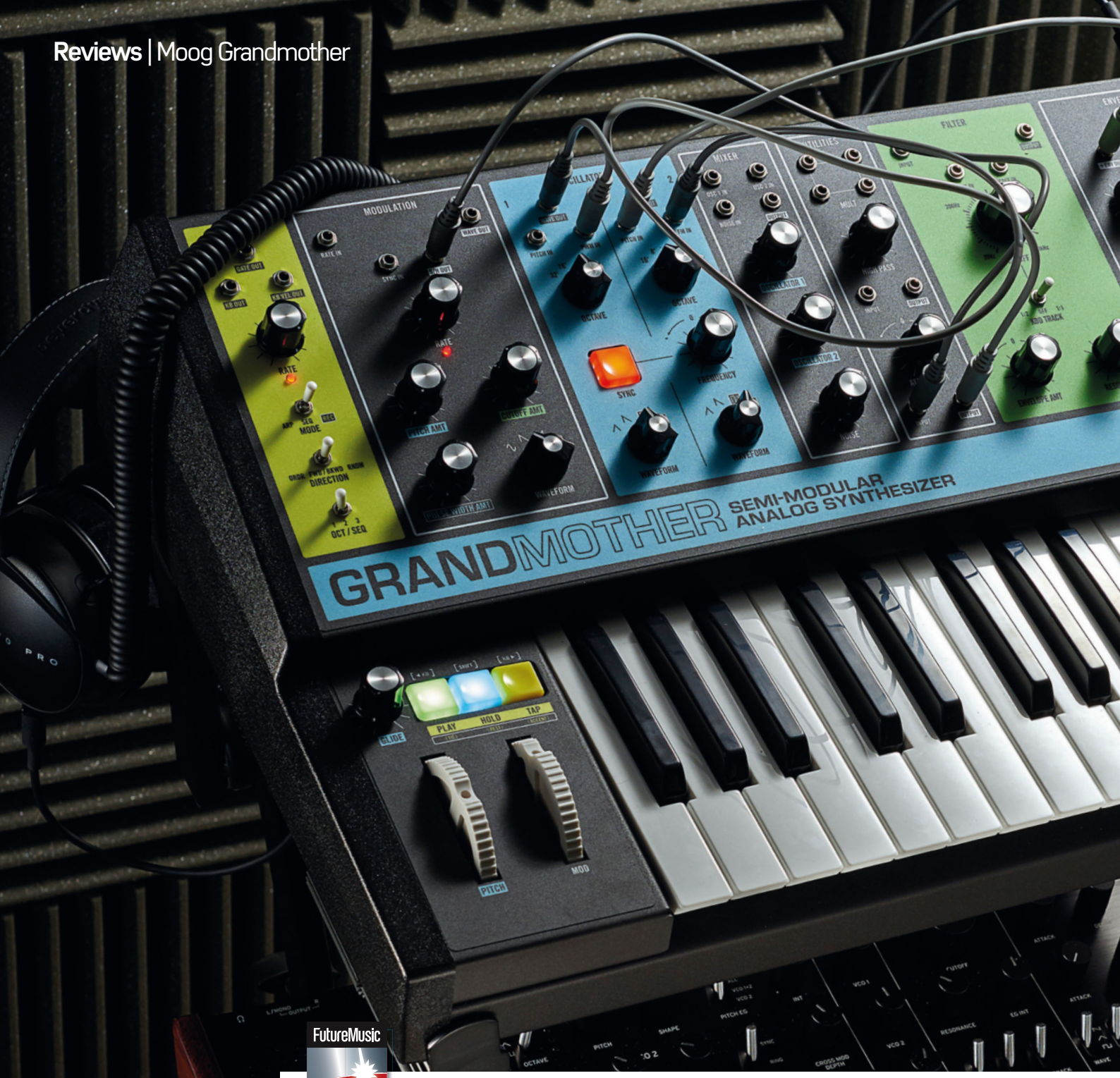
