Korg Monotron Duo and Monotron Delay | £99 each

Korg's Monotron range grows in numbers. ***Greg Scarth*** tests the new duo and delay additions

ON THE DVD

WHAT IS IT?

Two new versions of Korg's mini analogue synth

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HIGHLIGHTS

1 Duo adds an extra oscillator for cross-modulation

2 Analogue-style delay circuit in Delay is perfect for FX

3 Duo's ribbon modes ensure pitch-perfect tuning

The music world was taken by surprise in 2010 when Korg announced the release of a new pocket-sized synth. Could this really be Korg – committed digital hardware manufacturers – releasing their first new analogue synth for nearly 30 years? Even more surprisingly, was such a forward-thinking company really basing parts of the circuitry on designs found in their MS-10 and MS-20 synths of the 1970s? The hype turned out to be true and – despite its quirks – we loved the original Monotron, fiddly ribbon controller, noisy output and all.

The Monotron synth engine was included in this year's Monotribe groovebox, suggesting that Korg were gradually working towards something bigger and even more impressive, so it came as another surprise when it was announced that two new models were being added to the Monotron range. Korg obviously aren't quite finished with their analogue heritage just yet.

What's new?

Eagerly pulling the new Monotrons from their packets, we find that both units are based on the same form factor as the original, right down to the position of the five knobs and three-way slider switch on the front panel. Each features the same basic setup – ribbon controller, integrated speaker, headphone output, auxiliary input and compartment on the back for the supplied pair of AAA batteries.

The differences start to become apparent when you check out the controls. The Duo (blue case, regular keys) adds another oscillator and a cross-modulation control to the original Monotron design. Meanwhile, the Delay (black case, reverse keys, funky Sci-Fi paint job) adds an analogue-style delay circuit.

1+1 = Duo?

The Duo concept revolves around a relatively simple twist on the Monotron: inspired by the X-mod feature on Korg's Mono/Poly synth of the early '80s, Korg have added a second oscillator. The Duo's twin VCOs nominally produce square waves, but a quick check with an oscilloscope reveals that the shape is quite a bit more harmonically rich than a pure square, like a square with a bit of sawtooth blended in to add some bite. The real magic comes from the fact that VCO1's frequency can be modulated by the output of VCO2, with the level of modulation determined by the X-MOD INT knob. It's vaguely similar to the effect created by modulating pitch with the LFO on the original Monotron, but the Duo's two VCOs both respond to the keyboard input, rather than the modulation frequency being fixed.

It takes a few minutes to get the hang of the Duo's options. With the slider switch on the VCO1 setting, only VCO1 is sent to the output but VCO2 can still be used to modulate its frequency. The VCO1+2 setting sends both to the output. VCO1's pitch adjustment has a range of around four octaves, while the range of VCO2 is also dependent on the setting of VCO1

– not in the sense that the audio output of VCO1 modulates VCO2, but that higher settings for VCO1 will also increase the pitch range of VCO2.

If all this sounds a little confusing, fear not. The bottom line is that, just like the original, you don't really need to know how the Duo works in order to coax some great sounds out of it. With VCO2 pitch at lower settings, cross-modulation makes the sound get edgy and slightly atonal. Crank VCO2 up and it gets brighter and more cutting. To add to the sonic range, the classic MS filter section from the original Monotron is still present, sculpting the tone from mellow subby basslines to ear-splitting leads. As a pure synthesis tool, the Duo is significantly more versatile than the original Monotron.

Of course, all this comes at a price. The Duo loses the original Monotron's LFO and with it the ability to modulate oscillator pitch or filter cutoff. VCO2 can be tuned down below the audio frequency range for LFO-style pitch modulation, but the wave shape and the fact that it tracks the keyboard make it sound quite different to the original. Likewise, the auxiliary input is still present in order to process any signal through the filter, but given that the Duo has no LFO you might be better off with the original Monotron if this is a priority.

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FX-y beast

The Monotron Delay's name should immediately give away its unique selling point. The main attraction here is that Korg have crammed a small but perfectly formed delay circuit into the Monotron's case, but there are a number of other small changes. The VCO produces the same reverse sawtooth wave as the original Monotron, but the LFO now offers a square wave in addition to the original model's standard triangle. The LFO is used to modulate VCO pitch and can't control filter cutoff.

