Composing with MIDI

MIDI Basics

Dennis Pim
Simon, I know you use midi extensively in your work so perhaps you could tell us a little bit about midi, what it is and what it does for you?

Simon Whiteside
Well midi is essentially code which talks between either two musical instruments or between a computer and a set of musical instruments. I send the information from one keyboard into a computer via a midi interface and then the computer can send that back out to the midi interface that I use which has eight ports which means I can use eight sets of sixteen channels.

Dennis Pim
Do you find it's useful to have the separate ports rather than daisy chaining all the instruments together and using one midi connection?

Simon Whiteside
Well the advantage to having eight is that, obviously, there are sixteen channels per midi port, if I were to daisy chain the instruments I'd only be able to use sixteen separate sounds one of which would have to be drums. So having eight ports allows me to have a lot more channels available to me in fact sixteen times eight ports if necessary.

Dennis Pim
And so you find you do use more than sixteen channels quite often then?

Simon Whiteside
I will often use more than thirty two channels in, in my work.

Dennis Pim
General midi has become a very important part of any midi system, perhaps you could tell me a little bit about what mi, what general midi is and how it works?

Simon Whiteside
General midi developed when it was realised that you could have two keyboards together in midi code but they wouldn't necessarily have the same arrangement of instruments on them. So, for example, the first sound on one keyboard may be a piano on, on another keyboard it might be a trombone or something. It became apparent that it would be useful to have a set of sounds a bank of sounds which were the same on each instrument. Therefore general midi protocol has developed whereby if we had a 128 sounds all of which were equal on any keyboard with a general midi logo then if I played a piece of music on my say Rowland instrument and sent it to a friend as a midi file and they have a Yamaha instrument if they both have the logo on then we can be sure that the pianos will come out as pianos and that the, the trombones will come out as trombones.

Simon Whiteside
We have sixteen channels within the protocol the tenth channel was decided on to be the drum channel so just play you a bit of that.

And all these other channels have got separate instruments on them. Different types of instrument available on each one. If I click on this box over here in this programme you can

see the whole 128 sounds. It starts with pianos and goes through keyboard instruments, tuned percussion instruments, so electric piano, glockenspiel, vibraphone etcetera. Then we go into organs, plucked strings like guitars, base guitars, distorted guitars then through to the orchestral instruments, violins, strings, trumpets of various types, some voices and then the interesting keyboard sounds like one that's, they decided to call Goblin. Or Star Theme for example, or Halo pad and we end up in special effects, seashore, or Tweedy-bird, telephone or gunshot. And this allows a file which is made in general midi format to be sent to someone with a different instrument and be able to hear approximately the same sounds but not exactly the same sounds 'cause each instrument maker for example, Rowland or Corg or Yamaha will have the same named instruments with same approximate sound but not exactly the same sample.

Simon Whiteside
They'll all be their own various proprietary samples. In very recent years GM2 has come in, what's happened is that people have really wanted to have a few more sounds available so they've increased the number of sounds although any GM patch will still work on a GM2 system.

Dennis Pim
I think most students will come across general midi through using their own computers / is that how you use general midi?

Simon Whiteside
Not generally I run the Macintosh computer on a standard PC there is a set of general midi sounds that comes with the sound card, that's not so with a Macintosh system. You have to use a, what's called a plug-in instrument, called Quick Time instruments, they're the same people who do the video protocols. They don't tend to sound as good so I tend to use actual keyboard boxes, which have a GM sign on them.

Dennis Pim
So you use the sound generated in a separate box rather than…(Simon says yes generally speaking yeah)…the sounds.

Simon Whiteside
On my laptop I might sometimes when I'm working in Sibelius, which is more of desktop publishing programme I might / play back something just to check that the pitches are right with quick time instruments.