AN INTRODUCTION TO THE RECORDER

BY

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Performer, 'THE RECORDER'

Sampled Instruments

Recorders are a large family of instruments in many sizes that represent many time periods. They are fully chromatic (with a few specific notes missing in a few cases), but because they come in so many sizes, we name each size by the lowest note on the instrument - even though players read at pitch or with only octave transpositions, instead of from transposed parts like on a Bb clarinet. In other words, most tenor recorders are "in C" because the lowest note with all holes covered is a C.

Baroque recorders at A=440

These are the most familiar category of recorder. If no more specific terminology is used, then this is usually the type of recorder being referred to.

Each size has a fully chromatic range of a bit over two octaves. Higher notes beyond this are often possible, but some of these may require the player to close the end of the bell with their knee or leg. This is actually a reasonably common technique, so we did include those notes on the alto. We didn't include it on the other sizes because it tends to be less practical and less predictable due to larger variations between models, and the other sizes make the motion more awkward.

In practical contexts, these “knee” notes are very usable in many cases; they are just not practical in fast passages. See the attached chart for specific ranges and which notes require covering the bell.

Lower instruments speak more slowly than higher ones, and nearly always have a certain amount of noise from the movements of the keywork.

In the modern era, SATB or AATB quartets are a common ensemble configuration but ensembles of many other sizes and configurations are also used, including very large “recorder orchestras”. These ensembles take advantage of the Baroque recorder’s range and agility across all the sizes.

Recorder players generally learn to play all the sizes and players from an intermediate level onward will typically have access to many sizes. So unlike with string quartets or woodwind quintets, which are generally a fixed configuration of instruments, recorder ensembles can easily mix and match any combination of different sizes.

Great bass and contrabass recorders are more expensive and less common than SATB sizes, but they are still reasonably common and accessible in many places.

While sizes lower than the contrabass in F do exist, there are only a few models available and they are less common. We may consider sampling them in a future project.

We sampled the following Baroque recorders at A=440:

- sopranino in f’’ in castello boxwood by Yamaha
- soprano in c’’ in European boxwood by Von Huene
- alto in f’ in European boxwood by Von Huene
- tenor in c’ in satinwood by Yamaha
- bass in f (also called “bassett” or “bassetto”) in maple by Yamaha
- great bass in c (also called “C bass”) in maple by Yamaha
- contrabass in F (also called “subbass”) in mahogany by Von Huene

Baroque recorders at A=415 and A=392

Because pitch was far less standardized and often lower in the 18th century, ensembles that perform on copies of period instruments tune to 415hz as the modern standard for Baroque pitch. Somewhat less common but still in regular use is A=392, for music from regions where the pitch was typically lower still. 415 is a half step lower than 440, and 392 is a whole step lower. So therefore a recorder in F at 415 can also be considered a recorder in E at 440. It's not common to use these instruments in that way, and transposed parts should be provided, but it's certainly possible.

In any case, the variety of sizes that are commonly available at A=415 is not quite the same as the variety of sizes at A=440; for example, great basses and contrabasses at A=415 are extremely rare, whereas voiceflutes (a Baroque tenor in d) are common at A=415 but rare at A=440.

We sampled the following recorders at A=415:

- sopranino in f'' (concert e'' at A=440) in European boxwood by Von Huene
- sixth flute in d'' (concert c#'') in European boxwood by Von Huene
- soprano in c'' (concert b') in European boxwood by Von Huene
- fourth flute in b-flat' (concert a') in European boxwood by Von Huene
- alto in f' (concert e') in European boxwood by Von Huene
- voiceflute in d' (concert c#') in European boxwood by Von Huene
- tenor in c' (concert b) in European boxwood by Von Huene
- bass in f (concert e) in maple by Yamaha

And at A=392:

- alto in f' (concert e-flat) in European boxwood by Von Huene

A consort of "Praetorius" Renaissance instruments by Prescott, as sampled in the project

"Praetorius"-style Renaissance consort recorders at A=440

These instruments differ considerably from Baroque-style instruments. Their bore is wider and tapers less than equivalent Baroque sizes, and their tone holes are larger. They have a smaller pitch range than Baroque recorders, but they have a stronger low range and there is less difference in volume between high and low ranges.

