

**ZOOM**  
Step through five levels of zoom to cater to your screen

**OSCILLATOR**  
Load up a wavetable and hit that Shape knob

**MODIFIERS**  
Apply two waveshaping effects to the oscillator

**SPECTRAL FILTER**  
Apply 'filtering' directly to the partials

**ENGINES**  
Activate and switch between Europa's three engines

**USER WAVE**  
Europa can host one external sample for use as a wavetable

**ENGINE MIXER**  
Balance the levels of the three engines

**MOD MATRIX**  
Eight slots, with two targets and a Scale input per source

**ENVELOPE DISPLAY**  
Design envelopes and step sequences

**EFFECTS**  
Six reorderable effects for polishing up your patches

**UNISON**  
Up to seven unison voices with detune and stereo spread

**HARMONICS**  
Modulate the partials in various mad ways

**ANALOGUE FILTER**  
A regular multimode job with overdrive



# Propellerhead Europa £134



Reason 10's celestial headliner can now be loaded into any DAW as a VST or Audio Units plugin. Let's shoot the moon...

> Unleashed from their Reason 10 DAW (7/10, cm253), Propellerhead's Europa "shapeshifting" synth is now also available in VST/AU formats. This is the first time a Reason instrument has been ported to a plugin, which speaks volumes about the Swedish developers' confidence in its capabilities and sound.

The "shapeshifting" bit alludes to the fact that Europa is a wavetable synth offering numerous ways to mathematically manipulate and modulate the raw oscillator waveforms before they become audio signals. 33 expertly crafted wavetables and a modelled string algorithm are onboard, along with spectral and analogue filtering, unison, copious modulation sources and a rack of effects. Reason users get the VST/AU version free, incidentally.

## European union

Europa generates its base tones by mixing the outputs of three identical 'engines', each one

consisting of a wavetable oscillator, a harmonic processing section, and a Unison module. The oscillators are furnished with a wide range of wavetables, and the wavetable position is governed by the Shape knob, which can be modulated by velocity and any other source directly from its panel (as well as in the modulation matrix, of course).

"Enormous, wildly animated sounds of incredible depth, complexity and character"

A pair of Modifier modules in each engine apply two from a huge array of waveshaping, harmonic generation, distortion, FM and detuning processes to the oscillator output. This is one of Europa's most powerful architectural elements, exponentially expanding the sonic potential of the oscillators – but there's more!

Each oscillator feeds into the Spectral Filter and Harmonics modules, which directly process the partials (harmonics) of the waveform, as visualised in the Spectral Filter display. Eight Harmonics modulation algorithms are available, including Random Gain (randomises the gain of each partial), Odd-Even (balances the gains of odd and even partials), Stretch (compresses and spaces out partials) and Ensemble (randomly modulates partial gains for a chorus-style effect). The Spectral Filter, meanwhile, attenuates and boosts partials to both emulate conventional analogue filtering and algorithmically shape the frequency content in

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more unorthodox fashion, from extreme roll-off slopes and resonators to responses defined by the curve drawn into Envelope 4 or the User Wave (see *Turning the 'tables'*). Key and velocity cutoff modulation are directly applicable, as is one assignable modulation source.

The final engine module is Unison, where up to seven unison voices can be blended in, either adjacent to or at fixed intervals (fourth, fifth or octave) away from the played pitch. The Detune and Spread controls offset the unison pitches and panning, while 'Phase Only' mode has Detune adjusting phase rather than pitch.

## Pushing the envelopes

The three engines are levelled and panned in the mixer, from where each is independently routed (or not) to an analogue modelled resonant filter. This offers nine Ladder, SVF, MFB (multiple feedback) and MS-20-style modes, and overdrive. Again, modulation via key, velocity and an assignable source are on tap.

The filter feeds into an ADSR amp envelope with per-voice panning, but that's only the tip of the modulation iceberg, as Europa incorporates four envelopes and three LFOs, assigned in an upfront modulation matrix. This only has eight slots, but each source can be aimed at two target parameters, with a secondary Scale source modulating their mod amounts.

The LFOs are basic but sufficient, running from 0.05-50Hz unsynced or 1/64-8/1 synced, and featuring a good variety of waveforms, including stepped and random, and a Delay control for postponing the onset. The envelopes, on the other hand, are of the multi-breakpoint, looping, syncable kind that blurs the lines between envelope, LFO and step sequencer – hence, presumably, the comparative simplicity of the actual LFOs. Shapes and sequences are created by moving nodes around or drawing freehand, and a healthy selection of preset curves is in place to get you started. At the end of the signal path, a series of six reorderable



The envelopes can be sustained for holding at a particular point, or looped for LFO-style manoeuvres



Choose from 33 wavetables and a Karplus-Strong modelled string

## Turning the 'tables

Europa's oscillators generate their output signals through the smooth crossfading and interpolation of chains of contiguous waveforms. These chains are called wavetables, and there are 33 of them to choose from, taking in various analogue shapes, including a sine/triangle/square/saw progression, a synced sine and a variable width pulse, as well as a collection of less workaday offerings: FM, five flavours of noise, Formant Sweep, etc. The 13 'Wavetable', er, wavetables, comprise eight harmonically rich waveforms each and cover plenty of sonic ground.

An unusual but thoroughly welcome extra is the Karplus-Strong option,

which breaks from the wavetable norm with the physical modelling of a plucked string.

Beyond those 34 prescribed oscillations, the Envelope 3-4 entry presses said signal generators into service as oscillator waveforms, with the Shape knob mixing between them.

Europa can also hold a single 'User Wave'. This is an external sample, converted to a wavetable and added to the list for all three oscillators (and the Spectral Filter response curve). The sample has to be imported via a browser, though – the live recording function of the Reason version of Europa didn't make the cut, alas.

effects (Delay, Reverb, Distortion, Compressor, Phaser and EQ) provide a synth-appropriate degree of control and sound great.

## Euro' zone

Europa is a magnificent instrument, belting out enormous, wildly animated sounds of incredible depth, complexity and character, but also more than able to serve up phat, solid basslines, workhorse pads or elemental leads when required. The single-window interface and well-calibrated algorithms make the central spectral/harmonic processing angle intuitive and easy to use without being dumbed down, and the versatility of the envelopes is another highlight. The only thing missing, really, is a wavetable editor, but that would just be a nice thing to have – it certainly doesn't feel like a major omission.

Rather brilliantly, there's a fully functional web-based version of Europa on the Propellerhead site, so you can try it for yourself from right within your browser. And try it you must, as Europa is the most powerful and sonically impressive synth Propellerhead have ever built, confidently holding its own against the likes of Serum, Dune 2, Thorn and co. We applaud the decision to let users of all DAWs get in on the action. **cm**

Web [www.propellerheads.se](http://www.propellerheads.se)

## Alternatively

Xfer Records Serum  
**cm213 » 10/10 » \$189**

Relatively complicated to program and use but lets you do much more with its wavetables

Dmitry Sches Thorn  
**cm253 » 9/10 » £122**

Design your own waveforms and wavetables, and apply similar spectral effects and filtering

## Verdict

For Huge, expressive sounds  
Three action-packed engines  
Fully visualised waveforms  
Amazing envelopes and good effects  
User-friendly and approachable

Against No wavetable editing

A triumphant new entrant into the 'super synth' category, Europa is exemplary in terms of both design and sound

9/10