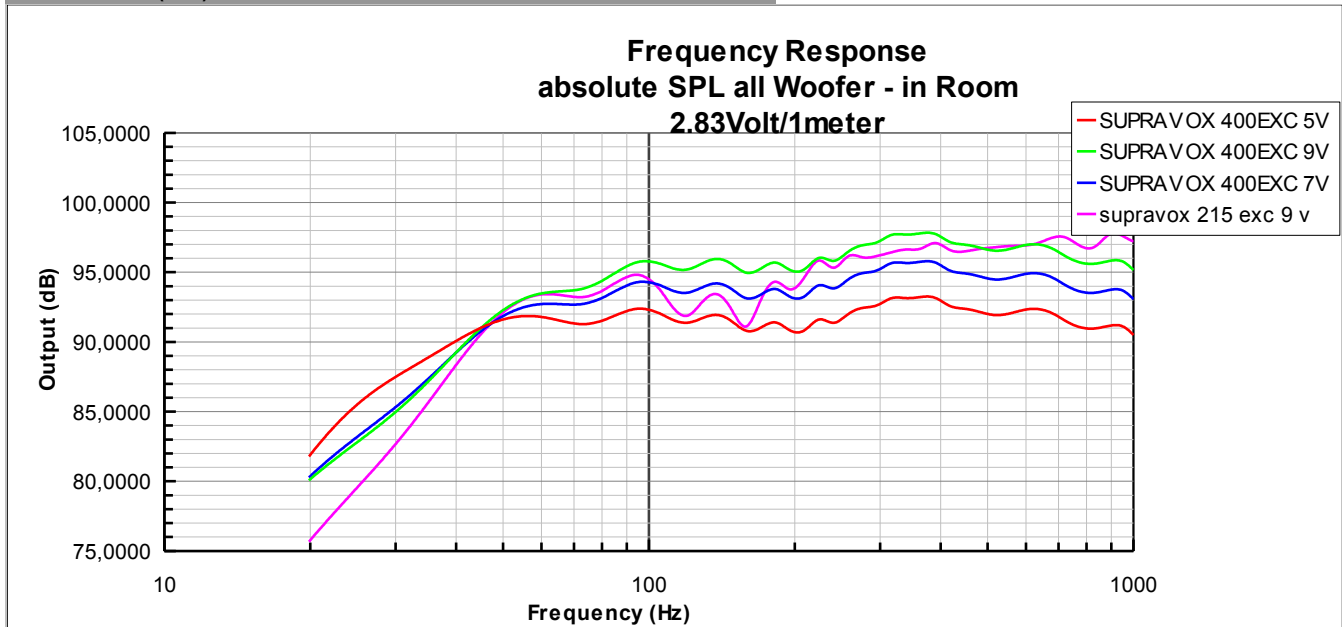


## Driver-Input

XL-Baffle Version 0.9 - prerelease version	SUPRAVOX 400EXC 5V	SUPRAVOX 400EXC 9V	SUPRAVOX 400EXC 7V	supravox 215 exc 9 v
Driver Resonant Frequency (Fs - Hz):	25,88	25,88	25,88	47,00
Driver Electrical Q (Qes):	1,08	0,45	0,60	0,64
Driver Mechanical Q (Qms):	15,35	9,76	13,53	7,88
Driver Equiv Volume (Vas - liter):	440,00	536,00	440,00	127,00
Thermal Power Limit (P - VA):	120,00	120,00	120,00	30,00
DC Resistance (Re - Ohm):	5,95	5,95	5,95	4,10
Pk-to-Pk Excursion (Xmax - mm):	10,00	10,00	10,00	10,00
Effective Cone Dia. (D - mm):	330,00	330,00	330,00	190,00
Price (optional)				
Baffle Width (mm)	600	600	600	600
Hight above floor (mm)	100	100	100	800
Dist. rear Wall (mm)	600	600	600	600
Dist. side Wall (mm)	4000	4000	4000	4000



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Parts of this Spreadsheet where taken from "  
 "Boundary" by Roy Allison (calculations) and  
 written by Brian Steele (Graph-setup)

