Kurzweil 1000/1200-series

Workstations (Retro)

Reviews : Keyboard workstation

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Kurzweil have always enjoyed a reputation for manufacturing high-quality workstations -- their latest, the K2600, is reviewed this month. But back in the late '80s, this reputation was founded only on their impossibly expensive K250. **David Etheridge** explains how the 1000-series put them on the map...

In the late '80s, if you wanted access to the fantastic sounds of the Kurzweil K250 (£12,000) you either had to dream on or have a very gullible bank manager. I wanted one as soon as I saw one on BBC2's *Micro Live* series in the middle of the decade, round about the time Philip Meehan, who wrote the Retro on the K250 in February 1999's *SOS,* began lusting after one. Philip, however, got lucky and managed to source one years later; the nearest I got was buying the considerably cheaper 1000PX module when it arrived in the UK in 1988.

The 1000-series broke new ground in many respects, being the first of the ROM-based sample players that have since become familiar (indeed, Emu's current Proteuses follow the principle exactly). The range comprised four -- later, five -- 2U modules (the 1000PX, SX, HX and GX -- see the 'Which Kurzweil?' box for more information on these, the rest of the range and the difference between them). All were full of high-quality sounds, multisampled, looped, split, detuned, and raring to go, without any of the usually mucking about that you had to do with a sampler and disks. No operating systems, loop points or available memory to worry about: just switch on, dial up a sound and play. Each module was not just a sample player but a full-blown digital synth, 16-part multitimbral and 20-note polyphonic. In fact, the PX was 24-note polyphonic -- double what the K250 offered.

I loved mine. It was also satisfyingly naughty, when friends brought over their latest pride and joy and said 'have you heard the sounds on my M1/D50/Proteus?', to be able to say 'very good, have you heard the PX?' and watch their faces drop! The sounds were peerless at the time and even now knock most of the opposition into a cocked hat. You might expect this, as they are based on those in the K250.

The 1000-series uses Kurzweil's high-quality K250 samples (which they call 'soundfiles') for its basic building blocks (see the 'Sounds' box for more details). You can layer up to four soundfiles in a program (albeit with a corresponding reduction in polyphony), set volume, MIDI range, split points, detune, pan, polyphonic limit. You can even create your own envelopes and loop points on sounds (backwards pianos, for instance, are a doddle). If the idea of losing polyphony worries you, you can 'chain link' up to 12 K1000 modules together via MIDI for a blistering 288-voice PX megasynth! Wendy Carlos, for instance, uses four PXs in her rack. One aspect of the K1000 that might initially seem strange is that there are no filters; soundfiles come in various versions, so you'll not just be offered strings, piano, and guitar, but bright, mellow, Vbright and Vmellow versions of the relevant sound. At the time, some people bemoaned the lack of separate outputs, as each module sports only a stereo out -- more on this in a moment.

Effective

The 1000-series boast two types of onboard effects: compiled and modular. Compiled effects comprise familiar fare: Vibrato, Tremolo, Chorus, Phaser and Leslie, with variations of each. Some compiled effects use 'hidden' layers; some of the chorus effects, for example, are created by actually layering multiple versions of your soundfile on top of each other and detuning them. This does mean that with, say, Chorus 3 activated, only one soundfile or layer can be used, as the other three layers will be taken up with the variations of the soundfile required to create the effect (I thought that my PX module had gone phut until I realised this).

So far, so normal. But then we come to the truly far-out Modular effects section. Here we have two LFOs, two envelopes (ASR), two Inverters (which turn the waveform upside down) and two Negators (which turn them back to front), and pitch and amplitude control. And all of those are *per layer*. Then add to that two Global LFOs and ASRs which can be applied to the entire program. In short, there's a lot of synthesis capability lurking in a 1000 module!

Editing Software For The 1000/1200 Series

Kurzweil produced their own *Objectmover* program for both the Mac and the Atari ST. This is a very simple editor/librarian program, which can also recreate the front panel of a module on screen. Bundled with *Objectmover* were some free banks of RAM sounds for the PX, SX and HX modules, to get you started.

In conjunction with the release of the 1200 series, a company called Softworld produced *K-edit*, a graphical editor for all 1000/1200-series units (and with four K1200 RAM banks). This is an excellent program, although sadly it has 'improved copy protection' (sic) which means you can't make a working backup copy, and inevitably Softworld no longer exist!

