

Tuning Presets in the Sequential Prophet X  
Compiled by Robert Rich, September 2018  
Comments for tunings 17-65 derived from the Scala library.  
Many thanks to Max Magic Microtuner for conversion assistance.

R. Rich Notes: All of the presets except for #1 (12 Tone Equal Temperament) can be over-written by sending a tuning in the MTS format (Midi Tuning Standard.) The presets #2-17 match the Prophet 12, P6 and OB6, and began as a selection I made for the Synthesis Technology MOTM 650 Midi-CV module. Actual program numbers within the MTS messages start at #0 for the built-in 12ET, #1-64 for the user tunings. The display shows these as #2-65, with 12ET as #1.

I intend these tunings only as an introduction, and I did not research their historical accuracy. For convenience, I used the software's default 1/1 of C4 (Midi note 60), although this is not the original 1/1 for some of the tunings shown. Some of these tunings come very close to standard 12ET, and some of them are downright wacky, sometimes specific to a particular composer or piece of music. The tunings from 18 to 65 are organized only by alphabet, culled from the Scala library, not in any logical order.

#### 1. 12 Tone Equal Temperament (non-erasable)

The default Western tuning, based on the twelfth root of two. Good fourths and fifths, horrible thirds and sixths.

#### 2. Harmonic Series

MIDI notes 36-95 reflect harmonics 2 through 60 based on the fundamental of A = 27.5 Hz. The low C on a standard 5 octave keyboard acts as the root note (55Hz), and the harmonics play upwards from there. The remaining keys above and below the 5 octave range are filled with the same intervals as Carlos' Harmonic 12 Tone that follows.

#### 3. Carlos Harmonic Twelve Tone

Wendy Carlos' twelve note scale based on octave-repeating harmonics. A = 1/1 (440 Hz).

1/1 17/16 9/8 19/16 5/4 21/16 11/8 3/2 13/8 27/16 7/4 15/8

#### 4. Meantone Temperament

An early tempered tuning, with better thirds than 12ET. Sounds best in the key of C. Use this to add an authentic touch to performances of early Baroque music. C=1/1 (260 Hz)

#### 5. 1/4 Tone Equal Temperament

24 notes per octave, equally spaced  $24\sqrt[24]{2}$  intervals. Mexican composer Julian Carillo used this for custom-built pianos in the early 20<sup>th</sup> century.

#### 6. 19 Tone Equal Temperament

19 notes per octave ( $19\sqrt{2}$ ) offering better thirds than 12 ET, a better overall compromise if you can figure out the keyboard patterns.

#### 7. 31 Tone Equal Temperament

Many people consider  $3\sqrt{2}$  to offer the best compromise towards just intonation in an equal temperament, but it can get very tricky to keep track of the intervals.

#### 8. Pythagorean C

One of the earliest tuning systems known from history, the Pythagorean scale is constructed from an upward series of pure fifths ( $3/2$ ) transposed down into a single octave. The tuning works well for monophonic melodies against fifth drones, but has a very narrow palate of good chords to choose from. . C=1/1 (261.625 Hz)

1/1 256/243 9/8 32/27 81/64 4/3 729/512 3/2 128/81 27/16 16/9 243/128

#### 9. Just Intonation in A with 7-limit Tritone at D#

A rather vanilla 5-limit small interval JI, except for a single  $7/5$  tritone at D#, which offers some nice possibilities for rotating around bluesy sevenths. A=1/1 (440 Hz)

1/1 16/15 9/8 6/5 5/4 7/5 3/2 8/5 5/3 9/5 15/8

#### 10. 3-5 Lattice in A (from Carter Scholz)

A pure 3 and 5-limit tuning which resolves to very symmetrical derived relationships between notes. A=1/1 (440 Hz)

1/1 16/15 10/9 6/5 5/4 4/3 64/45 3/2 8/5 5/3 16/9 15/8

#### 11. 3-7 Lattice in A (from Carter Scholz)

A pure 3 and 7-limit tuning which resolves to very symmetrical derived relationships between notes. Some of the intervals are very close together, offering several choices for the same nominal chords. A=1/1 (440 Hz)

1/1 9/8 8/7 7/6 9/7 21/16 4/3 3/2 32/21 12/7 7/4 63/32

#### 12. Other Music 7-Limit Black Keys in C

Created by the group Other Music for their homemade gamelan, this offers a wide range of interesting chords and modes. C=1/1 (261.625 Hz)

1/1 15/14 9/8 7/6 5/4 4/3 7/5 3/2 14/9 5/3 7/4 15/8

#### 13. Dan Schmidt Pelog/Slendro

Created for the Berkeley Gamelan group, this tuning fits an Indonesian-style heptatonic Pelog on the white keys and pentatonic Slendro on the black keys, with B and Bb acting as 1/1 for their respective modes. Note that some of the notes will have the same frequency. By tuning the 1/1 to 60 Hz, Dan found a creative way to incorporate the inevitable line hum into his scale. Bb, B = 1/1 (60 Hz)

1/1 1/1 9/8 7/6 5/4 4/3 11/8 3/2 3/2 7/4 7/4 15/8

#### 14. Yamaha Just Major C

When Yamaha decided to put preset microtunings into their FM synth product line, they selected this and the following tuning as representative just intonations. As such, they became the de-facto introduction to JI for many people. Just Major gives preferential treatment to major thirds on the sharps, and a good fourth relative to the second. C= 1/1 (261.625)

1/1 16/15 9/8 6/5 5/4 4/3 45/32 3/2 8/5 5/3 16/9 15/8

#### 15. Yamaha Just Minor C

Similar to Yamaha's preset Just Major, the Just Minor gives preferential treatment to minor thirds on the sharps, and has a good fifth relative to the second. C= 1/1 (261.625)

1/1 25/24 10/9 6/5 5/4 4/3 45/32 3/2 8/5 5/3 16/9 15/8

#### 16. Harry Partch 11-limit 43 Note Just Intonation

One of the pioneers of modern microtonal composition, Partch built a unique orchestra with this tuning during the first half of the 20<sup>th</sup> century, to perform his own compositions. The large number of intervals in this very dense scale offers a full vocabulary of expressive chords and complex key changes. The narrow spacing also allows fixed-pitched instruments like marimbas and organs to perform glissando-like passages. G = 1/1 (392 Hz, MIDI note 67)

1/1 81/80 33/32 21/20 16/15 12/11 11/10 10/9 9/8 8/7 7/6 32/27

6/5 11/9 5/4 14/11 9/7 21/16 4/3 27/20 11/8 7/5 10/7 16/11

40/27 3/2 32/21 14/9 11/7 8/5 18/11 5/3 27/16 12/7 7/4 16/9

9/5 20/11 11/6 15/8 40/21 64/33 160/81

#### 17. Arabic 12-Tone

A 12-tone approximation of an Arabic scale, which appears in some electronic keyboards designed for use with Arabic music. Not a JI scale, nor equal tempered. These are the intervals in Cents relative to C:

60 = Cents 0.

