

Carlos A on Bohlen-Pierce Clarinet

Scale Step

0	1	2	3	4
261.63 Hz	78ct	156ct	234ct	312ct

Key-board Notation

5	6	7	8
390ct	468ct	546ct	624ct

9	10	11
702ct	780ct	858ct

12	13	14
936 ct	1014 ct	1092 ct
0	#0	0

b' (left or right)
plus a-key

e'' (left or right)
put tongue on reed
to flatten

15	16	17	18	19
1170 ct	1248 ct	1326 ct	1404 ct	1482 ct
#0	0	0	#0	0

20	21	22	23	24
1560 ct	1638 ct	1716 ct	1794 ct	1872 ct
#0	0	b0	b0	0

Wendy Carlos Scales and the Bohlen-Pierce Clarinet

Some alternative tunings that I like a lot are the Wendy Carlos scales. One of them, called Carlos Alpha, divides the perfect fifth into nine steps. As a result, it has almost just minor and major thirds (312 and 390 cents). Plus it is a non-octave scale, and the amazing thing is that the interval closest to the octave is the same as in the Bohlen-Pierce scale: 1170 cents or 49/25. Realizing this, I picked up my Bohlen-Pierce clarinet to try out if Carlos Alpha would be possible and comfortable to play. Here is a successful trial I made. My idea was to be able to play together with a keyboard tuned to the same scale. I connect my Yamaha Clavinova (1991) to *Cakewalk Rapture*, an inexpensive softsynth that has access to Scala files. As someone who is not very good at programming I appreciate this solution a lot as it gives me every scale I want just by pressing one button. Using Rapture, the scales are tuned to middle c' (262 Hz). And here we go! I started my explorations on the notated c' on the BP clarinet (sounding pitch: c' +22 ct) which meant just a slight correction of pitch by fingering. Playing up through one tritave, there were many notes that are easy to achieve, some of them even by use of the normal clarinet fingering, and only two notes turned out to be unachievable because they are in between two BP notes, just above the register break where the keywork for the little fingers is used. Microtonality of any kind is hard or even almost impossible to achieve in that region on any clarinet due to "all or nothing" keys and relatively big toneholes that are either open or closed. Modulation by fingering like half-holes is not possible (few exceptions and little tricks).

Speaking of "playing up through a tritave": I was wondering that the Carlos "tritave" came perfectly with the same fingering than the starting note; there *is* no perfect tritave (twelfth) in Carlos Alpha! Instead of 1902 ct (BP perfect tritave) it is 1872 ct in Carlos Alpha. I listened closely to my BP clarinet and found that with right that fingering I was using for the c' the tritave was slightly flat. This is a helpful coincidence, and usually all tritaves are totally fine with my BP clarinet thanks to a good maker.

For those who want to try out my fingerings it is important to know that my BP clarinet has two extra keys. They usually do not have any real "function"; I asked for them when I ordered the instrument to be able to play better and more multiphonics, bisbigliandi etc. So my BP clarinet is probably the only one worldwide that has additional e' flat and g'# keys on the upper joint. However, these keys turned out to be very helpful playing Carlos Alpha, and in my fingering chart I wrote down these fingerings but added alternatives for those who do not have extra keys.

As in all microtonal fingering charts, it is likely that little changes in the fingerings have to be made, depending on the properties of the clarinet which is used and the habits and material of the player. And, seriously: It's for Bohlen-Pierce clarinet. Not for a B flat clarinet.

The fingerings marked "special" are the ones that are only playable on a BP clarinet with extra e flat and / or g# key. Two notes require to put your tongue flat on the reed to flatten the pitch considerably. "ø" means half hole.