

Preparing MIDI files for CV-GATE monophonic synthesizers

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Q. I have a MIDI-CV converter and I want to play MIDI files on an analog CV-GATE synthesizer. Will every MIDI file I choose sound correct when controlling the CV-GATE synthesizer?

A. Not every MIDI sequence file will translate properly to CV-GATE synthesizers. This is often the result of trying to play polyphonic material on a monophonic sound source.

- MIDI is polyphonic, which means it supports instruments that can sustain several notes at the same time (like a piano or guitar).
- CV-GATE is monophonic, which means only one note can sustain at any time (like a brass instrument or the human voice).

Q. How can I edit MIDI sequence data to perform properly on a CV-GATE synth?

A. Open the MIDI sequence in your DAW software's piano-roll edit mode. You want to make sure there is no ambiguous information in it, such as overlapping notes, or 'ghost' notes caused by the performer accidentally lightly touching an adjacent key to their intended note.

- Any chords or notes that occur simultaneously will not translate to CV-GATE. Your MIDI-CV converter can only output one note at a time. So, if you see several notes beginning at the same position in time, delete all but one of them.
- If your MIDI sequence contains a sustained note that is held down while other notes are played, like a left-hand or right-thumb pedal tone under a right-hand melodic sequence, this will not translate to CV-GATE. You should delete the pedal tone and assign it to a separate instrument, or overdub it alone in a separate multi-track take.
- Pay attention to what is happening at the end of every note. If a note is not part of a legato sequence (tied notes), then there needs to be white space at its ending. If any other note is overlapping the tail end, it will immediately sound when the first note ends. This gives false-sounding results.

Q. Can I use the output from any hardware MIDI sequencer to control a CV-GATE synth?

A. Yes, but you may need to edit it in a DAW first. The manufacturers of MIDI hardware sequencers have different standards for how they treat the 'white space' or rests in a sequence of music. This can cause problems when controlling a CV-GATE synth.

- Ideally, the hardware sequencer transmits a Note=OFF message whenever a key is lifted and the note ends. This is ideal when using a MIDI-CV converter. The sequence looks normal in a piano-roll editor.
- But, when playing a rest, **some sequencers transmit a Note=ON message with Velocity=0**, and at an arbitrary Note Number. This leads to problems when the sequence is sent directly to a CV-GATE synthesizer, because velocity information is often ignored when using a MIDI-CV converter. So, in every place you wanted to hear a rest, a false note will sound instead. In a piano-roll editor window, you'll see a bunch of extra notes where there should be silence. Delete these false notes.

Q. How can I make sure the pitch comes out correctly?

A. MIDI-CV converters typically are limited to five octaves, which is a narrower range than General MIDI standard. Therefore, you may need to transpose the MIDI sequence data up (or down) by an octave or two to keep it within the valid range of your MIDI-CV converter.