



MIDI Notes, Pitch Bend, and Musical Pitch Data

<https://musicreason.com/resources/midi-notes-pitch-bend-and-musical-pitch-data/> · Last updated 2026-09-06

MIDI note numbers, letter-named pitches, frequencies in Hz, and pitch-bend values are four different representations of the same underlying idea, pitch, each with its own range, convention, and rounding behavior. Converting between them is straightforward once those conventions are stated; assumed silently, they are a common source of off-by-one errors.

MIDI note number to frequency and letter name

MIDI 60 is C4 at 261.63 Hz. MIDI 69 is A4 at 440 Hz, the reference pitch this whole conversion chain is built from.

[MIDI Note Converter](#) performs exactly this conversion; [Note to Frequency](#) and [Frequency to Note](#) cover the letter-name side of the same relationship directly.

MIDI 60 is not universally called the same octave name

MIDI defines the number 60 precisely, but whether software labels that "C3," "C4," or "C5" is a convention choice that differs between manufacturers and software. MIDI Note Converter states its own octave-naming convention explicitly rather than assuming every reader shares one.

A pitch-bend value's meaning depends on the receiver's range

The 14-bit pitch-bend value itself is a fixed MIDI standard (0 to 16383, centered at 8192), but how many semitones its extremes represent, the "bend range," is a setting on the receiving instrument or patch, not part of the MIDI message itself. [Pitch Bend Calculator](#) asks for that bend range explicitly rather than assuming a universal default.

A MIDI number carries no spelling information

MIDI note 61 is a pitch class only; it is equally C-sharp or D-flat, and the number alone gives no basis for choosing. Which letter name applies depends on musical context the MIDI data does not encode, the same enharmonic-spelling question covered in [Chord Naming](#), [Enharmonic Spelling](#), and [Ambiguity](#).

Frequently asked questions

Why is MIDI note 60 called C4 by some software and C5 by others?

MIDI itself only defines the number; the octave label attached to it (C4 vs. C5) is a naming-convention choice different manufacturers made differently. MIDI Note Converter states its own convention explicitly rather than assuming everyone agrees.

Does pitch bend have the same range on every synthesizer?

No. The 14-bit pitch-bend value itself is a MIDI standard, but how many semitones its extremes represent (the bend range) is a receiver-side setting that varies by instrument or patch, which is why Pitch Bend Calculator asks for that range explicitly.

Can a MIDI note number alone tell you how a note should be spelled?

No. MIDI note 61 is a pitch class, playable as either C-sharp or D-flat; the number carries no spelling information, so which letter name applies depends on musical context the MIDI number does not encode.

Where this shows up

PRODUCTION AND AUDIO MATH

MIDI Note Converter

PITCH AND TUNING

Pitch Bend Calculator

SCALES KEYS AND INTERVALS

Note to Frequency

SCALES KEYS AND INTERVALS

Frequency to Note

PRODUCTION AND AUDIO MATH

Oscillator Detune Calculator