Expansion

Kurzweil were probably the first major manufacturer to offer an upgrade policy, not just the usual 'rev 1.2' (usually a synonym for all those bits that should have worked properly but never did), but a wholesale revamping of the range. More MIDI control sources, more RAM locations, even non-volatile memories for the assigned/deassigned MIDI channels when the unit was switched off (this may sound odd, but if you bought four of the 1000-series modules, you'd probably need a means of keeping track of which ones were on which channel!), but most importantly, more plug-in waveforms. This meant that you stood less chance of your synth becoming a fashion victim -- 'last year's model'. Now of course, it's commonplace (particularly with Kurzweil's own K2000 upgrades), but this is where you saw it first.

A PC editor *Kurle*, working under Windows 3.1, is available from At Work Software. A free demo version is downloadable from the web site run by Kurzweil's parent company, Young Chang (www.youngchang.com), or from the Kurzweil section at www.synthzone.com.

Interestingly enough, despite Young Chang's claim that they no longer do any Atari editors, you'll find a free version of *Objectmover*, plus lots of new sounds, on their ftp site! There's also a Mac version, which has a whole raft of sounds that aren't available on the Atari version. *Kurle* also includes the free sounds available for the Mac version of *Objectmover* (if anyone's ported the sounds over to Atari, I'd like to hear from you).

Later modules and their keyboard equivalents had a facelift offering more front-panel buttons and introducing 'binbanks', where you could call up 30 of your favourite sounds immediately -- ideal for live performance. One of the most revolutionary moves was the expanded MIDI program change feature: none of this Control 0 and 32 bank select nonsense, but a simple and logical way to select 1000 patches over MIDI. How is this done? Programs 0-99 are selected in the usual way, while program numbers 101, 102, etc. call up playlists, each of 100 programs. Hence, for program 925, you send out two program changes: 109 (selects 900-999) and 25. Simple.

K Sounds -- The Basic Samples

As you can tell by the tone of this article, I love the Kurzweil 1000-series sounds. To my mind, they have room to breathe, and a total absence of the tinny or scratchy quality you'll find on newer instruments, such as the string sounds on the Emu Proteus (although I do like their woodwind sounds). The Kurzweil drums are also the best I've ever heard; cymbals, to take just one example, decay properly and for what seems like ages, with none of the tell-tale looping glitches you'll find elsewhere. Here's a run-down of the basic list of samples in each of the original 1000-series units, and their ROM expander modules.

1000PX PROFESSIONAL EXPANDER (120 PRESETS)
- Piano.
- String.
- Choir.
- Acoustic Bass.
- Vibes.
- Organs.
- Clarinet.
- Trumpet.
- Baritone Horn.
- Waveforms.
  Note that the K1000 (the keyboard version) only has 115 presets.

PXA EXPANSION ROM
- Flute.
- Rhodes.
- Electric Bass.
- Drums.
- More waveforms.

PXB EXPANSION ROM
- Steel guitar.
- Harp.
- Marimba.
- Tenor Sax.
- Percussion.

1000HX HORN EXPANDER (75 PRESETS)
- Trumpet.
- Harmon Mute Trumpet.
- Trombone.
- Tenor Saxes (x3).
- Waveforms.

HXA EXPANSION ROM
- Soprano Sax.
- Alto Saxes (x2).
- Baritone Sax.
- Brass Stabs.
- Extended roots for existing HX samples.

1000SX STRING EXPANDER (99 PRESETS)
- Full orchestral strings.
- Solo Violin.
- Solo Cello.
- Pizzicato strings.
- Waveforms.

SXA EXPANSION ROM
- Clarinet.
- Flute.
- Oboe.
- Bassoon.
- French Horn.
- Timpani.

1000GX GUITAR EXPANDER (100 PRESETS)
- Nylon String.
- Steel String.
- Strat.
- Martin Semi-Hollow Body.
- Electric Bass.
- Guitar Mutes.
- 59 digital waveforms.

1000AX PLUS (185 PRESETS)
- All the sounds from the SX and HX plus synth leads and pad sounds.

Plaudits & Criticisms

The 1000 range sold well in the USA, sitting comfortably in the keyboard sales top 10 there in the late '80s. Famous users were quoted in ads of the time, although whether they were referring to the K250 or the 1000-series was not clear! What we do know is that Tony Banks of Genesis spoke highly about the PX and GX modules in *SOS*, and Kurzweil made much of the fact that legendary film composer Jerry Goldsmith used Pro I modules for his score of the Sean Connery film *Medicine Man*.

Over here, reactions were mixed, apart from those of yours truly (see my 1200-series review in *SOS* November '91). One UK reviewer was scathing, asking where the separate outs were and why you couldn't sample into the machine, which simply showed that said reviewer had missed the point (what he probably wanted was a K250 for £1299). Also, why would you need separate outs? You don't, in fact, as you have so much control over each sound inside the synth. And you'd have needed an 84-input desk if all the 1000 modules had had separate outs!