These also have far less keywork in the larger instruments than Baroque recorders, and they don't have double holes for the lowest holes. This means that to play a C# on a Renaissance recorder in C, the player must cover the bottom hole partway. This produces a very weak note, although it is still used in some contexts. Bassetts and larger, as well as some tenors, have one key for the bottom note - all the other holes are open, even on the contrabass. For this reason, Renaissance recorders with one key are missing the note one half step above the lowest note (i.e, a great bass in c does not have a low C#).

Renaissance consort recorders are often designed to play best in ¼ comma meantone tuning, although good players are able to adjust pitch as they play. We sam-

pled all of these using equal temperament, but this library includes a setting for ¼ comma meantone tuning as well as various other historical temperaments.

These recorders are based on instruments from the Renaissance that were built in matching sets, intended to play together. Sources differ on whether consorts should consist of sizes alternating 4ths and 5ths away from each other, or of sizes that are all separated by a 5th. For this reason, and to facilitate flexibility in registration, sopranos and tenors are produced in D as well as in C, and altos are produced in A and G as well as in F.

The most commonly available of these are soprano, alto, tenor, and bassett; followed by great bass, contrabass, g alto, and g bassett; with d sopranos and tenors and a altos being relatively rare.

We sampled the following sizes of Renaissance consort recorders at A=440, all built by the Prescott Workshop in maple:

- soprano in d''
- soprano in c''
- alto in a'
- alto in g'
- alto in f'
- tenor in d'
- tenor in c'
- bassett in g
- bassett in f
- great bass in c
- subbass in F

Articulations/Techniques

Un-accented, sustained notes

These notes are played with only just enough articulation to produce a clean attack, and sustained on the designated pitch. The differences in volume and timbre (such as between the lowest note on the instrument and the note a half step above it) are an important characteristic of the recorder's unique sound. The notes are released gently and cleanly.

The differences in volume and timbre between some adjacent notes are the result of the fingerings required for these. For example, some notes require covering a hole only partway, or closing several holes below a hole that is open. These cases will produce a softer or weaker sound than the notes immediately above and below.

Accented, sustained notes

The note was started with a hard "t" created by the tongue, followed by a sustained pitch. The nature of this articulation is such that the very beginning of the tone starts out a bit sharp before settling, and the attack may contain a mix of higher overtones than the sustained note.

Vibrato

Unlike modern flute players, recorder players do not generally play with constant or consistent vibrato. Instead it is used sparingly as an occasional ornament, or to color and shape a long note. Because vibrato is created by varying the breath pressure, it means that the pitch fluctuates up and down around the nominal pitch. When sampling vibrato, we began each note on pitch, then started the vibrato, and finished on the starting pitch again before releasing the note.

Tenuto

Notes are of moderate quarter note length, with a clear but un-accented attack and clean release. These attacks are generally faster on higher recorders and higher notes, and a bit longer on lower notes and lower recorders. The highest few notes in the highest registers may sometimes require a slightly more forceful articulation to get the note to speak correctly.

Basic staccato

Notes are short but long enough to still hear a clear tone, and with a clean cut-off, and an un-accented attack. These can be performed shorter on higher recorders than on lower ones. The largest instruments take longer to speak, especially in the lowest part of the range, so there is a limit to how short these notes can be performed in practice.

Accented staccato

Similar to basic staccato, but with an accented attack. The more forceful "t" used to start the notes tends to make the attack start a bit sharp before dropping to the nominal pitch. In a very short note, there may not be time for the pitch to stabilize, but this is generally not a problem in context. Some of the chromatic notes on some sizes of recorders are more touchy, so there may be a limit to how much of an accent is possible.

Sputato

This is a hard, percussive "t" articulation with an immediate cut-off. The effect is an articulation that suggests the pitch, but with no real tone after it. Most fingerings on most

recorders do produce a discernible amount of the nominal pitch, although some crack into different harmonics and the result isn't really recognizable as the prescribed note. We include these as they happen, since they are the authentic result of applying this effect in the real world.

Staccatissimo

These notes are played as light and short as possible. Smaller recorders and higher notes generally speak faster, and can therefore play shorter notes. These may sometimes sit slightly below the nominal pitch, especially in cases where the note speaks slowly. This is not usually a problem because the notes are so short.