61 = Cents +151.

62 = Cents +204.

63 = Cents +294.

64 = Cents +355.

65 = Cents +498.

66 = Cents +649.

67 = Cents +702.

68 = Cents +853.

69 = Cents +906.

70 = Cents +996.

71 = Cents +1057.

72 = Cents +1200.

18. 12 out of 19-tET scale from Mandelbaum's dissertation

An interesting non-just 12 tone scale that has some unusual relationships.

note 0=0

note 1=63

note 2=189

note 3=253

note 4=379

note 5=505

note 6=568

note 7=695

note 8=758

note 9=884

note 10=947

note 11=1074

note 12=1200

19. 12 out of 31-tET, meantone Eb-G#

note 0=0

note 1=77

note 2=194

note 3=310

note 4=387

note 5=503

note 6=581

note 7=697

note 8=774

note 9=890

note 10=1006

note 11=1084

note 12=1200

20. Terry Riley's Harp of New Albion scale, inverse Malcolm's Monochord,  
Original 1/1 on C#, here it is set to C.

60 = Cents 0. Ratio: 1/1 (JUST)

61 = Cents +111.731285 Ratio: 16/15 (JUST)

62 = Cents +203.910002 Ratio: 9/8 (JUST)

63 = Cents +315.641287 Ratio: 6/5 (JUST)

64 = Cents +386.313714 Ratio: 5/4 (JUST)

65 = Cents +498.044999 Ratio: 4/3 (JUST)

66 = Cents +609.776284 Ratio: 64/45 (JUST)

67 = Cents +701.955001 Ratio: 3/2 (JUST)

68 = Cents +813.686286 Ratio: 8/5 (JUST)

69 = Cents +884.358713      Ratio: 5/3 (JUST)  
70 = Cents +996.089998      Ratio: 16/9 (JUST)  
71 = Cents +1088.268715      Ratio: 15/8 (JUST)  
72 = Cents +1200.              Ratio: 2/1 (JUST)

21. Lute tuning of Giovanni Maria Artusi (1603). 1/4-comma w. acc. 1/2-way naturals

60 = Cents 0.                  Ratio: 1/1 (JUST)  
61 = Cents +96.578              Ratio: 8607/8140  
62 = Cents +193.157              Ratio: 2889/2584  
63 = Cents +289.735              Ratio: 11687/9886  
64 = Cents +386.313714          Ratio: 5/4 (JUST)  
65 = Cents +503.422              Ratio: 5267/3938  
66 = Cents +600.                  Ratio: 11482/8119  
67 = Cents +696.578              Ratio: 7876/5267  
68 = Cents +793.157              Ratio: 14771/9342  
69 = Cents +889.735              Ratio: 11718/7009  
70 = Cents +986.314              Ratio: 17561/9934  
71 = Cents +1082.892              Ratio: 18204/9739  
72 = Cents +1200.                  Ratio: 2/1 (JUST)

22. J.S. Bach "well temperament", acc. to Jacob Breetvelt's Tuner

60 = Cents 0.                  Ratio: 1/1 (JUST)  
61 = Cents +92.18                Ratio: 10472/9929  
62 = Cents +200.                  Ratio: 5252/4679  
63 = Cents +296.09                Ratio: 11781/9929  
64 = Cents +390.225                Ratio: 9638/7693  
65 = Cents +500.                  Ratio: 6793/5089  
66 = Cents +590.225                Ratio: 45/32 (just)  
67 = Cents +700.                  Ratio: 10178/6793  
68 = Cents +794.135                Ratio: 15708/9929  
69 = Cents +895.1125                Ratio: 14857/8859  
70 = Cents +998.045                Ratio: 12503/7025  
71 = Cents +1090.225                Ratio: 18484/9847  
72 = Cents +1200.                  Ratio: 2/1 (JUST)

23. Bulgarian bagpipe tuning, empirically measured.

0 = Cents 0.                  Ratio: 1/1 (JUST)  
1 = Cents +66.                    Ratio: 5427/5224  
2 = Cents +202.                    Ratio: 1925/1713  
3 = Cents +316.                    Ratio: 11586/9653  
4 = Cents +399.                    Ratio: 4965/3943  
5 = Cents +509.                    Ratio: 7451/5553  
6 = Cents +640.                    Ratio: 13435/9283  
7 = Cents +706.                    Ratio: 857/570

8 = Cents +803.	Ratio: 2681/1686
9 = Cents +910.	Ratio: 12130/7171
10 = Cents +1011.	Ratio: 1205/672
11 = Cents +1092.	Ratio: 12599/6705
12 = Cents +1200.	Ratio: 2/1 (JUST)

24. Wendy Carlos' Alpha scale with perfect fifth divided in nine. 19 Tone cycle. Octaves are stretched, and the tuning is quite microtonal (First repeat shown.)