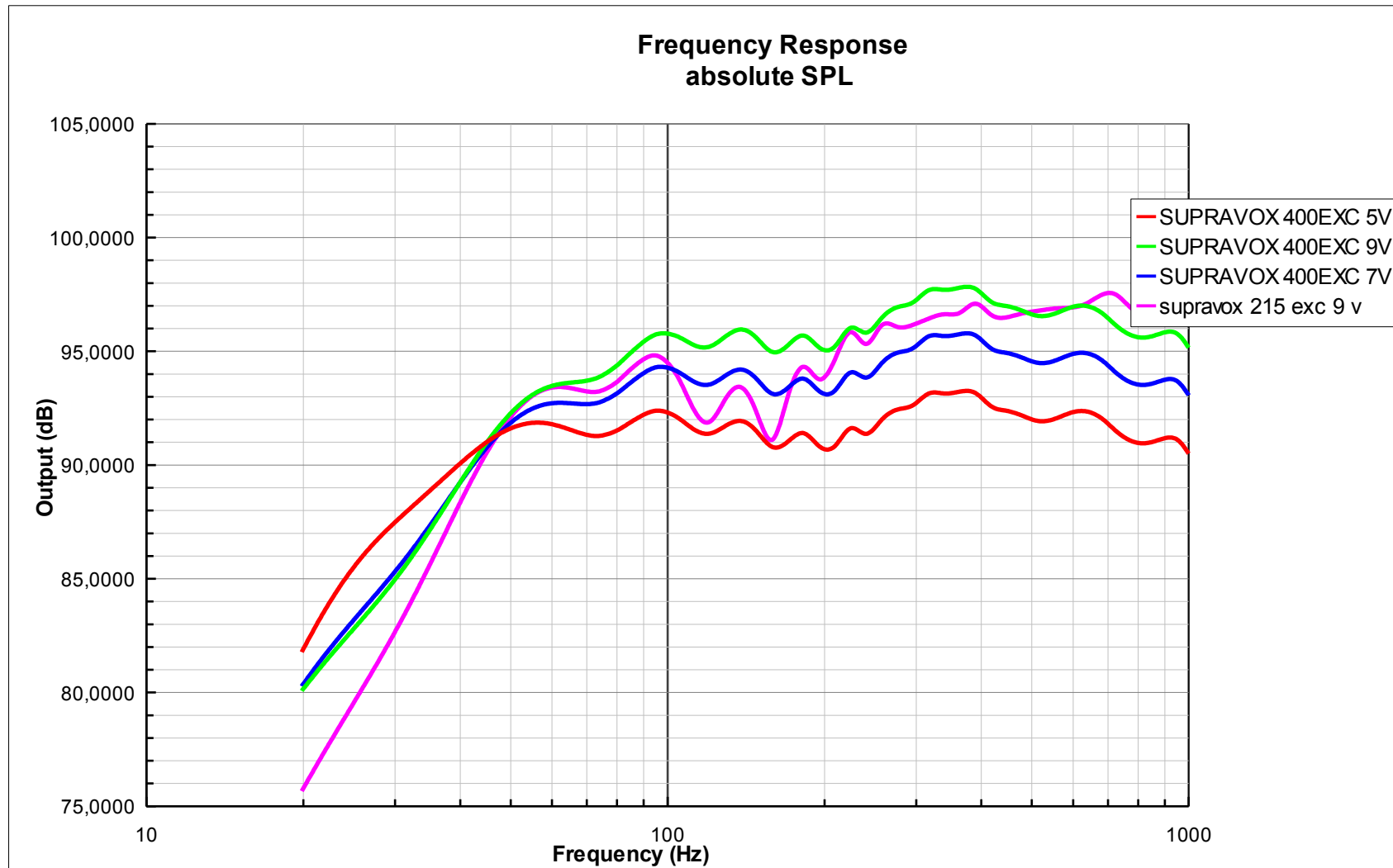
Driver-Input

Vb (l)	10000,00	10000,00	10000,00	10000,00
fs (Hz)	25,8800	25,8800	25,8800	47,0000
Qes	1,0820	0,4500	0,5980	0,6400
Qms	15,3490	9,7600	13,5310	7,8800
Qb (loss)	7,0000	7,0000	7,0000	7,0000
Fb (Hz)	0,0000	0,0000	0,0000	0,0000
Vas (ft^3):	15,56	18,95	15,56	4,49
Vb (ft^3):	353,54	353,54	353,54	353,54
Power (Watt)	120,00	120,00	120,00	30,00
Re (Ohm)	5,95	5,95	5,95	4,10
Xmax (in)	0,39	0,39	0,39	0,39
D (in)	12,99	12,99	12,99	7,48
Response Order (2 or 4):	2,0000	2,0000	2,0000	2,0000
No of Drivers	1,0000	1,0000	1,0000	1,0000

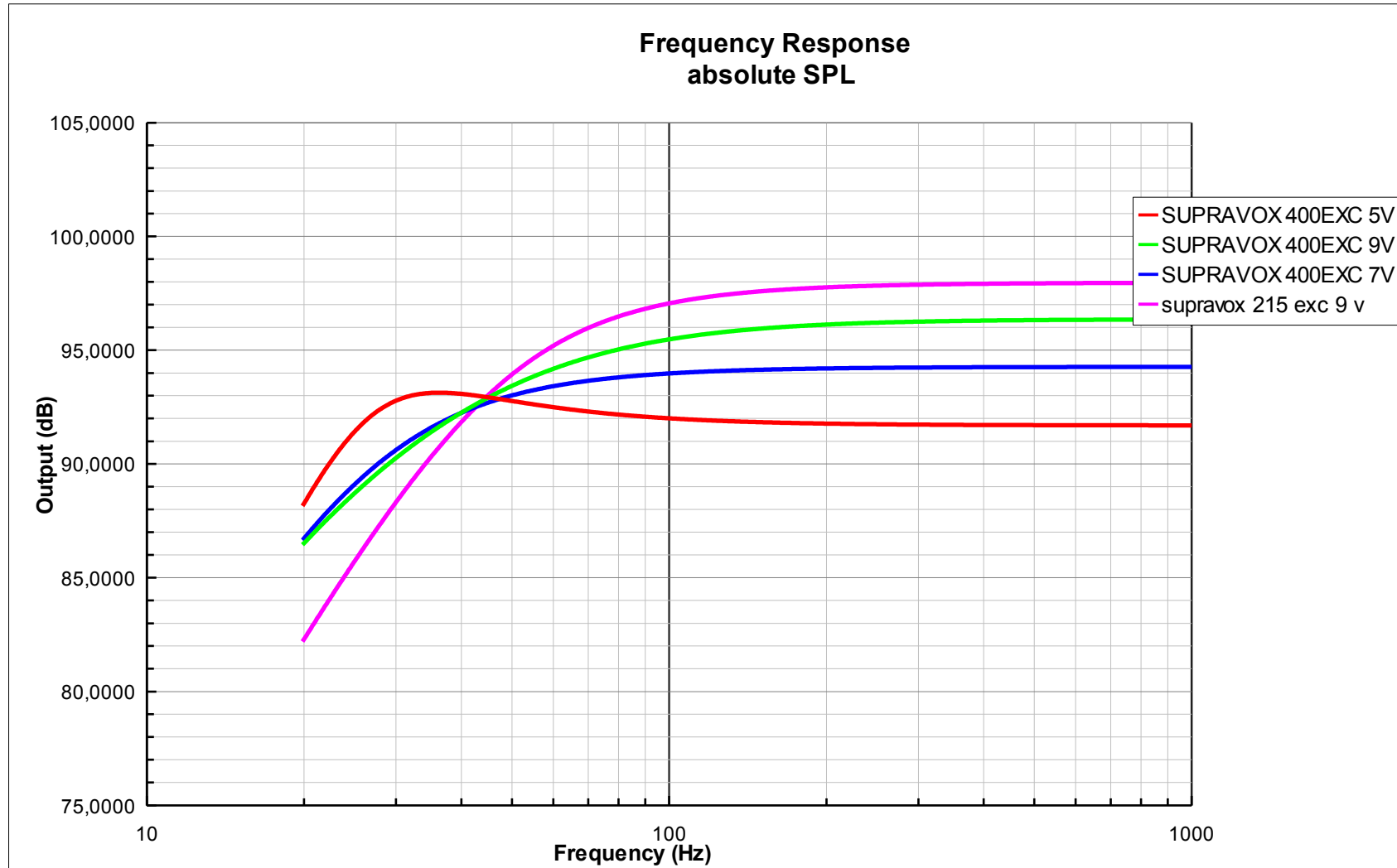
X 400EXC 5V  
X 400EXC 9V  
X 400EXC 7V  
215 exc 9 v

