

Korg Volca FM Synthesizer | £129

Korg add an '80s-flavoured synth to the Volca range. *Si Truss* asks if it is more than just a tribute act...

INCLUDES AUDIO

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WHAT IS IT?

A compact, six operator FM synth with built-in sequencer, arpeggiator and chorus

CONTACT

Who: Korg UK

Web: www.korg.com/uk

HIGHLIGHTS

- 1 Spot-on renditions of a host of classic FM sounds
- 2 Wide array of automation possibilities via Motion Sequencing
- 3 Loads SysEx patches from DX7 and other FM synths

You're probably already au fait with the basic principles of Korg's Volca range. Each is a compact, battery-powered

instrument, housed in a plastic chassis with a design that gives a cheeky stylistic nod to some vintage instrument from which – at least to some extent – each Volca takes its sonic cues. Each is equipped with a ribbon-style keyboard-come-sequencer, built-in speaker, MIDI input and 3.5mm sync

in/out. While the sound engines and sonic palettes differ, the whole range shares a handful of unique features (Active Step sequence editing, Motion Sequence automation) along with a few, largely forgivable weaknesses (fiddly controls, limited output options, a speaker that's nothing to write home about). But the Volcas are a lot of fun and tantalisingly affordable – and it's these two factors, more than anything, which have made the range so popular.

Following last year's Volca Sample, this fifth addition brings another synth to the range, but Korg are breaking from the 'affordable analogue' mould of the Bass and Keys in favour of a decidedly digital frequency modulation engine. Frequency modulation – or FM – synthesis involves using one or more simple oscillators (known in this context as operators) to modulate the frequency of the synth's primary oscillator(s), thereby allowing complex timbres to be created from an assortment of relatively simplistic waveforms. It's a synthesis approach most commonly associated with Yamaha's range of hardware synths from the early to mid '80s, most notably the DX7 – an affordable 'board that proved to be hugely popular with players and producers, and which provides the main sonic and stylistic inspiration for this latest Volca. Particularly adept at creating uniquely metallic tones, crisp electric piano sounds and punchy basses, the DX7 and its siblings ended up featuring on records by everyone from Phil Collins



Velocity Slider

The Velocity slider is great for adjusting the presence of many patches. It doubles up as the data input for deeper synth parameter editing.

Arpeggiator

The Volca's built-in arp features nine modes and a variety of different note division options.

Voice Mode Selectors

The Volca FM can work in Poly, Mono or Unison modes, selected via these three keys.

and Depeche Mode to Techno pioneers like Juan Atkins and Derrick May.

The best yet

It's worth stating straight off the bat that the Volca FM is easily the best of the range so far. Where the other Volcas have merely captured the general vibe of the instruments they took their inspiration from – albeit in a very fun and affordable way – the FM manages not only to nail the sound of its spiritual predecessor, but also adds an assortment of new and powerful features. That said, the FM doesn't quite offer a complete DX7 engine in a compact box. While, like the DX7, the Volca FM features a six operator engine with a range of 32 algorithms to control the manner in which these interact, there are a handful of ways in which the two don't quite match up. Certainly the most notable of these differences is the polyphony, as the Volca reduces the DX7's 16 voices down to just three. This is, obviously, quite a major difference between the two and will likely prove a deal breaker for some,

Sequence And Sync

The Volca FM has a 16 slot sequence memory, allowing you to save single bar sequences complete with Motion Sequence and patch info. Sequence chaining allows these to be linked together into a longer arrangement of up to 16 sequences. Like its siblings, the FM features Active Step mode that can be used to change the number of steps in a sequence on the fly. The new Warp Active Step feature will stretch out a shortened sequence to the length of a 16 step one, allowing the creation of interesting rhythms.