0 = Cents 0.	Ratio: 1/1 (JUST)
1 = Cents +78.	Ratio: 7241/6922
2 = Cents +156.	Ratio: 8994/8219
3 = Cents +234.	Ratio: 10686/9335
4 = Cents +312.	Ratio: 11873/9915
5 = Cents +390.	Ratio: 11636/9289
6 = Cents +468.	Ratio: 13024/9939
7 = Cents +546.	Ratio: 12433/9070
8 = Cents +624.	Ratio: 11605/8093
9 = Cents +702.	Ratio: 14999/9999
10 = Cents +780.	Ratio: 3471/2212
11 = Cents +858.	Ratio: 15361/9358
12 = Cents +936.	Ratio: 11467/6678
13 = Cents +1014.	Ratio: 17889/9959
14 = Cents +1092.	Ratio: 12599/6705
15 = Cents +1170.	Ratio: 18593/9459
16 = Cents +1248.	Ratio: 14957/7274
17 = Cents +1326.	Ratio: 8049/3742
18 = Cents +1404.	Ratio: 9617/4274
19 = Cents +1482.	Ratio: 1111/472

25. Wendy Carlos' Beta scale with perfect fifth divided by eleven. 23 tone cycle. Octaves are stretched, and the tuning is quite microtonal (First repeat shown.)

0 = Cents 0.	Ratio: 1/1 (JUST)
1 = Cents +63.8	Ratio: 6191/5967
2 = Cents +127.6	Ratio: 9725/9034
3 = Cents +191.4	Ratio: 7739/6929
4 = Cents +255.2	Ratio: 8821/7612
5 = Cents +319.	Ratio: 7636/6351
6 = Cents +382.8	Ratio: 11690/9371
7 = Cents +446.6	Ratio: 9007/6959
8 = Cents +510.4	Ratio: 1500/1117
9 = Cents +574.2	Ratio: 13547/9723
10 = Cents +638.	Ratio: 12529/8667
11 = Cents +701.8	Ratio: 5584/3723
12 = Cents +765.6	Ratio: 9281/5964
13 = Cents +829.4	Ratio: 15760/9761

14 = Cents +893.2	Ratio: 1047/625
15 = Cents +957.	Ratio: 9629/5540
16 = Cents +1020.8	Ratio: 16551/9178
17 = Cents +1084.6	Ratio: 16263/8692
18 = Cents +1148.4	Ratio: 13585/6998
19 = Cents +1212.2	Ratio: 17231/8555
20 = Cents +1276.	Ratio: 12503/5983
21 = Cents +1339.8	Ratio: 10583/4881
22 = Cents +1403.6	Ratio: 12564/5585
23 = Cents +1467.4	Ratio: 8727/3739

26. Wendy Carlos' Gamma scale with third divided by eleven or fifth by twenty. 36 tone. Octaves are stretched, and the tuning is quite microtonal (First repeat shown.)

0 = Cents 0.	Ratio: 1/1 (JUST)
1 = Cents +35.099	Ratio: 1146/1123
2 = Cents +70.198	Ratio: 7449/7153
3 = Cents +105.297	Ratio: 4118/3875
4 = Cents +140.396	Ratio: 475/438
5 = Cents +175.495	Ratio: 5363/4846
6 = Cents +210.594	Ratio: 3990/3533
7 = Cents +245.693	Ratio: 11307/9811
8 = Cents +280.792	Ratio: 4495/3822
9 = Cents +315.891	Ratio: 9707/8088
10 = Cents +350.99	Ratio: 1989/1624
11 = Cents +386.089	Ratio: 1926/1541
12 = Cents +421.188	Ratio: 7321/5740
13 = Cents +456.287	Ratio: 2089/1605
14 = Cents +491.386	Ratio: 8563/6447
15 = Cents +526.485	Ratio: 6117/4513
16 = Cents +561.584	Ratio: 148/107
17 = Cents +596.683	Ratio: 2895/2051
18 = Cents +631.782	Ratio: 7627/5295
19 = Cents +666.881	Ratio: 13901/9457
20 = Cents +701.98	Ratio: 3/2 (just)
21 = Cents +737.079	Ratio: 5477/3578
22 = Cents +772.178	Ratio: 6981/4469
23 = Cents +807.277	Ratio: 14613/9167
24 = Cents +842.376	Ratio: 10660/6553
25 = Cents +877.475	Ratio: 1255/756
26 = Cents +912.574	Ratio: 3959/2337
27 = Cents +947.673	Ratio: 16513/9552
28 = Cents +982.772	Ratio: 15424/8743
29 = Cents +1017.871	Ratio: 7563/4201
30 = Cents +1052.97	Ratio: 7367/4010
31 = Cents +1088.069	Ratio: 11918/6357
32 = Cents +1123.168	Ratio: 13310/6957

33 = Cents +1158.267	Ratio: 17050/8733
34 = Cents +1193.366	Ratio: 14586/7321
35 = Cents +1228.465	Ratio: 13368/6575
36 = Cents +1263.564	Ratio: 1276/615

27. Carlos Super Just

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +104.95541	Ratio: 17/16 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +551.317942	Ratio: 11/8 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +840.527662	Ratio: 13/8 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +968.825906	Ratio: 7/4 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

28. Jon Catler 24-tone JI from "Over and Under the 13 Limit"

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +53.272943	Ratio: 33/32 (JUST)
62 = Cents +111.731285	Ratio: 16/15 (JUST)
63 = Cents +203.910002	Ratio: 9/8 (JUST)
64 = Cents +231.174094	Ratio: 8/7 (JUST)
65 = Cents +266.870906	Ratio: 7/6 (JUST)
66 = Cents +315.641287	Ratio: 6/5 (JUST)
67 = Cents +342.905379	Ratio: 128/105
68 = Cents +359.472338	Ratio: 16/13 (JUST)
69 = Cents +386.313714	Ratio: 5/4 (JUST)
70 = Cents +470.780907	Ratio: 21/16 (JUST)
71 = Cents +498.044999	Ratio: 4/3 (JUST)
72 = Cents +551.317942	Ratio: 11/8 (JUST)
73 = Cents +590.223716	Ratio: 45/32 (JUST)
74 = Cents +648.682058	Ratio: 16/11 (JUST)
75 = Cents +701.955001	Ratio: 3/2 (JUST)
76 = Cents +813.686286	Ratio: 8/5 (JUST)
77 = Cents +840.527662	Ratio: 13/8 (JUST)
78 = Cents +884.358713	Ratio: 5/3 (JUST)
79 = Cents +905.865003	Ratio: 27/16 (JUST)
80 = Cents +968.825906	Ratio: 7/4 (JUST)
81 = Cents +996.089998	Ratio: 16/9 (JUST)

82 = Cents +1061.427339      Ratio: 24/13 (JUST)  
83 = Cents +1088.268715      Ratio: 15/8 (JUST)  
84 = Cents +1200.              Ratio: 2/1 (JUST)

29. John Chalmers JI-1, Based loosely on Wronski's and similar JI scales, May 2, 1997.  
(Chalmer's book "Divisions of the Tetrachord" is a late 20<sup>th</sup> century masterwork,  
exploring the mathematical underpinnings of just tunings.)

