Building an effective, high performances, dual 15” front loaded subwoofer

Eighteen Sound
A division of A.E.B srl
Via dell'Industria 20 - 45025 Cavriago (Reggio Emilia)- Italy

2x15” subwoofer kit

•High performance 2 x 15 inch subwoofer system

•Side by side push/pull woofer arrangement to balance the motion mechanical non linearity allowing a significant reduction in distortion

•Double driver choice is possible: 15ND930 allows for lightweight box and faster attack sound character. The 15LW1500 could be the choice if deeper bass extension and extra power handling capability are required.

•**15ND930** woofer key features:

Neodymium magnet

3” Edge-wound copper voice coil

Double Demodulating Rings

500W continuous pink noise

•**15LW1500** woofer key features:

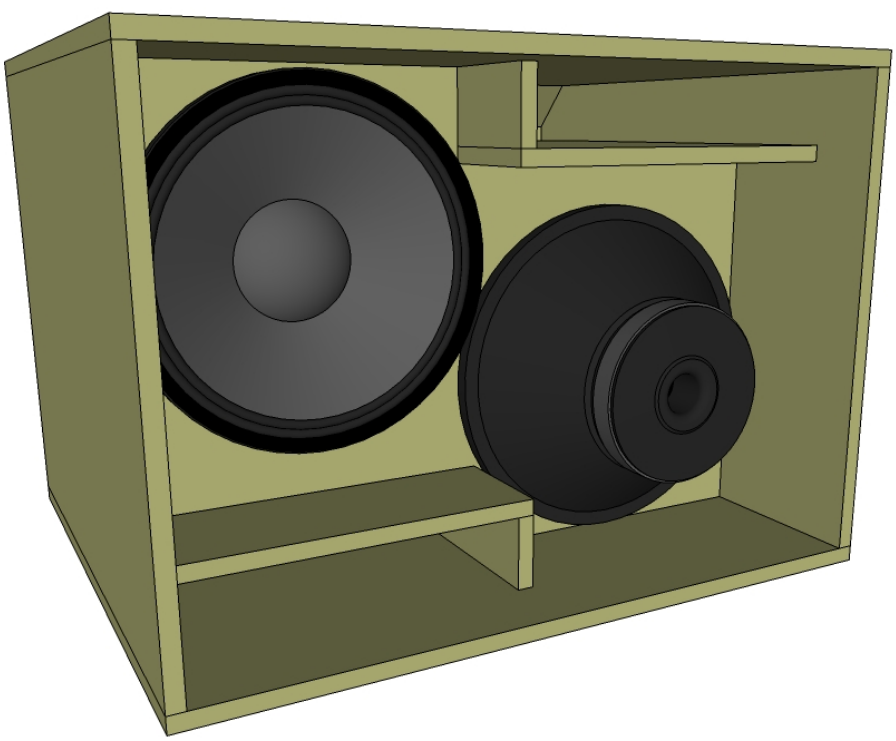
4” interleaved sandwich voice coil

Double Silicon Spider

Double Demodulating Rings

Rubber Surround

1000W continuous pink noise



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15ND930

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	380mm	(15 in)
RATED IMPEDANCE	8 ohms	
CONTINUOUS PINK NOISE (1)	500 W	
SENSITIVITY (2)	98 dB	
FREQUENCY RANGE (3)	40 ÷ 4100 Hz	
MAX RECOMM. FREQUENCY	1700 Hz	
RECOMM. ENCLOSURE VOLUME	60 ÷ 140 lt.	(2,12 ÷ 4,95 cuft)
VOICE COIL DIAMETER	75 mm	(2,95 in)
NET WEIGHT	4,1 kg	(9,05 lb)

THIELE-SMALL PARAMETERS *(4)*

Fs	36 Hz	
Re	5,5 ohms	
Sd	0,085 sq.mt.	(131,75 sq. in.)
Qms	5,30	
Qes	0,23	
Qts	0,22	
Vas	206 lt.	(7,28 cuft)
Mms	101 gr.	(0,22 lb)
BL	23,8 Tm	
Linear Mathematical Xmax (5)	± 7,5 mm	(± 0,30 in)
Le (1kHz)	1,61 mH	
Ref. Efficiency 1W@1m (half space)	98,2 dB	

