RICHARD HAYNES

clarinet

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Website • Soundcloud • YouTube

If you are a composer and/or arranger and will be writing/scoring for clarinet, you might be wondering which clarinet or clarinets to choose, which clarinets to form a clarinet section or which clarinets to combine with other instruments. As you surely already know, there are many different kinds of clarinets to choose from – some with varying degrees of availability – so how does one choose which one/s to write for? This document might help you decide which clarinet – or constellation of clarinets – is right for your new composition or arrangement.

It's important to note at this stage that a lot of the information contained in this document is generalised and that an attempt has been made to remain as objective as possible – even though describing the sound of instruments is very much a subjective practice – so as to not favour one clarinet or the other. The descriptions are based on existing repertoire and my experience of the sound of the instrument. There are so many aspects to each and every instrument just as there are manifold considerations for every composition. The information is intended to give you more insight into the nature of each clarinet.

If you happen to be reading this because you are writing for me, I play Boehm-system clarinets, often called French system. Most of the clarinettists on the planet play this system. Oehler-system, or more commonly German system is played predominantly in Germany and Austria, and then relegated mostly to orchestras. The following descriptions of the sound of each instrument can be applied to both Boehm and Oehler-system instruments.

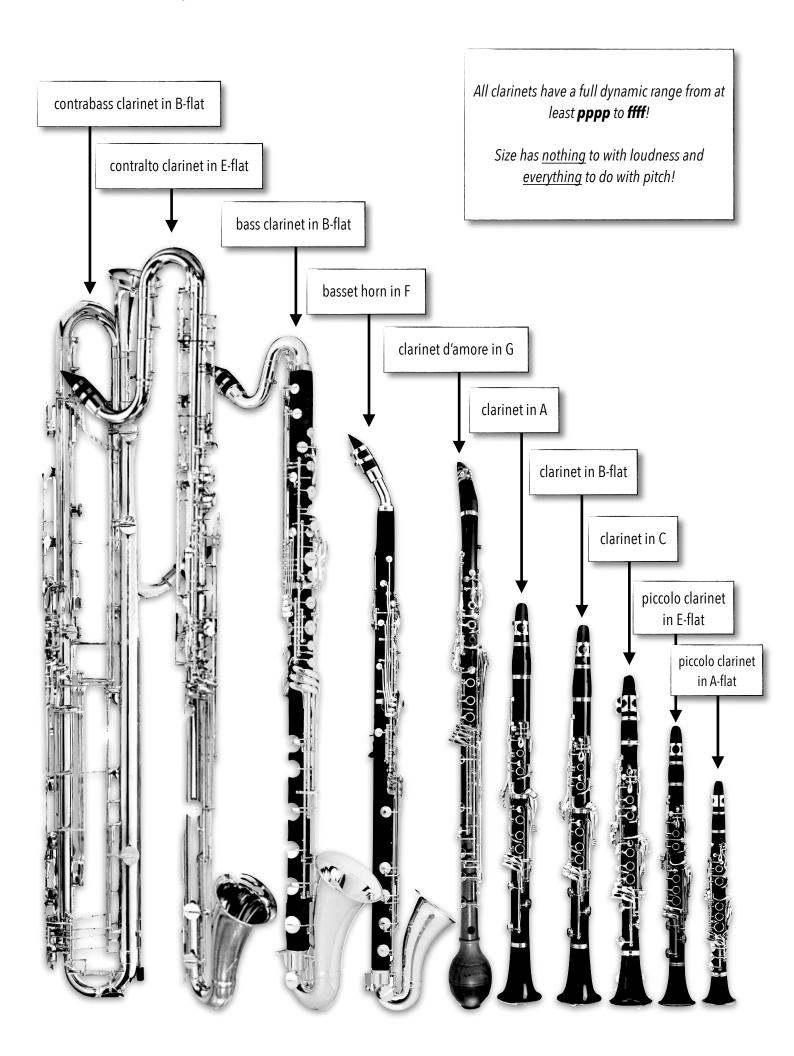
When it comes to extended techniques – especially multiphonics – there are quite large differences between the two systems, as you may already know. For Boehm-clarinets, there are well-known books by Bartolozzi, Farmer, Rehfeldt, Richards and Sparnaay that all deal with extended techniques, so you can feel free to use these as a reference. If you need a text for Oehler-system, Krassnitzer's Masters Thesis is worth a look.