60 = Cents 0.                  Ratio: 1/1 (JUST)  
61 = Cents +104.95541      Ratio: 17/16 (JUST)  
62 = Cents +203.910002      Ratio: 9/8 (JUST)  
63 = Cents +297.513016      Ratio: 19/16 (JUST)  
64 = Cents +386.313714      Ratio: 5/4 (JUST)  
65 = Cents +498.044999      Ratio: 4/3 (JUST)  
66 = Cents +603.000409      Ratio: 17/12 (JUST)  
67 = Cents +701.955001      Ratio: 3/2 (JUST)  
68 = Cents +795.558015      Ratio: 19/12 (JUST)  
69 = Cents +884.358713      Ratio: 5/3 (JUST)  
70 = Cents +999.468017      Ratio: 57/32 (JUST)  
71 = Cents +1088.268715      Ratio: 15/8 (JUST)  
72 = Cents +1200.              Ratio: 2/1 (JUST)

30. John Chalmers JI-3, 15 16 17 18 19 20 21 on 1/1, 15-20 on 3/2, May 2, 1997.

60 = Cents 0.                  Ratio: 1/1 (JUST)  
61 = Cents +111.731285      Ratio: 16/15 (JUST)  
62 = Cents +216.686695      Ratio: 17/15 (JUST)  
63 = Cents +315.641287      Ratio: 6/5 (JUST)  
64 = Cents +409.244301      Ratio: 19/15 (JUST)  
65 = Cents +498.044999      Ratio: 4/3 (JUST)  
66 = Cents +582.512193      Ratio: 7/5 (JUST)  
67 = Cents +701.955001      Ratio: 3/2 (JUST)  
68 = Cents +813.686286      Ratio: 8/5 (JUST)  
69 = Cents +918.641696      Ratio: 17/10 (JUST)  
70 = Cents +1017.596288      Ratio: 9/5 (JUST)  
71 = Cents +1111.199302      Ratio: 19/10 (JUST)  
72 = Cents +1200.              Ratio: 2/1 (JUST)

31. John Chalmers JI-4, 15 16 17 18 19 20 on 1/1, same on 4/3, + 16/15 on 16/9

60 = Cents 0.                  Ratio: 1/1 (JUST)  
61 = Cents +111.731285      Ratio: 16/15 (JUST)  
62 = Cents +216.686695      Ratio: 17/15 (JUST)  
63 = Cents +315.641287      Ratio: 6/5 (JUST)  
64 = Cents +409.244301      Ratio: 19/15 (JUST)  
65 = Cents +498.044999      Ratio: 4/3 (JUST)

66 = Cents +609.776284	Ratio: 64/45 (JUST)
67 = Cents +714.731694	Ratio: 68/45 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +907.289301	Ratio: 76/45 (JUST)
70 = Cents +996.089998	Ratio: 16/9 (JUST)
71 = Cents +1107.821284	Ratio: 256/135
72 = Cents +1200.	Ratio: 2/1 (JUST)

### 32. Chinese scale, 4th century

0 = Cents 0.	Ratio: 1/1 (JUST)
1 = Cents +99.2	Ratio: 3735/3527
2 = Cents +199.5	Ratio: 11126/9915
3 = Cents +296.7	Ratio: 9181/7735
4 = Cents +398.	Ratio: 10405/8268
5 = Cents +492.9	Ratio: 448/337
6 = Cents +595.2	Ratio: 11312/8021
7 = Cents +699.	Ratio: 6439/4300
8 = Cents +790.9	Ratio: 7578/4799
9 = Cents +896.1	Ratio: 15436/9199
10 = Cents +984.9	Ratio: 6357/3599
11 = Cents +1091.4	Ratio: 1591/847
12 = Cents +1200.	Ratio: 2/1 (JUST)

### 33. Chinese Lu scale by Huai Nan Zi, Han era. (P. Amiot 1780, Kurt Reinhard)

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +98.954592	Ratio: 18/17 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +394.347297	Ratio: 54/43 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +608.351986	Ratio: 27/19 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +800.909593	Ratio: 27/17 (JUST)
69 = Cents +905.865003	Ratio: 27/16 (JUST)
70 = Cents +1017.596288	Ratio: 9/5 (JUST)
71 = Cents +1106.396986	Ratio: 36/19 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

### 34. Colonna 1

Fabio Colonna lived in Naples, and published a treatise in 1618 called “La Sambuca Lincea”, which included a description of the instrument by that name which he built on commission from Scipione Stella, who had had the opportunity in 1594 to examine

Vincentino's 'Archicembalo', a 31-tone-per-octave (not equal-tempered) keyboard instrument.

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +70.672427	Ratio: 25/24 (JUST)
62 = Cents +182.403712	Ratio: 10/9 (JUST)
63 = Cents +287.359122	Ratio: 85/72 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +568.717426	Ratio: 25/18 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +733.721654	Ratio: 55/36 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +989.314122	Ratio: 85/48 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

35. Colonna 2 - Second 12 note subset of the Colonna scale

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +70.672427	Ratio: 25/24 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +582.512193	Ratio: 7/5 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +1017.596288	Ratio: 9/5 (JUST)
71 = Cents +1049.362941	Ratio: 11/6 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

36. Ivor Darreg was one of the great modern theorists of just intonation. This set of 19 ratios in 5-limit JI is for his megalyra family.