15LW1500

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	380mm	(15 in)
RATED IMPEDANCE	8 ohms	
CONTINUOUS PINK NOISE *(1)*	1000 W	
SENSITIVITY *(2)*	96 dB	
FREQUENCY RANGE *(3)*	40 ÷ 2000 Hz	
MAX RECOMM. FREQUENCY	500 Hz	
RECOMM. ENCLOSURE VOLUME	70 ÷ 140 lt.	(2,47 – 4,95 cuft)
VOICE COIL DIAMETER	100mm	(3,95 in)
NET WEIGHT	12,4 kg	(27,37 lb)

THIELE-SMALL PARAMETERS *(4)*

Fs	34 Hz	
Re	5 ohms	
Sd	0,090 sq.mt.	(139,5 sq.in.)
Qms	11,5	
Qes	0,29	
Qts	0,28	
Vas	195 lt.	(6,9 cuft)
Mms	130 gr.	(0,63 lb)
BL	22,1 Tm	
Linear Mathematical Xmax *(5)*	± 9 mm	(± 0,35 in)
Le (1kHz)	2,4 mH	
Ref. Efficiency 1W @ 1m (half space)	96,2 dB	

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•The enclosure should be made of baltic birch plywood (18mm thickness).

•Bolts should be M5 or M6, 35mm or more length.

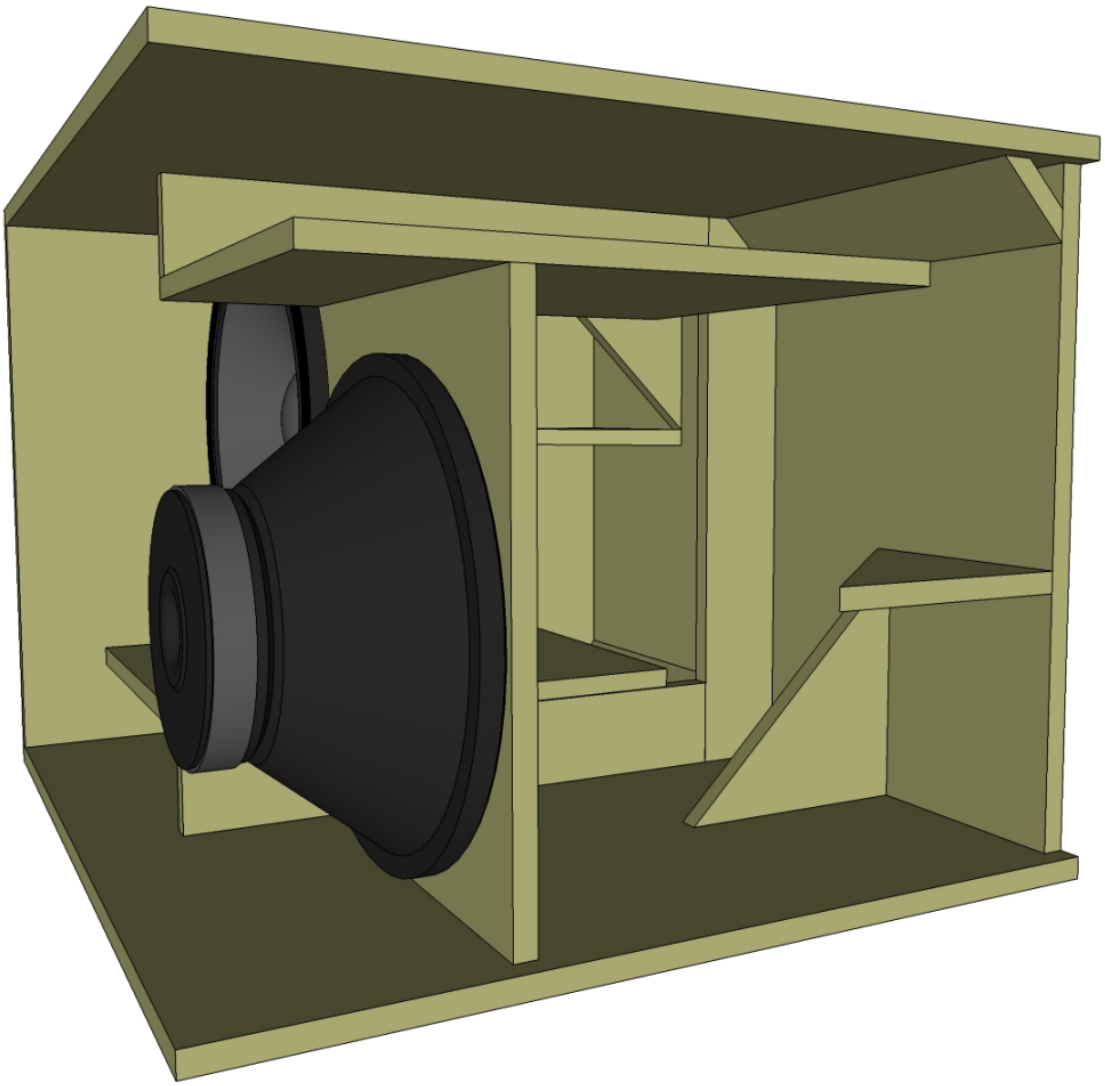
•M5 or M6 T-Nuts are recommended.