Flutter tonguing

One of the most common so-called "extended techniques" for the recorder, flutter tonguing is executed by rolling an "R" as is common with many speakers of Spanish, Italian, etc. It can be trickier on the lowest notes and some of the higher ones where the note may not speak easily in the correct partial.

True legato intervals

These intervals are performed without tongue articulation between the two pitches except where needed to make the destination note speak. In some cases, there may be a slight slide between pitches as a result of the finger motions necessary to get between fingerings that require holes to be partially covered, for example. Intervals that cross register breaks are usually less smooth than those within the same register, and will have a distinctive "flip" when the register changes. This is typical on wind instruments in general.

In actual playing contexts, some of these register crossings are avoidable with alternate fingerings, or can be finessed or hidden by the player to some degree. But this depends on the player and the specific model of instrument (i.e, an alternate fingering that works on one recorder might not work as well on a different model of the same type). Trills and many other types of ornaments are essentially fast "true legato" movements, but these can also vary quite a bit between players, styles, instruments, etc.

General information about the recorder

The recorder's closest relative in a modern classical orchestra is the *concert flute*. But the sound, response, capabilities, and typical techniques are very different.

The recorder speaks much faster than the flute - faster than anything, really; although smaller recorders generally speak faster than larger ones.

In general and by default, there is little to no taper to the beginnings and ends of notes. Good players are able to create some amount of taper and plenty of shape and tone development, but the recorder does not easily fade in and out.

Whereas flute players learn to play with vibrato almost all the time and only stop vibrating when specifically instructed to do so, recorder players generally only use vibrato as an *expressive device* in certain places (such as at the end of a long note), or when the music specifically asks for it.

The dynamic range of a recorder is not zero, but it is generally much narrower than that of most modern classical instruments. In particular, there are various things that can be done to make middle and higher notes quieter, and things that can be done to change to tone color or make a part stand out more; but there's very little a player can do to make the low range louder, other than use a different style of recorder or use a microphone.

Recorder players make use of a wider variety of articulations than modern woodwind instrumentalists, and the recorder itself is highly responsive to subtle differences in articulation.

The recorder is usually not as loud as most modern instruments.

The keywork on larger recorders is also large, and often makes audible noises. This is especially common for the style of key used on Renaissance recorders. Those key noises are audible in the sampled sounds, and they are audible on live recorders. But in ensemble contexts they don't tend to be problematic.

The largest sizes tend to be rather quiet and sometimes temperamental, and aren't common as solo instruments. Contrabasses in particular require a LOT of air, and players are limited to very short phrases.

General characteristics and tendencies

The recorder is best known for its lyricism and its agility. As a lyrical instrument, it has traditionally been associated with tenderness, with the voice of the divine, and with idealized pastoral scenes. As an agile instrument, it has a long history of imitating bird songs or playing flashy ornamentation.

These are some generalizations about how it sounds and behaves. There are exceptions depending on the model or type of recorder, but this is a fair starting point:

The lower half of the first octave tends to be soft and mellow. Players have fewer possibilities for playing louder or more stridently in the lower part of the range; it tends to be about mezzo piano by default (although there are a few models and types of recorders where this is less the case).

The middle range, from the middle of the first octave into the the middle or upper part of the second octave, has a much wider dynamic range and tends to have more presence. It's generally more satisfying and effective to play a dramatically singing melodic line in the second octave than in the first. Fast ornamentation will sparkle more in the higher part of the range than in the low range. The range between the middle of the first octave and the middle of the second also has the most dynamic range, because players have more possible ways to play quieter while staying in tune.

The highest few notes before the extended range are often more strident, and there are fewer options to play them softly.

Percussive articulation effects are also very common and effective, in all ranges. These effects are used in solo music but also in ensemble music as a form of rhythmic accompaniment