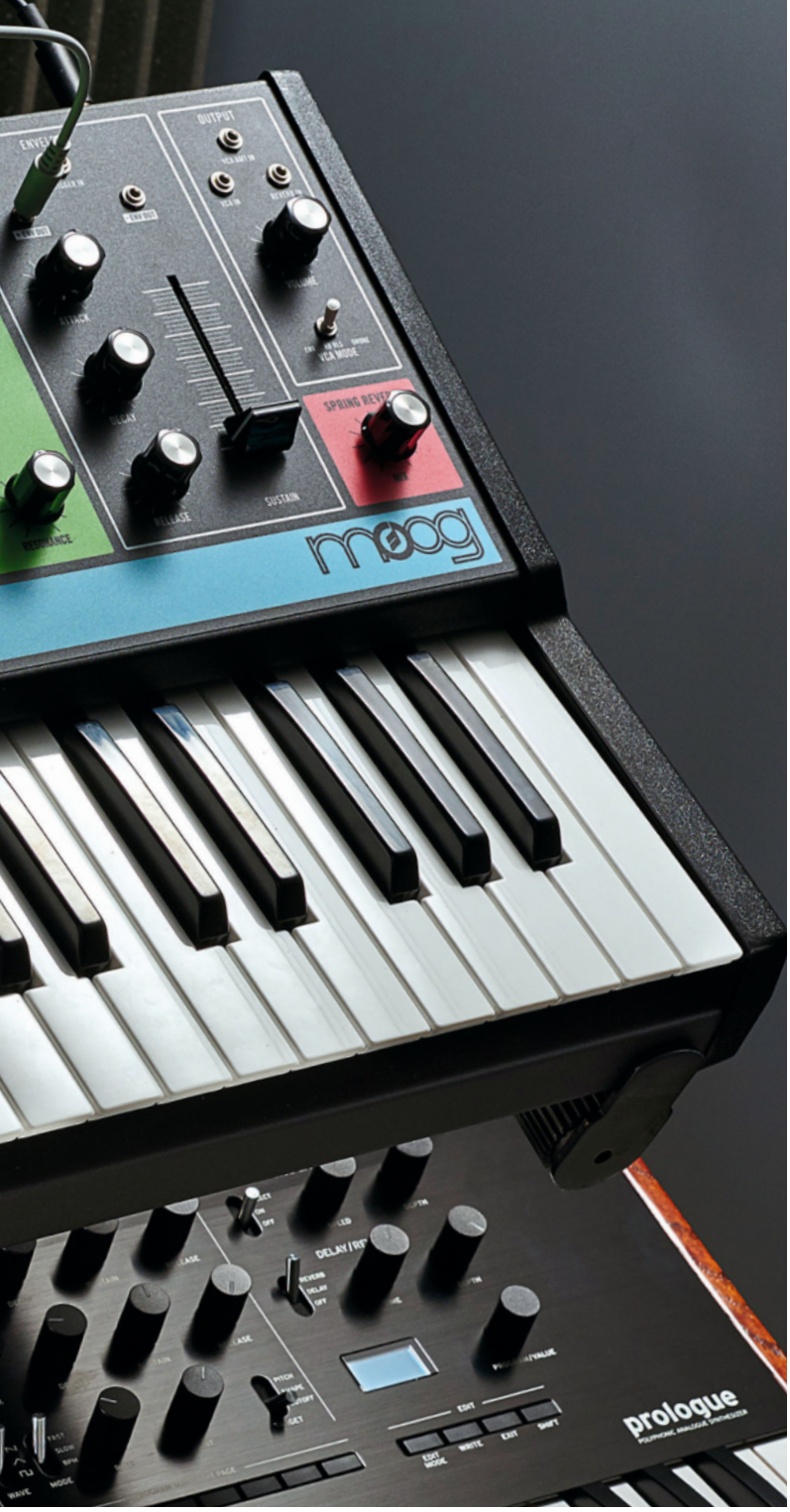