•Accurate damping of the cabinet interior is highly recommended.

•An high density dampening material, such as Dacron or other synthetic fibers, is required for better performance.

•Handling, rigging and connectors are at user’s choice. It’s very important that their placement should not influence in any way the proper vent functionality.

Internal view



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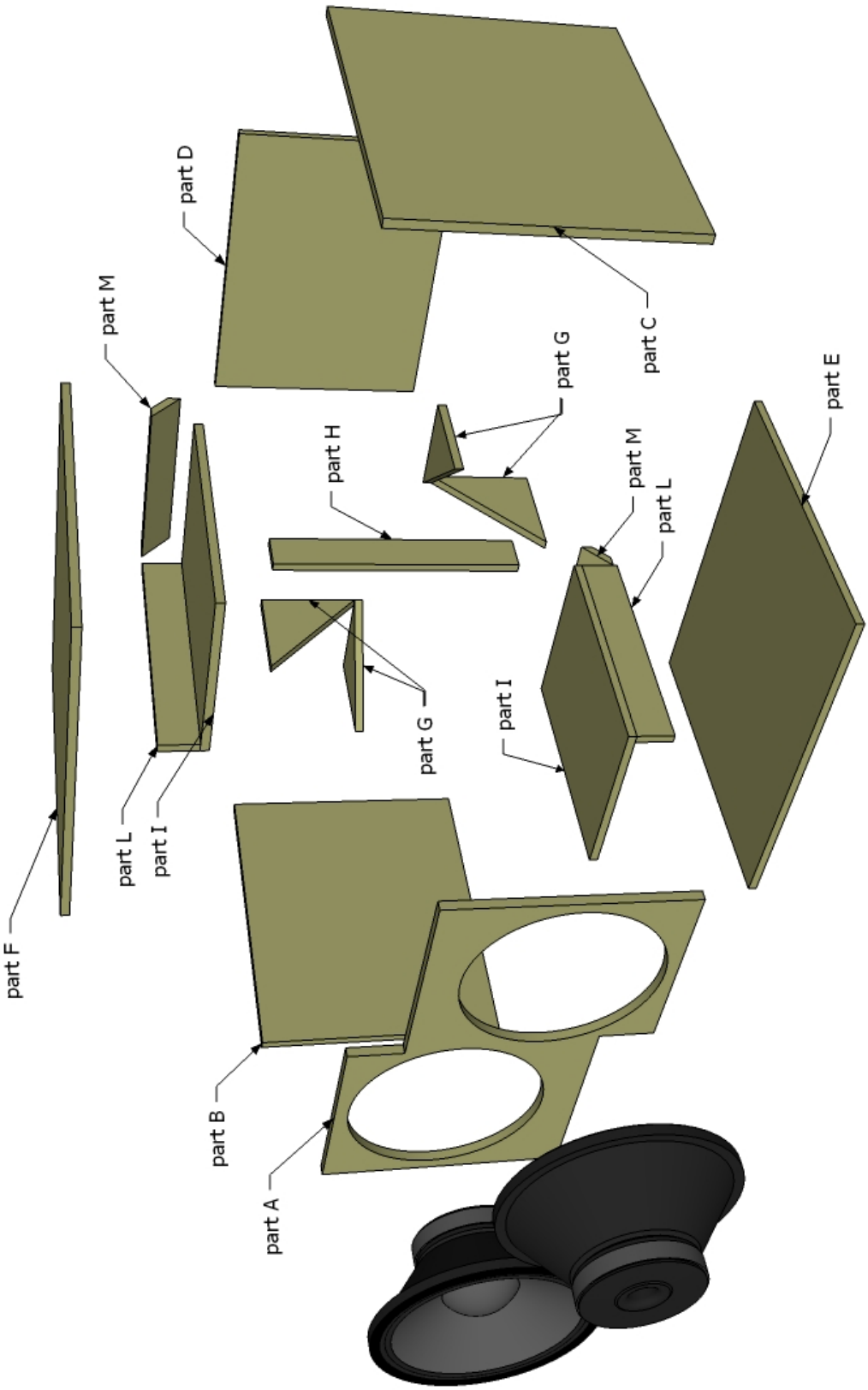
Exploded view