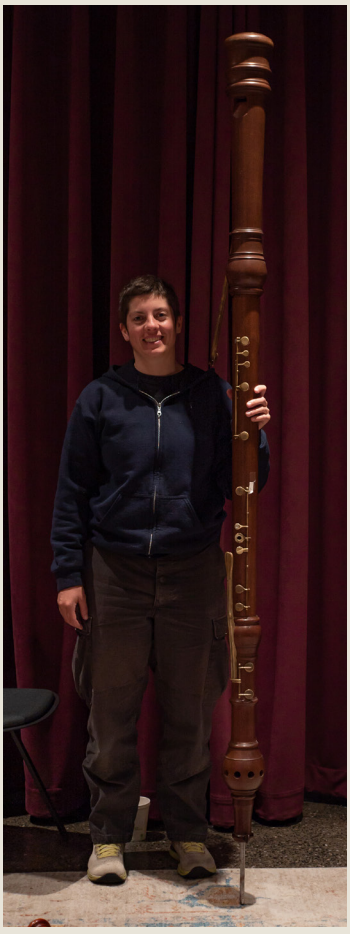
Sizes of recorders

Recorders come in a family of sizes, and players above an intermediate level can generally be expected to switch between them fluently. The whole range of sizes has most fingerings in common (although they may be read as different notes), and breathing and tonguing technique are pretty comparable across the range of sizes, with players being accustomed to the technical adjustments needed when switching sizes. That said, the different sizes do have some unique tendencies and characteristics as a result of their history, common usage, and ergonomic demands.

The most common sizes of recorder are soprano in C (meaning that the lowest note is a C), alto in F, tenor in C, and bass in F. Less ubiquitous but still reasonably standard are lower and higher sizes. Continuing the pattern of alternating sizes between C and F, there is the great bass in C below the bass, and contrabass in F below that; as well as a sopranino in F above the soprano, and even a garklein in C above that. There are other sizes in other keys, usually in more specific styles or used for specific purposes.

The most common size for solo repertoire is traditionally the alto. Most Baroque sonatas and obbligato parts are for the alto, as are many modern solo compositions. When prioritizing instrument purchases, many players consider a high-quality alto to be most important. The Baroque alto is also the most standardized of any size.

The soprano also has a sizable dedicated repertoire. Tenor and bass are more often used in ensembles than as solo instruments, but those sizes do have their own solo literature as well.



The contrabass recorder is quite a sight to behold!

415

TENOR
VOICEFLUTE
A392 ALTO
ALTO
4TH FLUTE
SOPRANO
6TH FLUTE
SOPRANINO

A415 instruments in relative scale to each other

The complete Renaissance consort from 'nino down to Greatbass (contrabass not pictured).

Note how the holes grow further apart, until they start to separate around the tenor into two clusters for each hand.

Recorder Ranges, notation conventions, and nomenclature

There are a few confusing things about how recorders are named and notated that are different from how modern woodwinds are treated as transposing instruments.

The "key" of a recorder refers to the note you get with all of the standard holes covered. This does not count any added half-step extensions that some modern models offer. Soprano and tenor recorders are "in C" meaning that the lowest note is a C; a tenor recorder with an extended range may have a low B key, but it is still a C tenor. An alto in F produces an F when all the holes are covered.

However, ***recorder players read at pitch*** (or with octave transpositions), instead of having transposed parts like many modern wind instruments. So on an F alto, the lowest note is notated as an F and sounds like a concert F. On a C tenor the lowest note is a concert C and it's notated as a C. This is different from how we describe and notate a modern Bb clarinet or other modern transposing instruments.

Players learn to read in so-called "F fingerings" and "C fingerings"; most do not think about this as reading with a transposition the way a modern brass player does.

There are other less common sizes, in other "keys", such as altos in G and tenors in D. In those cases, they are still named for the note you get by covering all the holes, and players still usually read at pitch (with octave transposition as needed).

