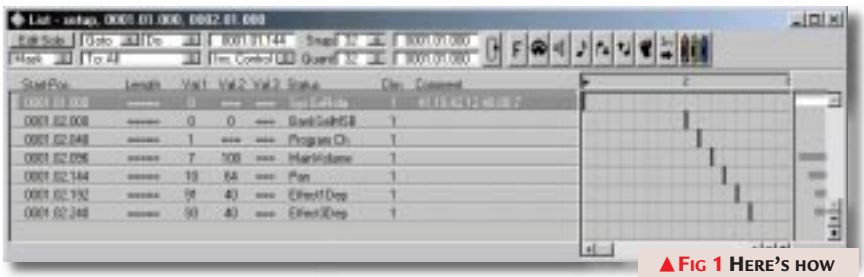
The MIDI-Files

The way your MIDI files are structured makes all the difference to the resulting sound. Steven Helstrip shows you how it's done.

Music that's written for General MIDI should sound roughly the same on any GM-compatible device. That is to say, with the right instruments assigned to each part, and with the effects set up in the way the composer intended. You would also expect to maintain the panoramic position and relative balance between instruments. So why is it that songs often come across differently when played back on equipment other than what it was recorded on? Or, a few months down the line, it sounds different again on the very equipment with which it was created?



▲ Fig 1 Here's how your setup bar should look. Not very interesting I know, but it's the best I could do

The bar is open

Judging by the MIDI files I come across, and from my own experience, more often than not it's because the file is not structured correctly. Whether you're writing for General MIDI instruments or a mixed bag of synths in your bedroom, it is essential to have a setup bar in your arrangement [Fig 1] to configure each instrument on every channel. So what should go in this setup bar? Firstly, to ensure you're working with a clean palette, you should insert a GM/GS reset at the start of bar 1. This is a System Exclusive command that effectively initialises the synthesiser chip to its default settings. To do this, create a new part and use the list editor to insert a System Exclusive event with the following settings:

`F0,41,10,42,12,40,00,7F,00,F7`

As System Exclusive events are not (MIDI) channel specific, this can go on any track. If you have an XG-compatible device such as Yamaha's DB50XG, the initialisation command is:

`F0,43,10,4C,00,00,7E,00,F7`

Having to do this each time you start a new song would be a tad tedious, so save the part on its own for use in future arrangements. If you work with Cubasis, which was given away free on our October issue cover CD, you might like to save this part with the default song. The default song (def.all), which can be found in the Cubasis folder, loads automatically each time the program starts. It takes approximately 50ms for these commands to be executed so eave a gap of, say, one beat before sending subsequent messages. These should include a bank number (CC:00), a program number (program change), a volume setting (CC:07) and a panoramic position (CC:10). Equally, if you have changed the effect-send levels for an instrument, controllers should also be present in the setup bar. Controllers 91 and 93 are used to configure reverb and chorus levels respectively.

Reverb on the bass can clutter up the lower end of your mix, so avoid it

To get more out of the default song, why not set up parts containing these settings with standard values for each channel? Then, each time you begin a new song, all you have to do is open the List editor and change the relevant controllers. The standard values, which are the same as those which follow a reset, are as follows: bank and program changes 0, volume 100, pan 64, reverb 40, chorus 40.

Just so you get the general idea about this process, I've carefully crafted a default song with all these settings in place. It can be found on this month's cover CD in the *Hands On* folder. Just copy it to your Cubase or Cubasis folder.

General MIDI tips

1 To create more interesting string textures, try layering two or more patches. Copy your part to a new track in your sequencer and select a new patch. To my ears, String Ensemble 1 (program change 48) works well with Synth Strings 2 (program change 51). For more variation, try transposing one of the parts up or down an octave. Panning the two instruments left and right can also make the part more interesting.

2 To add depth and contrast to your music, vary the amounts of reverb you apply to each instrument. Reverb tends to make instruments sound distant, whereas "dry" instruments sound more up-front. Reverb on the bass can clutter up the lower end of your mix, so try to avoid it.

3 If you're programming an acoustic or electric guitar, add the occasional fret noise (program change 120) on a separate track. *Keep the level to a point where it can just be heard*. If you pan the guitar to one side of the mix, don't forget to do the same for the fret noises.

