perfect for those who don't need another keyboard, are short on space, or found the premium cost of the keyboard too much.

The Desktop version of the 3rd Wave is refreshingly simple. It houses the same synth engine, the same inputs and outputs, the same screen and the same

editing paradigm. The only compromises are around the number of physical controls on the front panel, and Groove Synthesis have made every effort to retain the same hands-on feel of the larger keyboard version. It is rare to say this when comparing keyboard and desktop versions of a synth, but the capabilities of both versions are identical.

In this review, we will look at the physical differences between the desktop and keyboard, and we'll take a look at any updates Groove Synthesis have made since the last review. The big news is that the 3rd Wave can now record, import



and play back samples as an alternative oscillator source — something I didn't foresee in my original review.

Recap

Firstly, let's remind ourselves what the 3rd Wave is. If you want the full details, I refer you to the review of the keyboard in the March 2023 edition. Everything written there is valid, as the synthesis engine is identical.

The 3rd Wave is inspired by the PPG Wave 2, which you can see by the vibrant blue colour. Even the numerical aspect of the name implies that this could be 'Wave 3', a long-awaited successor to one of the most famous synths of all time and — spoiler alert — they nailed it.

So, the 3rd Wave is a wavetable synth at heart. It boasts a generous 24 voices and can be up to four-part multitimbral, allowing four six-voice patches running simultaneously (or one 24-voice patch, or any combination you see fit). There are four stereo outputs on the rear so you can mix the four parts separately (kudos to Groove Synthesis for not compromising on this).

Like the original, the 3rd Wave combines digital wavetables with analogue low-pass filters, resulting in a warm yet digital sonic character. Included are 32 8-bit wavetables based on the original PPG and 48 anti-aliased 96kHz wavetables, with room for 16 more. There are digital state-variable filters and the 24dB/octave low-pass SSM filters, and this combination of retro and modern approaches is a theme that often reoccurs.

On top of that, there are three oscillators, two effects slots, oscillator sync, linear FM, four envelopes, four LFOs, an arpeggiator and a sequencer. And remember, that's all per part, of which you can layer up to four. So, it's possible to use 12 different wavetables, four sequencers, 16 envelopes, 16 LFOs and eight effects — all at once. There's even a built-in wavetable creator that will automatically create wavetables from recorded audio. Powerful stuff.

Waveterm B?

Since its release, the 3rd Wave has had a steady stream of OS updates and is now at version 1.8. There have been some excellent new features alongside bug fixes and workflow improvements. Since our initial review, Groove Synthesis have added envelope looping, Xfer Serum wavetable import, editable favourites lists, MPE support, free-running oscillators, new unison modes, sequencer keyboard transpose, the ability to modulate modulation slots, import of original PPG-format wavetables, and — in this latest 1.8 update — something that Groove Synthesis have named the 'Waveterm B' update: sampling.

The Waveterm B was a costly partner product to the PPG Wave, sold in the mid-1980s. It added 3.5s of sampling time, sample editing, waveform and wavetable creation by connecting a bulky computer to the PPG Wave. It was PPG's entry into the world of sampling and certainly cheaper than the Fairlight CMI, which was king of sampling at the time. You can read the PPG Wave 2.2 and Waveterm history in an article by John Malloy here: www.soundonsound.com/reviews/ppg-wave-23-waveterm-b.

The sampling update in the 3rd Wave doesn't do everything the Waveterm could. It focuses on sampling and sample playback. So, in addition to the wavetables and virtual analogue waveforms, oscillators can now play

Groove Synthesis 3rd Wave Desktop

\$3495

PROS

- The same superb wavetable synthesis engine as the larger keyboard version.
- No compromises in terms of physical inputs and outputs.
- Despite fewer controls, it retains the hands-on editing experience.
- MPE compatibility has been added to both the keyboard and desktop versions.
- Now with sampling!

CONS

- Still hoping for more user wavetable slots in the future.

SUMMARY

The new desktop version of the 3rd Wave gives buyers who don't need another keyboard the same PPG Wave 2-inspired wavetable synthesizer in a smaller but no less powerful package.

back multisamples, which can contain up to eight samples spread across the keyboard. There's 3.3MB of RAM available for sampling, which is around 35 seconds of sample time at 48kHz. It's much more than the original Waveterm but far less than most modern samplers. This can be extended by recording at lower sample rates, like 24kHz or 12kHz. Using exclusively 12kHz samples, you can squeeze in 140 seconds of sample time. Samples are mono or converted to mono on import, which makes sense as the oscillators are mono.