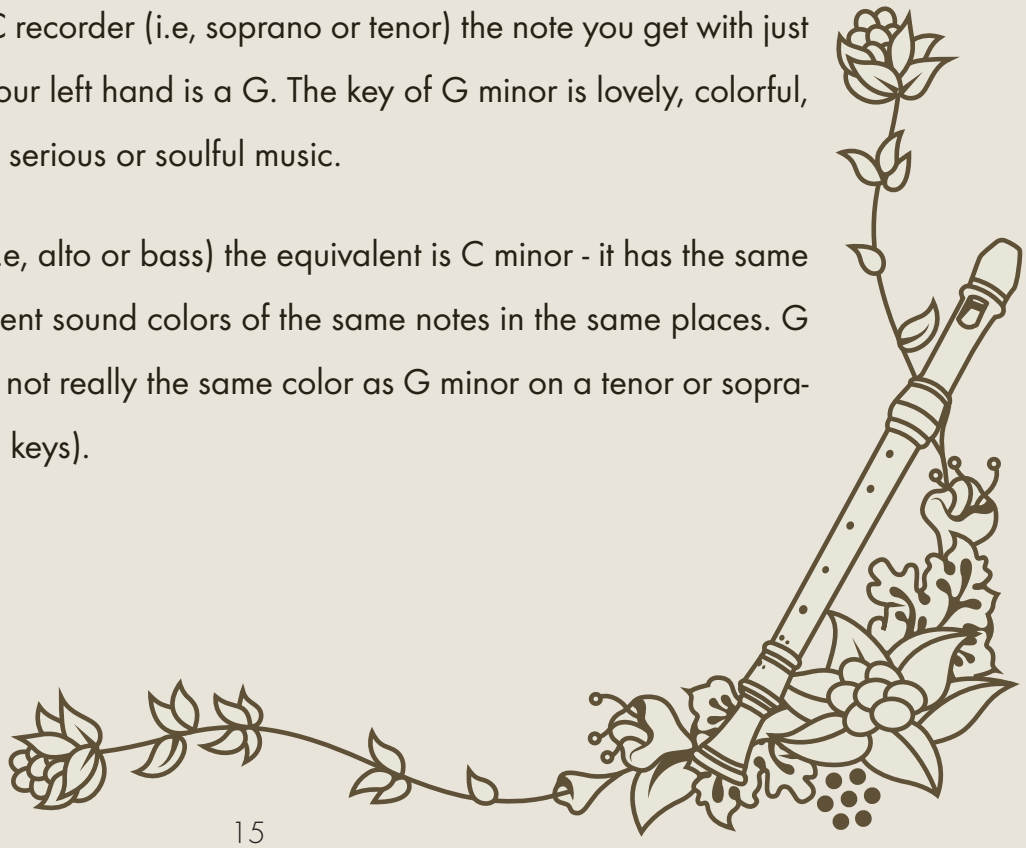
Baroque recorders are fully chromatic, and all sizes can play in all keys. That is even true of the ones third graders learn on! But it's important to note that the chromatic notes on recorders are achieved by "cross fingering" - meaning that there are more holes closed below a hole that is open. A G# on a C recorder is really an A with extra holes closed to flatten it to G#.

That means that when you play a chromatic scale, the timbre and sometimes even volume vary from one note to the next much more than they do on a clarinet or flute with Boehm-system keywork. The consequence is that each key very much has its own special color and character.

