Siel DK80
Dynamic Bitimbric Polysynth

Aimed fairly and squarely at the Poly 800s and Bit Ones of this world, the DK80 has a comprehensive paper specification that promises a great deal. Does its sound live up to that promise? *Trish McGrath*

Probably the biggest deliberation a synth manufacturer has to make over the character of a new product is exactly which features are financially feasible to incorporate, and which can safely be disregarded as unnecessary luxuries. Siel must have gone through much that sort of process when they drew up the spec for the new DK80, but at first glance, you'd be forgiven for thinking they'd decided to leave out nothing at all.

Let's face it, a bitimbric, 12-voice programmable synth with a dynamic keyboard, decent MIDI spec and onboard two-track sequencer sounds suspiciously like incredible value for money when it only costs £699. And with an Expander 80 due any day now at only £399, it really makes you wonder what the catch is. Where have Siel cut the corners? OK, you'll be happy to learn that the Italians haven't programmed the DK80 with a never-to-be-wiped-out sequenced rendition of 'O Sole Mio', thus saving all concerned a bit of money and a lot of aural torture. No problems there — anything more serious? Well, actually, there are a few compromises that start to spring to light as you spend more and more time with the new poly, but we'll come to them in good time.

Layout

One area Siel haven't compromised is the keyboard, which is of standard size (for people with normal-sized hands), and a full five octaves (C to C) of grey and white keys. (Yes, I know they're usually black and white, but when in doubt, ask your Art Editor: he said they were black, so we knew they *had* to be grey.) And although it betrays its plastic origins a little more than most in the under-a-grand price range, it's nonetheless quite pleasant to use.

Siel have also smartened their housestyle and livery from the Opera 6 and DK600 days, the DK80 coming encased in a modern dark grey plastic mould, with pale grey pushbuttons and parameter backgrounds lightly adorned with touches of yellow, red and green (*sounds lovely — Ed*). It doesn't weigh too much either, so those of you with back trouble should save on doctor's fees.

Sections, from left to right, are aptly named Modulations, Programming Unit, Edit, Sequencer, Masters and Cartridge, followed by the now familiar-looking Edit Map of parameter options attached to the resident DCOs, VCFs, and VCAs. An accompanying multi-function pedal unit (PD80) is an optional extra, while the external power supply unit is capable of supplying juice to two 80-series products, so you could also power an Expander 80 from the one grey box.

The back panel recess harbours the Power on/off switch, the (you'll never guess) MIDI In, Out and Thru connectors, and quarter-inch jack sockets for Sequencer Clock, Pedal, stereo headphones, and Mono/A and B audio outputs.

Siel have geared the 80 to accept both ROM and RAM packs *via* its cartridge slot, and the addition of these brings a total of up to 150 programs on line. The synth is equipped with 40 preset sounds (00 to 39) and a further 10 user patches may be stored on board. Frankly, it would have been infinitely preferable if Siel had given their new baby more in the way of internal RAM and allowed all 50 internal voices to be edited and over-written at will. As it is, you're stuck with 40 sounds which, one or two goodies apart, are really nothing special.

A optional ROM pack, meanwhile, brings another 100 factory preset sounds on-line in two banks, while a RAM pack gives you the chip power to save 50 of your own sounds: all cartridge sounds — whether from ROM or RAM — are accessed by program numbers 50-99 on the synth.

Programming

The Programming section on the DK's top panel provides the 'window' (actually, a two-digit LED) to the program, parameter or value being called up or edited, and the DK80 follows the Siel tradition of

the Enter button, whereby any program or parameter values have to be 'entered' before being processed.

It seems that, due largely to reasons of economy, it's no longer possible to edit synth sounds simply by selecting a patch number and twiddling a few knobs. As a thoroughly modern synth, the DK80 requires you to press Program, select two digits, press Enter, select Voice A or B, press Parameter, select two digits, press Enter, and then use the Up and Down cursor buttons to change the value. All a bit tedious, I reckon, especially when you consider that it takes all of 13 seconds to change the Cutoff frequency value from 00 to 99. This is Siel's first stab at giving a self-contained polysynth digital parameter access, and they've got nothing better out of the system than anyone else. Why doesn't everybody give it up as a bad job? Because it's cheap, I guess.

