

## Recorder Miscellany (Nov 2017)

The majority of Recorders available today are not exact copies of historical instruments but are instruments of modern design which may include some aspects of design from earlier periods. Modern student instruments are designed to function adequately and play easily, and may or may not be 'outwardly' styled in a traditional (usually late Baroque) fashion. Most manufacturers' entry level instruments are 'modern' instruments, the next level up are closer copies of Baroque or Renaissance instruments which produce a more authentic sound for their musical periods.

Advanced students and professionals may also want good copies of particular instruments from particular musical periods (e.g. the late Baroque) to play the music from the period with more authenticity. Note that the notion of an Historical period is fluid – e.g. the Renaissance period did not start and finish at the same time all over Europe – it took decades for the culture of the Renaissance to spread across Europe and so when considering whether an original Recorder was a Renaissance Recorder depends on where the Recorder was made and what it was used for, as well as when it was made.

### Period Recorders

**The 'Medieval' Recorder:** the design of the medieval Recorder can only be guessed at because no complete instrument from this period exists. Attempts to make reproductions of Recorders used in this period are based on one fragment from an actual medieval Recorder, plus speculation based on medieval texts and images, and the study of later instruments believed to be based on medieval designs. Today's makers of Medieval recorders are attempting to 're-create' Medieval instruments rather than copying originals.

**The 'Renaissance' Recorder:** the instrument bore was a one-piece cone, the bore was wider and the angle of taper was about half that of the (late) Baroque instrument, the compass of the instrument was about an octave and a half, the sound was less reedy and suited to consort playing (which was how Recorders were predominantly used at the time). The earliest known example of the archetypal Renaissance Recorder design dates from the C16 but such instruments were in use from the C14 to C18; these instruments did not use the standard 'English' fingering pattern of the (late) Baroque instrument however some current manufacturers produce instruments with the sound of a Renaissance instrument but with the standard 'English' fingering (for more information about fingering patterns see relevant section below in this article). Copies of Renaissance Recorders are available with various pitch centres (and different tuning temperaments).

**The 'Transitional Recorder' (or 'Pre-Baroque' Recorder):** whereas most Renaissance Recorder music was written for Recorder consorts of instruments with a compass of about one and a half octaves, it is the case that solo music of the late Italian Renaissance and early C17 did require Recorders with a greater compass. These instruments are known as **Transitional** because they still retain some elements of Renaissance design (in particular single holes for the last two finger positions) but have a compass of over two octaves. There are existing examples of these instruments and they vary considerably in their design because Recorder makers were experimenting to extend the compass and improve other facets of the sound of the instrument; the various designs mean that different instruments require different fingering patterns and there is no 'standard' pattern as generally found on (late) Baroque instruments. Current Recorder makers who make these instruments base their Recorders on the designs of particular makers from the period (such as the Richard Haka instrument from the mid C16).

The accomplished Recorder player Ganassi published a treatise in 1535 in which he gave a fingering pattern (**Ganassi fingering**) which he claimed produced a use-able compass of over two octaves – and many modern Recorder makers have 're-created' Renaissance style Recorders that achieve this (so-called **Ganassi Recorders**) – however this is a result of modern ingenuity – no original contemporaneous Renaissance Recorder has been found that has this compass (it is now believed

that he achieved different high notes on different Recorders and that he could not produce a useable compass of over two octaves on any one individual Recorder) and so makers of Ganassi Recorders are not copying an original design, but like makers of Medieval Recorders, they are attempting to re-create an instrument with the information they have.

**The (late) Baroque Recorder:** this is the most common recorder design in use as resuscitated by Dolmetsch and others. Dolmetsch based his copy on an English instrument from C18 that was an instrument in the style of the re-modeled design by Hotteterre of Paris. It had 3 sections: a cylindrical head, a conical body, and a conical foot joint (the sections were not always made separately on the smaller sizes of Recorder) and has a compass of over two octaves. Student models are usually in A=440 Hz but professional recorders are available in various other pitch centres to help re-create an 'authentic' historical sound. Particular models copied are by late Baroque instrument makers such as: P Bressan, J Denner, Rippert, Rottenburgh, Scherer, T Stanesby Senior, T Stanesby Junior, J Steenbergen, Terton, and Wyne. Some Recorder makers of professional late Baroque instruments do not copy an original instrument but base their instruments on the Baroque design principles in order to 're-create' Baroque Recorders.