FutureMusic Platinum Award

Moog Grandmother £879

The latest 'mother arrives clad in retro chic – and boasts all of its original Moog teeth too. **Scot Solida** spends some quality time with this thoroughly modern old-timer...

CONTACT **WHO:** Moog Music / Source Distribution **WEB:** www.sourcedistribution.co.uk **KEY FEATURES** Monophonic semi-modular analogue synthesiser with 32-note, velocity-sensitive Fatar keyboard, sequencer and arpeggiator. 41 patch points with 21 inputs, 16 outputs and a Parallel-Wired 4-jack Mult. External audio input. Spring reverb



THE PROS & CONS

+

Combines the simplicity of a monosynth with complexity of a semi-modular

Thoughtful patch points and plenty of interconnectivity

That classic Moog modular sound!

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Has some hidden, not immediately clear functions

Pretty flimsy power connector

It probably doesn't need to be said that Moog are a company that know a thing or two about modular synths. Their latest is Grandmother – a semi-modular equipped with 32-note, velocity-sensitive Fatar keyboard, sequencer, arp and spring reverb. This venerable old dame is bedecked in the finest retro chic. The panel is divided into multi-coloured 'modules' that include Sequencer (yellow), Modulation (black), Oscillators (pale blue), Mixer and Utilities (both black), Filter (green), VCA (black) and Spring Reverb (red). Each offers the controls that you would be expecting, along with a combined total of 35 1/8-inch (3.5mm) jacks that can be used for re-routing the internally-wired signal path.

The colour scheme has been the source of some division in synthesis circles, yet to these eyes it offers both a hint of the machine's retro sound as well as a means by which each section may be quickly identified – good for those just learning the ropes.

Around the back, you can find a 1/4-inch (unbalanced) output jack, a 1/4-inch Instrument input for routing external signals through the filter and reverb, along with a 1/8-inch jack for reverb output and another with the appropriate level for sending audio signals out to any Eurorack modules you might have.

There's an additional quartet of 1/8-inch jacks dedicated to the Grandmother's built-in sequencer/arpeggiator, including clock in and out, reset input, and on/off input. Further connectivity comes in the form of DIN-style MIDI In, Out, and Thru, as well as USB MIDI.

There's a tiny Fine Tune knob with a centre detente for adjusting the master tune of Oscillator 1, a power switch and a jack for the external power supply's barrel plug. This last is one of the few bits that betrays the Grandmother's price point. The cord from the power supply to the barrel plug is slight, and the plug itself doesn't slide all the way into the jack – a bit of the silver shaft remains exposed. It didn't cause any issues though, and has yet to come loose.

That quibble aside, we were pleasantly surprised by the instrument's heft and build. At 7.25kg, it is surprisingly weighty, and the whole thing feels solid. The knobs and pots are of respectable quality, and if the toggle switches are a bit dinky, it's nice that they've been capped.

Classic design

Once Grandmother's oscillators warm up, you'll be met with the familiar Moog sound and – depending on the levels in the Mixer module – a little more besides. Why is that? Because while the oscillators are based on the same tried-and-true circuits used in the Minimoog, the mixer, VCA, filter, envelope generator, and spring reverb have been designed around circuits used in the classic Moog modules of the 1960s.

The Oscillator module is divided between the two main oscillators. Each oscillator can pump out triangle, sawtooth, square, and pulse waves, though any pulse width adjustment must come from a modulation source. Osc 1 offers you a selectable range between 32' and 8', while Osc 2 provides ranges between 16' and 2'. Oscillator 2 also has a knob for independently adjusting its Frequency. Oscillator sync is provided, too. Oscillator Patch points include Wave Out, Pitch In, PWM In (Osc 1), and Linear FM In (Osc 2).

By default, the oscillators (and noise) are routed into the Mixer. This is based on Moog's CP3 module, a circuit that provides a lovely asymmetrical clipping when driven hard. In fact, this mixer is often credited with providing much of the famous 'Moog sound'. The mixer's patch points include Osc 1 In, Osc 2 In, Noise In, and Output.