If you are looking for extended techniques for a more rare instrument, for which there is not yet a dedicated book, you can adopt techniques for eg. B-flat or bass clarinet and apply them to 'nearby' clarinets, bearing in mind that the results may vary. Here's an overview:

A-flat, E-flat, C, B-flat, A clarinets – charts for any high clarinet clarinet d'amore – mostly high clarinet charts, some aspects of bass clarinet charts basset horn – mostly bass clarinet charts, some aspects of high clarinet charts bass clarinet – charts for bass clarinet contralto, contrabass clarinets – dedicated charts for these instruments

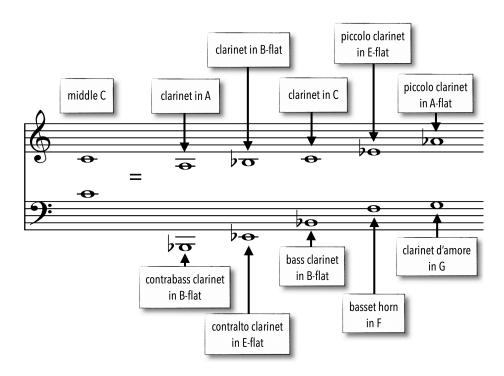
It's extremely important to check anything from these books/charts with the player for whom you are writing and on the specific instrument in mind!

Clarinets come in many sizes and transpositions and were developed for different contexts such as salon/chamber, folk, military and orchestral music. The individual sonic characteristics of each clarinet can bestow your music with a unique sound, particularly when used in inventive instrumental combinations.



<u>Transposition</u>

Almost all clarinets are transposing instruments, which means that the player reads from a part, or a score that is transposed according to the instrument being played. The term "in C" means that an instrument is a non-transposing instrument, or transposes at the octave (eg. piccolo, contrabassoon). The preposition "in" does not imply that an instrument is pitched in any type of key (eg. C major, B-flat major etc.) it simply denotes the *nominal pitch* of the instrument, which means that when the instrument plays a C4 (c') (or in any other octave...), the resulting pitch is the same as the nominal pitch of the instrument (see illustration below). When the B-flat clarinet plays a C4, it sounds as a Bb3 (bb). The nominal pitch is the most objective descriptor of the instrument as it gives us little to no information about the sound of the instrument. It's just a label, however it's an important label because it tells us *how* it transposes and thus how one scores for it.



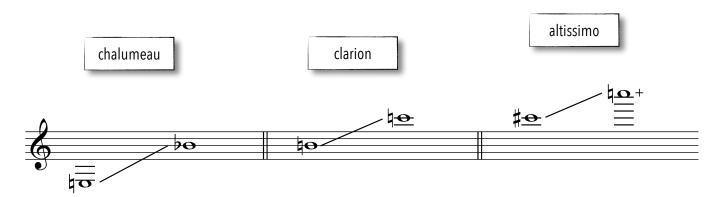
A simple example of transposition occurs at the beginning of every rehearsal and concert with the tuning note A4 (a'): because the B-flat clarinet is pitched *one whole tone lower* than C, it needs to play *one whole tone higher* than A4 (a') in order to tune, which is a B4 (b'). The clarinet in A however, being pitched a *minor third lower* than C, needs to play the A4 *a minor third higher* in order to be in unison and so plays a C5 (c''). The basset horn is pitched in F, a *perfect fifth lower* than C, so it must play the A4 a *perfect fifth higher*, an E5 (e'').