**The 'Contemporary' Recorder:** Contemporary instruments are aimed at performers who will be performing contemporary music as well as historical music – these instruments are designed to be easier to play in the 3<sup>rd</sup> register and to have greater volume and thus meet the demands of contemporary music or to play historical music in a contemporary fashion (as with all but the most recent classical music there is a choice to be made on how the music is performed – is it to be performed in a period fashion, or a contemporary fashion, or some combination of both approaches?).

## Recorder pitch

Standard pitch has been established at A = 440 (hertz) since 1945ce and most instruments are manufactured at this pitch although some wind instruments are manufactured with a pitch centre of A = 442 to give a certain brightness to the sound. In the centuries before 1945ce the tuning of the note A depended on geography - instruments built in any particular location were tuned to what was considered the pitch of A in that location and at that time.

Recorders today are mainly produced at A=440 and at A=442 but they are also produced at a range of other pitches to try to give an authentic re-creation of the sound of the music of particular historical periods and locations.

The three other frequencies of 'A' that are regularly used by modern makers are: A=392, referred to as 'French Baroque pitch'; A=415, referred to as 'Baroque chamber pitch' (but commonly used for Renaissance instruments); and A=466, referred to as 'Baroque church pitch'. Some makers produce instruments with alternative sections of different lengths so, depending on which sections are used, the instrument can be used in more than one pitch.

These other pitches of 'A' are still a compromise of modern standardisation because the four chosen common pitches of 'A' are related to each other - the pitch A=392 is a whole tone lower than A=440, the pitch A=415 is a semi-tone lower than A=440, and the pitch A=466 is a semitone higher than A=440. This compromise of standardisation sometimes enables the same instrument to be used in a different function at a different pitch i.e. any instrument built in one of these 4 pitches might function as a different consort instrument at another pitch; for example, an alto (F treble) recorder at A=440 can be used as a 'G treble' in A=392 in the common Renaissance consort quartet consisting of (F) Bass, 2 (C) Tenors, and (G) Treble (as long as the original music is transposed down a tone); another example is a Tenor at A=440 can be used as Voice flute in D at A = 392 (if the original music is transposed down a tone).

Recorders are also sometimes made in pitches other than the four standardised pitches in order to be exact copies of historical instruments – there are many examples of original instruments that were built to a Baroque chamber pitch of A=409 which would have been common in certain parts of Europe.

## **Recorder temperament**

Temperament is a very complex issue but put *very* simply it is the relative size of each semitone going up a chromatic scale. Since 1917 the vast majority of (Western European) instruments have been tuned to the 'equal tempered' scale (also called 'equal temperament') - that means that as the instrument is played from its lowest note to its highest note each semitone step *sounds* the same size. Prior to 1917 many instruments were tuned to various *unequal* tempered scales; this meant some semitones sounded 'bigger' or 'smaller' than others. The advantage of various unequal tempered scales (e.g. mean-tone temperament) is that (different) notes played together in consort sound more harmonious than when using equal temperament; the disadvantage is that this effect is only heard in certain 'home' keys and the further away from these keys the music moves the less the effect is heard, and in distant keys the music sounds out of tune! The more a piece of (harmonic) music moves away from the home keys (of the instrument), and the more chromatic it becomes, the more equal temperament is required to avoid notes sounding out of tune.