Features

Let's get down to brass tacks. The DK80 is a 'bitimbric' synth, which means you can layer two sounds simultaneously over the whole keyboard or, using the Split parameter, assign Voices A and B to opposite ends of the keyboard: they can even overlap in the centre. The 12 DCOs are split six apiece between Voices A and B, so with a split keyboard the synth is 12-note polyphonic. Siel have assigned each note of the keyboard, from left to right, a number from 00 to 61. Voice A can be introduced from the left side up (ie. 00 is off, 61 is full on), while Voice B creeps into the picture from the top of the keyboard down (ie. 61 is off, 00 is full on). So overlapping is easily accomplished, and you can set your split points anywhere you want: a good, flexible system.

Programming or editing sounds entails first of all selecting either Voice A or B to work with. Siel haven't provided an instant method of switching either voice out of harm's way while the other is being edited, and this is a shame, since it's often difficult to distinguish which Voice is making which racket – especially in Overlap mode. The quickest way to do things with the situation as it stands is to select the Voice you think you don't want to hear, select the Volume parameter, and zero the value down. Shame.
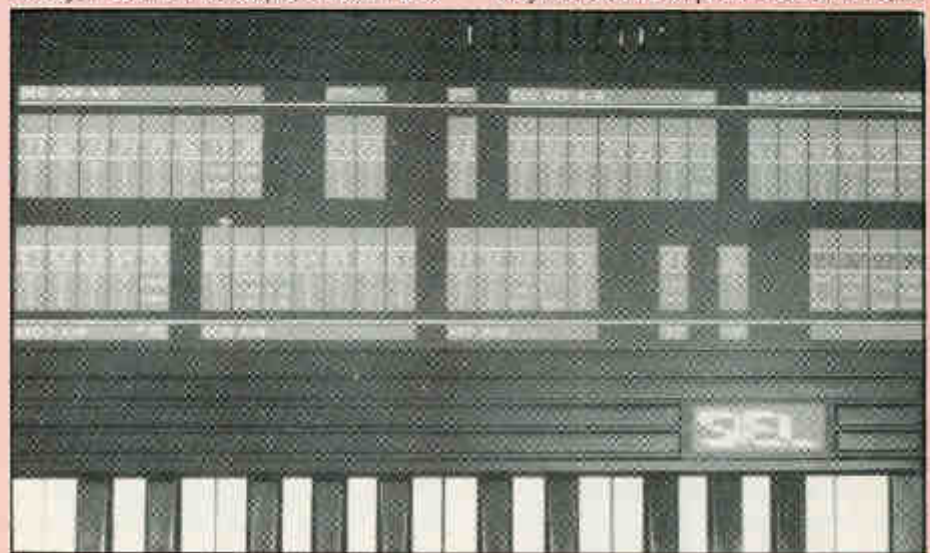
The actual layout of parameters bears an uncanny resemblance to another well-known manufacturer's style, though Siel have managed to arrange the various sections in a different, and somewhat illogical, order. With a couple of exceptions, the parameter sections available to Voices A and B are identical, and comprise DCO, VCF, DEG VCA, DEG VCF, LFO1, LFO2, Chorus and Volume.

The DCO A-B section lets you set the Split and select the waveform (either Sawtooth, Square, or Off). If you go for sawtooth, the next parameter along lets you set it to either 4', 8' or 16' while square wave selectors have the next four parameters with which to set the volume of the square wave at each footage of 16', 8', 4' and 2' respectively. It seems pulse width modulation has gone out of fashion, more's the pity.

Voice B has all this plus a Detune facility for detuning the pitch from that of Voice A in semitone intervals (up to 11 semitones) or finely (up to a quarter-tone, for more subtle detuning effects). Noise of the pink variety can also be added to Voice B, and a touch of this can do wonders for creating 'breathy' acoustic-type sounds. With this species of sound, selecting Single Trigger (more on this later) and playing legato allows you to trigger the noise element only when it's needed – at the beginning of a phrase, say.

Both the VCA and VCF Digital Envelope Generator sections are, not surprisingly, similar in concept, with Attack, Decay, Break Point, Slope, Sustain, and

Release phases, all variable between values of 00 to 15. Nice to see Siel adopting Break Point (the level at which the Decay halts) and Slope (the rate at which the contour moves from Break Point to the Sustain level), because both make useful extensions to amount of control you have over the way the sound changes through time.