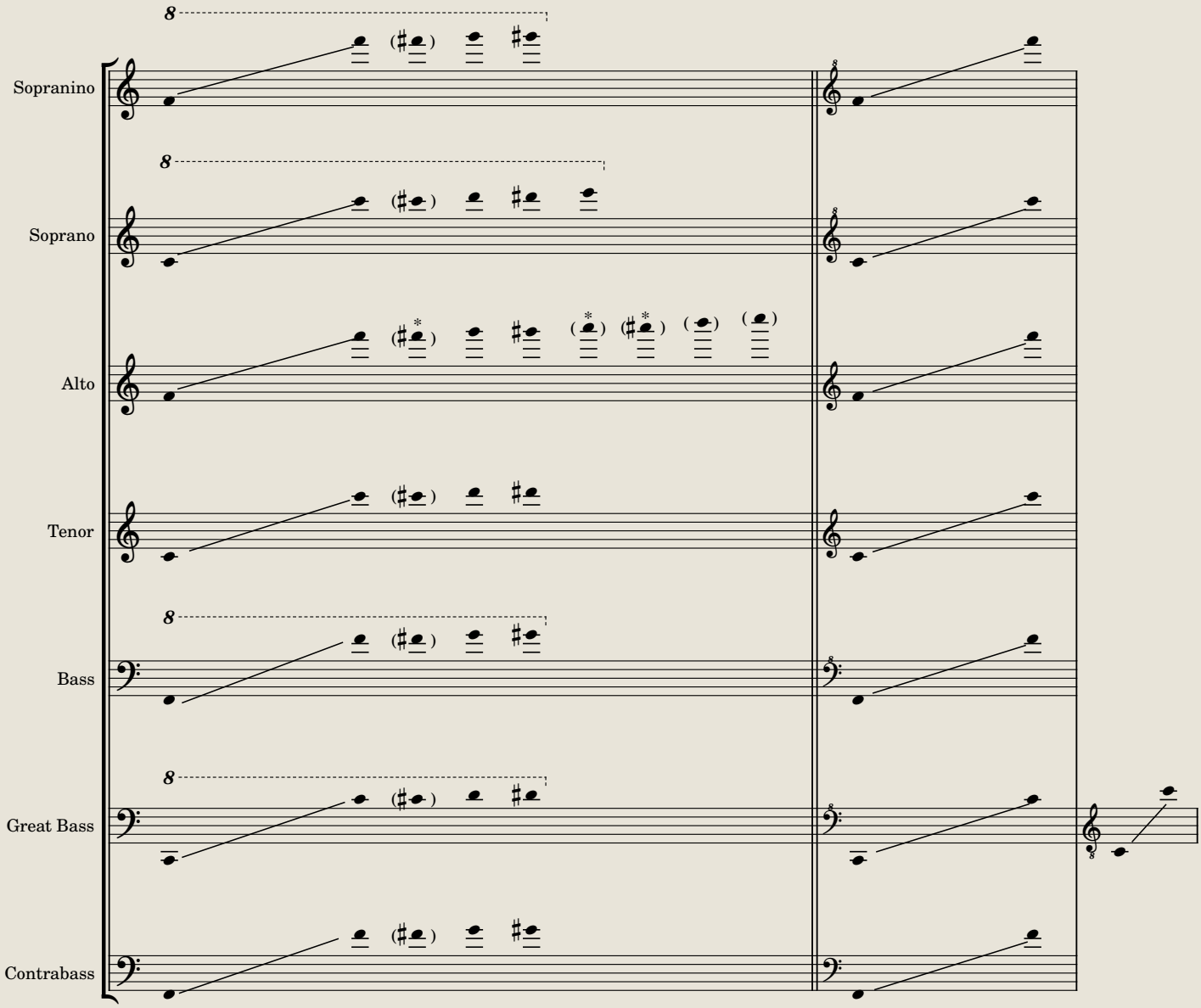
And in thinking about the character of a key, the important thing is how the fingerings relate to the instrument - not what the key is actually called.

For example, on a C recorder (i.e, soprano or tenor) the note you get with just the thumb and fingers of your left hand is a G. The key of G minor is lovely, colorful, rich, and excellent for very serious or soulful music.

On an F recorder (i.e, alto or bass) the equivalent is C minor - it has the same fingerings, and the equivalent sound colors of the same notes in the same places. G minor on an alto or bass is not really the same color as G minor on a tenor or soprano (although both are nice keys).