I see some interesting uses for this beyond just using the 3rd Wave to inject some lo-fi retro crunch into your samples. For example, you might import some favourite noise samples, perhaps vinyl or tape noise, to use in your patches. Multisamples of oscillators from your favourite synth would work well, too. Or load up the original Waveterm B sample library and find new ways to twist and mangle them with 3rd Wave's excellent filters and effects. Due to its limitations, the 3rd Wave isn't going to replace your hardware (or software) sampler anytime soon, but the option is there if you have some favourite sounds you want to weave into your patches.

Samples can be recorded from the audio input on the rear or copied via USB to the internal flash drive for importing. Once a sample is recorded, you can trim it, name it, and save it in a multisample

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Round The Back



The rear of the 3rd Wave Desktop is identical to its bigger sibling with the understandable exception that the IEC internal power supply on the 3rd Wave keyboard is replaced with a socket for an external 15V DC wall wart here. All the

important connections are the same: — MIDI in, out and thru on 5-pin DIN, stereo audio inputs, four sets of stereo outputs on unbalanced TS connectors, a stereo headphone socket, one sustain and two expression pedal inputs.

» slot. During this process, you can assign a root note and loop points. You can also set the bit depth to 16-, 12- or 8-bit. This won't reduce the memory used but is great for injecting lo-fi grit.

Samples can only play up to two octaves above or below the root note. If you need a wider pitch range, you'll need additional samples in the multisample. Once your multisample is saved, it will be loaded automatically when you boot the machine, making it effectively permanently available as a new oscillator. You will have to back up samples if you want to use a new set for every production. Luckily, this is as simple as copying files from the USB flash drive, which makes sharing samples easy, too.

I have mixed feelings about the addition of sampling. It won't replace a dedicated hardware sampler as you only have 3.3MB of memory space and only eight samples per multisample. It's nice that it ties in with the PPG Wave and Waveterm history, but by today's standards, the sampling features are quite basic. I can't help wondering if the memory space could have been used for extra wavetable slots. My only complaint in my previous review was that there are only 16 empty wavetable locations, which is still true. And now that the 3rd Wave can import Serum-format wavetables, one could easily fill a thousand slots. That said, there will always be something magical about 8-bit samples going through analogue filters, and it's a free update to existing owners.

Conclusion

The 3rd Wave Desktop is a superb example of how to make a desktop

version of a larger synth. Other manufacturers would do well to make notes. There are practically no compromises. You get the same synthesis engine and the same inputs and outputs. There are no mini-jacks, no missing MIDI ports, and no reduction in features or voice count. It's the same synth but in a smaller box.

One small difference you might not immediately see is the blue panel material. The keyboard has a beautiful, expensive paint job directly applied to the metalwork. The desktop

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version uses a powder-coated black metal case with a blue stick-on vinyl. It doesn't look bad at all, but I suspect this helps keep the price of the desktop down. It still feels like a very rugged and well-built unit.

Where physical controls have been reduced, it has been done intelligently and with no negative impact on the editing workflow. The buttons are smaller than the keyboard versions but just as sturdy. There are fewer knobs, but in my opinion, it doesn't have a detrimental effect on the editing process. For example, the keyboard version has three sets of oscillator controls. The desktop version has a single set of knobs with three buttons to select which oscillator you're editing. Given that most of the oscillator controls are encoders, this

works perfectly, and there is minimal chance of values jumping as you move from editing one oscillator to another.

There are other minor differences. The desktop has no WaveSurfer control, a knob used to move through the wavetables. But a dedicated button brings up a screen, and one of the four soft-encoders above the screen does the job nicely. There are no LFO knobs, but again, a button press turns the screen and soft-encoders into LFO editing territory. The front panel is full of clever decisions

like this, and overall, the desktop version edits just as well as the larger keyboard version.

The 3rd Wave is a superb-sounding synthesizer. It does the crunchy digital wavetables of the PPG very accurately but can

also deliver pristine modern sounds. It excels at evolving pads, crystalline polysynths, rugged lo-fi basses, multi-layered arpeggios, otherworldly textures, Detroit chord stabs, and more. There are plenty of original PPG sound recreations, too.

I was more than complimentary in my review of the 3rd Wave keyboard. It was my favourite synth released last year. Everything about it oozes quality: the build, the sound, the hands-on experience. The desktop version is no different and represents a significant cost saving over the keyboard version, which should please many people. Whichever 3rd Wave you go for, you're in for a treat. **///**

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