Dynamics can be switched on or off for both sets of DEGs, while the filter's dynamic content is dependent on the DEG Level parameter (ie. the effect the envelope has on the filter in the first place). So if you've set the DEG Level to zero, the envelope will have no effect on the filter, and dynamic control will be a somewhat redundant facility.

Siel are also marketing an optional double footpedal, one pedal of which acts as a damper (or sustain) device that allows the envelope cycle to continue to the Sustain phase even when the keys have been released. The second pedal is multi-functional, and can be set to step through programs, start and stop the sequencer (both in record and playback modes), or interrupt MIDI transmission (see later).

Filtering Noises

The VCF consists of Cutoff (for adjusting the cutoff frequency of the 24dB per octave low-pass filter), Resonance, Keyboard Tracking (either off, half, or full), Trigger and DEG Level.

Since the DK80 possesses only two

filters, one for each of Voices A and B, Trigger lets you choose between single and multiple triggering, a facility similar to Korg's way round the single filter on the Poly 800. Complete newcomers to these terms would do well to glance through this month's episode of Back to Basics for an easy-to-understand explanation. In the case of the DK80, Single mode means the filter's EG will trigger on the first note played, and all subsequent notes will follow the envelope of that first note. In other words, the second and subsequent notes played won't have the benefit of the DEG's full effect on the filter, and if the VCF's Sustain level is set low, they hardly even sound at all (this is very noticeable on presets 02 and 12, for instance).

One element the Poly 800's designers didn't try to contend with was dynamics, but Siel have (laudably) given the DK80 the power to vary the amplitude of a note depending on the velocity (or speed) at which the key is struck. That's all very well in theory, but in Single Triggering mode, the filter's dynamics feature can only affect the first note played – though since each note has its own VCA envelope, the VCA's dynamics operate unhindered. But you'd be amazed at how dull subsequent notes can sound once you've heard the first with dynamic timbre in all its glory...

Fortunately, you do have the option of selecting Multiple Triggering, in which case the VCF's DEG will fire every time a new note is struck.

The side-effects of both these triggering options vary from the negligible to the unbearable, depending on the construction of the sound you're using. So although it's nice to get the option of single triggering on a polysynth, the provision of only one filter per voice does reduce the feature's appeal.

Modulation

Well, the DK80 has no fewer than four LFOs, so no compromises here. The triangle LFO1, destined for the DCO section, consists of Frequency, Final Level, Initial Level, Delay Time, and Delay Mode (either Auto or Manual) parameters. For those used to simple speed

and depth variables, Initial Level is the depth of modulation obtained as soon as the key is struck; while Delay Time is the time it takes to proceed to the Final Level or depth. So, this system gives you the power to introduce vibrato and have it disappear after a prearranged delay time, or start off with none and introduce it after a delay, or even change its intensity between levels. That's certainly a pretty comprehensive range of modulation options for a synth in this price range and, indeed, LFO2 (modulating the VCF) goes one step further by offering a choice of either square or triangle waveforms.

And bear in mind that the LFOs belonging to Voices A and B are completely independent of each other, which means that, if you have the perseverance to undertake the required level of programming, you can have two layered sounds with different modulation effects on each of their oscillator and filter sections.

I must admit to being a bit dubious at first about the placement (at the top left-hand side of the front panel) of the Bend wheel and Depth button, but if you manoeuvre the wheel with your middle finger and press Depth with your index, the set-up works surprisingly well. The Bend wheel allows pitch-bend up or down of about a tone or so (not variable, unfortunately), while the Depth control introduces modulation when the LFO is in Auto mode. However, it's worth noting that Depth introduces only the LFO's Final Level – so if the Initial Level is set 'or vibrato effects and the Final Level's value is zero, pressing Depth actually suppresses the modulation effect. Just thought I'd mention it.

Masters & Mixing

Nobody will die of shock when I mention the fact that the DK80 has both Master Volume and Tune controls, though I found the 80 to be a 'quiet' keyboard, meaning the review amp needed a good crank up to give the synth any balls, even with the Siel's Master Volume at full.

One-finger-chords can be composed easily by selecting Hold, keying a few notes, and pressing the Chord button; and the data isn't wiped out when Chord mode is exited, either. If you select just one note, the keyboard becomes, in effect, monophonic.