THE ALTERNATIVES

Moog Mother-32 £520

Moog's other semi-modular has more of a modern character and lacks the playability of the Grandmother. It's compact and more affordable though

moogmusic.com

Korg MS-20 mini £420

The MS-20 reissue is a few years old now, but remains a bargain source of retro semi-modular synth tones

korg.com

Arturia MiniBrute 2 £485

Arturia's semi-modular doesn't have the retro Moog heritage or spring reverb, but it's arguably better equipped overall

arturia.com

It wouldn't be a Moog without the classic 24dB transistor-ladder filter, which here offers controls for Cutoff, Resonance, and (bi-polar) Envelope Amount, along with a three-position switch for setting up two different key-tracking amounts. Jacks are provided for Input, Output, Envelope Amount In, and Cutoff In. You needn't be told that the filter sounds brilliant – you've heard it before. It is, of course, capable of self-oscillation, and can be played in tune from the keyboard.

The lone Envelope generator is a typical four-stage affair, with knobs for Attack, Decay, and Release, and a vertical slider for Sustain. Jacks include Trigger In and both positive and negative outputs.

There's an LFO, hardwired to the mod wheel with Sine, Saw, Ramp, and Square waves. You get a knob that controls the rate, and three more determine the amount of modulation sent to oscillator pitch, filter cutoff, or the pulse width of both oscillators. Modulation patch points include Rate In, Sync In, Wave Out, and Sample & Hold Out. This last one really is a nice touch, as it can be used alongside the selected LFO waveform.

Spring chickens

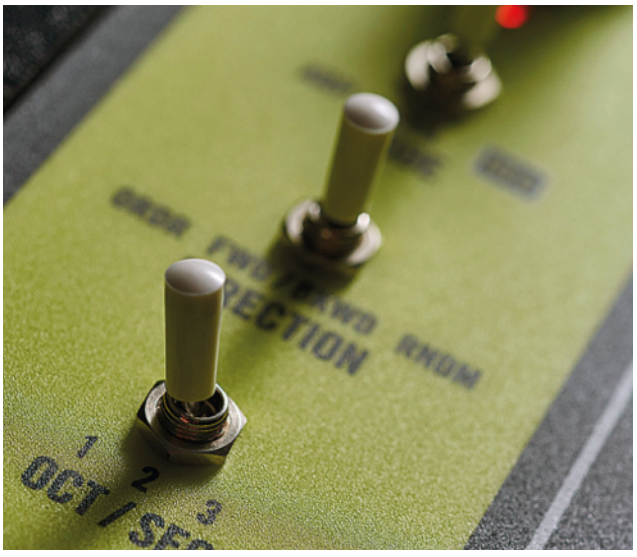
The LFO can be pushed into the audio range and can be played from the keyboard, sequencer/arpeggiator, or over MIDI or via CV inputs. This allows for some huge three-oscillator sounds. The Grandmother's VCA offers jacks for VCA In, VCA Amount In, and Reverb In. A three-position switch allows the VCA to be controlled by the envelope generator or set to drone indefinitely. The third option is Keyboard Release mode. This acts as something of a limited envelope generator, with an instantaneous attack, full sustain and a release time determined by the release time of the main ADSR. This doesn't quite make up for the lack of a second envelope generator, but it helps.

> The Grandmother ticks a lot of boxes. It's an ideal instrument on which to learn the basics of synthesis

ARP & SEQUENCER

The Grandmother's Arp/Seq controls occupy the vertical sliver of yellow along the left-hand side. Here, you can switch between the arpeggiator and a 256-note sequencer. A three-position switch is used to toggle between the arpeggiator and the sequencer record modes. The arpeggiator is standard stuff – switch it on, hold down a fistful of notes, and the Grandmother will dutifully play them back in the order in which they were played. You can also choose forward/backward or random play. You can elect to play only the notes played, or repeat an octave higher or one octave higher and then two octaves higher.