If you know the instrument well and have no trouble reading transposing scores, it can be worthwhile to compose/arrange directly to a transposing score. Using a C score and transposing later (the "transpose" button) can lead to some problems because the visual representation of the music is not where it lies on the instrument. A particularly high or low passage may not end up being in the high or low register of the instrument once it's transposed, just to name one example. As all clarinets have a relatively similar transposed range, you can train yourself to know what the resulting pitches are whilst working with a transposed score, and you will know at all times which register of the instrument is being used. (More on register later...)

One final thing to note about transposition and computer notation software is this: if you are writing atonal/experimental music and don't specify that your work is atonal in the program, then it will add a key signature to transposed parts, which isn't very helpful for atonal/experimental music. This can be very irritating for performers and can slow down the process of learning your music. Please pay attention to this whenever you are writing for transposing instruments.

Register

All clarinets exhibit a division into three main registers: *chalumeau*, *clarion* and *altissimo*. These registers are determined by fundamental physical characteristics of the instrument that dictate that the clarinet overblows at a perfect 12th and then a major 6th. To be thorough, there are further register breaks within the *altissimo* but as these become more frequent and arguably less consequential for the sound, they are grouped into the one register.



This illustration of the transposed clarinet registers shows the three registers and their *notional* lowest and highest pitches. On instruments with a basset extension (clarinet d'amore, basset horn, bass clarinet and contrabass clarinet) the lowest chalumeau pitch is C3 (c), a major third lower than shown here. Most alto and contralto clarinets have a lowest note of Eb3 (eb), a semitone lower than shown here. Please keep this in mind. Also, it is possible to blur the boundaries of the register breaks with unconventional fingerings. In doing this, the chalumeau can extend to C5 (c"), the clarion up to about F6 or F#6 (f/f#""), but this is very context-dependent. Even though these register breaks are the same on each clarinet, the ramifications of each break can vary from instrument to instrument. Larger clarinets will have more noticeable register breaks due to the – very generally speaking – change in the amount and size of open and closed tone-holes. Smaller clarinets are more fluid in this regard.

The highest possible (transposed) pitch of the altissimo register is quite variable. A good rule of thumb is this: for the highest clarinet (piccolo clarinet in A-flat) don't write above G6 (g''') without asking someone. For the lowest clarinet (contrabass clarinet) don't write above G7 (g'''') without asking someone. All the clarinets in between have reliable highest notes within this octave between G6 and G7. This is shown in more detail later on.

High-range clarinets (piccolo clarinets in A-flat and E-flat, clarinets in C, B-flat and A)

For the purposes of this document I am dividing the clarinet family into three groups: high, mid, low. The high-range clarinets can also be divided into two sub-groups: clarinets & piccolo clarinets. To my mind, these subgroups differ considerably in timbre, whilst still both being in the "highest" area of the clarinet family's range. As this document goes from high to low, let's start with the piccolo clarinets.

<u>Piccolo clarinets</u>

These highest and smallest (hence: piccolo) of all clarinets come in at least 4 different nominal pitches: D, E-flat, G and A-flat, at least these are the most common types and even then – except for the E-flat clarinet – they're quite rare. They are the upward extension of the sound of the clarinet family and can pierce the sound of a tutti orchestra with ease, when played in the high register. There are very few limits to the technical virtuosity possible on these instruments and when played softly, they can sound magical and seductive. Multiphonics on piccolo clarinets can be more difficult to produce than on the other high clarinets (C, B-flat, A) so be sure to always check them with someone. All other extended techniques work well.

piccolo clarinet in A-flat

One of the highest clarinets in semi-regular circulation, the piccolo clarinet in A-flat experienced popularity in folk music and military bands. It is pitched a perfect fourth higher than the piccolo clarinet in E-flat, rendering the sound significantly more bright and penetrating. It is capable of everything from blistering virtuosity to surprising poetry and yearns to be aired more often. There is much to discover here.

