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Going Higher: Navigating the Altissimo

One of the most frequent questions asked by my students is: “How can I make my high notes better?” Whether we’re dealing with issues of fingerings (“They make no sense!”), intonation, response, tone, or range, the altissimo often baffles developing clarinetists. In this presentation, I will attempt to troubleshoot some of the more common problems by providing some basic information and exercises dealing with clarinet partials, voicing, and fingerings. Though I’ll focus primarily on the fifth and seventh partials, the same principles can be applied to higher partials.

I. FUNDAMENTALS

Before we begin talking about partials and voicing, it is important to make sure that you have solid fundamentals:

- Embouchure: You should have a flat chin, tight corners, and relatively light bite pressure. If you find yourself biting through a thick mouthpiece patch every two weeks, you are likely biting too much.
- High Tongue Position: We will discuss this more when we get to voicing, but the basic tongue position when playing in the lower ranges is high. Think “eee” or “shh” instead of “oh.” The back of the tongue should be between your molars, and you should feel the air resistance toward the front of your mouth, rather than in your throat. It might be useful to consider the analogy of putting your thumb over the end of a garden hose (eee or shh) versus kinking the hose (oh), and then consider what happens to the water (air).
- Support: You should support with your abdominal muscles when you blow, and you should be able to fill a large room with your sound in the lower registers.

II. CLARINET PARTIALS

Since the clarinet possesses a (mostly) cylindrical bore and acts as a stopped tube, its registers skip partials in the overtone series. A quick Google search will reveal many sites offering specifics; I found the following article from the physics department at the University of New South Wales quite interesting:
<http://www.phys.unsw.edu.au/jw/clarinetacoustics.html>

In any case, it will be useful for us to determine which notes are possible in which partials. From this point forward I will refer to various registers by their “partial”

1st Partial:



A musical staff in treble clef showing a sequence of notes: G4, A4, B4, C#5, D5, E5, F#5, G5, A5, B5, C#6, D6, E6, F#6, G6, A6, B6, C7. The notes are grouped by vertical bar lines after every four notes.

The first five notes of the scale are written on a single staff. The notes are F#4, G#4, A4, B4, and C#5. Each note is a quarter note. The F#4 and C#5 notes have a sharp symbol (#) above them. The G#4, A4, and B4 notes have a sharp symbol (#) above them. The notes are written on the staff lines: F#4 is on the first line, G#4 is on the first space, A4 is on the second line, B4 is on the second space, and C#5 is on the third line.

- Bugle Calls: Finger low E, and then cover the end of your bell with a crossed leg. By altering air stream, jaw pressure, lip position, and tongue position, you should be able to produce the overtone series of a bugle.

- The following exercise calls for you to voice (or squeak) the 1st partial note into the 3rd partial without the use of the register key.



- The following exercise calls for you to voice the 3rd partial note into the 5th partial without changing your fingering. Note the similarities between the 3rd partial fingering and the full fingering for the related 5th partial note.



- Using the same techniques described above, begin notes in the 3rd partial, move to the 5th partial, and finally voice to the 7th partial.

Practicing voicing exercises can increase your range quite dramatically, but it can also lead to squeaking problems, otherwise known as “over-voicing.” I typically try not to use much *conscious* voicing when working in the 1st, 3rd, and 5th partials. In these cases, if your fundamentals are sound, fingerings will typically solve most of your problems...








IV. Half-holing

While it is relatively easy to get from the 1st partial to the 3rd partial by using the register key, the same cannot be said for getting from the 3rd to the 5th partial. The tone hole under the index finger of the left hand is employed as a secondary register key, and owing to its other function (tone hole), it is much too big to be a perfect register key. By only partially covering this tone hole, you will be able to achieve a smoother transition between the 3rd and 5th partials. I have incorporated half-holing into most of my 5th partial playing, especially between C-sharp and F. F-sharp is typically too flat for half-hole use.









V. Fingerings

Knowing a number of fingerings for altissimo notes in a variety of partials will be a tremendous advantage to any clarinetist. Tom Ridenour’s *Clarinet Fingerings: A Guide for the Performer and Educator* provides a fairly exhaustive list of fingerings. The following are fingerings that I have found useful in a variety of contexts (excluding the most standard):

3rd Partial Fingerings:

C-Sharp 3:				
D 3:				
D-Sharp 3:				

5th Partial Fingerings:

C 3:				
F 4:				
F-sharp 4:				
G 4:				

G-Sharp 4:

7th Partial Fingerings:

F 4:

F-sharp 4:

G 4:

G-sharp 4:

A 4:

A-sharp 4:

Putting It All Together

When choosing fingerings in the altissimo, you must consider a number of factors:

- Can I move my fingers from one fingering to another smoothly (no slides or jumps)?
- Can I keep all of the notes in this passage in the same partial?
- Am I moving between partials frequently?
- Do I need to voice anything, or can I let my fingers do the work?
- What are the relative resistances of the notes? (Notes low in a partial tend to be more resistant than those higher in a partial.)
- Am I creating any jumps that *force* me to voice the notes? Is there a way to use fingerings/resistances instead?