The temperaments used to tune Recorders can be loosely divided to match the three common types of Recorder: Renaissance, Baroque, and Contemporary. Renaissance instruments (copies) are likely to be tuned to forms of unequal temperament that enables them to sound good when playing the music of the period (although they would sound out of tune when accompanied by a modern piano). Baroque Recorders (copies) use forms of unequal temperament that are closer to equal temperament - with practice it is possible for the player to play in tune with a modern piano but it is also possible to move away from equal temperament when playing in a consort. Contemporary Recorders are tuned to equal temperament; they are best suited for playing along with other equal tempered instruments (such as Piano) and for playing music from the Romantic period onwards.

## **Descant and Treble fingering, transposition and Recorder consorts**

Traditionally the Recorder has not been treated as a transposing instrument, this is because historically all players were expected to use the same score and be freely able to switch from one size of instrument to another (without transposed scores being required). This tradition has continued with the modern Recorder family of F/C instruments. The player always refers to the note by its sounding name (although they may be transposing an Octave up or down). All F/C Recorders are therefore 'in C' - that is when the player refers to the note as C they are actually playing the note C.

Modern F/C Baroque Recorders (except Garklein and Piccolino) generally use the same basic pattern of fingering from the lowest note to the highest note (although a Recorder player will also know many alternate fingerings of notes to deal with the quirks of individual instruments). If the pattern starts with the lowest note (7 fingers) sounding C - this is referred to as Descant fingering and the player refers to the lowest note as C, if the pattern starts with the lowest note (7 fingers) sounding F - this is referred to as Treble fingering and the players refers to the lowest note as F. In contrast other woodwind instruments would transpose, for example: in the family of F/C Saxophones the fingering pattern is based on 7 fingers = Low C regardless of whether this note sounds C or F; if the note actually sounds F then the instrument is said to be a transposing instrument 'in F'.

Today's serious player needs to be able to read Descant and Treble fingering in the treble clef and in the Bass clef if they want to be able to play the whole family of modern F/C Recorders.

Historically Recorders have been made with various different lowest notes including D, Eb, G, A and Bb. Some of these Recorders were used in Recorder consorts and some were used in mixed ensembles or to accompany voices, in either case the player was expected to read a non-transposed score. In their own times a Recorder player would have been limited to the sets of instruments used in their locality and historical period, in contrast today's player has access to many more instruments and learning each of the fingering patterns for differently pitched instruments is very demanding so some players do use transposition for Recorders outside the modern F/C family: when transposing, the Tenor (Descant) fingering is considered the fundamental fingering naming system (with 7 fingers sounding C in concert pitch) and transposed scores are created for all other instruments except those with Treble (F) fingering.

A common structure of historical consort was based on the (F) Treble Recorder (lowest note F), it consisted of the Treble recorder; the 3<sup>rd</sup> flute (meaning Recorder) with the lowest note being A; the 4<sup>th</sup> flute with the lowest note being Bb, the 5<sup>th</sup> flute with the lowest note being C (the descant); the 6<sup>th</sup> flute with the lowest note being D; and the Octave flute (the Sopranino) with the lowest note being F an octave above the Treble Recorder's lowest note. Although these instruments are based on the Treble Recorder they are referred to as Soprano (Descant) recorders because of their range of notes (except the Sopranino). If using transposition the 3<sup>rd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> flutes (actually Recorders) would be transposed.

Another commonly occurring Recorder is what is referred to now as the Alto in G (Treble with lowest note G) which was part of a Renaissance consort consisting of Bass (lowest note F), 2 Tenors (lowest note C), and the G alto (treble - lowest note G). Also commonly found was an instrument that is now referred to as a Tenor in Bb – this was the Tenor 4<sup>th</sup> flute (Recorder) lowest note Bb - a 4<sup>th</sup> up from the Bass (lowest note F) and part of another consort structure. Finally the 'Voice flute' was popular for accompanying the voice; it was a D Tenor Recorder (lowest note D) used in Low Baroque pitches where the range of the instrument would have matched the Soprano singing voice (whereas at modern A=440 pitch the modern Tenor [lowest note C] now corresponds with the soprano singing voice).

