Double Horn in F and Bb / F-Horn : Tuning in Just Intonation

valves 1, 2, 3* (custom-built) are tuned to rational proportions (2/15, 1/15, 4/15) of the respective open horn’s length producing, in various combinations, two Utonal Series of fundamental pitches with wavelengths in the proportions 15 : 16 : 17 : 18 : 19 : 20 : 21 : 22

with the two horns tuned a just perfect fourth (3:4) apart

* Alternately, the normal 3rd valve may be used, tuned to the proportion 3/15, so that the valve combination 1+2 and 3 are synonymous.

In this case, the undertone tuning "22" will not be available, and the fingerings indicated for undertones 19 - 22 apply instead to 18 - 21

notated AT SOUNDING PITCH

using the Extended Helmholtz-Ellis JI Pitch Notation

accidentals designed by Marc Sabat and Wolfgang von Schweinitz, 2004
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notated AT SOUNDED PITCH using the Extended Helmholtz-Ellis JI Pitch Notation

Extended Tuning Table:

- Valves 1, 2, 3
- Tunings indicated by rational proportions
- Undertone tuning "22" not available
- Fingerings for undertones 19-22 apply to 18-21
- Rational proportions for tuning

References:
- Double Horn in F and Bb
- Bb-Horn
- Tuning in Just Intonation
- Rational proportions
- Undertone tuning
- Fingerings

Notes on tuning technique and annotations for further study.