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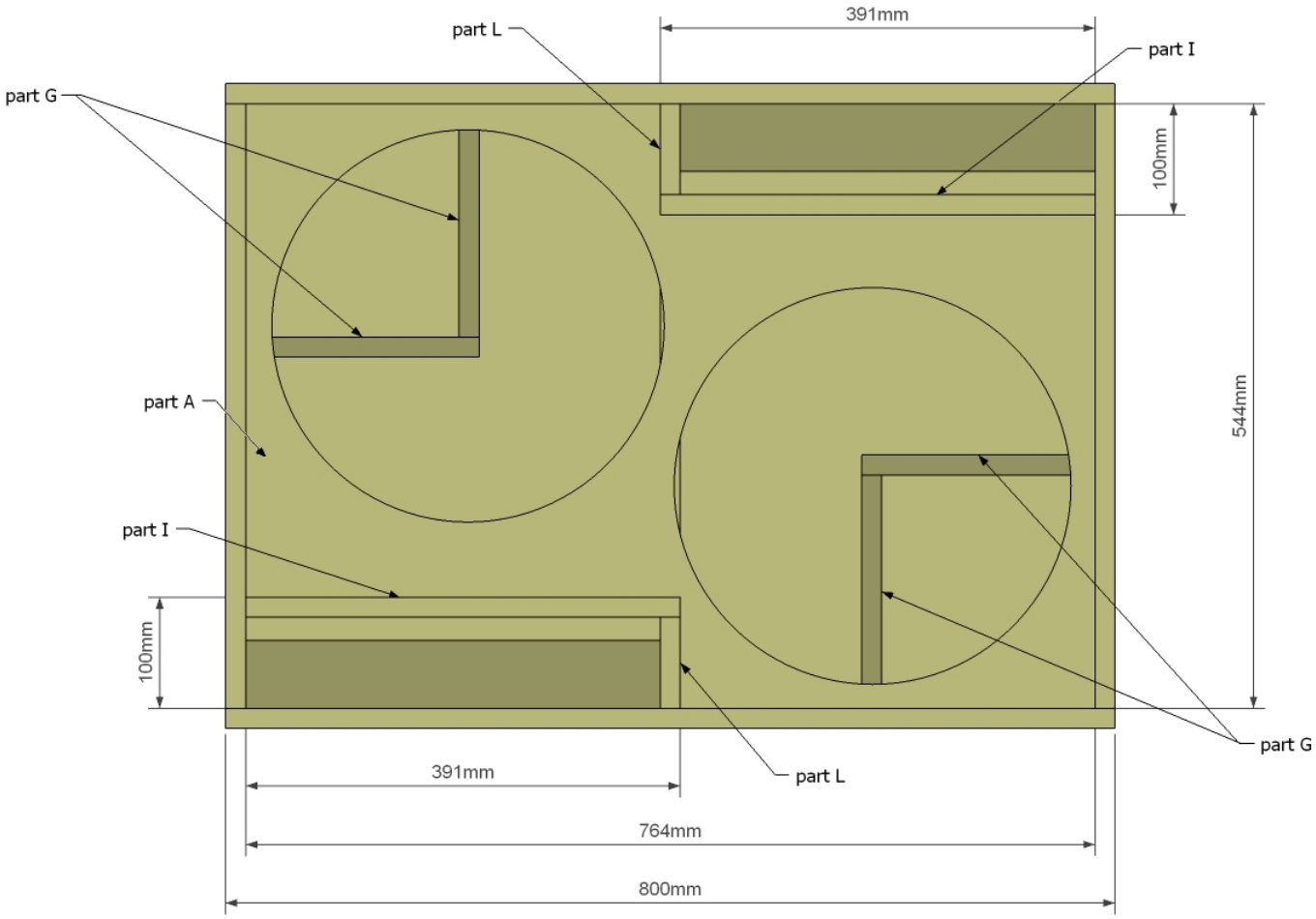
Front view



