

Sound Wave Length Chart

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International Standard Octave Frequencies and Sound Range of Voice and Piano

This chart based on a temperature of 68°F and the speed of sound at sea level (1125.29 feet per second) unless otherwise noted.

Frequency to the nearest 1.0	Full wave length in feet	Full wave length in inches	Wavelength to trap in feet *	Wavelength to trap in inches *	ISO centers	Voice	Piano	Organ	Guitar	Increased Temp.	Frequency Shift	Full wave length in meters
10	112.53	1,350.35	28.13	337.59						88°F	0.19 Hz	34.30
15	75.02	900.23	18.75	225.06						88°F	0.28 Hz	22.87
20	56.26	675.17	14.07	168.79	ISO					88°F	0.38	17.15
25	45.01	540.14	11.25	135.03	ISO					88°F	0.47	13.72
26	43.28	519.36	10.82	129.84		A				88°F	0.49	13.19
31	36.30	435.60	9.07	108.90		B				88°F	0.58	11.06
31.5	35.72	428.68	8.93	107.17	ISO					88°F	0.59	10.89
33	34.10	409.20	8.52	102.30		C				88°F	0.62	10.39
37	30.41	364.96	7.60	91.24		D				88°F	0.7	9.27
40	28.13	337.59	7.03	84.40	ISO					88°F	0.75	8.57
41	27.45	329.35	6.86	82.34		E				88°F	0.77	8.37
44	25.57	306.90	6.39	76.72		F				88°F	0.83	7.80
49	22.97	275.58	5.74	68.90		G				88°F	0.92	7.00
50	22.51	270.07	5.63	67.52	ISO					88°F	0.94	6.86
55	20.46	245.52	5.11	61.38		A				88°F	1.03	6.24
62	18.15	217.80	4.54	54.45		B				88°F	1.16	5.53
63	17.86	214.34	4.47	53.59	ISO					88°F	1.18	5.44
65	17.31	207.75	4.33	51.94		C				88°F	1.22	5.28
73	15.41	184.98	3.85	46.24		D				88°F	1.37	4.70
80	14.07	168.79	3.52	42.20	ISO					88°F	1.5	4.29
82	13.72	164.68	3.43	41.17		E				88°F	1.54	4.18
87	12.93	155.21	3.23	38.80		F				88°F	1.63	3.94
98	11.48	137.79	2.87	34.45		G				88°F	1.84	3.50
100	11.25	135.03	2.81	33.76	ISO					88°F	1.88	3.43
110	10.23	122.76	2.56	30.69		A				88°F	2.07	3.12
123	9.15	109.78	2.29	27.45		B				88°F	2.31	2.79
125	9.00	108.03	2.25	27.01	ISO					88°F	2.35	2.74
131	8.59	103.08	2.15	25.77		C				88°F	2.46	2.62
147	7.66	91.86	1.91	22.97		D				88°F	2.76	2.33
160	7.03	84.40	1.76	21.10	ISO					88°F	3.01	2.14
165	6.82	81.84	1.70	20.46		E				88°F	3.1	2.08
173	6.50	78.05	1.63	19.51		F				88°F	3.25	1.98
196	5.74	68.90	1.44	17.22		G				88°F	3.68	1.75
200	5.63	67.52	1.41	16.88	ISO					88°F	3.76	1.71
220	5.11	61.38	1.28	15.34		A				88°F	4.13	1.56
247	4.56	54.67	1.14	13.67		B				88°F	4.64	1.39
250	4.50	54.01	1.13	13.50	ISO					88°F	4.7	1.37
262	4.30	51.54	1.07	12.89		C				88°F	4.92	1.31
294	3.83	45.93	0.96	11.48		D				88°F	5.52	1.17
315	3.57	42.87	0.89	10.72	ISO					88°F	5.92	1.09
330	3.41	40.92	0.85	10.23		E				88°F	6.2	1.04
349	3.22	38.69	0.81	9.67		F				88°F	6.56	0.98
392	2.87	34.45	0.72	8.61		G				88°F	7.36	0.87
400	2.81	33.76	0.70	8.44	ISO					88°F	7.51	0.86
440	2.56	30.69	0.64	7.67		A				88°F	8.27	0.78
494	2.28	27.33	0.57	6.83		B				88°F	9.28	0.69
500	2.25	27.01	0.56	6.75	ISO					88°F	9.39	0.69
523	2.15	25.82	0.54	6.45		C				88°F	9.82	0.66
587	1.92	23.00	0.48	5.75		D				88°F	11.03	0.58
630	1.79	21.43	0.45	5.36	ISO					88°F	11.83	0.54
659	1.71	20.49	0.43	5.12		E				88°F	12.38	0.52
698	1.61	19.35	0.40	4.84		F				88°F	13.11	0.49
784	1.44	17.22	0.36	4.31		G				88°F	14.73	0.44
800	1.41	16.88	0.35	4.22	ISO					88°F	15.03	0.43
880	1.28	15.34	0.32	3.84		A				88°F	16.53	0.39
987	1.14	13.68	0.29	3.42		B				88°F	18.54	0.35
1000	1.13	13.50	0.28	3.38	ISO					88°F	18.78	0.34
1047	1.07	12.90	0.27	3.22		C				88°F	19.67	0.33
1175	0.96	11.49	0.24	2.87		D				88°F	22.07	0.29
1250	0.90	10.80	0.23	2.70	ISO					88°F	23.48	0.27
1318	0.85	10.25	0.21	2.56		E				88°F	24.76	0.26
1397	0.81	9.67	0.20	2.42		F				88°F	26.24	0.25
1568	0.72	8.61	0.18	2.15		G				88°F	29.45	0.22
1600	0.70	8.44	0.18	2.11	ISO					88°F	30.06	0.21
1760	0.64	7.67	0.16	1.92		A				88°F	33.06	0.19
1974	0.57	6.84	0.14	1.71		B				88°F	37.08	0.17
2000	0.56	6.75	0.14	1.69	ISO					88°F	37.57	0.17
2093	0.54	6.45	0.13	1.61		C				88°F	39.32	0.16
2350	0.48	5.75	0.12	1.44		D				88°F	44.14	0.15
2500	0.45	5.40	0.11	1.35	ISO					88°F	46.96	0.14
2637	0.43	5.12	0.11	1.28		E				88°F	49.53	0.13
2794	0.40	4.83	0.10	1.21		F				88°F	52.48	0.12
3136	0.36	4.31	0.09	1.08		G				88°F	58.91	0.11
3150	0.36	4.29	0.09	1.07	ISO					88°F	59.17	0.11
3520	0.32	3.84	0.08	0.96		A				88°F	66.12	0.10
3949	0.28	3.42	0.07	0.85		B				88°F	74.18	0.09
4000	0.28	3.38	0.07	0.84	ISO					88°F	75.14	0.09
4186	0.27	3.23	0.07	0.81		C				88°F	78.63	0.08
5000	0.23	2.70	0.06	0.68	ISO					88°F	93.92	0.07
6300	0.18	2.14	0.04	0.54	ISO					88°F	118.34	0.05
8000	0.14	1.69	0.04	0.42	ISO					88°F	150.28	0.04
10000	0.11	1.35	0.03	0.34	ISO					88°F	187.85	0.03
12500	0.09	1.08	0.02	0.27	ISO					88°F	234.81	0.03
16000	0.07	0.84	0.02	0.21	ISO					88°F	300.55	0.02
20000	0.06	0.68	0.01	0.17	ISO					88°F	375.69	0.02

* Wave length to trap or Quarter wave reductions are 50% or 3dB.