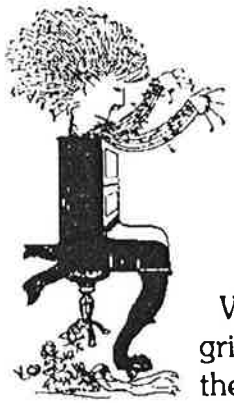


The Teetotaller's Introduction to MIDI

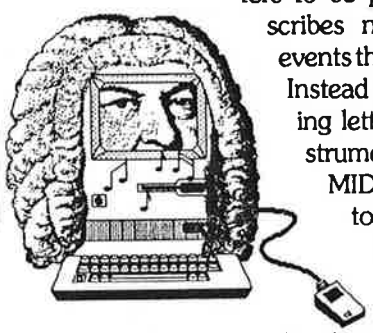
by John Patterson

What do you do when the gritty, four voice sound of the Mac no longer does justice to your symphonic creations or you can't keep the neighbours awake? Why not look at the possibilities offered by a MIDI interface? No, we're not talking about a drinks waiter here–this little box may have a more permanent influence on your musical endeavours.

MIDItalk

As a modem enables a Mac to communicate directly with other computers, so a (M)usical (I)nstrument (D)igital (I)nterface enables a Mac to communicate with other digital musical instruments by translating computer data into musically oriented MIDI data.

Continuing the analogy–think of MIDI as carrying the type of information you would send to a printer, except that instead of describing characters to be printed, MIDI describes notes and timing events that relate to music. Instead of a printer printing letters, a musical instrument plays what the MIDI data instructs it to play. MIDI data can flow from a controller (such as a MIDI synthesiser, guitar, sax, etc.) to the computer for processing or storage, or from the computer to a sound generating instrument (usually a digital keyboard or sound module) for playback. The information that MIDI can convey includes note pitch, length, key velocity and duration as well as channel number (1-16), patch changes, pedal actions and other information that may be specific to a particular instrument.



Inconsequential

Whilst there are many different types of software available for processing MIDI data one of the most useful classes of software is the sequencer. With a word processor, you manipulate text; the screen displays what you type and you can edit text, move blocks of text, print text, and so on. Similarly, a sequencer manipulates musical information.

For example, as you play notes on a MIDI keyboard, the MIDI translates this into data the computer can understand, and the screen displays what you played in some form (traditional music notation, list of MIDI events, "piano roll", graphics etc.). You can then edit your work and send this data out through the MIDI to "play" your instrument. In this case, the computer acts like a high-tech player piano with extensive editing capabilities.

MIDI instruments, thanks to standardisation, are compatible with all MIDI equipment. In other words, once your computer can output MIDI data, you can send out signals that can be understood by any piece of MIDI gear (although some instruments' MIDI capabilities are limited in that they don't utilise all the information they receive). A MIDI input accepts signals from any type of MIDI gear.

The glassware

When choosing an appropriate MIDI instrument several factors should be considered. A MIDI keyboard or controller of some sort is handy for playing the notes that you want a program to record. Many programs offer alternative methods of note entry, such as typing them on the computer's keyboard or using the mouse. However, these methods are usually slower if the user has some proficiency with a traditional controller. After you've entered the masterpiece, you'll need a MIDI sound source to play the music. A MIDI equipped keyboard instrument is usually two de-

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Teetotaller's MIDI *(cont. from page 20)*

vices in one; an input device (the keyboard mechanism) and a sound source (the synthesiser circuitry). The more MIDI sound sources you have at your disposal, the richer and more complex your music can be. Most manufacturers offer module versions of their popular synthesisers so that systems can be expanded without the added expense of superfluous keyboards.

To ensure maximum flexibility and scope for orchestration it is advisable to choose a synthesiser with *multi-timbral* (pronounced multi-tambral) capabilities. By timbre we mean a voice's sound quality, e.g. a flute has a rather different timbre to a bagpipe. Modules like Roland's economical MT32 allow up to 8 different timbres, up to 32 notes (depending on the sounds used) and a drum kit to sound at the same time. For example, with such a sound module and a sequencer you could record a bass line on channel 1, some piano chords on channel 2, and a singing frog on channel 3 and have all three parts play back simultaneously with their own distinctive tone colour.

As many of today's recording artists can testify (ask Roger Rabbit), creative use of MIDI can turn ever, perhaps the most revolutionary influence of MIDI and its link with the personal computer has been the power it has placed in the hands of the home musician that was previously only available in expensive professional studios.

Books to make music by

If you can't wait for more information on making music with the Mac, you might like to check out Michael Boom's excellent book, *Music Through MIDI*, published by Microsoft Press, which in an accurate, non-threatening manner, covers MIDI, synthesis, and recording. If you want to focus on MIDI specifically, check out *MIDI For Musicians* by Craig Anderton, published by Guitar Player Publications. Other titles worth looking at include: *Using MIDI*, by Helen Casabona and David Frederick; *MIDI–the Ins, Outs and Thrus*, by Jeff Rona.

If you want a drink, forget about MIDI and order a pint.