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +70.672427	Ratio: 25/24 (JUST)
62 = Cents +111.731285	Ratio: 16/15 (JUST)
63 = Cents +182.403712	Ratio: 10/9 (JUST)
64 = Cents +203.910002	Ratio: 9/8 (JUST)
65 = Cents +274.582429	Ratio: 75/64 (JUST)
66 = Cents +315.641287	Ratio: 6/5 (JUST)
67 = Cents +386.313714	Ratio: 5/4 (JUST)
68 = Cents +498.044999	Ratio: 4/3 (JUST)
69 = Cents +590.223716	Ratio: 45/32 (JUST)
70 = Cents +609.776284	Ratio: 64/45 (JUST)

71 = Cents +701.955001	Ratio: 3/2 (JUST)
72 = Cents +772.627428	Ratio: 25/16 (JUST)
73 = Cents +813.686286	Ratio: 8/5 (JUST)
74 = Cents +884.358713	Ratio: 5/3 (JUST)
75 = Cents +905.865003	Ratio: 27/16 (JUST)
76 = Cents +976.537429	Ratio: 225/128
77 = Cents +1017.596288	Ratio: 9/5 (JUST)
78 = Cents +1088.268715	Ratio: 15/8 (JUST)
79 = Cents +1200.	Ratio: 2/1 (JUST)

### 37. Dorian Diatonic Tonos

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +111.731285	Ratio: 16/15 (JUST)
62 = Cents +231.174094	Ratio: 8/7 (JUST)
63 = Cents +359.472338	Ratio: 16/13 (JUST)
64 = Cents +427.372572	Ratio: 32/25 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +571.725653	Ratio: 32/23 (JUST)
67 = Cents +648.682058	Ratio: 16/11 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +902.486984	Ratio: 32/19 (JUST)
70 = Cents +996.089998	Ratio: 16/9 (JUST)
71 = Cents +1095.04459	Ratio: 32/17 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

### 38. Almost equal 12-tone subset of Duodenarium

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +92.178716	Ratio: 135/128
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +296.088718	Ratio: 1215/1024
64 = Cents +405.866283	Ratio: 512/405
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +609.776284	Ratio: 64/45 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +794.133717	Ratio: 405/256
69 = Cents +903.911282	Ratio: 2048/1215
70 = Cents +998.043719	Ratio: 3645/2048
71 = Cents +1107.821284	Ratio: 256/135
72 = Cents +1200.	Ratio: 2/1 (JUST)

### 39. Ellis's Just Harmonium

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +111.731285	Ratio: 16/15 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)

63 = Cents +315.641287      Ratio: 6/5 (JUST)  
 64 = Cents +386.313714      Ratio: 5/4 (JUST)  
 65 = Cents +498.044999      Ratio: 4/3 (JUST)  
 66 = Cents +519.551289      Ratio: 27/20 (JUST)  
 67 = Cents +701.955001      Ratio: 3/2 (JUST)  
 68 = Cents +813.686286      Ratio: 8/5 (JUST)  
 69 = Cents +884.358713      Ratio: 5/3 (JUST)  
 70 = Cents +1017.596288      Ratio: 9/5 (JUST)  
 71 = Cents +1088.268715      Ratio: 15/8 (JUST)  
 72 = Cents +1200.              Ratio: 2/1 (JUST)

40. Bali/Java Slendro, Siam 7, empirical

0 = Cents 0.                      Ratio: 1/1 (JUST)  
 61 = Cents +111.731285      Ratio: 16/15 (JUST)  
 62 = Cents +203.910002      Ratio: 9/8 (JUST)  
 63 = Cents +315.641287      Ratio: 6/5 (JUST)  
 64 = Cents +386.313714      Ratio: 5/4 (JUST)  
 65 = Cents +498.044999      Ratio: 4/3 (JUST)  
 66 = Cents +519.551289      Ratio: 27/20 (JUST)  
 67 = Cents +701.955001      Ratio: 3/2 (JUST)  
 68 = Cents +813.686286      Ratio: 8/5 (JUST)  
 69 = Cents +884.358713      Ratio: 5/3 (JUST)  
 70 = Cents +1017.596288      Ratio: 9/5 (JUST)  
 71 = Cents +1088.268715      Ratio: 15/8 (JUST)  
 72 = Cents +1200.              Ratio: 2/1 (JUST)

41. Tibetan Ceremonial, empirical

0 = Cents 0.                      Ratio: 1/1 (JUST)  
 1 = Cents +58.                      Ratio: 2762/2671  
 2 = Cents +232.                      Ratio: 6889/6025  
 3 = Cents +310.                      Ratio: 10601/8863  
 4 = Cents +378.                      Ratio: 11945/9602  
 5 = Cents +522.                      Ratio: 849/628  
 6 = Cents +618.                      Ratio: 483/338  
 7 = Cents +725.                      Ratio: 605/398  
 8 = Cents +773.                      Ratio: 13070/8363  
 9 = Cents +896.                      Ratio: 14076/8389  
 10 = Cents +1019.                      Ratio: 12585/6986  
 11 = Cents +1086.                      Ratio: 16205/8654

42. Erlangen, revised

60 = Cents 0.                      Ratio: 1/1 (JUST)  
 61 = Cents +92.178716      Ratio: 135/128

62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +294.134997	Ratio: 32/27 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +590.223716	Ratio: 45/32 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +794.133717	Ratio: 405/256
69 = Cents +905.865003	Ratio: 27/16 (JUST)
70 = Cents +996.089998	Ratio: 16/9 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

#### 43. Euler - Monochord (1739)

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +70.672427	Ratio: 25/24 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +274.582429	Ratio: 75/64 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +590.223716	Ratio: 45/32 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +772.627428	Ratio: 25/16 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +976.537429	Ratio: 225/128
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

#### 44. Fokker's 7-limit 12-tone just scale

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +119.442808	Ratio: 15/14 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +266.870906	Ratio: 7/6 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +590.223716	Ratio: 45/32 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +821.397809	Ratio: 45/28 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +968.825906	Ratio: 7/4 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