The four-octave range of the ribbon means that the Delay is practically

Song to the Siren


Cheap and cheerful Dub delays are very possible with the Monotron Delay

Back in the days before sample packs and widely available FX collections, producers had to create their own FX from scratch. Practically any analogue synth could be called into action, but Jamaican Dub Reggae producers went a step further, building their own 'dub sirens' using cheap oscillators and LFOs, then running the sounds through fat spring reverbs and tape delays to create mad blasts of FX. In many ways, the Monotron Duo has all the classic hallmarks of a great dub siren: a basic oscillator, LFO pitch modulation and a gritty analogue-sounding delay capable of producing a spring-like reverb sound at short delay times. Its four-octave ribbon range makes it impractical for melodies but perfect for oscillator sweeps. Even if you don't fancy the idea of running your own carnival sound system, the Delay is an absolute monster for FX, sweeps, bleeps and crazy never-ending echoes.

SPECS

Monotron Duo

Synthesizer structure: 2 square wave VCOs with cross-modulation, 1 VCF.

Output: VCO1 or VCO1+2.

Four ribbon modes: chromatic, major, minor and continuous.

Controls: VCO1 Pitch, X-MOD Intensity, VCO2 Pitch, VCF Cutoff, VCF Peak.

Built-in speaker and 1/8" stereo headphone output. 1/8" stereo auxiliary input

Dimensions:
120 x 72 x 28 mm

Weight:
95g (without batteries)

Monotron Delay

Synthesizer structure: 1 VCO (reverse sawtooth wave), 1 VCF, 1 LFO (triangle or square waves), analogue style (digital) delay circuit

Output: VCO1 or VCO1+2

Four ribbon modes: chromatic, major, minor and continuous

Controls: LFO rate, LFO intensity, VCF cutoff, delay time, delay feedback

Built-in speaker and 1/8" stereo headphone output. 1/8" stereo auxiliary input

Dimensions:
120 x 72 x 28 mm

Weight:
95g (without batteries)

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ALTERNATIVES

Korg Monotron

£42

The main rival to these Monotrons is… another Monotron! The original unit's different feature set makes it more suited to some uses. We don't blame you if you're tempted to buy them all.

www.korg.co.uk/monotron

Gakken SX-150

£47

The cute little SX-150 is still the closest thing on the market to the Monotron. We're big fans but the self-assembly concept might put some people off.

www.juno.co.uk

Dub Mekanix Dub Siren

£100

If you really want the true dub siren experience, you need a hand-made special. Dub Mekanix will build you a truly authentic analogue monster and they'll even work it into an enclosure of your choice.

www.dubmekanix.co.uk

Duo Tuning

When we reviewed Korg's Monotribe back in *FM240* we loved the introduction of the new ribbon modes – narrow, wide and chromatic – which affected the response of the Monotron-derived synth engine's tiny keyboard. In chromatic mode, the Monotribe quantises your finger's position on the ribbon to the nearest note, making it much easier to play in tune with other instruments. The Monotron Duo expands on the idea with Major and Minor modes, each of which limits the keyboard to a basic scale. A small red button on the back panel toggles between four modes: continuous, Minor, Major and Chromatic. Hooking the Duo up to a tuner with Chromatic mode activated, its oscillators track accurately across the full keyboard range with only a couple of cents deviation from perfect tuning.

Korg tell us that an auto-tuning circuit is used to keep keyboard tracking stable at any temperature. Even taking into account the fact that the full keyboard range is only just over an octave, it means the device can be used to play melodies and riffs much more easily than the fiddly original Monotron. You'll still have to tune the Duo to your other gear by holding down a note and adjusting VCO1 until you hit the right pitch, but it's a small price to pay for near-perfect intonation. Of course, continuous ribbon mode is still available for FX sweeps and legato styles.

impossible to play melodies on with any degree of tuning accuracy. This version of the Monotron seems to be designed specifically for FX, with the analogue-style delay circuit playing a major role in sculpting the sound. Delay time is adjustable from a few milliseconds to around one second. The feedback control can effectively bypass the delay at its lowest setting, but turning it up moves gradually from tight slap-back echoes to dub-style spacey, never-ending repeats. With the delay time at its shortest setting and feedback around half way, the unit can even produce a twangy sound similar to a spring reverb. For such a simple unit, there's a surprising range to the effects which can be created and the results are excellent.