The really odd thing about the Hold facility is that it doesn't allow you to select a chord that can't be executed by your own hands. This isn't the usual way of doing things. Hold mode on the Korg Polysix (for instance) lets you pick 'n' choose six notes over the whole keyboard range for its Chord Memory, so you can build up a chord over a wide span and take as long as you like over doing so. But the DK80, even in its so-called 'Hold' mode, starts from scratch again every time you key a note if no others are held down. So if you can't execute the chord with two hands, it can't be memorised as a chord. A bit daft, if you ask me.

On a more positive note, Chorus can be either on or off for each Voice (and is

very effective); Volume lets you mix the relative level of each voice; and Program Write can be enabled to allow edited or user programs to be stored in a suitable location.

As mentioned earlier, the DK80 comes complete with 40 resident sounds and 10 programmable patches. So what does it actually *sound* like? Well, I'd be surprised if many punters find all the presets instantly likeable: I know I didn't. Overall, the brass and string sounds come across best, with an assortment of fat analogue synth sounds and more delicate piano programs a close second.

Sequencer

And so to the DK80's built-in two-track real-time sequencer... A modest affair this, and very easy to get to grips with. Recording entails pressing Record 1 and 2 (to clear any memory, and you'll want to clear the demo piece, believe me), switching Metronome on or off, using the cursors to arrive at a suitable tempo, and pressing Start. Since recording commences from this point and loops continuously from whenever you press Stop, the footpedal comes in handy for precise control. The second sequence is recorded in a similar manner, and by selecting Play 1, you can use the first track as a guide.

The good news is that program changes can be recorded, and if you want a simple chordal backing track, you simply record a monophonic sequence and use the Chord facility on playback. You're also

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free to play over the sequences if you haven't engaged all 12 DCOs in the process. And no indistinct metronome to play along to either – this one is *loud*.

Sequencer Clock offers three options for trigger playback: MIDI, External, and Internal. MIDI refers to the clock received from a MIDI drum machine or sequencer; External opens the gates to a gate pulse received via the Seq Clock input; while Internal is self-explanatory (and quantised to 24 clock beats per quarter note).

But have no illusions. This is no QX1. Drawbacks comprise continuous and compulsory looping on short sequences in which both tracks loop independently of each other, though if you run out of memory (about 300 notes), playback occurs without looping. There's also no capability for recording pitch-bend or depth info, though in fairness, you shouldn't really expect much more at this price level.

In simple Receive and Transmit operation, the DK80 can be set to Omni On (Poly) mode, or any specific MIDI channel from 01 to 15. Why only 15? Well, if you select a channel between 01 and 10 inclusive, Voices A and B communicate on separate channels. So for instance, selecting channel 01 sends A down channel 00 and B down channel 01 (or 01 and 02 respectively if you count from 01 to 16). Thus, with a couple of Expander modules set to receive different channels, you can obtain some really beefy sounds and use the DK's Keyboard Split mode to even greater effect. Meanwhile, if any of Channels 11 through to 15 are selected, the assigned channel is the same for both sections.

The sequencer adopts a similar principle of channel assignment, with Sequence 1 taking on the role of Voice A, and Sequence 2 that of Voice B. However, sequence data can only be sent to an external keyboard or be played internally – but not both at the same time. Mind you, any notes keyed on the Siel will still transmit over MIDI even in Seq External mode, assuming the Expander can take it. Best be careful when interrupting playback to another MIDI synth, though, as it's all too easy to chop the Note Off command and end up being lumbered with the notorious MIDI drone.

On the plus side, you can actually record the sequences using an external MIDI keyboard and play back using either the INT or EXT option. Other bonuses are that the Damper pedal used on the DK transmits *via* MIDI, though the Hold and Chord facility doesn't. Which is something even Siel's MK900 (primarily a 'domestic' instrument) *will* do, come to think of it...

Program Changes are well catered for too, and can be purely Internal, governed by the External keyboard, or be operated both ways.

Conclusions

Priced at such a wonderfully realistic level and packed with so many worthwhile features, it's hard to argue against the DK80. Why, it even looks stylish.

Headaches? Well, if there's a DK90 in Siel's R&D lab right now, I hope they add some way of merging voices from different patches. That way, a favourite bass sound, for example, could be quickly teamed up with a potentially complementary strings or brass sound from another patch. And how about a Unison feature for soloing?

But looking back, quibbles are few and unlikely to be of paramount importance. What *is* important is the quality of sounds produced by the DK80. It's in this ballgame that I used to feel Siel were in the Second Division. The DK80 could just be the synth that takes them one better...