The sequencer mode allows for more complex passages. Up to three sequences may be stored in memory (retained between power cycles). It's strictly a step sequencer – no real time recording – with notes entered from the keyboard itself. Rests, ties, and accents are entered using the three buttons above the pitch and mode wheels. Recorded sequences can be latched and transposed on the fly by pressing any key.

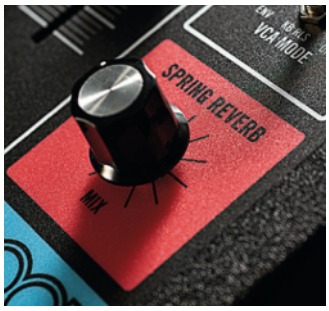


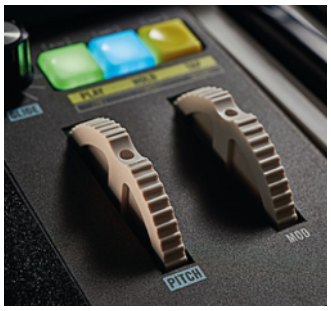
The toggle switch used for selecting the arpeggiator's octave is also used to select which of the three stored sequences is played.

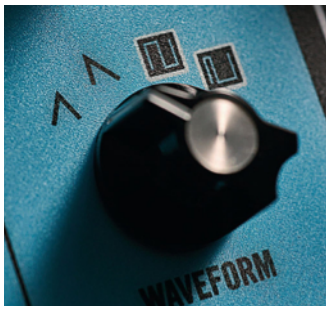
The spring reverb module has caused something of a stir. Once a common feature on synths (VCS3, ARP 2600), spring reverbs fell out of fashion when more convincing digital options came along. Yet there is a certain retro charm in the old spring jobs. The Grandmother's spring reverb is small but effective, adding little noise and loads of atmosphere.

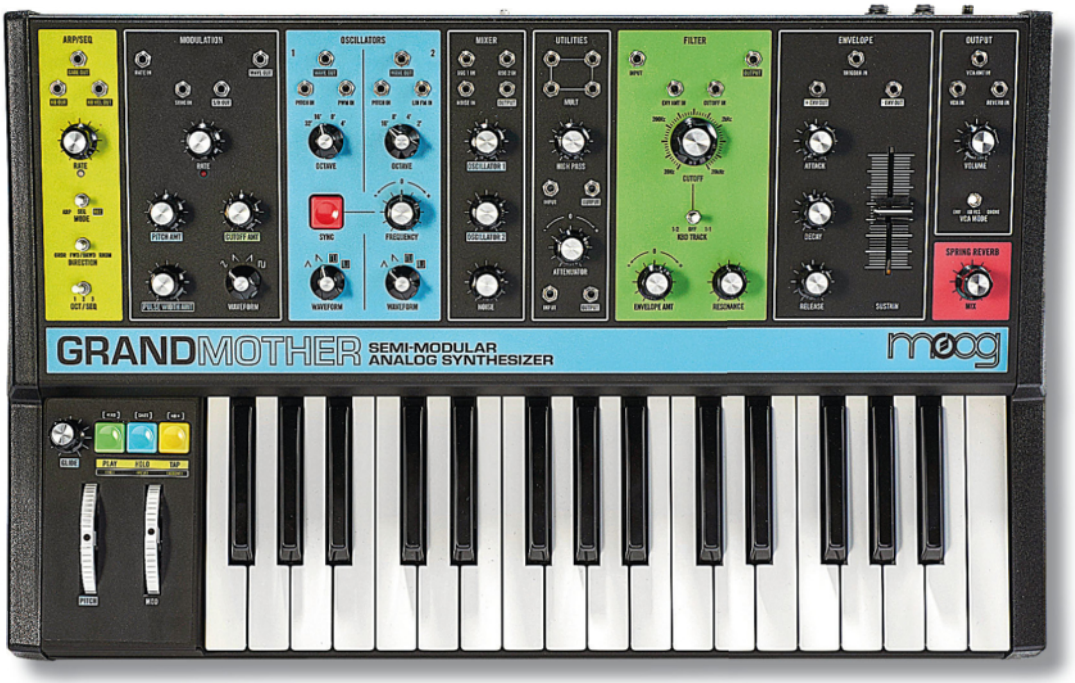
The Utilities module consists of useful things that are not internally patched. A four-point Mult can merge any four signals. There's also a bipolar attenuator with a single input and output. These might seem a bit ho-hum, but even the simplest function adds power and flexibility in a semi-modular environment.