Baroque A=440 Recorder Ranges, Sounding & Notated



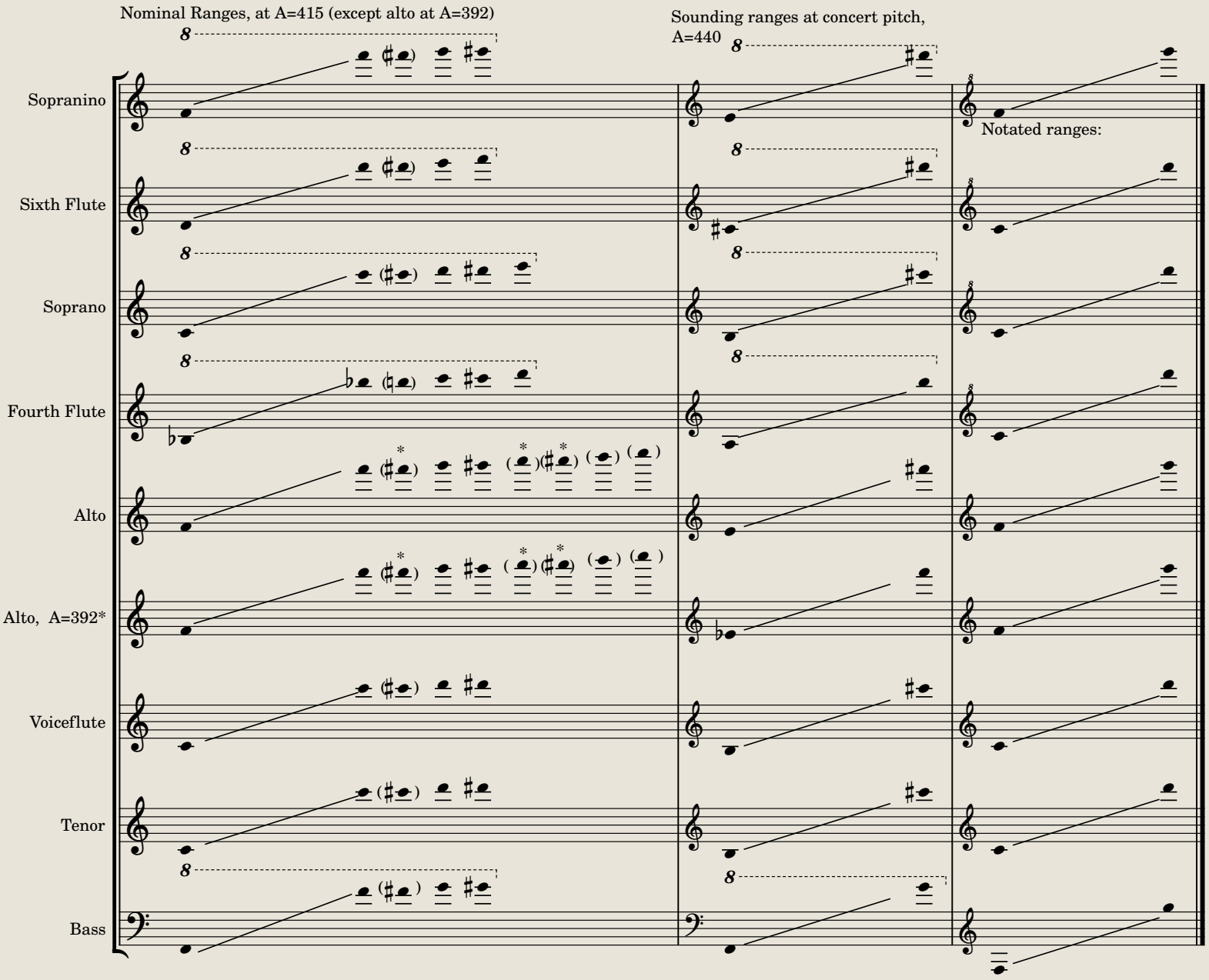
Diagonal lines indicate fully chromatic range. An asterisk (*) indicates notes that may require the player to cover the bell of the recorder with the knee. This is a common technique especially on the Baroque alto, and we sampled the extended range on the alto using this technique. However, those notes should not be used in fast passages.

Notes in parentheses are part of the extended range, and may not work the same way on every model or every instrument. Although in many cases they can be perfectly usable, it may not be guaranteed. Some models are able to produce extended range notes beyond those listed here. The models we sampled were all able to produce these notes with conveniently usable fingerings.