Video example

Notable repertoire:

Giuseppe Verdi – in the offstage band of several operas

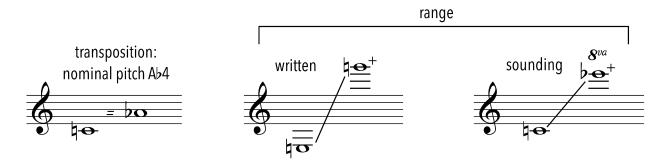
Béla Bartók – Scherzo (1904) for piano and orchestra

John Tavener – Celtic Requiem (1969) for soprano, children's choir and orchestra

Hans Joachim Hespos – *Einander-bedingendes* (1966) & *VIF-bi* (1987) for ensemble; Interactions (1971) for orchestra

Samuel Andreyev – *Vérifications* (2012) for six instruments

Oren Boneh – Municipal Shuffle (2022) main work for piccolo clarinet in A-flat and ensemble



piccolo clarinet in E-flat

The piccolo clarinet in E-flat is a prominent instrument in symphonic works of the early 20th century being almost always featured in some way. The instrument is extremely versatile in all registers; it can almost do everything a B-flat clarinet can do, just higher. The classical music canon has deemed this instrument to be an extrovert, however it can be very much the opposite too.

Video example

Notable repertoire:

Hector Berlioz – Symphonie Fantastique (1830) for orchestra

Richard Strauss – Till Eulenspiegels lustige Streiche (1895) for orchestra

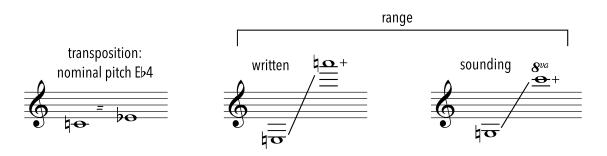
Igor Stravinsky – Le sacre du printemps (1913) for orchestra

Anton Webern – Suite, op. 29 (1926) for ensemble

Paul Mefano – *involutive* (1958) for solo piccolo clarinet in E-flat

Conlon Nancarrow – Player Piano Study No. 7 (1965) for ensemble arr. Yvar Mikhashoff (1995)

Jeroen Speak - Epeisodos (1998) for solo piccolo clarinet in E-flat







Clarinets in C, B-flat and A

These three clarinets appear most often in orchestral writing and formed the core of the clarinet section before the higher and lower types of clarinets began to appear. During the time in which clarinets had only very few keys, a clarinet with a different nominal pitch, or transposition, could turn a "difficult" key into an "easy" key. For example, an overture in D major would call for clarinets in B-flat to play in E major, which having four sharps for a clarinet with as little as 5 keys (the mechanical kind) would have been quite a challenge, depending on the music. Playing the overture in D major on a clarinet in A would mean the clarinettist could play in F major, which having only one flat is much easier. Today, in part due to the fully chromatic keywork of modern clarinets, the necessity to change between B-flat and A clarinets on account of key signature has been minimised, even though one could still consider composing/arranging taking into account that key signatures of six or seven sharps or flats are still tricky, depending on the music. The individual sonic qualities of B-flat and A clarinets and the slightly larger range of the A clarinet are not to be underestimated in their ability to impact your music.

Clarinets in C appeared perhaps least often however they were quite noticeable because of their considerably brighter timbre. Clarinettists could use the same mouthpiece on a C clarinet so this was minimal inconvenience. C clarinets were used regularly in orchestral music from the mid 18th through to the early 20th century but their popularity has diminished since modern Bb and A clarinets now cover the full range of technical requirements needed, and so many – but not all – players have been transposing C clarinet parts at sight on B-flat clarinet for a century or so. The use of C clarinets today is something vaguely akin to historical performance practice: they are being used to get closer to the sound that composers wanted and there are some very good examples for this, particularly in the works of Richard Strauss and Gustav Mahler. And on that note...

