



Jumping the Q

Rob Young joins Steven Helstrip to urge you *not* to commit the sin of automatic Quantizing: it's inhuman ... avoid it ... better to do it yourself and keep that "natural" feel in your music.

Before we crack on with this month's column, I'd like to welcome Rob Young as a new contributor to this column. Last month I highly recommended his book, *The MIDI Files*, and hoped you would benefit from his experience and ideas. Rob, who's not that "young" really (sorry, I couldn't resist it) will be taking care of MIDI-related topics from now on, while I'll be keeping you up-to-speed on digital audio, sampling and new products. So, here's Rob...

The Q-word

I'm going to kick off with a rude word (cover your ears, Granny): quantization. There, it's out. "But what's wrong with that?" you might ask. "I use it all the time." Well, quite simply, quantization is to programming what Coca-Cola is to dentistry.

In case you haven't come across the Q-word before, let me explain. Quantization is a sequencer facility which tidies up timing errors in your recording by shifting every note to the nearest beat you specify (the nearest eighth-note, quarter-note, or whatever). Or, put another way, it searches your recording for any hint of human feel and promptly removes it.

The result, when applied to most types of music, sounds unnatural and lifeless, but quantization is an all-pervading sin. Many commercial MIDI files you buy seem to be made by the same robots that build BMWs.

Careful Quantize

Of course, there's good and bad use of quantize. Cubase's Auto Quantize function definitely qualifies as "bad". Always give yourself a chance to listen to what you recorded before your sequencer gets its claws into it. If the timing does need a bit of

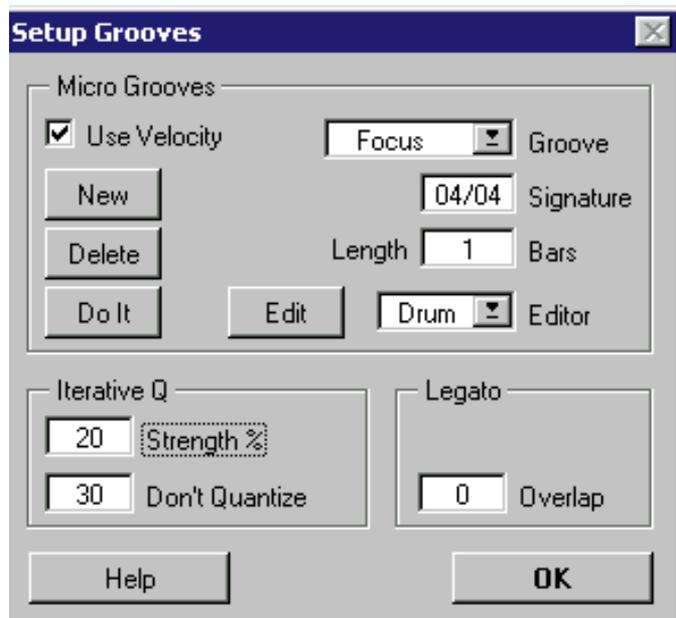
A 20-30 setting captures the worst goofs without ruining your feel

tidying-up, don't use Over or Note-On quantize. Unless you're programming a techno track or an obvious synth-effect, you don't want every note bang on the beat.

The most musical result comes from Iterative Quantize, which lets you move the worst offenders in small steps.

Choose Setup Grooves from the Functions menu and enter the settings you want in the Iterative Q section of the dialog.

If you set Strength to 50 percent, a note that was off the target beat by 20 ticks will be ten ticks out after quantizing. Use the Don't Quantize setting to help Cubase



distinguish between bad timing and human feel: if you set this to 16, only notes more than 16 ticks off the beat will be moved.

For the most feel-preserving results, use low Strength and high Don't Quantize settings, such as 20 and 30. In the Arrange window or an editor, select the part that

Quantization Tips

- Remember that fast tempos need a lower Strength setting than slow tempos: ten ticks away from the beat at ballad tempo is much looser than ten ticks out at rock tempo.
- Use your ears, not your eyes: if it *sounds* okay, it doesn't matter what it looks like in the editor.
- If your drums sound too quantized, try moving whole kit-instrument parts off the beat. Move all your hi-hats four ticks earlier, all your snares two ticks earlier and your handclaps two ticks later.
- Import a good drum part and chain it for the length of the track so that you can turn off the metronome. You'll get a better feel, and you're less likely to have bad timing to clear up later.
- If your music sounds quantized when it isn't, take a look at those velocities. A narrow velocity range for an expressive instrument can sound as mechanical as heavy use of quantize.
- Never chain identical one- or two-bar patterns together, other than for effect. Create three- or five-bar patterns, with subtle variations in each bar (use an odd number since music generally uses four-bar phrases) and string those together instead. If each bar is sufficiently different, the chaining shortcut should be unnoticeable.

needs adjusting and press E (just who is it that picks those hotkeys?). Then have a listen to the result. If you can't hear much difference, press E again to shift the delinquent notes a little more.

Manual Quantize

The best type of quantize around is Manual Quantize, but you won't find it on any sequencer menu. Just open the Key, List or Drum editor, play back what you recorded and adjust any bad timing yourself. After all, your playing surely wasn't so bad that every note needed adjusting, was it? If it was, don't even edit: just scrap it, give yourself a stern talking-to and record it again.