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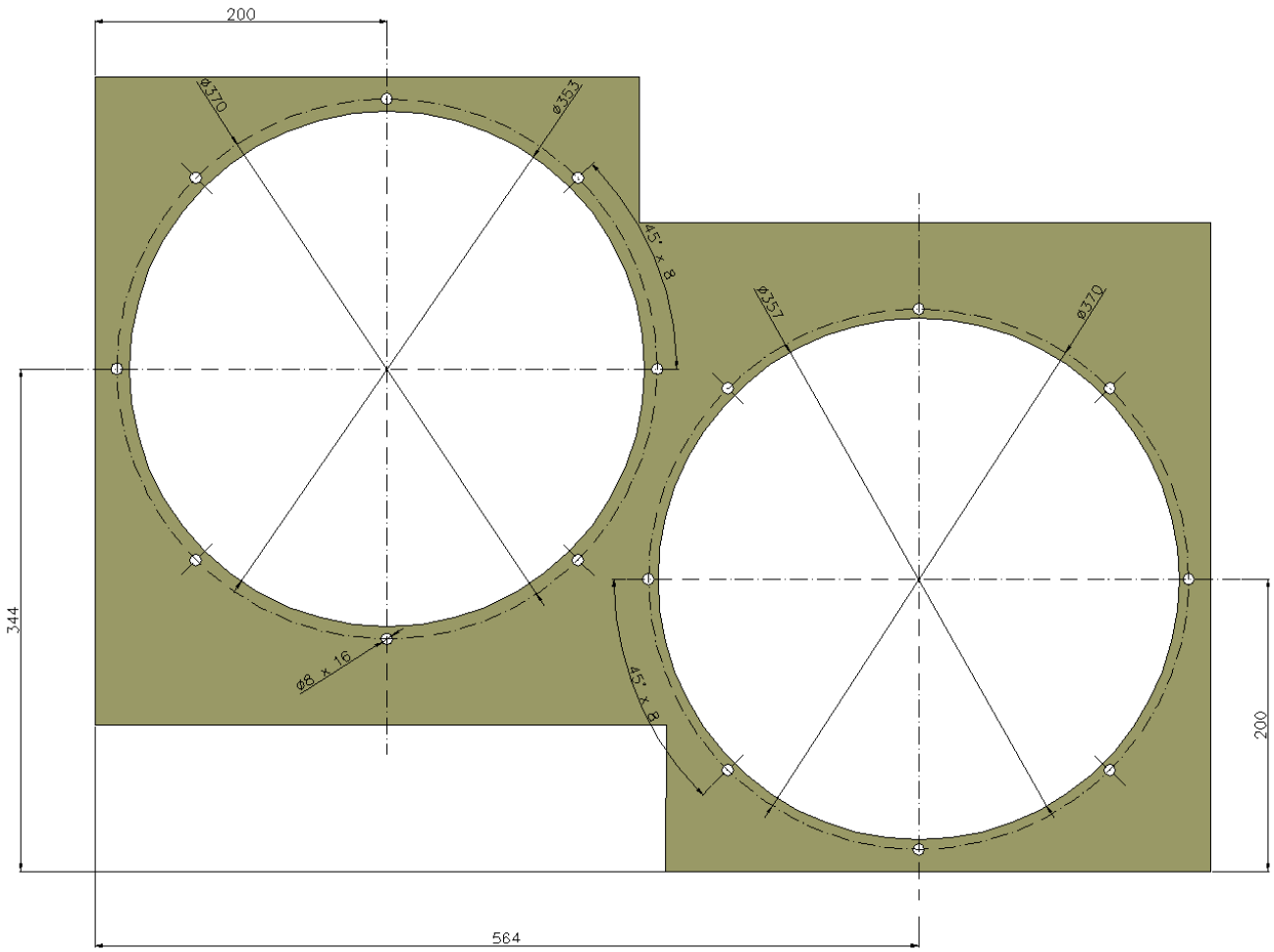
Front panel: bolts holes