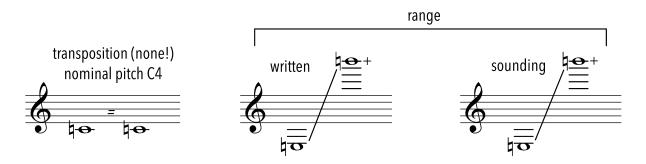
clarinet in C

The only common non-transposing instrument in the clarinet family, the C clarinet has a hint of the sound of the piccolo clarinets whilst still retaining relative warmth. In the orchestra, a group of two or three C clarinets can compete with the trumpets, having a brilliant, shiny sound. Mendelssohn used it in his incidental music for A Midsummer Night's Dream in two instances: the Wedding March and the Funeral March, from which one might surmise, that he thought the sound fitting in the context of rituals. In modern music, it has been known to sound like a hyperactive, wound-up regular clarinet.

Video example

Notable repertoire:

Ignaz Pleyel – Clarinet Concerto (1797) for clarinet and orchestra Gioachino Rossini – The Barber of Seville (1816) opera buffa Felix Mendelssohn – A Midsummer Night's Dream (1826/42) stage play Bedrich Smetana – The Bartered Bride (1866) opera buffa Richard Strauss – Eine Alpensinfonie (1915) for orchestra Richard Barrett – knospend-gespaltener (1992) for solo clarinet in C James Erber – Strange Moments of Intimacy (1999) for solo clarinet in C





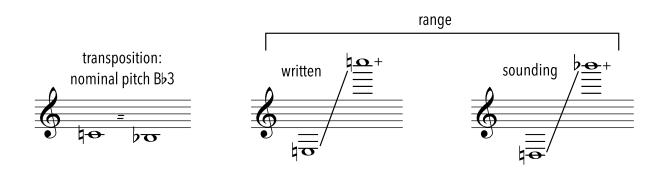
clarinets in B-flat and A

The subtle changes in timbre between clarinets in B-flat and A are noticeable in solo works and chamber music. Igor Stravinsky stipulated in his *Three Pieces* for clarinet (1918) a change from A to Bb clarinets between the second and third pieces, most certainly imbuing the third piece with a suddenly brighter tonal character. This is the 'standard' pair of clarinets with one in B-flat (right) and A (left). They are both equally versatile. Since key signatures are more seldom used in contemporary works, the virtues of these instruments can be found in their tone colour: the B-flat clarinet is woody and bright, and the A clarinet is woody and more mellow or dark. Both are capable of achieving colours from dark to bright depending on context. One virtue of the clarinet in A is the extra semitone in the low register thanks to its slightly lower nominal pitch.

<u>Video example clarinet in B-flat</u> Video example clarinet in A

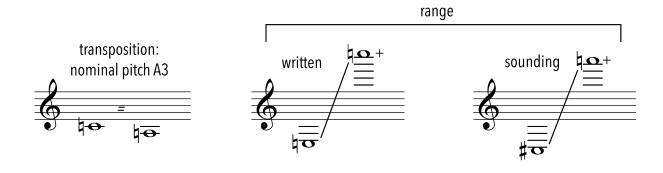
Notable repertoire for clarinet in B-flat:

Carl Maria von Weber – Clarinet Concerto No. 1 and No. 2 in F minor and E-flat major (1811) for clarinet and orch. Johannes Brahms – Sonatas No. 1 and No. 2 in F minor and E-flat major (1894) for clarinet and piano Aaron Copland – Clarinet Concerto (1949) for clarinet and chamber orchestra Pierre Boulez – Domaines (1961/1969) for solo clarinet or clarinet and ensemble Helmut Lachenmann – Dal niente (1970) for solo clarinet Liza Lim – Sonorous Body (2008) for solo clarinet



Notable repertoire for clarinet in A:

Wolfgang Amadeus Mozart – Clarinet Concerto in A major (1791) for clarinet and orchestra Johannes Brahms – Clarinet Quintet in B minor (1891) for clarinet and string quartet Carl Nielsen – Clarinet Concerto (1928) for clarinet and orchestra Heinrich Sutermeister – Capriccio (1947) for solo clarinet Jean Françaix – Theme and Variations (1974) for clarinet and piano Chris Dench – Ruins within (1993) for solo clarinet



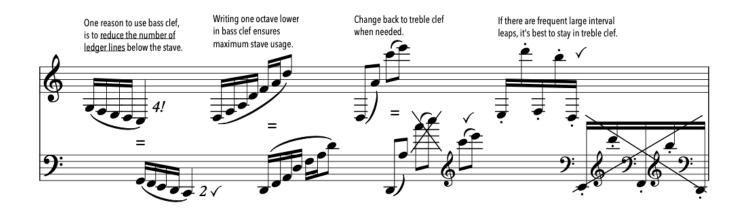
Mid-range clarinets

The group of mid-range clarinets is less well-known when compared to the high- and low-range instruments but I am particularly fond of them. The definitions of and boundaries between mid-range clarinets were for a time unclear but today, these have crystallised into a trio of instruments each with a nominal pitch one whole tone lower than the other, and each with unique sonic qualities: clarinet d'amore in G, basset horn in F and alto clarinet in E-flat. At the time that instrument makers began experimenting with lower/alto clarinets, a trend was set in motion by the oboe family to do with bell shapes. The oboe d'amore had come about around 1717 and was used widely in masses and cantatas particularly in combination with plaintive, mournful music. The covered (=less rich in overtones) sound of the instrument has inspired composers to write for it, from Graupner and Bach through to Ravel and Debussy. Clarinet makers around 1740 began experimenting with bell shapes and found that the same kind of sound was attainable. Whilst the clarinet d'amore and its gentle sound didn't enjoy the same success as the oboe d'amore, the instrument was employed in various guises until the mid-19th century.

The mid-range clarinets are the highest clarinets that exhibit slight bends over the course of the instrument on account of their size. The clarinet d'amore was the first instrument to exhibit a bend in the form of a curved metallic (mostly) or wooden (rarely) neck. The earliest basset horns however were first built in a completely curved form (much like the oboe da caccia) ending in a box – in which the bore makes several final curves – and a metal bell. The box enabled a range to low written C3 (c) (also known as the *basset* range, lit. small bass) and the metallic bell/horn was directly inspired by the oboe da caccia and brass instruments, earning the instrument the name *basset horn*. The modern alto clarinet is considered to have developed after the d'amore and basset horn, even though low clarinets with flared bells in the 18th century were generally named alto clarinets. The alto clarinet was built in G, F and E, however developments in the regions now known as France and southern Belgium helped the instrument to migrate to its final nominal pitch of E-flat. Both the basset horn and alto clarinet have curved metallic necks and small, saxophone-like bells. A clarinet d'amore and an alto clarinet both with basset range were invented in the 21st century and so the future is bright for mid-range clarinets.

bass clef

Bass clef has been used when writing for clarinets capable of producing notes in the basset range of the instrument (Eb3 to C3 or eb to c). As today's clarinet d'amore and basset horn (as well one make of German alto clarinet) fall into this category, an brief excursus into the use of bass clef is necessary at this point. Almost all music for clarinet is written in treble clef due to the practice of playing the clarinet as a transposing instrument, i.e. a written middle C4 (c') always sounds different depending on the clarinet played (see instrument ranges above) and in the case of 8 out of the 10 clarinets in this document, sounds lower than written. Earlier examples of music for clarinet show us that sometimes bass clef was used to delineate the context of musical material in the lowest register of the instrument (*chalumeau*) in contrast to higher passages in eg. the clarion register, that were written in treble clef. Ensemble or orchestral works in which the clarinet part essentially played the role of a bass or tenor voice for the duration, may have been written entirely in bass clef. Over time various conventions evolved that any low clarinet player must be able to navigate, however the most user-friendly and sensible ways to use bass clef are these:



