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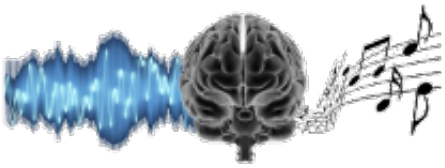

Auditory Neuroscience
Making sense of sound

Fundamental frequencies of Notes in Western Music

Chapter 3 of Auditory Neuroscience discusses the pitch intervals used western music in great detail. For convenience, a table of fundamental frequencies for equal-tempered scale is copied below from http://www.phy.mtu.edu/~suits/notefreqs.html.

By convention A_4 = 440 Hz

Notes are separated by "semitone" intervals. There are 12 seimtones in each octave, and fundamental frequencies are logarithmically spaced, so the each note fundamental frequency is $2^{(1/12)}$ = 1.0595 times the previous frequency.

The wavelength values assume a speed of sound = 345 m/s

("Middle C" is C_4)

Note	Frequency (Hz)	Wavelength (cm)
C_0	16.35	2109.89
$C^{\#}_0/D^{b}_0$	17.32	1991.47
D_0	18.35	1879.69

$D^{\#}_0/E^{b}_0$	19.45	1770.
E_0	20.60	1670.
F_0	21.83	1580.
$F^{\#}_0/G^{b}_0$	23.12	1490.
G_0	24.50	1400.
$G^{\#}_0/A^{b}_0$	25.96	1320.
A_0	27.50	1250.
$A^{\#}_0/B^{b}_0$	29.14	1180.
B_0	30.87	1110.
C_1	32.70	1050.
$C^{\#}_1/D^{b}_1$	34.65	996.
D_1	36.71	940.
$D^{\#}_1/E^{b}_1$	38.89	887.
E_1	41.20	837.
F_1	43.65	790.
$F^{\#}_1/G^{b}_1$	46.25	746.
G_1	49.00	704.
$G^{\#}_1/A^{b}_1$	51.91	665.
A_1	55.00	627.
$A^{\#}_1/B^{b}_1$	58.27	592.
B_1	61.74	559.
C_2	65.41	527.
$C^{\#}_2/D^{b}_2$	69.30	498.
D_2	73.42	470.
$D^{\#}_2/E^{b}_2$	77.78	444.
E_2	82.41	419.
F_2	87.31	395.
$F^{\#}_2/G^{b}_2$	92.50	373.
G_2	98.00	352.
$G^{\#}_2/A^{b}_2$	103.83	332.
A_2	110.00	314.
$A^{\#}_2/B^{b}_2$	116.54	296.

B_2	123.47	279.
C_3	130.81	264.
$C^{\#}_3/D^{b}_3$	138.59	249.
D_3	146.83	235.
$D^{\#}_3/E^{b}_3$	155.56	222.
E_3	164.81	209.
F_3	174.61	198.
$F^{\#}_3/G^{b}_3$	185.00	186.
G_3	196.00	176.
$G^{\#}_3/A^{b}_3$	207.65	166.
A_3	220.00	157.
$A^{\#}_3/B^{b}_3$	233.08	148.
B_3	246.94	140.
C_4	261.63	132.
$C^{\#}_4/D^{b}_4$	277.18	124.
D_4	293.66	117.
$D^{\#}_4/E^{b}_4$	311.13	111.
E_4	329.63	105.
F_4	349.23	98.8
$F^{\#}_4/G^{b}_4$	369.99	93.2
G_4	392.00	88.0
$G^{\#}_4/A^{b}_4$	415.30	83.1
A_4	440.00	78.4
$A^{\#}_4/B^{b}_4$	466.16	74.0
B_4	493.88	69.9
C_5	523.25	65.9
$C^{\#}_5/D^{b}_5$	554.37	62.2
D_5	587.33	58.7
$D^{\#}_5/E^{b}_5$	622.25	55.4
E_5	659.26	52.3
F_5	698.46	49.4
$F^{\#}_5/G^{b}_5$	739.99	46.6
G_5	783.99	44.0

$G^{\#}_5/A^{b}_5$	830.61	41.5
A_5	880.00	39.2
$A^{\#}_5/B^{b}_5$	932.33	37.0
B_5	987.77	34.9
C_6	1046.50	33.0
$C^{\#}_6/D^{b}_6$	1108.73	31.1
D_6	1174.66	29.4
$D^{\#}_6/E^{b}_6$	1244.51	27.7
E_6	1318.51	26.2
F_6	1396.91	24.7
$F^{\#}_6/G^{b}_6$	1479.98	23.3
G_6	1567.98	22.0
$G^{\#}_6/A^{b}_6$	1661.22	20.8
A_6	1760.00	19.6
$A^{\#}_6/B^{b}_6$	1864.66	18.5
B_6	1975.53	17.5
C_7	2093.00	16.5
$C^{\#}_7/D^{b}_7$	2217.46	15.6
D_7	2349.32	14.7
$D^{\#}_7/E^{b}_7$	2489.02	13.9
E_7	2637.02	13.1
F_7	2793.83	12.3
$F^{\#}_7/G^{b}_7$	2959.96	11.7
G_7	3135.96	11.0
$G^{\#}_7/A^{b}_7$	3322.44	10.4
A_7	3520.00	9.8
$A^{\#}_7/B^{b}_7$	3729.31	9.3
B_7	3951.07	8.7
C_8	4186.01	8.2
$C^{\#}_8/D^{b}_8$	4434.92	7.8
D_8	4698.64	7.3
$D^{\#}_8/E^{b}_8$	4978.03	6.9

‹ Single Formant Vowel with Changing Pitch Up Context Dependence of Pitch: Shepard Tone Hysteresis ›