Despite the great spec of these machines, the 1000-series and 1200-series slipped out without attracting much UK attention, as did the PXA, PXB and version 5 upgrades. A short-lived company called World Of Sound Systems purchased the remaining unsold UK K250s, 1000- and 1200-series modules, and were still advertising them in 1994, but by then the range was sliding from view, as Kurzweil had stopped making the 1200-series in 1992, the year the K2000 was released.

Which Kurzweil Is Which? -- From K1000 To K2000

The 1000-series originally started production in the autumn of 1987, and developed into the 1200 series in a rather convoluted way. Here's the story to assist you when assessing any particular model.

● THE ORIGINAL RANGE
The range as released comprised the K1000, a 76-note keyboard, and the PX, SX, HX, and GX modules (Professional, String, Horn, and Guitar expanders). The PX is almost identical to the K1000, but with five extra soundfiles. Each of the instruments has room to add additional samples via ROM expansion modules.

● K1000SE
Kurzweil later added aftertouch (mono/channel pressure) to the K1000 (an upgrade not available to owners of the original K1000), and renamed the resulting product the K1000SE (Special Edition).

● K1000SE/EXT, PX PLUS & AX PLUS
When the first ROM expansion module (the PXA) was released and added to the keyboard, the whole package became known as the K1000SE/EXT; when added to the 1000PX module, it was called the PX Plus. In addition, the PX Plus gained a new front panel with 23 buttons, just like the keyboard (the original four modules had eight buttons).

The SX and HX were also combined and renamed the AX Plus (Acoustic eXpander), like the PX gaining a new complement of 23 buttons. ROM expansion modules were additionally developed for the HX and SX, one for each module (HXA & SXA). Both of these soundblocks could be added to the AX Plus.

● K1000SE II & K1000SE II/EXT
The next addition was the development of the version 5 operating system, which added many controller features for the keyboard and made the fundamental changes to the way programs were stored, called up, and organised described in the main text of this article, so that up to 1000 program changes could be made over MIDI without recourse to Bank Change messages. This software was added to the keyboard models, which, when sold as new, were renamed the K1000SE II and K1000SE II/EXT.

● PRO76, 1200 PRO I, K1200, 1200 PRO II, 1200 PRO III
Finally, the second ROM expansion module for the K1000 and 1000PX was released, the K/PXB. With this addition, the keyboard was renamed the Pro76 and the PX Plus renamed the K1200 Pro I. An 88-note version of the keyboard was also introduced, the K1200, which was virtually identical to the Pro76 with the exception of the additional keys and a larger amount of user RAM. Version 5 OS software was added to the AX Plus along with its ROM expansions and the resulting instrument renamed the Pro II, and the GX was combined with the HX, HXA soundblock, and v5 OS to form the Pro III (although the Pro II and Pro III are virtually unknown in the UK).

● THE END OF THE LINE... & UPGRADES TODAY
Production finally ceased on the 1200 series in April '92, following the successful launch of the K2000. But that's another story... for a contemporary view, see the K2000 review in *SOS* March 1991.

Kurzweil's parent company Young Chang have a European office, but upgrades can no longer be obtained from them. They should be still available in the US, however, either from Young Chang there (www.youngchang.com), or Sweetwater Sound (www.sweetwater.com). The K1000SE can be upgraded to a Pro76, the PX and PX Plus to a Pro I, and the HX, SX, and AX Plus to a Pro II. There were never any ROM expansion modules created for the GX, but version 5 software can be added to it. The original K1000 requires an additional circuit board in order to add the chips; as these boards are no longer available it is not possible to upgrade a K1000 unless the daughterboard has previously been added.

Bargain Basement

Perhaps because Kurzweil lacked the high profile of other manufacturers in the UK, relatively few musos got to explore these remarkable instruments. As a result, the 1000/1200 series are bargains on the second-hand market nowadays. In the last year, I've picked up basic SX and HX modules for £250 (not bad when they were £1800 new)! An upgraded module may cost anywhere from £4-600. Keyboards can range from around £250-£300 for a basic K1000 to as little as £500 for a Pro76. An *SOS* ad a few years ago was asking £1600 for all four modules with all upgrades, so some lucky person out there has everything they might need to try out string arrangements in the comfort of their own studio.

If you're buying a 1000 or 1200, there's one point you ought to bear in mind. Without the manual you're going to get completely lost when editing, because the facilities on offer are so comprehensive. The 1200/Pro I manual is much better, including helpful graphics; there's even an instructional video!

In 1985, there was no way I could afford a K250. I still live in hope of getting one, but I've got the next best thing, and in some

ways much more: my own PX, SX, HX and GX modules. After 11 years of ownership, I'm still finding that there's much in them to surprise and delight. SOS