Manual Quantize is often easiest in the List Editor, where you can left- or right-click a note's starting position to adjust it tick by tick. It takes a bit of discipline though: all those "wrong" numbers might tempt you to move a note far closer to the beat than it needs to be. To give yourself room to work, position the divide bar to show only the start position of notes, as this will let you see more events in the grid.

Something else worth trying is switching Cubase's Snap and Quant values to Off, and using the kicker tools to graphically move a note in single-tick steps.

If complex rhythms appear a tad daunting in the List Editor, have a go using the Piano role, or Key Editor. To keep your sanity, work with one- or two-bar phrases at a time. Remember, loops can be easily set up by dragging the mouse across a selected region of the bar ruler. When the

Tip of the Month

Cue up to start recording at least two bars before you'll start playing, or use Cubase's Preroll facility (located on the Metronome dialog). After hearing those bars as a count-in, you're more likely to start at the right speed and velocity, and with the right feel. A better result, with less editing to do.

note Info button is active, the selected event's start position is displayed in the top-left of the screen. Similarly to the List Editor, these can be shifted using the left and right mouse buttons. Useful shortcuts include using the cursor keys to move between notes, and G and H to zoom in and out.

Before signing off, I'd like to appeal to readers of this column: you know better than I what you'd like to see covered here, so please do get in touch and let us know. For instance, what MIDI topics do you want to find out more about? What programming problems are you having? What would you like to see on the CD-ROM?

Terratec EWS 64 XL

In last month's column we had a look at the AWE-64 Gold from Creative Labs. Although it improved on the AWE-32 in many aspects, it wasn't as good as it should have been. I've long since given up nagging Creative to make the "ideal" PC sound card, and, as I always expected, someone has beaten them to it. Yes, I'm talking about the EWS 64XL from Terratec.

If you read our group test of sound cards in last month's issue, you may be familiar

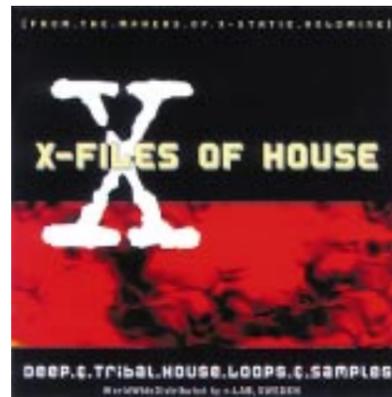
The X-Files of House

Delving deep into underground house is what this 2-CD set from Sweden is about. Inspired by the sounds of New York and Chicago, X-Files delivers the creamiest house grooves by way of loops, instrument samples and bags of flare. There's no tack on this CD, just throbbing four-to-the-floor beats, classy piano, organ riffs, seriously fat basses and obscure yet usable sounds.

Each track starts with a demo, which is almost a track in itself, followed by the loops and instruments which were used in their making. In many cases, the broken-down parts begin by excluding the kick and going on to leave you with the bare sounds.

If you're into the New York vibe you won't be disappointed with this CD set. The production is superb, the ideas are inspiring, and because everything's tempo-grouped between 120 to 130bpm, there's scope for mixing and matching samples to produce your own dreamy house tunes. Full marks. Don't forget to check out the samples on our cover-mounted CD this month.

■ See "PCW Contacts" for details.



Top Here's the synth editor to accompany the EWS. It's capable of velocity-switching between instruments, layering up 64 voices, and keyboard splits. Looks good, doesn't it?

Above This'll be a mixer, then...

Left This is the effects rack. More goodies should follow due to programmable DSP

with the Terratec brand. It's a German-based company which last year bagged 20 percent of the sound-card market. The EWS 64 is, however, considered to be its first major product with a full-on spec, without the full-on price to match.

So what's so special about it? Well, for starters it's got a 64-voice Akai S1000-compatible sampler with 6Mb RAM (upgradable to 64Mb), a WaveTable synth and two "real" MIDI interfaces. Then there's the S/PDIF and TosLink digital inputs, two digital outs, two stereo line ins/outs and DSP effects which currently offer reverb, chorus, EQ and AudioRendering or 3D sound. Different effects can be applied separately to each of the outputs.

Still unimpressed? The synth/sampler provides 64-voice polyphony in hardware, therefore not draining CPU usage, and it provides the most comprehensive MIDI spec I've seen on any card. The 24dB resonant filters can be controlled in real-time via

NRPNS. Likewise, Continuous Controllers can be assigned to every editable parameter. These include the panning of drum instruments, reverb send of individual notes, and full control of EQ settings.

The 16-bit card has an extension box in a 5.25in drive bay, providing connectors for MIDI and digital I/O, and there's a headphone output. I haven't got my hands on the EWS but the spec sheets and software look impressive, including Steinberg's Cubasis AV (a halfway house between Audio and Cubase v3). The EWS 64 costs £449 (inc VAT). And no, that isn't a misprint.

PCW Contacts

Steven Helstrip and Rob Young can be contacted at the usual PCW address or email sound@pcw.co.uk.

The X-Files of House set costs £60 (inc VAT) from Time + Space on 01442 870 681
EWS 64 from Imago on 01635 294300