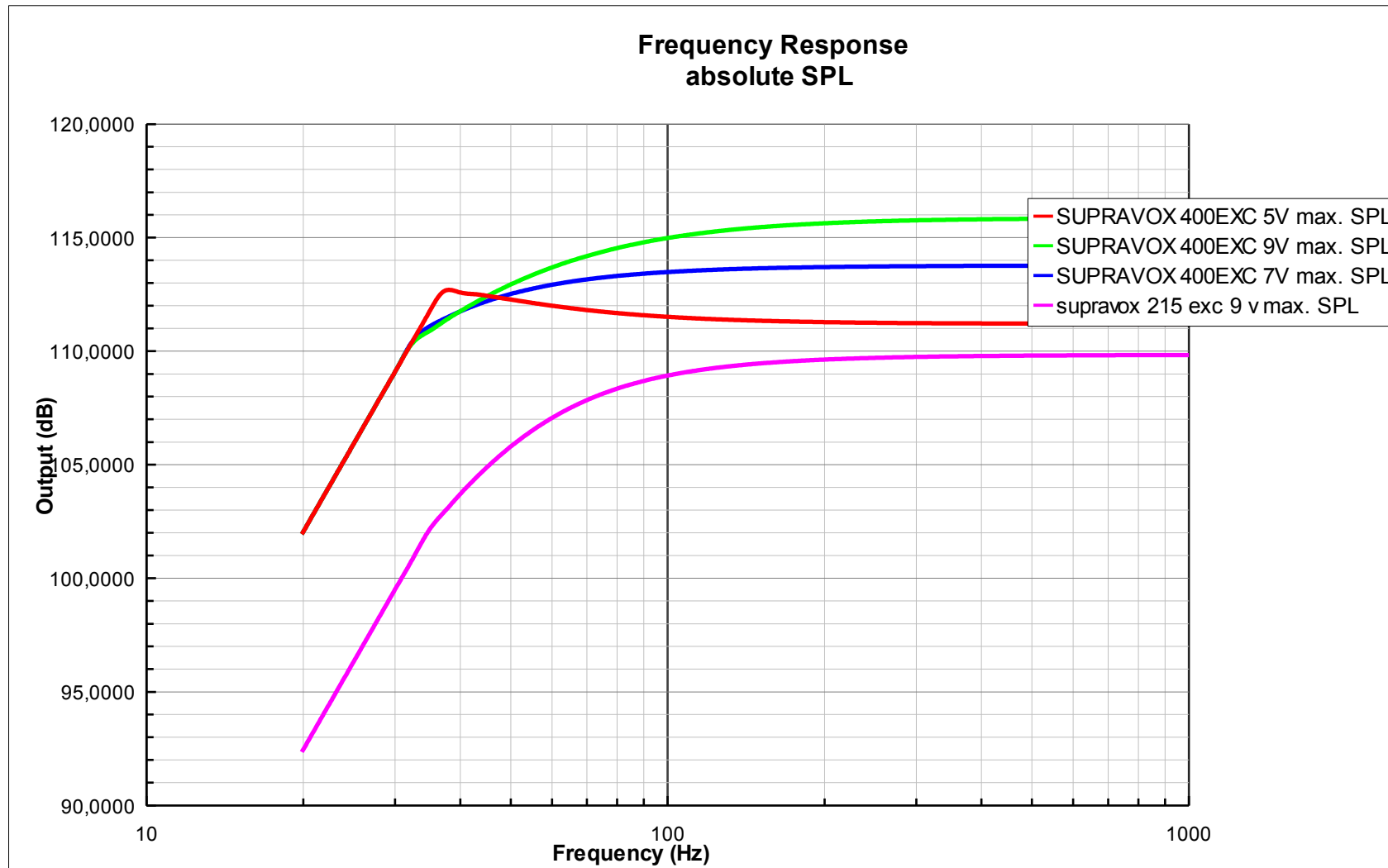
Lotusbox" by Jim White,  
from Spreadsheets