#### 45. Bagpipe tuning from Fortuna ("try key of G with F natural")

60 = Cents 0. Ratio: 1/1 (JUST)  
 61 = Cents +29.849602 Ratio: 117/115  
 62 = Cents +187.681869 Ratio: 146/131  
 63 = Cents +256.596489 Ratio: 196/169  
 64 = Cents +343.090647 Ratio: 89/73 (JUST)  
 65 = Cents +493.957077 Ratio: 141/106  
 66 = Cents +548.648344 Ratio: 81/59 (JUST)  
 67 = Cents +684.728649 Ratio: 150/101  
 68 = Cents +729.878736 Ratio: 125/82 (JUST)  
 69 = Cents +871.94838 Ratio: 139/84 (JUST)  
 70 = Cents +985.798925 Ratio: 205/116  
 71 = Cents +1049.362941 Ratio: 11/6 (JUST)  
 72 = Cents +1200. Ratio: 2/1 (JUST)

46. Gamelan Udan Mas (approx) s6,p6,p7,s1,p1,s2,p2,p3,s3,p4,s5,p5

60 = Cents 0. Ratio: 1/1 (JUST)  
 61 = Cents 0. Ratio: 1/1 (JUST)  
 62 = Cents +182.403712 Ratio: 10/9 (JUST)  
 63 = Cents +266.870906 Ratio: 7/6 (JUST)  
 64 = Cents +427.372572 Ratio: 32/25 (JUST)  
 65 = Cents +510.367002 Ratio: 47/35 (JUST)  
 66 = Cents +571.725653 Ratio: 32/23 (JUST)  
 67 = Cents +701.955001 Ratio: 3/2 (JUST)  
 68 = Cents +745.786052 Ratio: 20/13 (JUST)  
 69 = Cents +996.089998 Ratio: 16/9 (JUST)  
 70 = Cents +996.089998 Ratio: 16/9 (JUST)  
 71 = Cents +1126.319346 Ratio: 23/12 (JUST)  
 72 = Cents +1200. Ratio: 2/1 (JUST)  
 73 = Cents +1200. Ratio: 2/1 (JUST)

47. Kraig Grady's 7-limit "Centaur" scale, 1987. See Xenharmonikon 16

60 = Cents 0. Ratio: 1/1 (JUST)  
 61 = Cents +84.467193 Ratio: 21/20 (JUST)  
 62 = Cents +203.910002 Ratio: 9/8 (JUST)  
 63 = Cents +266.870906 Ratio: 7/6 (JUST)  
 64 = Cents +386.313714 Ratio: 5/4 (JUST)  
 65 = Cents +498.044999 Ratio: 4/3 (JUST)  
 66 = Cents +582.512193 Ratio: 7/5 (JUST)  
 67 = Cents +701.955001 Ratio: 3/2 (JUST)  
 68 = Cents +764.915905 Ratio: 14/9 (JUST)  
 69 = Cents +884.358713 Ratio: 5/3 (JUST)  
 70 = Cents +968.825906 Ratio: 7/4 (JUST)  
 71 = Cents +1088.268715 Ratio: 15/8 (JUST)  
 72 = Cents +1200. Ratio: 2/1 (JUST)

48. Harmonics 1 to 12 and subharmonics mixed

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +203.910002	Ratio: 9/8 (JUST)
62 = Cents +231.174094	Ratio: 8/7 (JUST)
63 = Cents +386.313714	Ratio: 5/4 (JUST)
64 = Cents +498.044999	Ratio: 4/3 (JUST)
65 = Cents +551.317942	Ratio: 11/8 (JUST)
66 = Cents +648.682058	Ratio: 16/11 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +968.825906	Ratio: 7/4 (JUST)
70 = Cents +996.089998	Ratio: 16/9 (JUST)
71 = Cents +1200.	Ratio: 2/1 (JUST)

49. Michael Harrison, piano tuning for "Revelation" (2001),  
original 1/1=F, here it is set to C

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents -27.264092	Ratio: 63/64 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +176.64591	Ratio: 567/512
64 = Cents +407.820003	Ratio: 81/64 (JUST)
65 = Cents +470.780907	Ratio: 21/16 (JUST)
66 = Cents +611.730005	Ratio: 729/512
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +674.690909	Ratio: 189/128
69 = Cents +905.865003	Ratio: 27/16 (JUST)
70 = Cents +968.825906	Ratio: 7/4 (JUST)
71 = Cents +1109.775004	Ratio: 243/128
72 = Cents +1200.	Ratio: 2/1 (JUST)

50. Helmholtz's two-keyboard harmonium tuning untempered, 24 notes per octave

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +92.178716	Ratio: 135/128
62 = Cents +111.731285	Ratio: 16/15 (JUST)
63 = Cents +182.403712	Ratio: 10/9 (JUST)
64 = Cents +203.910002	Ratio: 9/8 (JUST)
65 = Cents +274.582429	Ratio: 75/64 (JUST)
66 = Cents +294.134997	Ratio: 32/27 (JUST)
67 = Cents +386.313714	Ratio: 5/4 (JUST)
68 = Cents +405.866283	Ratio: 512/405
69 = Cents +478.49243	Ratio: 675/512
70 = Cents +498.044999	Ratio: 4/3 (JUST)

71 = Cents +590.223716	Ratio: 45/32 (JUST)
72 = Cents +609.776284	Ratio: 64/45 (JUST)
73 = Cents +680.448711	Ratio: 40/27 (JUST)
74 = Cents +701.955001	Ratio: 3/2 (JUST)
75 = Cents +772.627428	Ratio: 25/16 (JUST)
76 = Cents +792.179997	Ratio: 128/81 (JUST)
77 = Cents +884.358713	Ratio: 5/3 (JUST)
78 = Cents +905.865003	Ratio: 27/16 (JUST)
79 = Cents +976.537429	Ratio: 225/128
80 = Cents +996.089998	Ratio: 16/9 (JUST)
81 = Cents +1088.268715	Ratio: 15/8 (JUST)
82 = Cents +1107.821284	Ratio: 256/135
83 = Cents +1178.49371	Ratio: 160/81 (JUST)
84 = Cents +1200.	Ratio: 2/1 (JUST)