Less utilitarian is the simple (non-resonant) high-pass filter. You get an input and output, but no dedicated patch points for modulation. Nevertheless, it sounds good and can be combined with the LPF for band-pass filtering. Layered patches may be created by routing one oscillator through each filter.









DESIGN: The Grandmother's eye-catching bright colours really suit its retro sound and help identify its individual modules

FILTER: The classic Moog ladder filter sounds as good as you'd expect it to: with lots of character and self-oscillating resonance

LFO: The LFO can be pushed into the audible range to act as an extra oscillator. The sample & hold output is a nice touch too

REVERB: Spring reverb may well have fallen out of fashion in recent times, but it adds a fantastic retro character here

Age-old recipe

Alongside pitch and mod wheels, three colourful backlit buttons crown the left-hand control section. These perform multiple duties, shifting octaves as well as acting as sequencer controls. They're also used when recording sequences. Additionally, they perform quite a lot of less-than-obvious tasks like adjusting MIDI behaviour.

A Glide knob to their left provides the obligatory Emersonian pitch sweep. A legato mode is possible, accessed by pressing the Hold button and turning the knob.

It's worth saying that we did experience some tuning and calibration issues with our Grandmother upon first booting it up, which couldn't be corrected using the Fine Tune knob. Fortunately, after a few quick emails to Moog these were rectified via a 'note calibration' procedure – which isn't covered in the manual – and a SYSEX upload to rectify some internal data. We've not experienced any issues since.

Despite a diminutive stature, this Grandmother is capable of a vast range of sounds even before patching a cable. Reminiscent of early '80s monosynths like the Roland SH-101 and Moog Source, the default signal path provides enough flexibility to whip up thick, thumping basses, snappy kicks, sweeping leads and interesting sound effects. Moog's legendary sonic character is such that the raw waveforms sound good even with very little modulation or manipulation, and this is the case here, too.

Once the patch cables come out, many of the instrument's limitations fall away. Burbling effects, ever-changing drones, and percolating ambiences are easily achieved. The instrument's many sync options allow for syncopated passages using both sequencer and LFO in lock step. The spring reverb is icing on a very tasty cake.

It's worth noting too that the comprehensive I/O effectively extends the instrument's feature set, by allowing use with external modular or semi-modular gear. Looping in an additional envelope generator is simplicity itself. Its sequencer and arpeggiator will happily play with other MIDI and CV-based sequencers, and can even be locked to an audio click.

Not an all-in-one

The Grandmother ticks a lot of boxes. It's an ideal instrument on which to learn the basics of synthesis and beyond, and an excellent gateway into the world of modular and semi-modular synthesisers. For those who just want to play, the high-quality keyboard and chunky panel controls make it an enticing gigging companion.

The Grandmother isn't for everyone. There are no presets or polyphony, it offers a meagre sequencer memory, and a limited physical key range. It's not designed to be the ultimate all-in-one solution – the limitations are intentional and can be viewed as an asset.

Is it worth the asking price? Absolutely, if for no other reason than providing users with a taste of those old Moog modular circuits without having to take out a second mortgage. FM

FM VERDICT

9.0

Not a complete all-rounder, but a fine semi-modular synth with genuine Moog pedigree. Just don't sell your grandmother to get one...