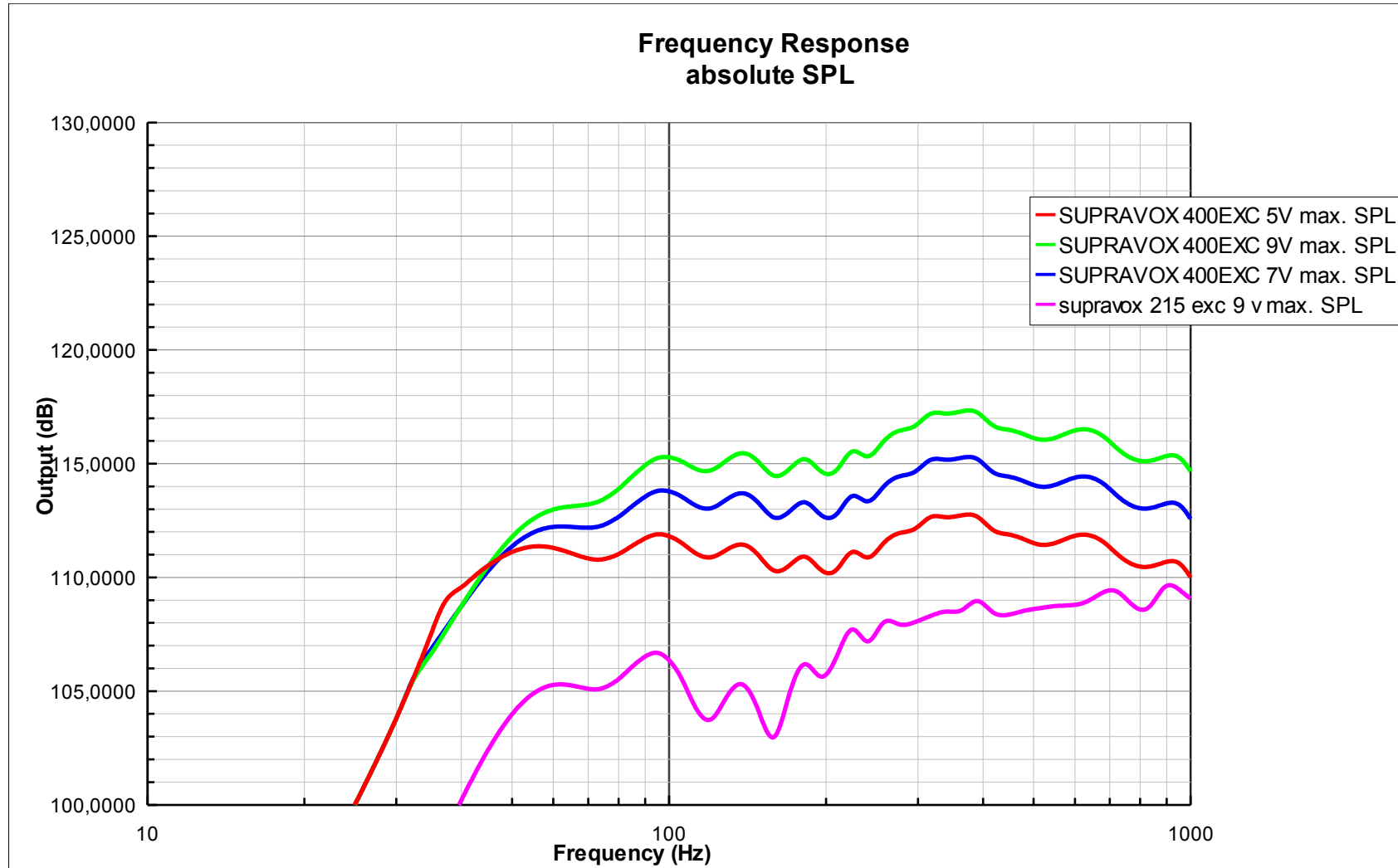


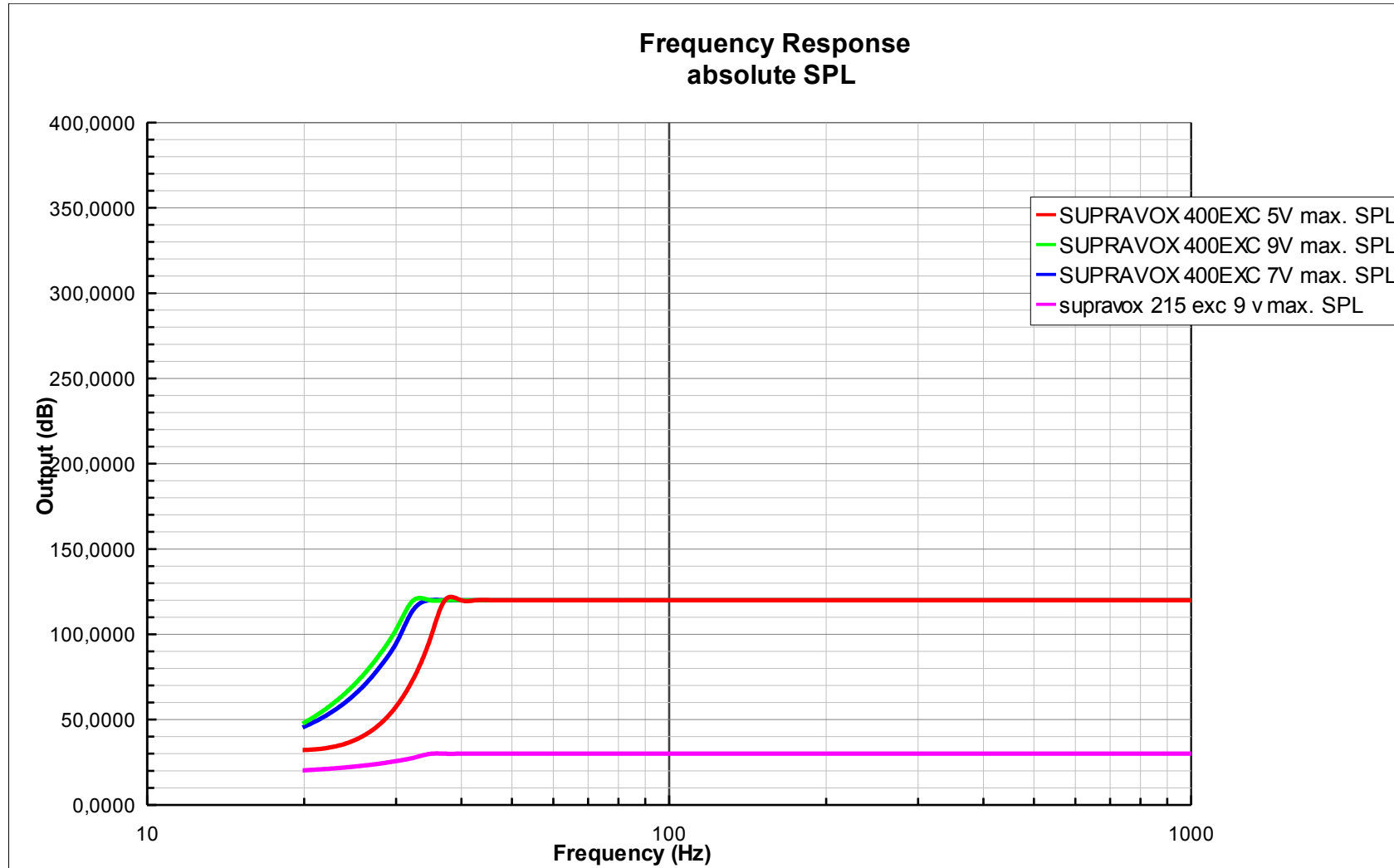


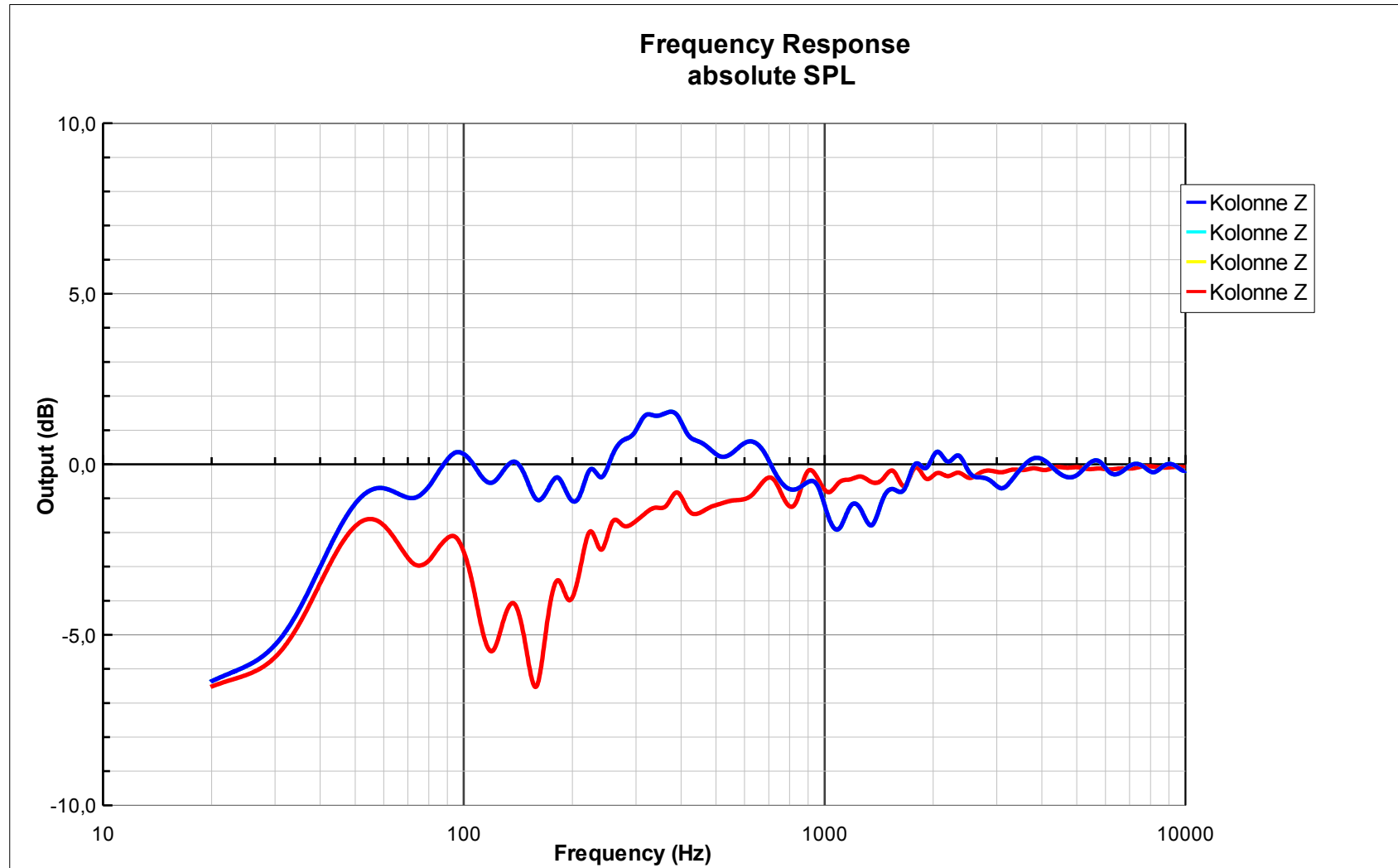
Frequency-response (one woofer)











Speaker Enclosure Design  
by Jim White 15 July 1986

DRIVER USED: SUPRAVOX 400EXC 5V  
SUPRAVOX 400EXC 5V max. SPL

INPUT PARAMETERS	CALCULATED VALUES
Driver Resonant Frequency: 25,9	Driver Res. in Box (Fsb): 26,4
Driver Electrical Q (Qes): 1,082	Total Driver Q (Qts): 1,011
Driver Mechanical Q (Qms): 15,349	Box Tuning Ratio (h): 0,000
Assumed Box Loss Q (QL): 7	Drvr/Box Volume Ratio (a): 0,044
Tuned Freq. of Box (Fb): 0,0	Cut-Off Frequency (F3): 21,4
Driver Equiv Volume (Vas): 15,56	Reference Efficiency (No): 0,24
Enclosure Volume (Vb): 353,54	"Effectivity" (Kn): 0,07
Thermal Power Limit (P): 120	
DC Resistance (Re): 6,0	VENT DIMENSIONS
Pk-to-Pk Excursion (Xmax): 0,39	Ducted Port - Length: #DIV/0!
Effective Cone Dia. (D): 12,99	Mach Number : 0,00
Response Order (2 or 4): 2	
Port Inside Diameter (Dp): 3,00	Vas & Vb in cubic feet