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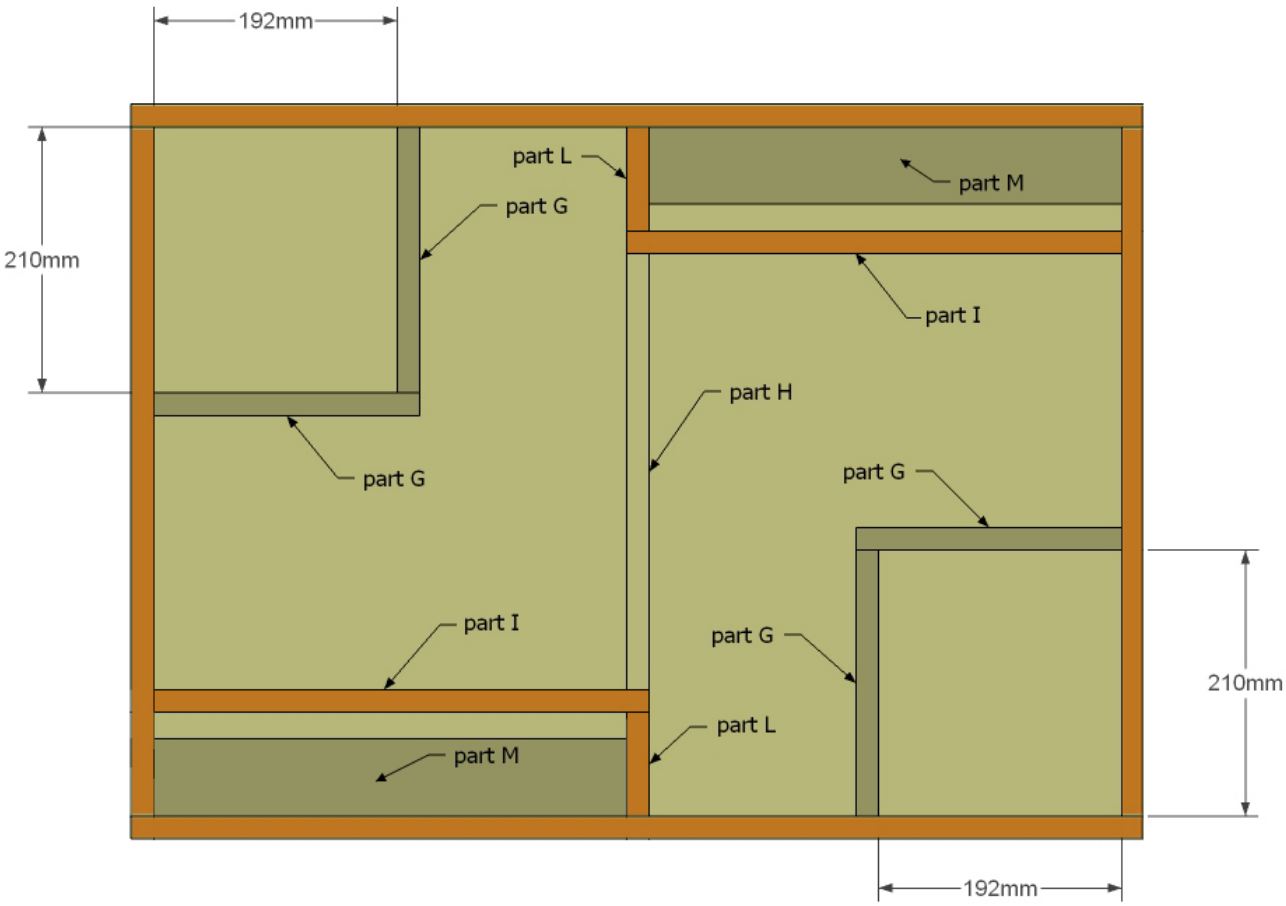
Front section