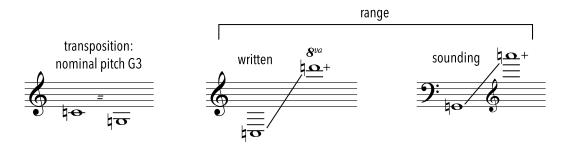
clarinet d'amore in G

The modern clarinet d'amore is a very recent development in the clarinet world. The sound of this instrument is perhaps the most gentle of all the clarinets but it can dominate the texture, should it have to. The clarinet d'amore was an instrument used from the late 18th to mid 19th centuries predominantly in chamber music and operas. Its covered sound was unobtrusive but very lyrical and warm. It is the only clarinet with a pear-shaped bell. The modern instrument exhibits a basset range and is extremely agile in all registers. As with most low clarinets, there are few limits to its sonic capabilities. There needs to be more music written for this instrument to ensure it doesn't disappear from the concert stage again.

Video example

Notable repertoire:

Henri Joseph de Croes – *Partitas* (ca. 1780) for two clarinets d'amore, two violas and double bass Johann Simon Mayr – *Gloria patri* & *Sacrificium* (ca. 1830) for vocal soloists, clarinet d'amore and orchestra Chris Dench – *Ghosts of Motion* (2020) for solo clarinet d'amore Sachie Kobayashi – *être* (2022) for clarinet d'amore and ensemble



basset horn in F

The basset horn was one of Mozart's favourite instruments in a time where its construction was very different to today's model. The first draft of the Mozart *Clarinet Concerto* was written for a basset horn in G, reflecting his love of the sound of the instrument. Both the basset horn and alto clarinet underwent a streamlining of design in France during the second half of the 19th century, in the case of the basset horn making it more compact and easier to play, whilst retaining its range and sonic qualities. The modern basset horn may look like a mini bass clarinet but the sound is quite unique, slightly airy and reedy in the low register, glowing and bright in the clarion. Stockhausen fell in love with the basset horn and incorporated it in many of his large works, evoking the persona of EVA. The basset horn oozes potential and there is still much to be discovered here.

Video example

Notable repertoire:

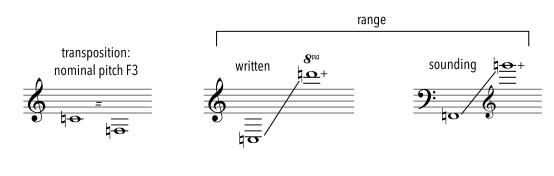
Wolfgang Amadeus Mozart – Serenade No. 10 (Gran Partita) (1781) & Requiem (1791)

Felix Mendelssohn – Concert Pieces No. 1 & 2 (1832/33)

Richard Strauss – Serenades (1943-45)

Karlheinz Stockhausen – Susani (1984), Xi (1986), Harmonien (2006) and many more...

Samuel Andreyev – Sextet in Two Parts (2019)



Low-range clarinets

The group of low-range instruments is most commonly represented by the bass and contrabass clarinets, as well as their less well-known sibling the contralto clarinet. There were however more instruments created that today spend their lives in museums. Bass clarinets in C and A were manufactured for some time and a total of three octocontralto clarinets and one octocontrabass clarinet were made. Rising costs of materials and labour may explain the fate of these now obsolete instruments, but also streamlining in the way composers wrote for low instruments. Parts for bass clarinet in C and A became virtually non-existent after World War I. The emergence of the bass clarinet in B-flat as a solo instrument as early as 1928 (Othmar Schoeck – *Sonata* op. 41) piqued widespread interest and thus this instrument underwent a period of constant improvement during the 20th century. Today's bass clarinets are masterpieces of technical ingenuity with improvements still being made.