VC Inductance #REF!	Xmax,Dp & D in inches

#	X	Relative Output Y	Test Freq	dB	#	Y1	E1
1	1234,57610	0,66533	20	-3,54	1	1,1297	13,8313
2	1330,24501	0,76491	21	-2,33	2	1,1187	13,9675
3	1429,70258	0,86294	23	-1,28	3	1,0926	14,3013
4	1529,16015	0,95022	25	-0,44	4	1,0517	14,8576
5	1641,04991	1,03105	26	0,27	5	0,9908	15,7698
6	1759,15578	1,09455	28	0,78	6	0,9154	17,0702
7	1883,47774	1,13893	30	1,13	7	0,8309	18,8057
8	2014,01580	1,16562	32	1,33	8	0,7437	21,0104
9	2163,20216	1,17855	35	1,43	9	0,6518	23,9724
10	2312,38852	1,17975	37	1,44	10	0,5710	27,3651
11	2480,22317	1,17340	40	1,39	11	0,4937	31,6518
12	2660,49001	1,16234	43	1,31	12	0,4250	36,7665
13	2846,97296	1,14937	46	1,21	13	0,3670	42,5765
14	3052,10420	1,13521	49	1,10	14	0,3154	49,5436
15	3269,66763	1,12128	53	0,99	15	0,2714	57,5646
16	3505,87936	1,10785	56	0,89	16	0,2333	66,9851
17	3754,52329	1,09560	60	0,79	17	0,2011	77,6825
18	4021,81551	1,08437	65	0,70	18	0,1735	90,0595
19	4307,75603	1,07427	69	0,62	19	0,1498	104,2926

