Woofer Box Model and Circuit Designer

Version 5.0 by Jeff Bagby

Select Woofer from Database: Beyma SM115N 8

Or Enter Woofer Name: Beyma SM115N 8

Driver Configuration: Single Woofer

Scroll to select, then load: Load Selected Configuration

Woofer Parameters

Fs (Hz)	35.00
Re (ohms)	6.40
Le (mH)	1.20
Vas (liters)	267.00
Qes	0.400
Qms	8.50
Sd (cm2)	880
Xmax (mm)	7.25
Series R (Ohms)	0
Available Power (W)	120

Standard Box Alignments

Standard Vab (liters)	110.10

Entered Box Parameters

Vb (liters)	100.00
Vb (Ft^3)	3.53
Ql (Box Losses)	20.0
Qa (Absorption)	100

Box Mode: SEALED

Qb (Total Box Q) 16.67

Derived Driver, Box and System Data

Calculated Driver Parameters

SPL 1 W / Meter (dB)	96.50
SPL 2.83V / Meter (dB)	97.46
System DCR (Ohms)	6.40
Applied Voltage (V)	9.88
Efficiency No (%)	2.751%
Qts (with series R)	0.382
Cms (mm/N)	0.245
Mms (kg)	0.084
Rms (kg/s)	2.179
BL (kgm/sq)	17.216
Max Output (dB)	108.35

Calculated Alignment Data

Effective Qtc	0.706
Sealed Fc (Hz)	66.69
EBP (Fs/Qes)	87.50
Max Output W/ Filter	108.33
Relative -3 dB Point	39.92 Hz
Relative -6 dB Point	30.55 Hz
Relative -10 dB Point	22.95 Hz

Box Volume And Vent Calculator

Transfer Vab | Transfer Port

English Units: Inches

Height (Outside Dim)	42
Width (Outside Dim)	14
Depth (Outside Dim)	12
Wall Thickness	0.75
Baffle Thickness	0.75
Volume - Vab (Liters)	86.63
Volume - Vab (Ft^3)	3.06
Port Diameter	2
Port Length	8.28
Number of Ports	1
Tuned Port Fb	16.8 Hz

Quick Tuning Utility Bar

Adjust Vab: 100.1 | Adjust Fb: | Adjust PR Mass: | Adjust Ql: 20

Active Circuit Response Designer

Circuit / Amp Name: Dayton SPA500

Parametric EQ: OFF

Five Band Parametric Bass Equalizer

Band	1	2	3	4	5
Fc	21 Hz	32 Hz	42 Hz	63 Hz	80 Hz
Gain (dB)	0.0	0.0	0.0	0.0	0.0
Q	1	1	1	1	1

Selectable Textbook High Pass Filter

Fc: 26 Hz | Selected Textbook Response: Second Order Linkwitz-Riley | Load High Pass | High Pass Filter: OFF

Optional Second Order Adjustable High Pass Filter - Stage One

Stage One: OFF | Fc: 24 Hz | Q: 2 | Gain (dB): 6.0 dB

Optional Second Order Adjustable High Pass Filter - Stage Two

Stage Two: OFF | Fc: 15 Hz | Q: 0.7 | Gain (dB): -3.1 dB

Selectable Textbook Low Pass Filter

Fc: 80 Hz | Textbook Response: Fourth Order Linkwitz-Riley | Load Low Pass | Low Pass Filter: OFF

Linkwitz Transform - Biquad Pole Shifter

F0	Q0	Fp	Qp	Gain (dB)
67 Hz	0.7	40 Hz	0.7	9.0 dB

Linkwitz: ON

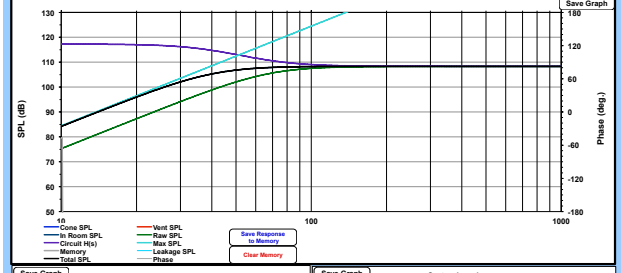
Frequency Range Utility

Minimum 10 Hz | Maximum 1,000 Hz

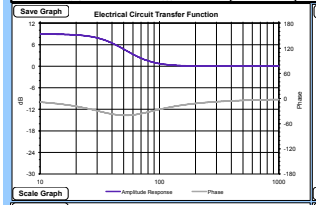
Graphics Save Utility

Graph Width Multiplier 1.33 | Height Multiplier 1

Scale Graph | Print Graph | Save Graph

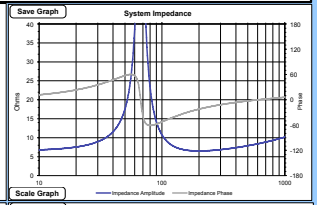


Save Graph



Scale Graph

Save Graph



Scale Graph

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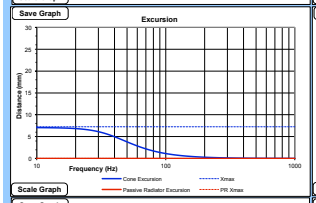
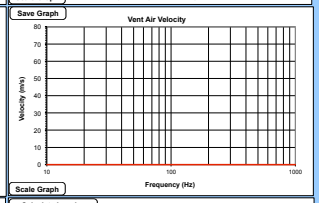


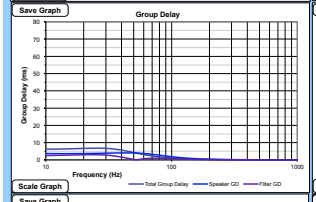
Scale Graph

Save Graph



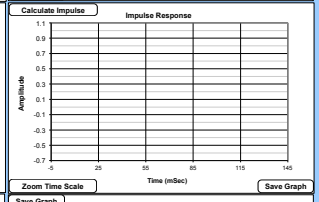
Scale Graph

Save Graph



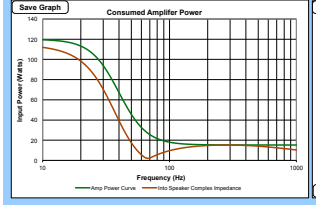
Scale Graph

Calculate Impulse

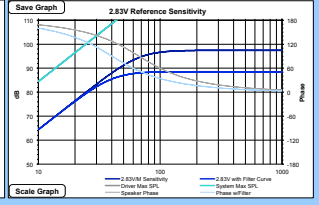


Zoom Time Scale | Save Graph

Save Graph



Save Graph



Scale Graph

"The Woofer Box and Circuit Designer"5.0 spreadsheet and it's VBA modules
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