Woofer panel section

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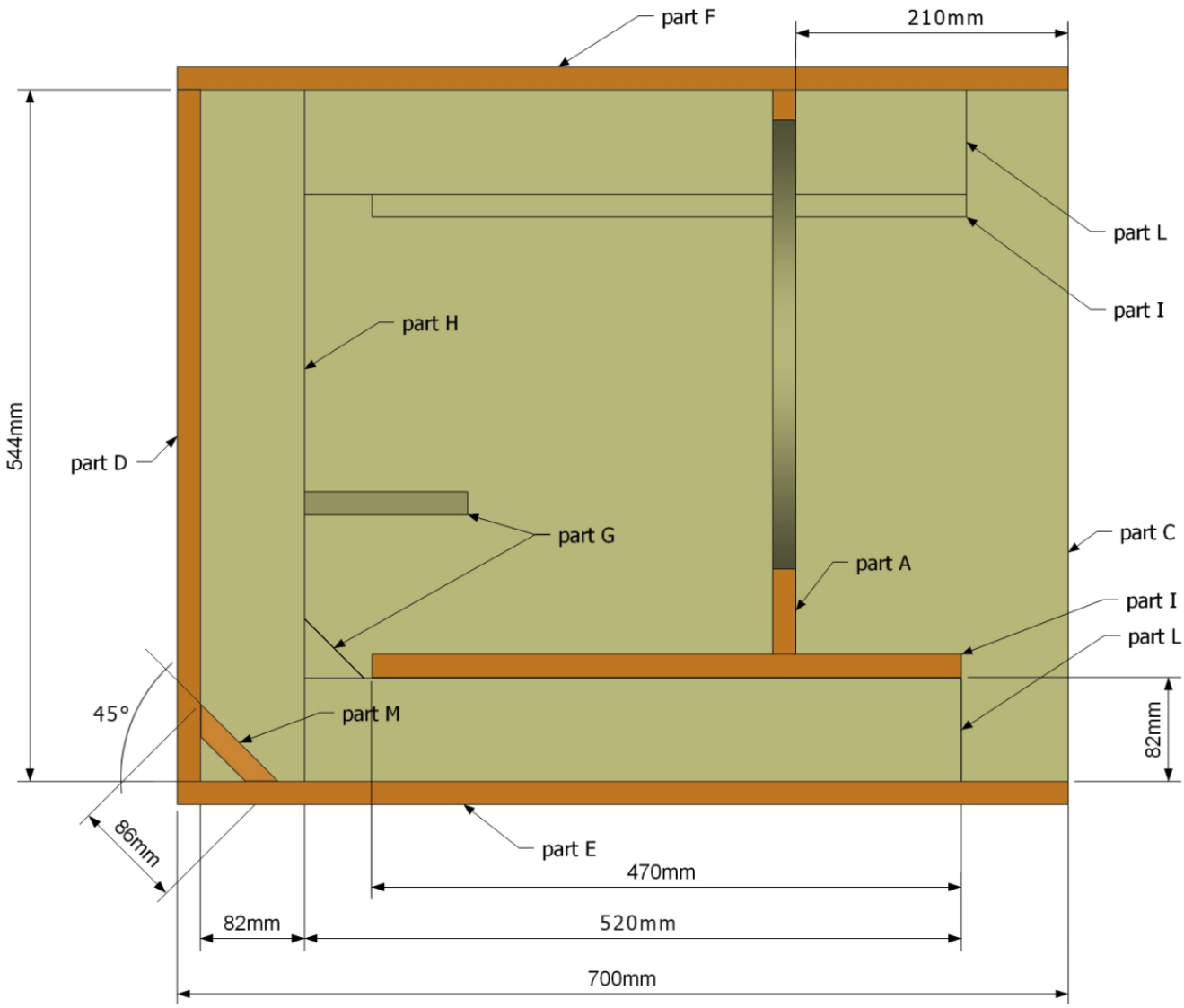
Side section