51. North Indian Gamut, modern Hindustani 12 selected from 22 or more shrutis

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +111.731285	Ratio: 16/15 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +590.223716	Ratio: 45/32 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +905.865003	Ratio: 27/16 (JUST)
70 = Cents +1017.596288	Ratio: 9/5 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

52. Carnatic gamut. Kuppaswami: Carnatic music and the Tamils, p. v

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +98.954592	Ratio: 18/17 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +394.347297	Ratio: 54/43 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +596.999591	Ratio: 24/17 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +800.909593	Ratio: 27/17 (JUST)
69 = Cents +905.865003	Ratio: 27/16 (JUST)
70 = Cents +1017.596288	Ratio: 9/5 (JUST)
71 = Cents +1096.302298	Ratio: 81/43 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

53. Observed South Indian tuning of a vina, Ellis  
(Note that octaves are stretched)

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +97.	Ratio: 8644/8173
62 = Cents +195.	Ratio: 10974/9805
63 = Cents +312.	Ratio: 11873/9915
64 = Cents +397.	Ratio: 3372/2681
65 = Cents +515.	Ratio: 9782/7265
66 = Cents +596.	Ratio: 12731/9023
67 = Cents +692.	Ratio: 13439/9011
68 = Cents +782.	Ratio: 6031/3839
69 = Cents +883.	Ratio: 6793/4079
70 = Cents +997.	Ratio: 4863/2734
71 = Cents +1092.	Ratio: 12599/6705
72 = Cents +1207.	Ratio: 15117/7528

54. 7-limit 12-tone scale

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +111.731285	Ratio: 16/15 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +266.870906	Ratio: 7/6 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +582.512193	Ratio: 7/5 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +933.129094	Ratio: 12/7 (JUST)
70 = Cents +968.825906	Ratio: 7/4 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

55. Alternate 7-limit 12-tone scale

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +70.672427	Ratio: 25/24 (JUST)
62 = Cents +182.403712	Ratio: 10/9 (JUST)
63 = Cents +266.870906	Ratio: 7/6 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +470.780907	Ratio: 21/16 (JUST)
66 = Cents +582.512193	Ratio: 7/5 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +933.129094	Ratio: 12/7 (JUST)

70 = Cents +968.825906      Ratio: 7/4 (JUST)  
71 = Cents +1088.268715      Ratio: 15/8 (JUST)  
72 = Cents +1200.      Ratio: 2/1 (JUST)

56. Kurzweil "Just with natural b7th", is Sauveur Just with 7/4

60 = Cents 0.      Ratio: 1/1 (JUST)  
61 = Cents +70.672427      Ratio: 25/24 (JUST)  
62 = Cents +203.910002      Ratio: 9/8 (JUST)  
63 = Cents +315.641287      Ratio: 6/5 (JUST)  
64 = Cents +386.313714      Ratio: 5/4 (JUST)  
65 = Cents +498.044999      Ratio: 4/3 (JUST)  
66 = Cents +590.223716      Ratio: 45/32 (JUST)  
67 = Cents +701.955001      Ratio: 3/2 (JUST)  
68 = Cents +813.686286      Ratio: 8/5 (JUST)  
69 = Cents +884.358713      Ratio: 5/3 (JUST)  
70 = Cents +968.825906      Ratio: 7/4 (JUST)  
71 = Cents +1088.268715      Ratio: 15/8 (JUST)  
72 = Cents +1200.      Ratio: 2/1 (JUST)

57. 3 and 7 prime rational interpretation of 17-tET

60 = Cents 0.      Ratio: 1/1 (JUST)  
61 = Cents +62.960904      Ratio: 28/27 (JUST)  
62 = Cents +140.949098      Ratio: 243/224  
63 = Cents +203.910002      Ratio: 9/8 (JUST)  
64 = Cents +294.134997      Ratio: 32/27 (JUST)  
65 = Cents +357.095901      Ratio: 896/729  
66 = Cents +435.084095      Ratio: 9/7 (JUST)  
67 = Cents +498.044999      Ratio: 4/3 (JUST)  
68 = Cents +561.005903      Ratio: 112/81 (JUST)  
69 = Cents +638.994097      Ratio: 81/56 (JUST)  
70 = Cents +701.955001      Ratio: 3/2 (JUST)  
71 = Cents +764.915905      Ratio: 14/9 (JUST)  
72 = Cents +842.904099      Ratio: 729/448  
73 = Cents +905.865003      Ratio: 27/16 (JUST)  
74 = Cents +996.089998      Ratio: 16/9 (JUST)  
75 = Cents +1059.050902      Ratio: 448/243  
76 = Cents +1137.039096      Ratio: 27/14 (JUST)  
77 = Cents +1200.      Ratio: 2/1 (JUST)

58. 11-limit 'prime row' from Ben Johnston's "6th Quartet". Not octave repeating, with some very narrow intervals. These are the first 30 pitches:

0 = Cents 0.      Ratio: 1/1 (JUST)  
1 = Cents +70.672427      Ratio: 25/24 (JUST)

2 = Cents +182.403712	Ratio: 10/9 (JUST)
3 = Cents +274.582429	Ratio: 75/64 (JUST)
4 = Cents +386.313714	Ratio: 5/4 (JUST)
5 = Cents +505.756522	Ratio: 75/56 (JUST)
6 = Cents +568.717426	Ratio: 25/18 (JUST)
7 = Cents +733.721654	Ratio: 55/36 (JUST)
8 = Cents +772.627428	Ratio: 25/16 (JUST)
9 = Cents +884.358713	Ratio: 5/3 (JUST)
10 = Cents +923.264486	Ratio: 75/44 (JUST)
11 = Cents +1088.268715	Ratio: 15/8 (JUST)
12 = Cents +1151.229619	Ratio: 35/18 (JUST)
13 = Cents +1221.902045	Ratio: 875/432
14 = Cents +1333.633331	Ratio: 175/81 (JUST)
15 = Cents +1425.812047	Ratio: 875/384
16 = Cents +1537.543332	Ratio: 175/72 (JUST)
17 = Cents +1656.986141	Ratio: 125/48 (JUST)
18 = Cents +1719.947045	Ratio: 875/324
19 = Cents +1884.951273	Ratio: 1925/648
20 = Cents +1923.857046	Ratio: 875/288
21 = Cents +2035.588332	Ratio: 175/54 (JUST)
22 = Cents +2074.494105	Ratio: 875/264
23 = Cents +2239.498333	Ratio: 175/48 (JUST)
24 = Cents +2302.459237	Ratio: 1225/324
25 = Cents +2373.131664	Ratio: 30625/7776
26 = Cents +2484.862949	Ratio: 6125/1458
27 = Cents +2577.041666	Ratio: 30625/6912
28 = Cents +2688.772951	Ratio: 6125/1296
29 = Cents +2808.215759	Ratio: 4375/864
30 = Cents +2871.176663	Ratio: 30625/5832