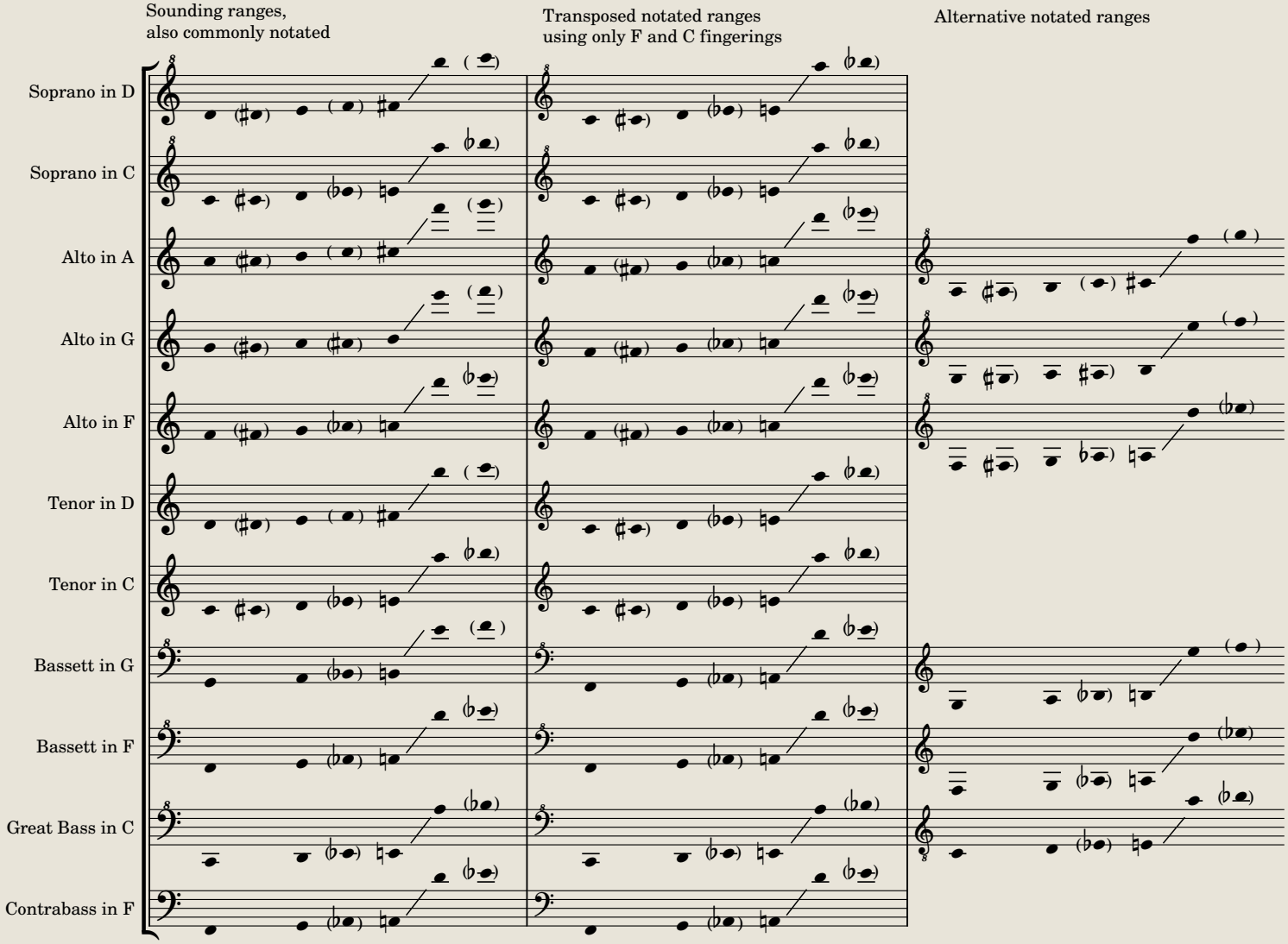
The great bass is often notated in octave treble clef even when the bass is notated in bass clef, because many players have less practice with C fingerings in bass clef. Both possibilities are shown for that reason.

The use of octave clefs is good practice for the sake of clarity, but many editions just use the standard treble and bass clefs with the music notated in the same place on the staff. As long as it is clear which recorder is called for, this isn't usually a problem.

Baroque A=415 and A=392 Recorder Ranges, Sounding & Notated



Renaissance "Praetorius" Consort Recorder Ranges, Sounding and Notated



Diagonal lines indicate fully chromatic range. Note the use of octave clefs!

Notes in parentheses may not work the same way on every model or every instrument. The notes in parentheses at the bottom of the range are produced by partially covering the lowest two holes, and these are often very weak or unstable. The lowest sizes have only a single key for the bottom note, so the note a half step above the bottom of the instrument is generally missing, e.g, a Great Bass in C does not have a low C#. It is possible to obstruct full closure of the key ahead of time so that closing the key produces a C# instead of a C, but then the low C will be missing until the obstruction is removed.
The highest notes in the range, also in parentheses, are often touchy. They may not work on every instrument, they may be flat, or they might only speak when approached legato from the note below. Therefore they are most useful as quick passing tones.

Because players using Renaissance consort instruments are accustomed to playing from vocal scores, it is common to simply notate these at pitch as shown in the first column. The second column shows how to transpose these parts so players only read either F or C fingerings. The third column shows common alternative notation for these sizes. The great bass is often notated in octave treble clef even when the bass is notated in bass clef, because many players have less practice with C fingerings in bass clef than with F fingerings in bass clef.

The use of octave clefs is important when writing for many sizes to reduce the potential for confusion.

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Please kindly refer to the included **User Manual** for instructions, troubleshooting, and advice for using the library.

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