

Transposition

Concept: Some instruments are built at different pitch levels (based on length, diameter, acoustical properties, etc). In order for everyone to be able to communicate effectively, musicians have agreed to always use the same note names for written pitches even if their instrument sounds a different pitch. This means that some instruments need to transpose their written music – write it at a different pitch level so that their music sounds the same as their neighbor’s.

“Concert Pitch:” Certain instruments are non-transposing – that is, what you see is what you hear. We say that these instruments are in “concert pitch” or that they are “in C.” If the musician sees a written C in their music, and they perform a C on their instrument, the listener hears a C.

“Written” vs. “Sounding” Pitch: For instruments that are not in concert pitch (“transposing instruments”), if the musician sees a written C in their music and performs a C on their instrument, the listener hears some pitch other than C. The instrument has transposed the written pitch up or down by a certain interval. If the performer wants the listener to hear a C, they have to transpose in the opposite direction to counter the instrument’s natural transposition. You may encounter strange accidentals, but try not to worry about what the new “key” is – focus on moving the correct interval away from the written pitches.

It is important for all musicians to be familiar with which instruments transpose, and by how far. The most common transposing instruments are listed below. For a complete list, read the Wiki article on transposing instruments: http://en.wikipedia.org/wiki/Transposing_instrument

The pitch name of the instrument (for example B-flat clarinet) tells you the pitch you hear when you play a written C on that instrument. You can figure out the transposition from this. If you play a written C on a Bb clarinet, you hear a sounding Bb (down M2). If you want to hear a sounding C, you would have to play a written D (up M2) – the instrument would move the D down M2, and the result would be a sounding C.

Many instruments also have an octave displacement, to keep the written music within the staff as much as possible (avoiding ledger lines). For example, the Bb Tenor Saxophone sounds down M2, but also sounds one octave lower than written. In effect, the tenor sax sounds down M9. The Wiki article referenced above has done a great job of breaking up all of these instruments into easy categories. For the purposes of score analysis, it is mainly important to know what sounding pitches are being played, without concern for the octave. Octave displacement is only a factor when trying to decide what inversion a chord is in.

- Concert Pitch (C) instruments – these instruments do not transpose (except by octave):
 - Woodwinds: Flute, Oboe, Bassoon
 - Piccolo – sounds up P8
 - Bass Flute, Bass Oboe, Contrabassoon – sound down P8
 - Brass: C Trumpet, Trombone, Tuba
 - Strings: Violin, Viola, Cello, Harp
 - Bass – sounds down P8
 - Percussion: Piano, Harpsichord, Organ, Marimba, Vibraphone
 - Celesta and Xylophone – sound up P8
 - Glockenspiel (orchestra bells) – sounds up P15.

- Transposing woodwind instruments:
 - B-flat instruments
 - Sounding down M2: Bb Clarinet, Bb Soprano Saxophone
 - Sounding down M9: Bb Bass Clarinet, Bb Tenor Saxophone
 - E-flat instruments
 - Sounding up m3: Eb Clarinet
 - Sounding down M6: Eb Alto Saxophone
 - Sounding down M6 plus down P8: Eb Baritone Saxophone
 - A instruments (sound down m3): A Clarinet, Oboe d'Amore
 - G instruments (sound down P4): Alto Flute
 - F instruments (sound down P5): English Horn
 - D-flat instruments: Db Piccolo sounds up m9

- Transposing brass instruments –
 - Trumpets: there are many different trumpets in a variety of keys: Bb (sounds down M2), C, D (sounds up M2), Eb (sounds up m3), F (sounds up P4).
 - Piccolo trumpets in Bb (sounds up m7) and in A (sounds up M6)
 - French Horns: the modern horn is in F, and does not have many keyed varieties like the trumpet. Instead, the composer can write the horn parts in any key, and the performers transpose at sight. Whenever you feel jaded about transposing, remember that French Horn players transpose every note they see, all the time. ☺ Common horn transpositions: Horn in F (sounds down P5), Horn in Eb (sounds down M6), Horn in C (concert pitch)

Example 1 – you see an A Clarinet part in the score. To find the actual pitches you would hear, you need to transpose down a minor third. This is done both without a key signature, and with to show that you can also transpose key signatures by the same interval.

The image shows two staves of musical notation. The first staff is labeled "A Clarinet (written)" and shows a melody in C major. The second staff is labeled "A Clarinet (sounding - down m3)" and shows the same melody transposed down a minor third to B-flat major. The third staff is labeled "A Clar. (written - with d minor key sig.)" and shows the melody in D minor. The fourth staff is labeled "A Clar. (sounding - key sig. transposed down m3 to b minor)" and shows the melody transposed down a minor third from D minor to B-flat minor.

Example 2 – this time you are seeing the sounding pitches – what the composer wants to hear. To write this melody for A Clarinet, you must transpose in the opposite direction – up a minor third. When the clarinetist plays the transposed melody, the listener hears the intended sounding pitches. Again, this is done both with and without the use of key signatures.

The image shows two staves of musical notation. The first staff is labeled "Sounding (concert pitch) notes" and shows a melody in C major. The second staff is labeled "A Clarinet (written - up m3)" and shows the melody transposed up a minor third to D major. The third staff is labeled "Sounding notes, with d minor key sig." and shows the melody in D minor. The fourth staff is labeled "A Clar. (written, key sig. transposed up m3 to f minor)" and shows the melody transposed up a minor third from D minor to F minor.