As with the whole range, the FM has a MIDI input and 3.5mm jack sync in and out for connection to other Volcas or pulse based devices like Teenage Engineering's POs. The FM has another, less obvious sync trick up its sleeve too. With the Sync Out port connected to the Sync In of another

Volca FM, it's possible to copy across the patch and sequencer data, effectively duplicating the state of one Volca into another device. In the Edit menu, you can select to copy either just the current patch, current sequence, all patches, all sequences, or clone everything at once.

particularly those looking to replicate those classic icy pads and string sounds. If you can live with the reduced voice count though, it's worth sticking with the Volca FM, as it's got some seriously interesting tricks of its own.

Take control

The DX7 was a notoriously difficult instrument to program, partially due to the inherently complex nature of FM synthesis, but also because its interface – consisting of rubber preset buttons and a single parameter change slider – made the process somewhat long-winded. The Volca's interface is a vast improvement on this, adding in direct access to a handful of key parameters, making this a far more 'tweakable' instrument.

Firstly, we get Attack and Decay rotaries for both the Modulator and Carrier signals. These controls alter multiple under-the-hood parameters at once, with the effect of providing easy hands-on envelope shaping, which is great for changing the emphasis of sounds and dialling in the sort of complex 'attack' tones that FM synthesis is particularly adept at creating. These are joined by a pair of LFO rotaries, controlling depth and speed. To the right of these are another pair of controls used for selecting presets and scrolling through the 32 algorithms. As was the case with Yamaha's own recent hardware FM offering, the Reface DX, having surface level access to algorithm changes is a great tool for quickly changing the nature of sounds on the fly.

To the left of the control panel are a pair of sliders. The first of these controls transposition, with a range of +/- three octaves, while the second adjusts note velocity. This, to some extent, makes up for the lack of velocity sensitivity from the Volca's 'keys'. Due to the nature of FM synthesis, however, for many sounds the velocity slider has the effect of acting almost like a low-pass filter cutoff: brightening and adding presence to sounds as the value is raised. This makes it a great complement to the loop-centric nature of the Volca's onboard keyboard/sequencer.

Beyond these surface level controls, the rest of the Volca's sound engine can be tweaked via a combination of Edit button presses, using the Velocity slider to make parameter changes with the simplistic screen providing visual feedback. The Volca ships with a Parameter List card, providing a run down of all the 'hidden' parameters, along with the same EG and Level Scale charts and algorithm list that were printed on the surface of the original DX7.

Alongside the synth engine itself, the Volca FM also adds both an Arpeggiator and Chorus into the mix. The former features nine modes – divided into trios of rise, fall and random – and a note division control with a broad range of timings available. Combined with the FM's Tempo selector, edited by a shift press on the keyboard, it's possible to extend the instrument's usually single bar loops to create arpeggiated patterns of up to four bars in length. The Chorus,

SPECS

Maximum Polyphony: 3 voices

Structure: 6 operators, 32 algorithms

Main Edits: Modulator (Attack, Decay), Carrier (Attack, Decay), LFO (Rate, P.Depth), Algrtm

Available to edit full parameters for each operator in Edit Mode

Controls: Transpose, Velocity, Octave, Arp (Type, Div)

Arpeggiator Types: 9 (each 3 patterns of "Rise", "Fall", and "Random")

Voice Modes: Poly, Mono, Unison

Effects: Chorus

Sequencer: 16 steps, 16 patterns, Motion Sequence, Active Step, Warp Active Step, Pattern Chain, Metronome

Audio Output: 3.5mm stereo mini jack

Sync: Sync In (3.5mm monoaural mini jack, Maximum input level: 20V. Sync Out (3.5mm monoaural mini jack, Output level: 5V) MIDI In

Battery Life: Approximately 10 hours (using alkaline batteries)



ALTERNATIVES



Yamaha Reface DX £300

Yamaha's own recent DX update. Its sound engine is only four operators, but its interface is user-friendly and it features velocity sensitive mini keys.

uk.yamaha.com



Native Instruments FM8 £169

There are plenty of quality FM-capable plug-ins out there, but NI's is probably the best known. It will load DX7 patches and features a ton of powerful sound-shaping tools.

www.native-instruments.com



Yamaha DX7 From £200 (second-hand)

Original DX7's go pretty cheap on the second-hand market since they were so widely available at the time. The digital engine tends to be fairly reliable long term too.

ebay.co.uk

meanwhile, is a one-size fits all affair, with just an On/Off control, but it has a lush '80s quality to it and really complements the sound engine.

