Bisecting Beat Speed Windows Temperament Sequences

For Accurate Bass and Treble Stretch

designed by

Mark Cerisano, RPT, B.Sc.(Mech.Eng.), Dip.Ed.(Music)

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514-978-8637 ext 002

Tuning Octaves Above the Temperament

F#4 to B4, as pure or wide 4:2,
using and confirming a P4 window

Tune	P4 Window	Pure/Wide 4:2 and Wide P4 Tests	Beating Partials
F#4	D3F#3<D3B3	D3F#3 <= D3**F#4** < D3B3	F#5
G4	D#3G3<D#3C4	D#3G3 <= D#**G4** < D#3C4	G5
G#4	E3G#3<E3C#4	E3G#3 <= E3**G#4** < E3C#4	G#5
A4	A4 TUNED ALREADY		
A#4	F#3A#3<F#3D#4	F#3A#3 <= F#3**A#4** < F#3D#4	A#5
B4	G3B3<G3E4	G3B3 <= G3**B4** < G3E4	B5

Try for wide 4:2 if the octaves were medium scale.

Tuning Octaves Above the Temperament

C5 to E5, as pure 12th and
using and confirming a P5 window.

Tune	P5 Window	Pure P12, Narrow P5 Tests	Beating Partials
C5	G#2F3 > G#2C4	G#2F3 = G#2**C5** > G#2C4	C5
C#5	A2F#3 > A2C#4	A2F#3 = A2**C#5** > A2C#4	C#5
D5	A#2G3 > A#2D4	A#2G3 = A#2**D5** > A#2D4	D5
D#5	B2G#3 > B2D#4	B2G#3 = B2**D#5** > B2D#4	D#5
E5	C3A3 > C3E4	C3A3 = C3**E5** > C3E4	E5

Tuning Octaves Above the Temperament

F5 to E6, as pure 12ths and
confirming a pure/wide 4:2 and a wide 2:1,
using and confirming a P4 window

Tune	P4 Window	Pure/Wide 4:2, Wide 2:1, Pure P12 Tests	Beating Partial
F5	C#3F3<C#3A#3	C#3F3 <= C#3F4 < C#3**F5** = C#3A#3	F5
F#5	D3F#3<D3B3	D3F#3 <= D3F#4 < D3**F#5** = D3B3	F#5
G5	D#3G3<D#3C4	D#3G3 <= D#3G4 < D#3**G5** = D#3C4	G5
G#5	E3G#3<E3C#4	E3G#3 <= E3G#4 < E3**G#5** = E3C#4	G#5
A5	F3A3<F3D4	F3A3 <= F3A4 < F3**A5** = F3D4	A5
A#5	F#3A#3<F#3D#4	F#3A#3 <= F#3A#4 < F#3**A#5** = F#3D#4	A#5
B5	G3B3<G3E4	G3B3 <= G3B4 < G3**B5** = G3E4	B5
C6	G#3C4<G#3F4	G#3C4 <= G#3C5 < G#3**C6** = G#3F4	C6
C#6	A3C#4<A3F#4	A3C#4 <= A3C#5 < A3**C#6** = A3F#4	C#6
D6	A#3D4<A#3G4	A#3D4 <= A#3D5 < A#3**D6** = A#3G4	D6
D#6	B3D#4<B3G#4	B3D#4 <= B3D#5 < B3**D#6** = B3G#4	D#6
E6	C4E4<C4A4	C4E4 <= C4E5 < C4**E6** = C4A4	E6

Tuning Octaves Above the Temperament

F6 to B6, as pure 22nds and pure 12ths,
confirming a pure/wide 4:2 and a wide 2:1,
using and confirming a 8:4 window.

Tune	8:4 Window	Pure/Wide 4:2, Wide 2:1, Pure P12, Pure 22nd Tests	Beating Partial
F6	C#4F4<F3C#4	C#4F4 <= C#4F5 < C#4**F6** = C#4A#4 = F3C#4	F6
F#6	D4F#4<F#3D4	D4F#4 <= D4F#5 < D4**F#6** = D4B4 = F#3D4	F#6
G6	D#4G4<G3D#4	D#4G4 <= D#4G5 < D#4**G6** = D#4C5 = G3D#4	G6
G#6	E4G#4<G#3E4	E4G#4 <= E4G#5 < E4**G#6** = E4C#5 = G#3E4	G#6
A6	F4A4<A3F4	F4A4 <= F4A5 < F4**A6** = F4D5 = A3F4	A6
A#6	F#4A#4<A#3F#4	F#4A#4 <= F#4A#5 < F#4**A#6** = F#4D#5 = A#3F#4	A#6
B6	G4B4<B3G4	G4B4 <= G4B5 < G4**B6** = G4E5 = B3G4	B6

Tuning Octaves Above the Temperament

C7 to C8, as pure 22nds and pure 12ths,
listening directly, i.e. no check notes.

