

# Woofer Box Model and Circuit Designer

Version 5.0 by Jeff Bagby

Select Woofer from Database: Dayton RSS315-HD

Or Enter Woofer Name: **GRS 12PR-8**

Driver Configuration: **Single Woofer**

Scroll to select, then load: Load Selected Configuration

**Woofer Parameters**

Fs (Hz)	32.00	<b>Standard Box Alignments</b>
Re (ohms)	7.59	Standard Vab (liters) -137.96
Le (mH)	1.40	
Vas (liters)	95.14	<b>Entered Box Parameters</b>
Qes	1.820	Vb (liters) 100.00
Qms	4.13	Vb (Ft^3) 3.53
Sd (cm2)	550	Ql (Box Losses) 10.0
Xmax (mm)	3.5	Qa (Absorption) 20
Series R (Ohms)	0.05	
Available Power (W)	140	

Box Mode: **SEALED**

Qb (Total Box Q) 6.67

**Derived Driver, Box and System Data**

<b>Calculated Driver Parameters</b>	<b>Calculated Alignment Data</b>
SPL 1 W / Meter (dB) 84.21	Effective Qtc 1.462
SPL 2.83V / Meter (dB) 84.41	Sealed Fc (Hz) 43.96
System DCR (Ohms) 7.64	
Applied Voltage (V) 32.60	EBP (Fs/Qes) 17.47
Efficiency No (%) 0.164%	
Qts (with series R) 1.269	
Cms (mm/N) 0.224	Max Output W/ Filter 105.63
Mms (kg) 0.110	Relative -3 dB Point 48.46 Hz
Rms (kg/s) 5.378	Relative -6 dB Point 39.55 Hz
BL (kgm/sq) 9.593	Relative -10 dB Point 32.89 Hz
Max Output (dB) 105.67	

**Box Volume And Vent Calculator**

Transfer Vab Transfer Port

Metric Units: Centimeters

Height (Outside Dim) 38.4	Port Diameter 3.5
Width (Outside Dim) 30	Port Length 12.3
Depth (Outside Dim) 12.2	Number of Ports 1
Wall Thickness 1.2	Tuned Port Fb 48. Hz
Baffle Thickness 2.4	
Volume - Vab (Liters) 8.43	
Volume - Vab (Ft^3) 0.30	

**Quick Tuning Utility Bar**

Adjust Vab: 100. L Adjust Fb: Adjust PR Mass: Adjust Ql: 10

**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: 45 Hz Selected Textbook Response: Second Order Linkwitz-Riley

Load High Pass High Pass Filter:

**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: 63 Hz Textbook Response: Fourth Order Linkwitz-Riley

Load Low Pass Low Pass Filter:

**Linkwitz Transform - Biquad Pole Shifter**

F0	Q0	Fp	Qp	Gain (dB)
44 Hz	1.45	35 Hz	0.707	4.0 dB

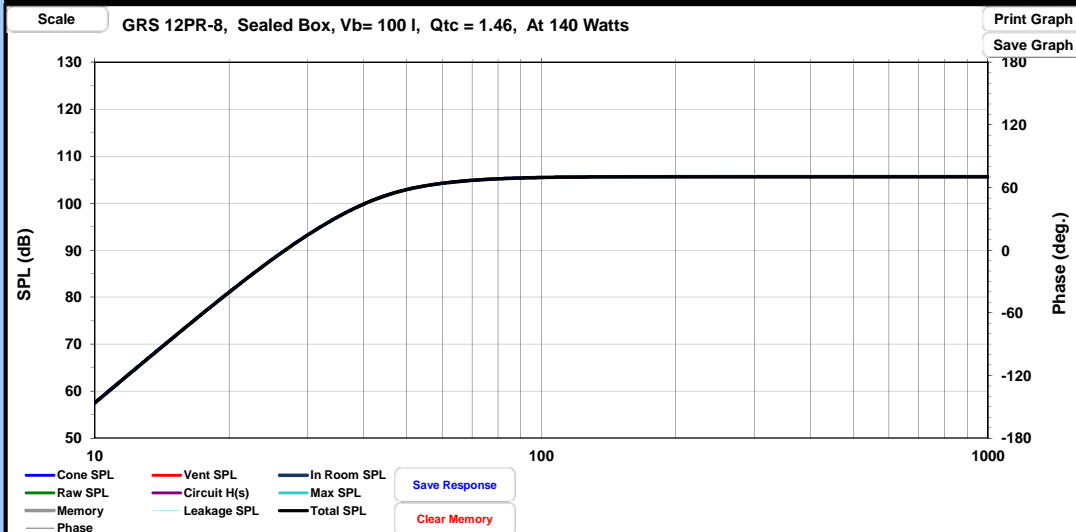
Linkwitz: ON

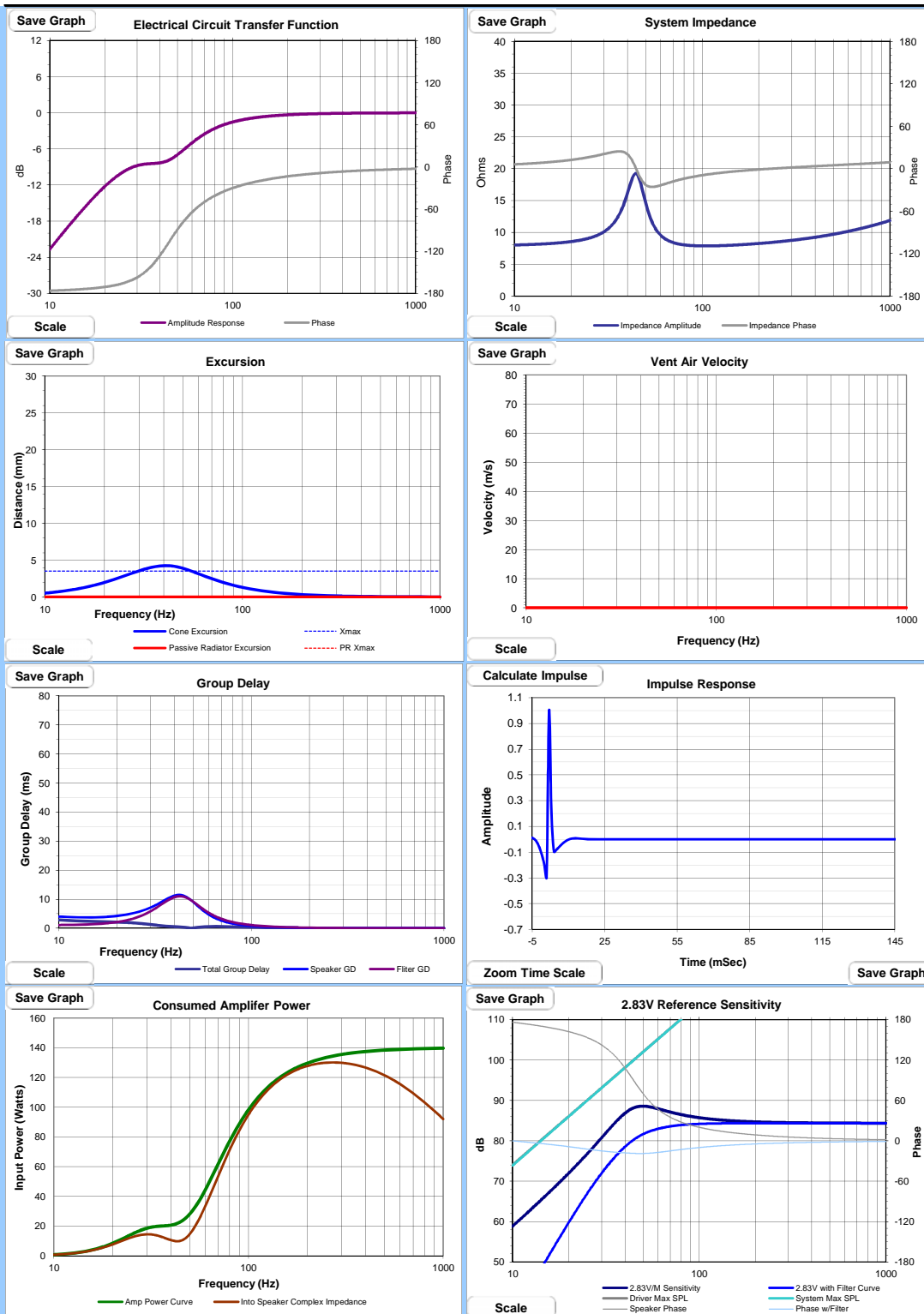
**Frequency Range Utility**

Minimum: 10 Hz Maximum: 1,000 Hz

**Graphics Save Utility**

Graph Width Multiplier: 1.33 Height Multiplier: 1





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