Examples:

Beethoven Symphony No. 8, 3rd Mvt.



Rachmaninoff Symphony No. 2, 3rd Mvt.



Stravinsky 3 Pieces, 3rd Mvt.



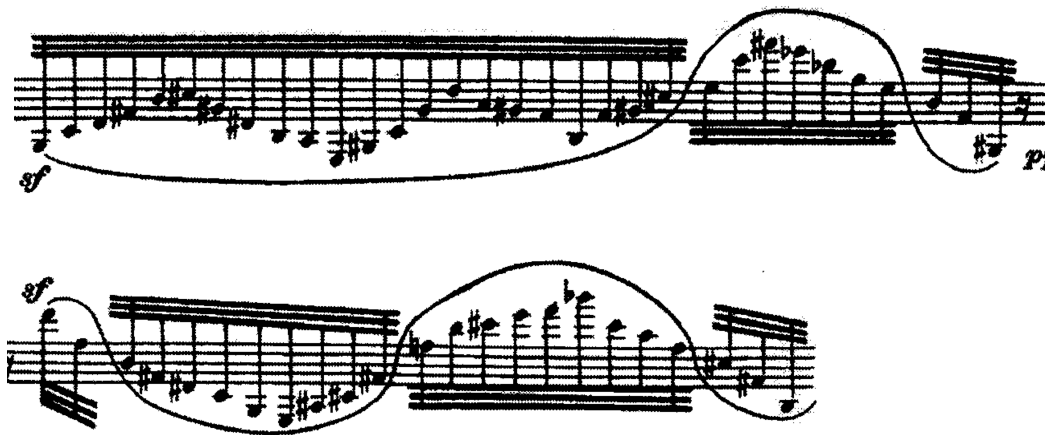
Rossini *Introduction, Theme, and Variations*, final variation



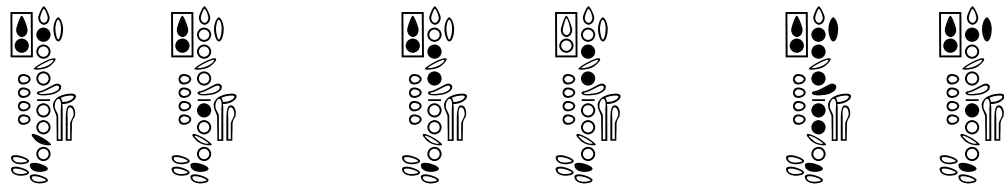
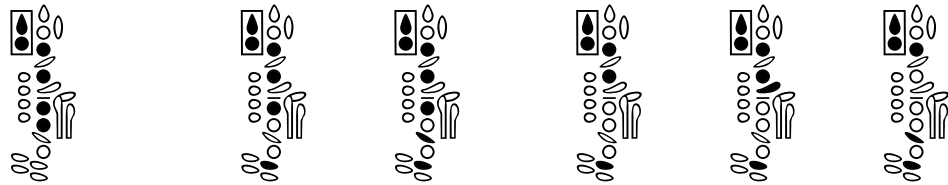
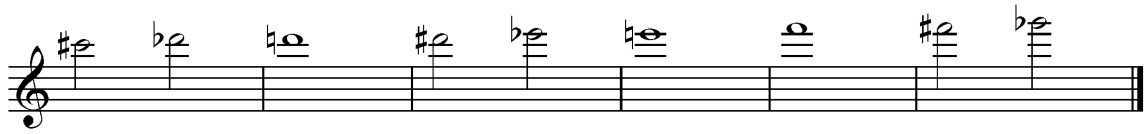
Corigliano *Concerto*, 1st Movement



Donatoni *Clair I*



My Chromatic Scale Fingerings in the Altissimo



Troubleshooting

Notes above 3 rd partial won't speak.	Check your fundamentals. You should be able to play well into the 5 th partial without feeling like you are voicing notes.
5 th partial notes are consistently squeaking.	Voice low; in other words, try to take voicing out of the equation. Blow the same way you would blow for the corresponding 1 st partial notes. Don't bite.
5 th partial notes are consistently flat.	Check for high tongue position and a firm embouchure. Support more. If fundamentals are sound, consider a heavier reed.
7 th and 9 th partial notes won't come out, even though 5 th partial notes are great.	Do voicing exercises as part of your daily warm-up routine.
5 th partial notes always "pop" out.	Employ some half-holing to make the problematic intervals smoother.