

Harmonic Series | "Open" sounding pitches

Trumpet in B \flat

(σ) P8 P5 Ps4 M3 m3 M2 m2

Valves *lengthen* the instrument resulting in *lower* pitches at each harmonic (or open note)

- Middle valve = 1/2 step (m2)
- First valve = whole step (M2)
- Third valve = 1 1/2 steps (m3)

- 1st + 2nd = 1 1/2 steps (m3)
- 2nd + 3rd = 2 steps (M3)
- 1st + 3rd = 2 1/2 steps (P4)
- 1st, 2nd, 3rd = 3 steps (A4/D5)

In sequence:

Tpt.

0 2 1 12 23 13 123 0 2 1 12 23 13 123

In higher harmonics not all the valve combinations are needed because the harmonics are closer together:

Tpt.

0 2 1 12 23 0 -> (13)

Tpt.

0 2 1 12