CALCULATED INTERMEDIATE VALUES

H2		0,0006	
A1		1591,6178	
A2		2701872,0001	
A3		0,1615	
F1		0,0161	
F3-	1	19,8609	0,6653
F3+	2	21,4000	0,7649
E		26,7208	
K		0,2718	
K1		0,0006	
QLO		10000,0000	
FBO		0,0000	
Amplifier Zout		0,0000	
V SRCE		2,8284	

E2	Y3	P1	db1W
13,8313	101,9418	32,1523	88,1554
13,9675	103,2384	32,7885	89,3668
14,3013	104,4909	34,3745	90,4142
14,8576	105,6592	37,1003	91,2511
15,7698	106,8860	41,7962	91,9603
17,0702	108,0933	48,9733	92,4793
18,8057	109,2795	59,4375	92,8246
21,0104	110,4436	74,1909	93,0258
23,9724	111,6850	96,5838	93,1216
26,7208	112,6366	120,0000	93,1304
26,7208	112,5898	120,0000	93,0836
26,7208	112,5075	120,0000	93,0014
26,7208	112,4100	120,0000	92,9039
26,7208	112,3023	120,0000	92,7962
26,7208	112,1951	120,0000	92,6890
26,7208	112,0904	120,0000	92,5843
26,7208	111,9938	120,0000	92,4877
26,7208	111,9044	120,0000	92,3982
26,7208	111,8231	120,0000	92,3169

Speaker Enclosure Design  
by Jim White 15 July 1986

DRIVER USED: SUPRAVOX 400EXC 5V  
SUPRAVOX 400EXC 5V max. SPL

INPUT PARAMETERS	CALCULATED VALUES
Driver Resonant Frequency: 25,9	Driver Res. in Box (Fsb): 26,4
Driver Electrical Q (Qes): 1,082	Total Driver Q (Qts): 1,011
Driver Mechanical Q (Qms): 15,349	Box Tuning Ratio (h): 0,000
Assumed Box Loss Q (QL): 7	Drvr/Box Volume Ratio (a): 0,044
Tuned Freq. of Box (Fb): 0,0	Cut-Off Frequency (F3): 21,4
Driver Equiv Volume (Vas): 15,56	Reference Efficiency (No): 0,24
Enclosure Volume (Vb): 353,54	"Effectivity" (Kn): 0,07
Thermal Power Limit (P): 120	
DC Resistance (Re): 6,0	VENT DIMENSIONS
Pk-to-Pk Excursion (Xmax): 0,39	Ducted Port - Length: #DIV/0!
Effective Cone Dia. (D): 12,99	Mach Number : 0,00
Response Order (2 or 4): 2	
Port Inside Diameter (Dp): 3,00	Vas & Vb in cubic feet
VC Inductance #REF!	Xmax,Dp & D in inches

#	X	Relative Output Y	Test Freq	dB	#	Y1	E1
1	1234,57610	0,66533	20	-3,54	1	1,1297	13,8313
2	1330,24501	0,76491	21	-2,33	2	1,1187	13,9675
3	1429,70258	0,86294	23	-1,28	3	1,0926	14,3013
4	1529,16015	0,95022	25	-0,44	4	1,0517	14,8576
5	1641,04991	1,03105	26	0,27	5	0,9908	15,7698
6	1759,15578	1,09455	28	0,78	6	0,9154	17,0702
7	1883,47774	1,13893	30	1,13	7	0,8309	18,8057
8	2014,01580	1,16562	32	1,33	8	0,7437	21,0104
9	2163,20216	1,17855	35	1,43	9	0,6518	23,9724
10	2312,38852	1,17975	37	1,44	10	0,5710	27,3651
11	2480,22317	1,17340	40	1,39	11	0,4937	31,6518
12	2660,49001	1,16234	43	1,31	12	0,4250	36,7665
13	2846,97296	1,14937	46	1,21	13	0,3670	42,5765
14	3052,10420	1,13521	49	1,10	14	0,3154	49,5436
15	3269,66763	1,12128	53	0,99	15	0,2714	57,5646
16	3505,87936	1,10785	56	0,89	16	0,2333	66,9851
17	3754,52329	1,09560	60	0,79	17	0,2011	77,6825
18	4021,81551	1,08437	65	0,70	18	0,1735	90,0595
19	4307,75603	1,07427	69	0,62	19	0,1498	104,2926

CALCULATED INTERMEDIATE VALUES

H2		0,0006	
A1		1591,6178	
A2		2701872,0001	
A3		0,1615	
F1		0,0161	
F3-	1	19,8609	0,6653
F3+	2	21,4000	0,7649
E		26,7208	
K		0,2718	
K1		0,0006	
QLO		10000,0000	
FBO		0,0000	
Amplifier Zout		0,0000	
V SRCE		2,8284	

E2	Y3	P1	db1W
13,8313	101,9418	32,1523	88,1554
13,9675	103,2384	32,7885	89,3668
14,3013	104,4909	34,3745	90,4142
14,8576	105,6592	37,1003	91,2511
15,7698	106,8860	41,7962	91,9603
17,0702	108,0933	48,9733	92,4793
18,8057	109,2795	59,4375	92,8246
21,0104	110,4436	74,1909	93,0258
23,9724	111,6850	96,5838	93,1216
26,7208	112,6366	120,0000	93,1304
26,7208	112,5898	120,0000	93,0836
26,7208	112,5075	120,0000	93,0014
26,7208	112,4100	120,0000	92,9039
26,7208	112,3023	120,0000	92,7962
26,7208	112,1951	120,0000	92,6890
26,7208	112,0904	120,0000	92,5843
26,7208	111,9938	120,0000	92,4877
26,7208	111,9044	120,0000	92,3982
26,7208	111,8231	120,0000	92,3169