4 Delay, or echo, can greatly enhance a solo instrument such as a flute. However, most GM synths and sound cards cannot produce delay and reverb simultaneously. To get around the problem, copy your solo instrument to a new track and select an unused MIDI channel. Next, simply move the part on the second track forward by an eighth, a crotchet or even a whole bar, depending

on the style of music. Use either volume or expression (CC:11) to lower the volume of the delayed part and pan it slightly to the left or right.

5 **When you're programming** drum tracks, don't overlook the percussive instruments at the higher end of the main GM set. These include melodic toms, synth drums and a useful reverse cymbal.

Free plug-in for VST

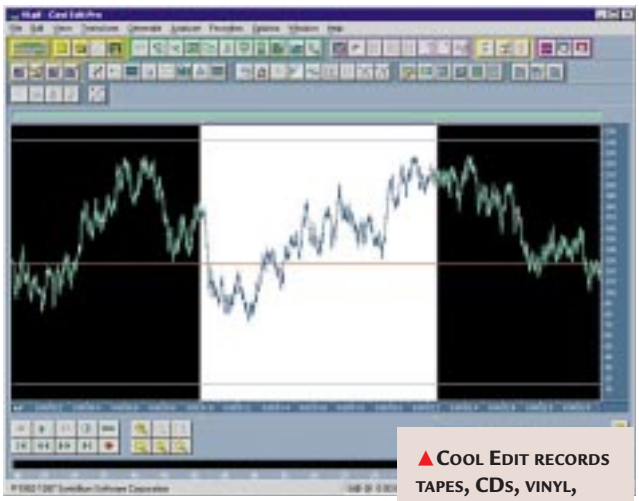
Steinberg is giving away a new VST plug-in in return for your email address. Now you can't say fairer than that, can you? It's effectively an automatic gate, aptly named Chopper. It lets you set the tempo and rhythm of the gate and provides parameters for intensity and wet/dry mix. It's available for download at www.steinberg.net. Go and get it.

▲ CHOP-UP YOUR LOOPS AND VOCALS WITH STEINBERG'S FREE VST PLUG-IN

Questions & answers

Q I recently bought a Philips CDD 3610 CD-ROM writer and am trying to copy old cassette tracks on to CD with it. The only way I can find to do this is by using Windows 95 Sound Recorder. The sound quality is okay but there is one major and one minor problem. The latter is that the recording level has to be set manually. The former is that it records up to about 53 seconds of music and then stops dead. Do you have any advice?

PATRICK MURPHY



▲ COOL EDIT RECORDS TAPES, CDS, VINYL, MINIDISC, DAT... ANYTHING, IN FACT

A *We certainly do. Sound Recorder works by recording audio into main system RAM, which explains why you're only able to record around 53 seconds. A dedicated wave editor such as Cool Edit Pro can record and edit audio files up to 1Gb by recording direct to disc. That translates to around 90 minutes of audio which is just enough to copy an entire cassette.*

Cool Edit also has an adjustable input gain to set the recording level. The shareware release can be downloaded from www.syntrillium.com/cep/.

THE ORCHESTRA GOLD EDITION

The Orchestra is the first in a line-up of new SoundFont discs from Sonido Media. With over 300Mb of strings, woodwind, brass and percussion, it's got all the essentials for writing for a wide range of orchestral styles. The Orchestra is loaded with usable patches: it's not just a bank of redundant orchestral runs, passages and crescendos that don't fit into the music you're trying to write. The instruments have been recorded and put together well, with many patches containing up to 14 samples split over as many keyboard regions. Individual SoundFonts are provided in two sizes: up to 2Mb and up to 4Mb. And for those who want to replace their GM soundset altogether,

there are 8Mb and 12Mb orchestral banks. The string sections comprise bass, cello, viola and violin all played in piano, forte, marcarto and pizzicato styles, and there are solo and ensemble patches for all sections. The quality is not consistent throughout, but given the asking price of just £29.95, you won't be disappointed. On the disc there are an additional 21 free patches from Sonido's SoundFont range, including a 4Mb grand piano, guitars, and a mixed bag of analogue patches.

★★★★

Price *£29.95*
Contact *Time + Space 01837 841100*
www.sonidomedia.com

PCW CONTACTS

Steven Helstrip *can be contacted via the PCW editorial office (address, p10) or email* **sound@pcw.co.uk**