Delaying tactics

Create digital delay to enhance a part by using your sequencer, even if you haven't any special effects built in to your synth — **Steven Helstrip** tells you how. There's a new sampling CD with classic synths and one-off effects, and... what Steve really wants for Christmas (*please*).

If you don't have on-board effects on your synth, or you want to add a digital delay to a guitar part and your synth module only has reverb, you can create your own effects from your sequencer.

Adding delay to a part helps in several ways: it thickens and adds decoration to the part — helping it to stand out — and it allows you to create a wider stereo field when using a stereo delay.

To create a basic delay or echo, copy the part you want to effect and place it on a separate track. In Cubase, for instance, highlight the part (or the whole track), select copy (Control K) and drag the new part to a new track. If you have a spare MIDI channel, the new track can be set to channel 2 or whatever is free. This will allow you to manipulate the delay even further.

Playing the two back simultaneously, on the same patch or instrument, will create a flanging, or chorus, effect (but we'll cover this another time). To create the delay however, you must offset the second track. In Cubase, this can be found in the Track Info Panel. Depending on the tempo of your track, the offset will have to be adjusted accordingly. The table in *Fig 1* shows delay settings.

In *Fig 2* (delay1.arr on the *PCW* CD), the guitar part is playing an arpeggio pattern. The delay can be seen on a new track and has an offset of 176ms. In Cubase, each count on the delay parameter represents 3ms and is therefore set to 58. As the delay needs to be quieter than the lead, the track's volume has been reduced. To add further effect, the lead is panned towards the left, while the echo is in the right speaker.

Using the example, try altering the offset to create a longer delay. You may also like to try transposing the delay by 12 (one octave) to produce a sound similar to a 12-string guitar — even play around with the instrument to achieve different effects.

To create a second delay you'll need to copy the original part to a third track. *Fig 3* (delay2.arr on the *PCW* CD) shows the original with three delays, each playing on a separate MIDI channel. The second delay has been set to 29 (88ms) and the third to 116 (352ms). When each part has been panned-out, the effect is to create a richer and "bigger" sound. Again, try transposing each part and play around with the level and timbre of each of the tracks.

Fig 1 Table of delay settings

Tempo (BPM)	note	1/8 note	1/16 note
85	705 (ms)	352 (ms)	176 (ms)
90	666	333	166
95	631	315	157
96	625	312	156
97	618	309	154
98	612	306	153
99	606	303	151
100	600	300	150
101	594	297	148
102	588	294	147
103	582	291	145
104	576	288	144
105	571	285	142
106	566	283	141
107	560	280	140
108	555	277	138
109	550	275	137
110	545	272	136
111	540	270	135
112	535	267	133
113	530	265	132
114	526	263	131
115	521	260	130
116	517	258	129
117	512	256	128
118	508	254	127
119	504	252	126
120	500	250	125

Christmas Wishes

Well it's still not snowing in Queens Park. Sainsbury's hasn't ordered turkeys yet, and I certainly haven't thought about sending out any cards. But the Christmas issue beckons once again, so here's my wish list for the man wearing the white beard.

First on the slate is a new power supply for my PC, since the last one went up in smoke — and it couldn't have happened at a more inconvenient time. I had three days in which to produce and mix three tracks for the band I work with before going on tour. This involved tidying up the sequences (which were on the broken PC), recording backing vocals, guitar, sampling-up all the vocals and arranging the track — a job that, realistically, takes two weeks. We'd been hard pressed enough as it was and we could have done without a major disaster like this on our hands.

Getting hold of a second PC wasn't too much of a problem, but getting the

Figs 2 & 3 Delay patterns

Fig 2

Fig 3

sequences off the hard drive was a nightmare. As it wasn't SCSI, it took a lot of persuading to get it to talk to another system. However, with the help of 40 cans of Diet Coke and 33 cups of coffee the job was finished within the two remaining days.

Secondly, I'd like a new sound card for Christmas, with a few useful extras. Therefore Creative Labs should stop spending so much time developing video conferencing equipment and make a card that has a digital I/O (SP/DIF), eight analogue outputs and 24Mb of sampling RAM. I tend to do most of my pre-production using the AWE-32, simply because it's convenient; the control panel sits beneath the Cubase window and most of my samples are grabbed digitally from the CD-ROM drive and stored on hard disk.

The big problem is that it only has a stereo output limiting the number of samples you can mix individually. An alternative to this would be to have a parametric EQ on each channel and several auxiliary sends with access to high-quality built-in effects such as reverb and delay.

