



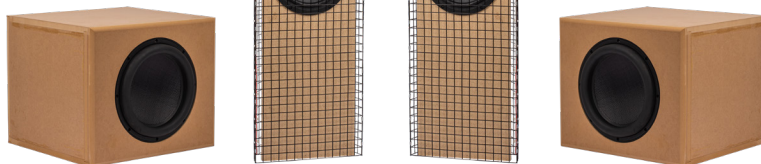
You Can DIY!

Building a Minimally Baffled Dipole Loudspeaker

Supplementary Material

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"Baffle-less-ness," the author's four-way system open design, won first place in the 2022 Speaker Design Competition's Open Unlimited category.

Type	Description	Required Parameters
0	Gain block	dB, polarity
1	First-order low-pass	dB, polarity, Fp
2	First-order high-pass	dB, polarity, Fp
3	First-order all-pass	polarity, Fp
4	First-order low shelf	Fp, dB
5	First high shelf	Fp, dB
21	Second-order low-pass	dB, plarity, Fp, Qp
22	Second-order high-pass	dB, polarity, Fp, Qp
23	Second-order all-pass	polarity, Fp, Qp
24	Second-order low shelf	dB, polarity, Fp, Qp
25	Second-order high shelf	dB, polarity, Fp, Qp
26	Parametric EQ	dB, Fp, Qp
27	Second-order notch	dB, polarity, Fp, Qp, Fz
28	Biquadratic filter	dB, polarity, Fp, Qp, Fz, Qz

Table 1: A description and the required parameters for each filter type

Filter/EQ	1	2	3	4	5
Type	0	24	28	22	23
Gain	-3.5dB	5dB	0	0	0
Polarity	1	1	1	1	1
Fp	-	2200	2200	2200	2200
Qp	-	0.85	0.707	0.707	0.56
Fz	-	-	1200	-	-
Qz	-	-	1	-	-

Table 2: A list of filers applied to the tweeter band

Filter/EQ	1	2	3	4	5	6	7	8
Type	0	28	26	25	22	22	21	21
Gain	-0.35dB	0	-3dB	-9dB	0	0	0	0
Polarity	-	1	1	1	1	1	1	1
Fp	-	550	1600	4000	400	400	2100	2100
Qp	-	0.45	2	0.7	0.707	0.707	0.707	0.707
Fz	-	1250	-	-	-	-	-	-
Qz	-	1.1	-	-	-	-	-	-

Table 3: A list of filters applied to the midrange band

Filter/EQ	1	2	3	4	5
Type	0	4	28	22	21
Gain	-16.25dB	24dB	0	0	0
Polarity	-	1	1	1	1
Fp	-	150	80	80	375
Qp	-	-	0.707	0.707	0.6
Fz	-	-	30	-	-
Qz	-	-	0.3	-	-

Table 4: A list of filters applied to the woofer band

Filter/EQ	1	2	3	4	5	6
Type	5	5	5	5	5	5
Gain	-1.5dB	-1.5dB	-1.5dB	-1.5dB	-1.5dB	-1.5dB
Polarity	1	1	1	1	1	1
Fp	100	182	331	603	1098	2000
Qp	-	-	-	-	-	-
Fz	-	-	-	-	-	-
Qz	-	-	-	-	-	-

Table 5: A list of filters employed as Voicing EQ