Hi all
The octave numbering confusion C3 C4 etc.

 Some thing else to think about.

If you move you compositions around between different manufactures keyboards and different computer music software you will soon fall foul of the octave numbering night mare.
I will try and make some sense of it for you.

Normal Octave notation is given here in the **International Organization for Standardization** ISO system,
Here octave -1 (minus one) is C0 this means therefore that middle C will be C4 being the 4th C on a 88 note piano.

Great but:
Yamaha call middle C = C3 why? Because they start counting from 0 not -1
This sits well on a 61 note keyboard as it is the 3rd C from the bottom as a 61 note keyboard that starts on C1and not C0 or C-1.
Ok still with me.

Unfortunately each manufacturer and software music programme writers have their own ideas about this.
For example Cakewalk Sonar call middle C = C5
There's no universal rule, so it can be confusing. SONAR starts counting with MIDI Note 0 as C0. You can change the "Base Octave for Pitches" on the Options | Global | General tab. I have mine at -2 to match my Yamaha keyboard, where Middle C is C3...

Another strange thing about Yamaha is even on a Clavinova with 88 keys they still call middle C = C3 even though it is now the 4th C up the keyboard. Still at least it is consistent across the range of instruments.

Never mind in fact these octave names are only labels in this context and do not have any relationship to pitch really.in the world of electronic music.

As it all works by Midi anyway and midi has to work with note numbers, that is every note, has to have a midi number (computers can't read sharps and flats from a score and interpret them like you can)
There are two golden rules that keep some sanity in all this:
All MIDI devices use these numbers.
The midi spec states that Middle C shall always be note number 60. (No matter what you label the octave!
And that A above middle C shall be tuned to 440 htz this is Midi note 69
Thank goodness for that.

An historic note in the early days of electronic music some bright technicians rather than musicians thought that some thing as basic as middle C must work to the power of 2 This was great for digital and put middle C at 256 Htz unfortunately this is not the correct frequency for middle C which is around 261.6 Hz

To summarise

When the A440 pitch standard is used to tune a musical instrument, Middle C has a frequency around 261.6 Hz. Middle C is designated C_4 in scientific pitch notation because of the note's position as the fourth C key on a standard 88-key piano keyboard

But not Yamaha Middle C=C3.

Another system known as scientific pitch assigns a frequency of 256 Hz to middle C but, while numerically convenient, this is not used by orchestras. Other note-octave systems, including those used by some makers of digital music keyboards, may refer to Middle C differently. In MIDI, Middle C is note number 60.

The C_4 designation is the most commonly recognized in auditory science [], and in musical studies it is often used in place of the Helmholtz designation c'.

Thanks for taking the time.

March 2016 Mike Head.