A quick look inside reveals that the delay is based around Princeton Technology Corporation's cheap PT2399 echo processor chip. In true Monotron style it's not particularly quiet, with high feedback settings resulting in a rising swell of white noise along with the signal, but for a special effect tool it's not really a problem. Plenty of old analogue delay units are noisy but it didn't do them any harm. If you're looking for clean delays, the Monotron's not for you, but you'd be missing the point. This is meant to be dirty and nasty. The auxiliary input will even allow you to add a bit of filth to external signals.

Surprisingly, the one weakness of the Delay is its filter section. The feedback control feeds the delayed signal back into the filter for extra tone shaping before it hits the delay circuit again, but the only adjustment comes in the form of a cutoff control. Given that the MS-20-based low-pass filter was the main selling point of the original Monotron, it's very surprising to find that the version included on the Delay omits the 'peak' (resonance) control. The MS filter really comes alive as the resonance gets cranked up, turning from a mild-mannered tone shaping control to a self-oscillating monster at higher levels.

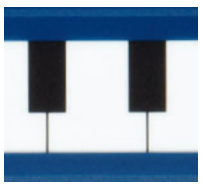
The only logical reason I can see for its absence is that the Monotron front panel and PCB are designed for a single slider switch and five rotary pots.

The Good and Great

Here's what we like and love about the new Monotrons

> The original Monotron was an all-rounder. The new models are specialists. The Duo is the ideal choice for pitch-perfect notes, but the Delay is awesome for FX.

> Modders will be pleased to hear that Korg have once again labelled the circuit board to make modding easier. We'd love adjustable resonance on the Delay and to modulate filter cutoff with VCO2 on the Duo.



> The most fun comes when you hook the Monotrons up to each other via the headphone outs and auxiliary inputs. Our favourite combination is the Monotron Duo playing riffs into the original Monotron for LFO-modulated filter effects, then into the Monotron Delay for a few spacey echoes. Incredible sounds for such a small setup.

Adding resonance to the Delay's filter would therefore mean ditching one of the other controls or retooling to produce an entirely new case and PCB design. It's a real shame it's not adjustable as standard, but I have no doubt that the modding and circuit bending communities will come up with a solution before too long.

> I'm absolutely certain that Monotron owners will add one or even both of the new models to their collection

Tron legacy

I'm absolutely certain that Monotron owners will decide to add one or even both of the new models to their collection. Each one offers a great new take on the basic Monotron concept, which is sure to attract plenty of new buyers too. The Delay is the more immediate of the two units, but gets marked down slightly on versatility since it's really a dedicated FX box.

The Duo's adoption of the Monotribe's chromatic ribbon modes make it a much more appropriate option for pitch-perfect melodies. At an RRP of £99, we're expecting a street price somewhere around the £70 mark, making the new models pretty good value. The classic Monotron is still on sale too (now at a bargain price of £42) so if you'd prefer switchable VCO waveforms and an LFO to modulate the filter go for that.

My only real complaint is with the way Korg are drip-feeding us new features with successive Monotron and Monotribe releases. The company now has four different analogue devices on the market, each with slightly different feature sets. We know Korg can make stable analogue oscillators, awesome MS-style filters, step sequencers and analogue drum circuits, so doesn't it make sense to bring all those ideas together in the same unit? Modders will relish the idea of hacking Monotrons and Monotribes together to create insane custom synths, but the rest of us are desperate for Korg to cram all that technology into one box and release the brand new analogue synth we suspect they're hinting at. So, Korg, what's it going to be next? Polytron? Drumatron? Or Monotron Pro? We can't wait. FM

FutureMusic VERDICT: DUO

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

An extra oscillator and new ribbon modes make the Duo the best choice for melodies.

FutureMusic VERDICT: DELAY

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

An FX monster with a great delay section. A shame about the filter's fixed resonance.

Ribbon Range

The Delay's ribbon controller has a range of around four octaves, making it almost impossible to play melodies. This one's designed for FX