

Filter Q and Octave Bandwidth

$$Q = (2^{\{1/[2 \times K]\}}) / (2^{(1/K)} - 1)$$

K = 1/BW = number of divisions per octave

BW = Bandwidth

Example: 1/3 octave = Q of 4.3

Octave BW	Filter Q	Octave BW	Filter Q	Octave BW	Filter Q	Octave BW	Filter Q
1/100	144.3	1	1.41	4	0.267	7	0.089
1/90	129.8	1 1/4	1.12	4 1/4	0.242	7 1/4	0.082
1/80	115.4	1 1/3	1.04	4 1/3	0.234	7 1/3	0.079
1/70	101.0	1 1/2	0.92	4 1/2	0.220	7 1/2	0.075
1/60	86.6	1 2/3	0.82	4 2/3	0.207	7 2/3	0.071
1/50	72.1	1 3/4	0.78	4 3/4	0.200	7 3/4	0.068
1/40	57.7	2	0.67	5	0.182	8	0.063
1/30	43.3	2 1/4	0.58	5 1/4	0.166	8 1/4	0.058
1/25	36.1	2 1/3	0.56	5 1/3	0.161	8 1/3	0.056
1/20	28.9	2 1/2	0.51	5 1/2	0.152	8 1/2	0.053
1/16	23.1	2 2/3	0.47	5 2/3	0.143	8 2/3	0.050
1/12	17.3	2 3/4	0.45	5 3/4	0.139	8 3/4	0.048
1/10	14.4	3	0.40	6	0.127	9	0.044
1/8	11.5	3 1/4	0.36	6 1/4	0.116	9 1/4	0.041
1/6	8.7	3 1/3	0.35	6 1/3	0.113	9 1/3	0.039
1/5	7.2	3 1/2	0.33	6 1/2	0.106	9 1/2	0.037
1/4	5.8	3 2/3	0.30	6 2/3	0.100	9 2/3	0.035
1/3	4.3	3 3/4	0.29	6 3/4	0.097	9 3/4	0.034
1/2	2.9					10	0.031
2/3	2.1						
3/4	1.9						
1	1.4						