

The History of MIDI

MIDI is an acronym for **Musical Instrument Digital Interface** and was invented in **1983**. It is a standardized means of controlling synthesizers from an external source, such as another synthesizer or a sequencer.

The Evolution

Early synthesizers had already managed to use sequencing via control voltages but there were a few different types of control voltage used. For controlling the pitch of a sound a synthesizer or sequencer would output a voltage. **Roland** and **Moog** synthesizer companies set a standard where voltage was directly proportional to pitch, whereas **Korg** and **Yamaha** set a standard where voltage was exponentially proportional to pitch. As such these two standards were not compatible with each other, and worse still was that several different methods were used for actually triggering a sound. Also if you wanted to control anything other than pitch and how long a note lasts, you would need to generate more control voltages, resulting in an excessive number of cables connected to each synthesizer. This method could also only play one note at once.

Roland invented DCB (Digital Control Bus) as a means of controlling a synthesizer so it can play more than one note at once but this was only available on a few Roland synthesizers and was expensive to implement.

The Solution

In **1981** three engineers, each from a different synthesizer company, were chatting at the National Association of Music Merchants (NAMM) trade show and hit upon the idea of solving this problem and allowing musicians more control. These engineers were: Dave Smith of **Sequential Circuits**, I Kakehashi of **Roland** and Tom Oberheim of **Oberheim Electronics**.

The next few years saw engineers from all of the companies working heavily on producing this new standard that would work with instruments from any company.

The system they came up with was based on the already existing local area network (LAN) protocol being used by networked computers. **In 1983 this was formally published as MIDI 1.0.**

The Revolution

Due to the way MIDI works it was now possible to transmit all kinds of information to a synthesizer and also store your playing. MIDI was able to capture everything from which notes you play to how loudly you play them and what sound you played it on, with all this only needing one single cable connected between the synthesizer and controlling device. MIDI also achieved something that was previously impossible – it was now possible to chain a series of synthesizers together and have each one play a different part of the song. Each synthesizer would be assigned a 'channel' of which there could be a maximum of 16. As such, the MIDI sockets usually found on synthesizers are:

- **IN** – This socket receives MIDI data.
- **THRU** – This socket gives out the same MIDI input that goes into the IN socket.
- **OUT** – This socket gives out MIDI data that the Synthesizer itself generates.

The ability to store tunes on disk resulted in the creation of 'General MIDI and MIDI Files', which was a standardization of storage and playback of tunes on synthesizers.

The Continuation

Remarkably MIDI has never been updated since its first release – **MIDI 1.0 is still the standard that is used today**. To date it has managed to handle each new technology that has come along. This has seen it become as widely used among musicians.

It is likely that MIDI will continue to be the connection of choice for many years to come. As synthesizers evolve it is likely that we will be controlling many new parts of their workings via MIDI. **One of the recent additions to MIDI connectivity is the use of MIDI via a USB (Universal Serial Bus) connection**. This allows a greater ease in connecting the synthesizer to your computer, due to the now commonplace feature of USB ports.

In the future it may evolve into a more cordless connection to save connecting all the synthesizers via wires, allowing greater freedom in the studio.