The most important feature on this

sound card, however, is the digital I/O. Every sound card has its own digital-to-analogue and analogue-to-digital converter that turns an audio signal into ones and zeroes to be stored in RAM or disk, and vice-versa. The dilemma here is that they are not up to pro-audio standards and produce noise (no thanks to interference from processors and other cards).

With SP/DIF inputs and outputs, it would be possible to by-pass the on-board DAC/ADC and use a higher quality, external DAC/ADC to do the processing, resulting in a much cleaner signal. It would also mean you could use digital copies from DAT machines to perform edits, then dump it back without degradation. Digital Audio Labs produces the Digital Only card which allows you to do just this, but that takes up an extra slot which I don't have, and it costs more than £400.

Third on my list is several amendments to Cubase. Its most irritating feature is the remote control facility: this allows you to hold down a combination of keys on a MIDI device to activate play, record and so on. You can disable this remote feature but every now and again it

decides to turn itself back on without warning, and I don't want it to. It would be nice to have a customisable button bar as well (like the one found in Word), which would allow you, for instance, to assign a specific groove template to a button instead of having to navigate through reams of drop-down menus.

As I'm allowed ten wishes, I'd like to add another one to the list: another 16Mb of RAM to cope with the increasing size of audio applications; a 4Gb hard drive for direct-to-disk projects; an operating system that gives me some warning when it's about to crash. A few extra buttons on my mouse would be nice too, to activate commands within applications and a 17in monitor to replace the 14in screen I have at the moment.

If I can't have any of these, then I guess a few pairs of socks would be fine. Oh, and some of that lovely aftershave from Marks and Spencer would be nice, too.

Now hear this...

● **Evolution** has announced Sound Studio Professional; a new package that integrates Samplitude (its direct-to-disk recording software) with Procyon Pro, a Cubase lookalike sequencing package. Together they provide up to 100 tracks for sequencing MIDI and four tracks for digital audio. It is also possible to synchronise the two packages.

Procyon's highlights include an intuitive interface; score, piano roll, drum and event editors; on-screen mixers and tempo maps. It was a worthy runner-up in the "Best Creative Software" category in this year's *PCW* Awards. Samplitude offers full parametric EQ, time stretching, built-in effects and a decent wave editor.

Sound Studio Professional costs £149. "Sound Studio", a scaled-down version, costs a mere £59.99. (Both prices include VAT). Sound Studio is available from Evolution (demos can be obtained from http://www.evolution.co.uk).
● **I mentioned** last month that Et Cetera

has developed an interface for WaveTable daughterboards, called MIDI Edge, allowing you to by-pass your sound card and enjoy noise-free output. MIDI Edge has four MIDI interfaces providing 64 independent MIDI channels and will be available this Christmas, for £129. You can buy the excellent Yamaha DB50XG daughterboard (reviewed elsewhere in this issue) with the MIDI Edge for £230.
● **More loops** for the AWE-32. D-Zone records, the people responsible for the Loopisms CDs (see *Hands On*, October) has decided to compile all its samples into one huge library for the AWE-32. The CD will be called "Loopisms the AWE-32 Compilation" (how original) and will contain 150 loops and more than 1,000 keyboard samples. The samples will be arranged into sound banks (or SBKs) and D-Zone is likely to feature several shareware titles. The CD should be available early next year and will sell for £29.99 (incl VAT).

Squishy blocks and bell drones

Time + Space has started to convert its CD library into PC wave-formatted samples. Ambient Volume 2, one of the latest to be reworked, contains a mixed bag of mono and stereo samples digitally recorded at 44.1KHz.

This CD-ROM brings together a fantastic collection of synth pads, vocoder loops and effects taken from the Roland System 100M, SVC 350 Vocoder, JD990, Memory Moog and Oberheim synths to name a few. The samples are arranged in 74 folders, each containing from two to 14 samples. Many can be grouped into the "soundtrack" category, working on their own as, believe it or not, ambient tracks. You'll also find hundreds of one-shot effects described as "Analog Bell Drones, Oscillator FX, Squishy Blocks" and so on. There are plenty of bass and percussion samples, too. And if you're looking for that Vince Clarke sound, you'll find it here. It costs £29.95, including VAT and delivery, from Time + Space. There are ten of the sounds on our free CD-ROM this month, under "hands\sound".

PCW Contacts