Speaker Enclosure Design  
by Jim White 15 July 1986

DRIVER USED: SUPRAVOX 400EXC 9V  
SUPRAVOX 400EXC 9V max. SPL

INPUT PARAMETERS	CALCULATED VALUES
Driver Resonant Frequency: 25,9	Driver Res. in Box (Fsb): 26,6
Driver Electrical Q (Qes): 0,450	Total Driver Q (Qts): 0,430
Driver Mechanical Q (Qms): 9,760	Box Tuning Ratio (h): 0,000
Assumed Box Loss Q (QL): 7	Drvr/Box Volume Ratio (a): 0,054
Tuned Freq. of Box (Fb): 0,0	Cut-Off Frequency (F3): 49,2
Driver Equiv Volume (Vas): 18,95	Reference Efficiency (No): 0,70
Enclosure Volume (Vb): 353,54	"Effectivity" (Kn): 0,02
Thermal Power Limit (P): 120	
DC Resistance (Re): 6,0	VENT DIMENSIONS
Pk-to-Pk Excursion (Xmax): 0,39	Ducted Port - Length: #DIV/0!
Effective Cone Dia. (D): 12,99	Mach Number : 0,00
Response Order (2 or 4): 2	
Port Inside Diameter (Dp): 3,00	Vas & Vb in cubic feet Xmax,Dp & D in inches

#	X	Relative Output Y	Test Freq	dB	#	Y1	E1
1	1234,57610	0,31946	20	-9,91	1	0,5424	16,8313
2	1330,24501	0,34930	21	-9,14	2	0,5109	17,8719
3	1429,70258	0,37922	23	-8,42	3	0,4801	19,0153
4	1529,16015	0,40795	25	-7,79	4	0,4515	20,2208
5	1641,04991	0,43880	26	-7,15	5	0,4217	21,6508
6	1759,15578	0,46966	28	-6,56	6	0,3928	23,2449
7	1883,47774	0,50025	30	-6,02	7	0,3649	25,0170
8	2014,01580	0,53034	32	-5,51	8	0,3384	26,9819
9	2163,20216	0,56228	35	-5,00	9	0,3110	29,3589
10	2312,38852	0,59175	37	-4,56	10	0,2864	31,8773
11	2480,22317	0,62215	40	-4,12	11	0,2617	34,8810
12	2660,49001	0,65179	43	-3,72	12	0,2383	38,3102
13	2846,97296	0,67949	46	-3,36	13	0,2170	42,0809
14	3052,10420	0,70682	49	-3,01	14	0,1964	46,4935
15	3269,66763	0,73261	53	-2,70	15	0,1773	51,4795
16	3505,87936	0,75736	56	-2,41	16	0,1595	57,2525
17	3754,52329	0,78022	60	-2,16	17	0,1432	63,7368
18	4021,81551	0,80169	65	-1,92	18	0,1283	71,1770
19	4307,75603	0,82161	69	-1,71	19	0,1146	79,6780

CALCULATED INTERMEDIATE VALUES

H2		0,0006	
A1		3739,7756	
A2		2726716,8002	
A3		0,1623	
F1		0,0161	
F3-	14	49,1000	0,7068
F3+	15	52,6000	0,7326
E		26,7208	
K		0,4651	
K1		0,0011	
QLO		10000,0000	
FBO		0,0000	
Amplifier Zout		0,0000	
V SRCE		2,8284	

E2	Y3	P1	db1W
16,8313	101,9418	47,6120	86,4503
17,8719	103,2384	53,6815	87,2258
19,0153	104,4909	60,7700	87,9397
20,2208	105,6592	68,7195	88,5741
21,6508	106,8860	78,7829	89,2073
23,2449	108,0933	90,8113	89,7975
25,0170	109,2795	105,1849	90,3457
26,7208	110,3592	120,0000	90,8530
26,7208	110,8672	120,0000	91,3610
26,7208	111,3109	120,0000	91,8047
26,7208	111,7459	120,0000	92,2398
26,7208	112,1503	120,0000	92,6441
26,7208	112,5117	120,0000	93,0056
26,7208	112,8542	120,0000	93,3481
26,7208	113,1656	120,0000	93,6594
26,7208	113,4541	120,0000	93,9479
26,7208	113,7125	120,0000	94,2063
26,7208	113,9482	120,0000	94,4420
26,7208	114,1614	120,0000	94,6552

Speaker Enclosure Design  
by Jim White 15 July 1986

DRIVER USED: SUPRAVOX 400EXC 7V  
SUPRAVOX 400EXC 7V max. SPL

INPUT PARAMETERS	CALCULATED VALUES
Driver Resonant Frequency: 25,9	Driver Res. in Box (Fsb): 26,4
Driver Electrical Q (Qes): 0,598	Total Driver Q (Qts): 0,573
Driver Mechanical Q (Qms): 13,531	Box Tuning Ratio (h): 0,000
Assumed Box Loss Q (QL): 7	Drvr/Box Volume Ratio (a): 0,044
Tuned Freq. of Box (Fb): 0,0	Cut-Off Frequency (F3): 34,0
Driver Equiv Volume (Vas): 15,56	Reference Efficiency (No): 0,43
Enclosure Volume (Vb): 353,54	"Effectivity" (Kn): 0,03
Thermal Power Limit (P): 120	
DC Resistance (Re): 6,0	VENT DIMENSIONS
Pk-to-Pk Excursion (Xmax): 0,39	Ducted Port - Length: #DIV/0!
Effective Cone Dia. (D): 12,99	Mach Number : 0,00
Response Order (2 or 4): 2	
Port Inside Diameter (Dp): 3,00	Vas & Vb in cubic feet Xmax,Dp & D in inches

#	X	Relative Output Y	Test Freq	dB	#	Y1	E1
1	1234,57610	0,41616	20	-7,61	1	0,7066	16,4392
2	1330,24501	0,45947	21	-6,75	2	0,6720	17,2866
3	1429,70258	0,50227	23	-5,98	3	0,6359	18,2666
4	1529,16015	0,54243	25	-5,31	4	0,6003	19,3493
5	1641,04991	0,58420	26	-4,67	5	0,5614	20,6912
6	1759,15578	0,62427	28	-4,09	6	0,5221	22,2503
7	1883,47774	0,66210	30	-3,58	7	0,4830	24,0492
8	2014,01580	0,69727	32	-3,13	8	0,4449	26,1112
9	2163,20216	0,73228	35	-2,71	9	0,4050	28,6828
10	2312,38852	0,76239	37	-2,36	10	0,3690	31,4807
11	2480,22317	0,79126	40	-2,03	11	0,3329	34,8952
12	2660,49001	0,81729	43	-1,75	12	0,2988	38,8730
13	2846,97296	0,83978	46	-1,52	13	0,2681	43,3213
14	3052,10420	0,86031	49	-1,31	14	0,2390	48,6011
15	3269,66763	0,87824	53	-1,13	15	0,2126	54,6383
16	3505,87936	0,89419	56	-0,97	16	0,1883	61,6974
17	3754,52329	0,90790	60	-0,84	17	0,1667	69,6903
18	4021,81551	0,91993	65	-0,72	18	0,1472	78,9210
19	4307,75603	0,93039	69	-0,63	19	0,1298	89,5235