## **English and German fingering**

The conventional design of the Baroque recorder has front tone-hole number 4 smaller than front tone-hole number 5, and such a Recorder uses (late) Baroque fingering (also known as 'English' fingering because of the English role in resuscitating the instrument), this fingering is standard across modern and historical (late) Baroque Recorders. However, in the early part of the twentieth century a recorder was developed which had front tone-hole number 5 smaller than front tone-hole number 4, and this allowed for an apparently simpler fingering of F – this is called German fingering. This change in design caused many other chromatic notes to be badly out of tune and the instrument, although popular in the 1930s, became obsolete in the 1950s as the Recorder began to be treated more seriously and the limitations of German fingering became more widely appreciated, however some instruments are still made with this fingering.

## **The modern F/C Recorder family**

Below is a list of Recorders from smallest to the largest.

Piccolino (F)	-6 fingers sounds G; lowest note F referred to as F sounding F6 two octaves higher than written. Experimental instrument – to enable the player to cover the holes, the holes are not in a linear sequence
Garklein (C)	-6 fingers sounds D; lowest note C referred to as C sounding C6 (two octaves above middle C); usually scored 2 octaves lower than sounding but sometimes 1 octave lower than sounding. Barely has 2 octave range and standard fingering does not always work so Sopranino preferred unless a particular passage of music is easier on the Garklein
Sopranino (F)	-6 fingers sounds G; lowest note F referred to as F sounding F5 one octave higher than written. Also referred to as the 'Octave Recorder' in consorts based around the Treble recorder
Descant (C)	-6 fingers sounds D; lowest note C referred to as C sounding C5 (1 octave higher than written; also called 'Soprano' although its range is an octave higher than the Soprano voice and other Soprano instruments. Also exists as the 'fifth flute' in consorts based on the Treble recorder

Treble (F)	-6 fingers sounds G; lowest note F referred to as F sounding F4 as written (on Treble clef) although sometimes written down an octave to ease reading of alto vocal parts, some editions of Baroque scores use Violin clef; also called 'Alto' although its range is an octave higher than the Alto voice and other Alto instruments.
Tenor (C)	-6 fingers sounds D; lowest note C referred to as C sounding middle C(4); usually written on Treble clef and sounds as written but may be written in bass clef one octave below sounding pitch to ease reading of choral parts for tenor voice. Although it is referred to as a Tenor its range is an octave higher than the Tenor Voice and other Tenor instruments. Some models have keys for low C and C#.
Bass (F)	-6 fingers sounds G; lowest note F referred to as F (sounding F(3) below middle C); usually written in Bass clef but sounds as Octave higher; can be written on treble clef in concert pitch or even on treble clef an Octave higher (so matching the fingerings of treble recorder for the different registers of the instrument; although referred to as a Bass it's range is an octave higher than the Bass voice and other Bass instruments, in fact the instrument has also been referred to as a <b>Basset Recorder</b> to reflect this. The head-joint can be direct (like the head-joint on smaller Recorders) angled (sometimes referred to as 'knicked'), or 'capped' – the player blows into a short curved pipe (a 'crook'). Instruments usually have 3 or 4 keys.
Great Bass (C)	-6 fingers sounds D; lowest note C referred to as C sounding C3; the instrument has several keys and must be played with a crook.
Contra Bass (F)	-6 fingers sounds G; lowest note F referred to as F sounding F2 one octave below Bass Recorder; also known as Great Bass in F. Lowest note = lowest note of Bass singing voice.
Contra Great Bass (C)	-6 fingers sounds D; lowest note C referred to as C sounding C2 two octaves below C Bass; Also know as Sub Great Bass in C. Equivalent to lowest note of Cello; this instrument is a recent development intended for Recorder Orchestras – they are made by Herbert Paetzold
Double Contra Bass (F)	-6 fingers sounds G; lowest note F referred to as F sounding F1 two octaves below Bass in F; also known as sub Contra-Bass in F; this instrument is another recent development intended for Recorder orchestras– they are made by Herbert Paetzold

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