59. 1/9-Harrison's comma mean-tone scale

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +74.23293	Ratio: 8315/7966
62 = Cents +192.63798	Ratio: 6334/5667
63 = Cents +266.870906	Ratio: 7/6 (JUST)
64 = Cents +385.27596	Ratio: 6671/5340
65 = Cents +503.68101	Ratio: 13025/9737
66 = Cents +577.91394	Ratio: 2632/1885
67 = Cents +696.31899	Ratio: 14567/9743
68 = Cents +770.55192	Ratio: 9743/6243
69 = Cents +888.95697	Ratio: 1885/1128
70 = Cents +963.1899	Ratio: 13187/7560
71 = Cents +1081.59495	Ratio: 1780/953
72 = Cents +1200.	Ratio: 2/1 (JUST)

60. Rousseau's Monochord, Dictionnaire de musique (1768)

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +70.672427	Ratio: 25/24 (JUST)
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +568.717426	Ratio: 25/18 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +1017.596288	Ratio: 9/5 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

61. Persian santur tuning. 1/1=E in original. Here it is set to C. Note that scale is 8 notes per octave, so it will not map normally to a 12 note keyboard.

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +129.99971	Ratio: 10727/9951
62 = Cents +345.	Ratio: 4710/3859
63 = Cents +490.00034	Ratio: 5797/4368
64 = Cents +630.00051	Ratio: 8153/5666
65 = Cents +849.99952	Ratio: 13952/8539
66 = Cents +1034.99975	Ratio: 20/11 (just)
67 = Cents +1137.00011	Ratio: 15866/8227
68 = Cents +1200.	Ratio: 2/1 (JUST)
69 = Cents +1329.99971	Ratio: 21454/9951
70 = Cents +1545.	Ratio: 18281/7489
71 = Cents +1690.00034	Ratio: 5797/2184
72 = Cents +1830.00051	Ratio: 28347/9850
73 = Cents +2049.99952	Ratio: 32211/9857
74 = Cents +2234.99975	Ratio: 36331/9991
75 = Cents +2337.00011	Ratio: 38073/9871
76 = Cents +2400.	Ratio: 4/1 (JUST)

62. Vallotti & Young (Vallotti version)

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +94.135	Ratio: 10487/9932
62 = Cents +196.09	Ratio: 10851/9689
63 = Cents +298.045	Ratio: 4679/3939
64 = Cents +392.18	Ratio: 3843/3064
65 = Cents +501.955	Ratio: 5467/4091
66 = Cents +592.18	Ratio: 13863/9847

67 = Cents +698.045	Ratio: 8182/5467
68 = Cents +796.09	Ratio: 13019/8220
69 = Cents +894.135	Ratio: 2427/1448
70 = Cents +1000.	Ratio: 17189/9647
71 = Cents +1090.225	Ratio: 18484/9847
72 = Cents +1200.	Ratio: 2/1 (JUST)

63. LaMonte Young, Tuning of For Guitar '58. 1/1 March '92, inv.of Mersenne lute 1

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +111.731285	Ratio: 16/15 (JUST)
62 = Cents +182.403712	Ratio: 10/9 (JUST)
63 = Cents +315.641287	Ratio: 6/5 (JUST)
64 = Cents +386.313714	Ratio: 5/4 (JUST)
65 = Cents +498.044999	Ratio: 4/3 (JUST)
66 = Cents +590.223716	Ratio: 45/32 (JUST)
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +813.686286	Ratio: 8/5 (JUST)
69 = Cents +884.358713	Ratio: 5/3 (JUST)
70 = Cents +1017.596288	Ratio: 9/5 (JUST)
71 = Cents +1088.268715	Ratio: 15/8 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

64. LaMonte Young's Well-Tuned Piano

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +176.64591	Ratio: 567/512
62 = Cents +203.910002	Ratio: 9/8 (JUST)
63 = Cents +239.606814	Ratio: 147/128
64 = Cents +470.780907	Ratio: 21/16 (JUST)
65 = Cents +443.516816	Ratio: 1323/1024
66 = Cents +674.690909	Ratio: 189/128
67 = Cents +701.955001	Ratio: 3/2 (JUST)
68 = Cents +737.651813	Ratio: 49/32 (JUST)
69 = Cents +968.825906	Ratio: 7/4 (JUST)
70 = Cents +941.561815	Ratio: 441/256
71 = Cents +1172.735908	Ratio: 63/32 (JUST)
72 = Cents +1200.	Ratio: 2/1 (JUST)

65. Thomas Young - well temperament (1807), also Luigi Malerbi nr.2 (1794)

60 = Cents 0.	Ratio: 1/1 (JUST)
61 = Cents +90.224996	Ratio: 256/243
62 = Cents +196.09	Ratio: 10851/9689
63 = Cents +294.134997	Ratio: 32/27 (JUST)
64 = Cents +392.18	Ratio: 3843/3064
65 = Cents +498.044999	Ratio: 4/3 (JUST)

66 = Cents +588.269995	Ratio: 1024/729
67 = Cents +698.045	Ratio: 8182/5467
68 = Cents +792.179997	Ratio: 128/81 (JUST)
69 = Cents +894.135	Ratio: 2427/1448
70 = Cents +996.089998	Ratio: 16/9 (JUST)
71 = Cents +1090.225	Ratio: 18484/9847
72 = Cents +1200.	Ratio: 2/1 (JUST)