CALCULATED INTERMEDIATE VALUES

H2		0,0006	
A1		2809,0695	
A2		2701872,0002	
A3		0,1620	
F1		0,0161	
F3-	8	32,4000	0,6973
F3+	9	34,8000	0,7323
E		26,7208	
K		0,3656	
K1		0,0009	
QLO		10000,0000	
FBO		0,0000	
Amplifier Zout		0,0000	
V SRCE		2,8284	

E2	Y3	P1	db1W
16,4392	101,9418	45,4198	86,6550
17,2866	103,2384	50,2227	87,5150
18,2666	104,4909	56,0789	88,2886
19,3493	105,6592	62,9239	88,9567
20,6912	106,8860	71,9540	89,6011
22,2503	108,0933	83,2057	90,1774
24,0492	109,2795	97,2043	90,6883
26,1112	110,4436	114,5878	91,1379
26,7208	111,0696	120,0000	91,5634
26,7208	111,4197	120,0000	91,9135
26,7208	111,7424	120,0000	92,2363
26,7208	112,0236	120,0000	92,5175
26,7208	112,2594	120,0000	92,7532
26,7208	112,4691	120,0000	92,9630
26,7208	112,6483	120,0000	93,1421
26,7208	112,8047	120,0000	93,2985
26,7208	112,9369	120,0000	93,4307
26,7208	113,0511	120,0000	93,5450
26,7208	113,1494	120,0000	93,6432

Speaker Enclosure Design  
by Jim White 15 July 1986

DRIVER USED: supravox 215 exc 9 v  
supravox 215 exc 9 v max. SPL

INPUT PARAMETERS	CALCULATED VALUES
Driver Resonant Frequency: 47,0	Driver Res. in Box (Fsb): 47,3
Driver Electrical Q (Qes): 0,640	Total Driver Q (Qts): 0,592
Driver Mechanical Q (Qms): 7,880	Box Tuning Ratio (h): 0,000
Assumed Box Loss Q (QL): 7	Drvr/Box Volume Ratio (a): 0,013
Tuned Freq. of Box (Fb): 0,0	Cut-Off Frequency (F3): 59,9
Driver Equiv Volume (Vas): 4,49	Reference Efficiency (No): 0,70
Enclosure Volume (Vb): 353,54	"Effectivity" (Kn): 0,01
Thermal Power Limit (P): 30	
DC Resistance (Re): 4,1	VENT DIMENSIONS
Pk-to-Pk Excursion (Xmax): 0,39	Ducted Port - Length: #DIV/0!
Effective Cone Dia. (D): 7,48	Mach Number : 0,00
Response Order (2 or 4): 2	
Port Inside Diameter (Dp): 3,00	Vas & Vb in cubic feet Xmax,Dp & D in inches

#	X	Relative Output Y	Test Freq	dB	#	Y1	E1
1	916,11727	0,16264	20	-15,78	1	0,9108	9,1071
2	987,10839	0,18615	21	-14,60	2	0,8979	9,2380
3	1060,91089	0,21156	23	-13,49	3	0,8834	9,3895
4	1134,71339	0,23776	25	-12,48	4	0,8679	9,5576
5	1217,74119	0,26794	26	-11,44	5	0,8492	9,7674
6	1305,38166	0,30032	28	-10,45	6	0,8283	10,0140
7	1397,63478	0,33462	30	-9,51	7	0,8051	10,3027
8	1494,50056	0,37050	32	-8,62	8	0,7796	10,6394
9	1605,20430	0,41087	35	-7,73	9	0,7494	11,0680
10	1715,90805	0,45010	37	-6,93	10	0,7185	11,5449
11	1840,44976	0,49240	40	-6,15	11	0,6832	12,1405
12	1974,21679	0,53524	43	-5,43	12	0,6454	12,8515
13	2112,59647	0,57639	46	-4,79	13	0,6070	13,6656
14	2264,81412	0,61776	49	-4,18	14	0,5660	14,6540
15	2426,25708	0,65719	53	-3,65	15	0,5247	15,8087
16	2601,53801	0,69504	56	-3,16	16	0,4827	17,1855
17	2786,04425	0,72975	60	-2,74	17	0,4419	18,7720
18	2984,38846	0,76185	65	-2,36	18	0,4020	20,6324
19	3196,57064	0,79103	69	-2,04	19	0,3638	22,7975

CALCULATED INTERMEDIATE VALUES

H2		0,0005	
A1		3662,5396	
A2		4759690,0002	
A3		0,2176	
F1		0,0217	
F3-	16	56,4000	0,6950
F3+	17	60,4000	0,7298
E		11,0905	
K		0,5597	
K1		0,0012	
QLO		10000,0000	
FBO		0,0000	
Amplifier Zout		0,0000	
V SRCE		2,8284	

E2	Y3	P1	db1W
9,1071	92,3514	20,2290	82,1947
9,2380	93,6480	20,8149	83,3672
9,3895	94,9005	21,5032	84,4785
9,5576	96,0688	22,2798	85,4927
9,7674	97,2956	23,2688	86,5308
10,0140	98,5029	24,4584	87,5216
10,3027	99,6891	25,8891	88,4609
10,6394	100,8532	27,6091	89,3457
11,0680	102,0946	29,8784	90,2440
11,0905	102,9044	30,0000	91,0362
11,0905	103,6846	30,0000	91,8164
11,0905	104,4092	30,0000	92,5409
11,0905	105,0525	30,0000	93,1843
11,0905	105,6546	30,0000	93,7864
11,0905	106,1920	30,0000	94,3238
11,0905	106,6784	30,0000	94,8102
11,0905	107,1017	30,0000	95,2335
11,0905	107,4757	30,0000	95,6074
11,0905	107,8020	30,0000	95,9338