Tune	Pure 12th	Pure 22nd	Beating Partial
C7	F5**C7**	C4**C7**	C7
C#7	F#5**C#7**	C#4**C#7**	C#7
D7	G5**D7**	D4**D7**	D7
D#7	G#5**D#7**	D#4**D#7**	D#7
E7	A5**E7**	E4**E7**	E7
F7	A#5**F7**	F4**F7**	F7
F#7	B5**F#7**	F#4**F#7**	F#7
G7	C6**G7**	G4**G7**	G7
G#7	C#6**G#7**	G#4**G#7**	G#7
A7	D6**A7**	A4**A7**	A7
A#7	D#6**A#7**	A#4**A#7**	A#7
B7	E6**B7**	B4**B7**	B7
C8	F6**C8**	C5**C8**	C8

You can also use the octave below to get close.

Tuning Octaves Below the Temperament

E3 to lowest bichord, as pure 22nds, confirming pure/wide 4:2's. wide 2:1's and pure P12's, using an 8:4 window.

Tune	8:4 Window	Pure/Wide 4:2, Wide 2:1, Pure P12, Pure 22nd Tests	Beating Partial
E3	E3C4>C4E4	C4E4 <= C4E5 < C4E6 = C4A4 = **E3**C4	E6
D#3	D#3B3>B3D#4	B3D#4 <= B3D#5 < B3D#6 = B3G#4 = **D#3**B3	D#6
D3	D3A#3>A#3D4	A#3D4 <= A#3D5 < A#3D6 = A#3G4 = **D3**A#3	D6
C#3	C#3A3>A3C#4	A3C#4 <= A3C#5 < A3C#6 = A3F#4 = **C#3**A3	C#6
C3	C3G#3>G#3C4	G#3C4 <= G#3C5 < G#3C6 = G#3F4 = **C3**G#3	C5
B2	B2G3>G3B3	G3B3 <= G3B4 < G3B5 = G3E4 = **B2**G3	B5
A#2	A#2F#3>F#3A#3	F#3A#3 <= F#3A#4 < F#3A#5 = F#3D#4 = **A#2**F#3	A#5
A2	A2F3>F3A3	F3A3 <= F3A4 < F3A5 = F3D4 = **A2**F3	A5
G#2	G#2E3>E3G#3	E3G#3 <= E3G#4 < E3G#5 = E3C#4 = **G#2**E3	G#5
G2	G2D#3>D#3G3	D#3G3 <= D#3G4 < D#3G5 = D#3C4 = **G2**D#3	G5
F#2	F#2D3>D3F#3	D3F#3 <= D3F#4 < D3F#5 = D3B3 = **F#2**D3	F#5
F2	F2C#3>C#3F3	C#3F3 <= C#3F4 < C#3F5 = C#3A#3 = **F2**C#3	F5

Tuning Octaves Below the Temperament

E3 to lowest bichord, as pure 22nds, confirming pure/wide 4:2's. wide 2:1's and pure P12's, using an 8:4 window.

Tune	8:4 Window	Pure/Wide 4:2, Wide 2:1, Pure P12, Pure 22nd Tests	Beating Partial
E2	E2C3>C3E3	C3E3 <= C3E4 < C3E5 = C3A3 = **E2**C3	E6
D#2	D#2B2>B2D#3	B2D#3 <= B2D#4 < B2D#5 = B2G#3 = **D#2**B2	D#6
D2	D2A#2>A#2D3	A#2D3 <= A#2D4 < A#2D5 = A#2G3 = **D2**A#2	D6
C#2	C#2A2>A2C#3	A2C#3 <= A2C#4 < A2C#5 = A2F#3 = **C#2**A2	C#6
C2	C2G#2>G#2C3	G#2C3 <= G#2C4 < G#2C5 = G#2F3 = **C2**G#2	C5
B1	B1G2>G2B2	G2B2 <= G2B3 < G2B4 = G2E3 = **B1**G2	B5
A#1	A#1F#2>F#2A#2	F#2A#2 <= F#2A#3 < F#2A#4 = F#2D#3 = **A#1**F#2	A#5
A1	A1F2>F2A2	F2A2 <= F2A3 < F2A4 = F2D3 = **A1**F2	A5
G#1	G#1E2>E2G#2	E2G#2 <= E2G#3 < E2G#4 = E2C#3 = **G#1**E2	G#5
G1	G1D#2>D#2G2	D#2G2 <= D#2G3 < D#2G4 = D#2C3 = **G1**D#2	G5
F#1	F#1D2>D2F#2	D2F#2 <= D2F#3 < D2F#4 = D2B2 = **F#1**D2	F#5
F1	F1C#2>C#2F2	C#2F2 <= C#2F3 < C#2F4 = C#2A#2 = **F1**C#2	F5

Tuning Octaves Below the Temperament

Lowest bichord to A0, as a clean octave,
listening to the whole sound and
the natural beat at the bottom note.

Tune	From	Listening at
E1	E2	E1
D#1	D#2	D#1
D1	D2	D1
C#1	C#2	C#1
C1	C2	C1
B0	B1	B0
A#0	A#1	A#0
A0	A1	A0

Notes on the Low Octaves

1. The lower the octave and the shorter the strings, the harder it will be to get a clean sound.

2. Sometimes the windows will be hard to hear for the lowest bichords. In these cases, tune the natural beat* clean.

**The natural beat is a perceived beat occurring at the lowest note.*