Whilst the bass clarinet enjoyed a shining career in the symphony orchestra, the contralto and contrabass clarinets were relegated to the wind symphony, even though some works for orchestra with contrabass clarinet do exist. Nonetheless both of these instruments possess great potential as solo instruments, as already proven in some cases, and are a great asset to any kind of small to large ensemble. Makes of these instruments differ wildly to the extent that some solo pieces are written for a particular model and performances on other models have to be "adapted". The way multiphonics behave is also quite different.

Essentially all three instruments (bass, contralto, contrabass) offer strong bass voices, a wide variety of spectral, fingered and dyadic multiphonics and all other extended techniques. The character of the sound of each instrument should be investigated up close to determine which instrument is right for you. Please refer to the earlier section on bass clef as this is applicable to these instruments.

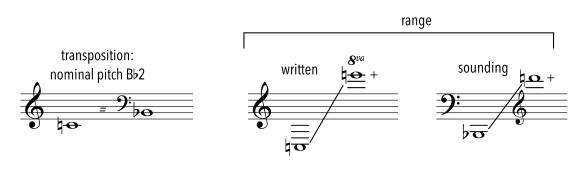
bass clarinet in B-flat

Pitched one octave below the standard B-flat clarinet, the bass clarinet plays as low as a bassoon and as high as an alto saxophone. Modern bass clarinets have a powerful tone colour and many developments have made the instrument very agile, despite its size. The bass clarinet has been an enormously popular instrument in new music, its sound almost becoming synonymous with the genre itself and therefore perhaps also slightly overused. It features in many of the great orchestral works of the 20th century thanks to its brooding, sombre and at times heroic sound.

Video example

Notable repertoire:

Othmar Schoeck – Sonata, op. 41 (1928) for bass clarinet and piano Eugene Bozza – Ballade (1958) for bass clarinet and piano Harald Genzmer – Sonata, GeWV 202 (1984) for solo bass clarinet Johannes Maria Staud – Black Moon (1998) for solo bass clarinet Georges Aperghis – Damespiel (2011) for solo bass clarinet Liza Lim – Microbiome (2020) for solo bass clarinet



contralto clarinet in E-flat

The contralto clarinet is pitched one octave below the alto clarinet and is a mystery for many low clarinet players. One could say that the sound is more similar to the contrabass clarinet than the bass clarinet, in part because most contralto clarinets are constructed in a similar way to contrabass clarinets and are played with similar if not identical material (mouthpiece & reeds). Passages that might be very difficult on bass or contrabass clarinets due to being too low or too high, are very likely much easier on a contralto clarinet. As there is very little research on this instrument, there is much to discover.

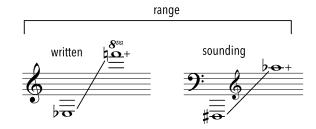
Video example

Notable repertoire:

Chris Dench – Funk (1989) for contralto clarinet and percussion

Oren Boneh – Municipal Shuffle (2022) epilogue for contralto clarinet and ensemble





contrabass clarinet in B-flat

This is the lowest instrument of the clarinet family today, pitched one octave below the bass clarinet. Despite the size and cost of contrabass clarinets, they are relatively common coming in different shapes and sizes. A lot like the bass clarinet, the sound of the contrabass clarinet can be heard quite often in new music, but also film scores and more recent orchestral works. It has a very large range offering many different colours from subsonic rumblings to glassy high harmonics.

Video example

Notable repertoire:

Gérard Grisey – Anubis-Nout (1983) for solo contrabass clarinet Franco Donatoni – Ombra (1984) for solo contrabass clarinet

Richard Barrett – interference (1996-2000) for solo contrabass clarinet, voice & bass drum Liza Lim – Machine for Contacting the Dead (1999-2000) for solo bass/contrabass clarinet & cello and ensemble

Dominik Karski – the outward impulse (2007) for solo contrabass clarinet & tam-tam