World in motion

It's the Motion Sequencing that takes the Volca FM to another level though. While this loop-based parameter

automation facility has proved a great addition to every one of the range so far, it really comes into its own combined with the slightly more esoteric parameters on offer here. All of the 'surface' parameters can be automated, from the Transpose and Velocity to Modulator and Carrier tweaks, and even the Algorithm being used. Arpeggiator

type and speed can be automated too, and sequences can be chained to create long, evolving patterns. In all, it adds up to make this a very interesting, sonically powerful little instrument – capable of creating rich, complex and genuinely unique synth lines.

It's not without its limitations – the lack of polyphony leaves it lagging

behind the original DX7, Yamaha's recent Reface DX, and the various FM plug-ins out there. The limited screen isn't very clear for deeper sound editing too,

The Motion Sequencing really comes into its own combined with the more esoteric parameters here

DX Dump

The Volca FM can load presets from the original DX7 via System Exclusive (SysEx) file format. SysEx is a MIDI message, which can be 'dumped' directly onto the Volca via its MIDI input. The easiest way to do this is to use an application like Snoise's free SysEx Librarian.

As mentioned, the Volca's engine doesn't quite match up to the DX7's, offering just three-voice polyphony, and reducing the DX7's six envelopes down to four. In practice, however, it does a solid job of translating all but the most tonally complex sounds. The classic bass and mallet sounds, in particular, sound bang on. In fact, the Volca's

File	Manufacturer	Model	Size
ANAL.DG1.SYX	Yamaha	1	4.0 KB
ANAL.DG3.SYX	Yamaha	1	4.0 KB
ANAL.DG4.SYX	Yamaha	1	4.0 KB
ANGEL.D.SYX	Yamaha	1	4.0 KB
ATSL.4.SYX	Yamaha	1	4.0 KB
ATSL.5.SYX	Yamaha	1	4.0 KB
B1.SYX	Yamaha	1	4.0 KB
B2.SYX	Yamaha	1	4.0 KB
B3.SYX	Yamaha	1	4.0 KB
B4.SYX	Yamaha	1	4.0 KB
BANK0001.SYX	Yamaha	1	4.0 KB
BANK0006.SYX	Yamaha	1	4.0 KB
BANK0008.SYX	Yamaha	1	4.0 KB
BANK0009.SYX	Yamaha	1	25 bytes
BANK0023.SYX	Yamaha	1	4.0 KB
BANK0024.SYX	Yamaha	1	4.0 KB
BANK0042.SYX	Yamaha	1	4.0 KB
BANK0043.SYX	Yamaha	1	23 bytes
BANK0054.SYX	Various	2	37 bytes
BANK0056.SYX	Yamaha	1	4.0 KB

output is noticeably crisper and cleaner than that of the DX7, which often developed hiss, so in some cases Korg's instrument improves on the sound of the original.

It's great to be able to load in patches via the MIDI input. However, since there's no MIDI out, it's not possible to back up any sounds you create

on the Volca itself via SysEx (although you can reload the factory sound bank, if desired.) The ability to clone sounds to other Volca FM units does suggest it's possible to do so via the sync out connection though. We'd be surprised not to see some kind of librarian app appear in the next few weeks.

so you'll want to keep the Parameter List card handy if you're planning on diving in. Still, the sound of those dark, percussive basses, icy mallets and '80s-style horns is bang on, and only enhanced by the addition of the Chorus and Arp. Even just as a handy source of quality FM sounds for the studio, this is well worth the price, but if you start to push the capabilities of this tweakable, hands-on little synth, you'll find it's capable of some truly unique tricks. **FM**

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BUILD	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
VALUE	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
EASE OF USE	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
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Powerful, creative and genuinely unique. This is easily the best of the Volca range so far.



Screen

Visual feedback is pretty basic, so you'll want the Parameter List to hand editing.