Inside woofer section

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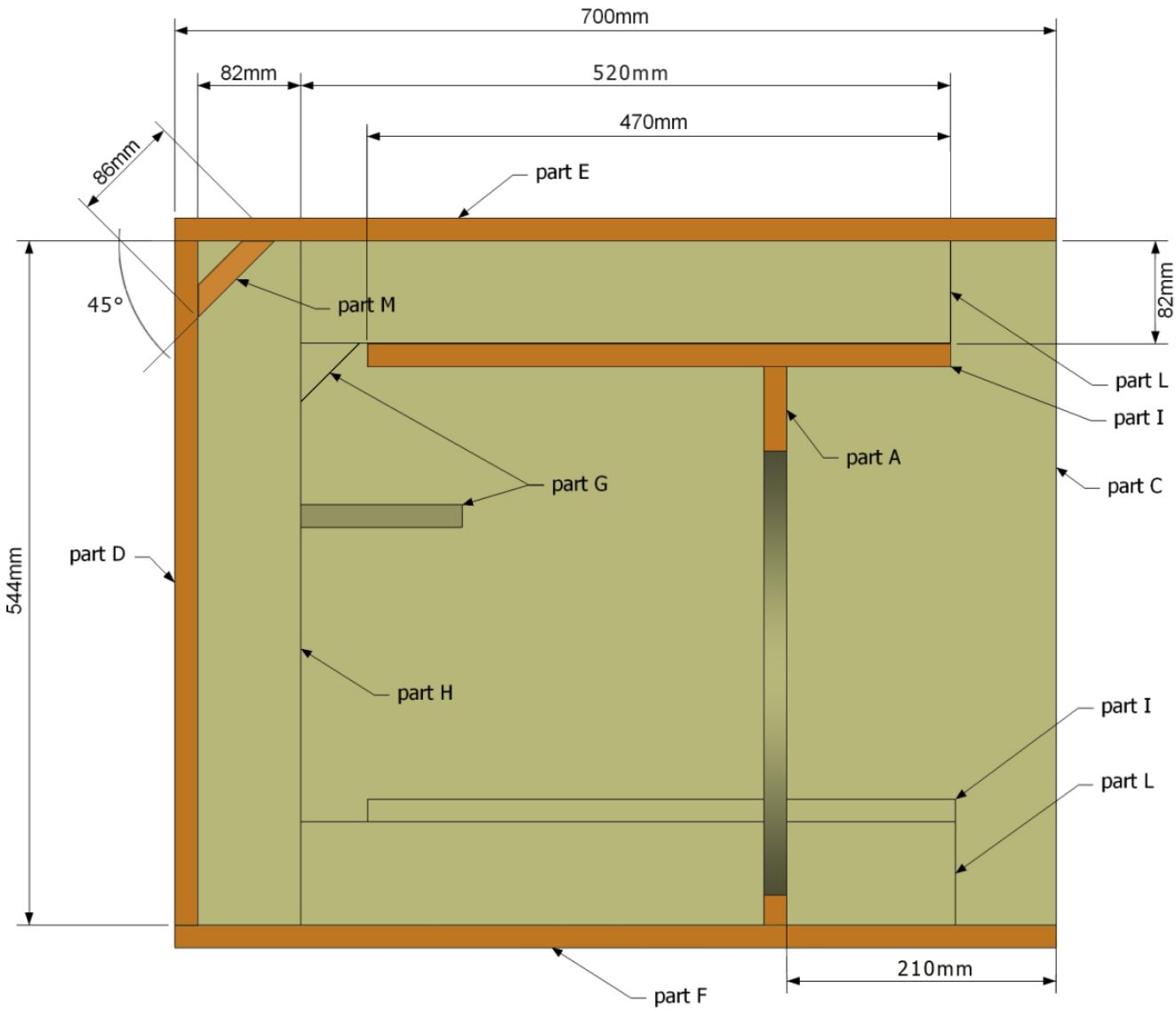
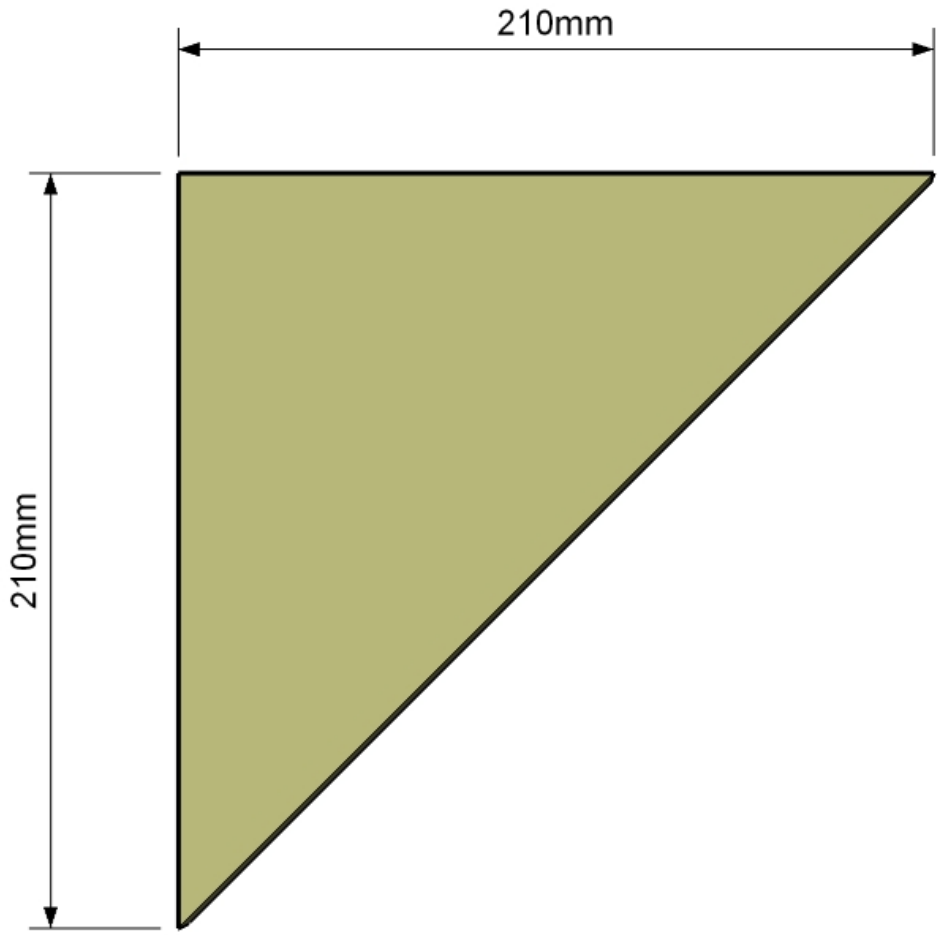
Side section



Outside woofer section

Bracing detail



Part G

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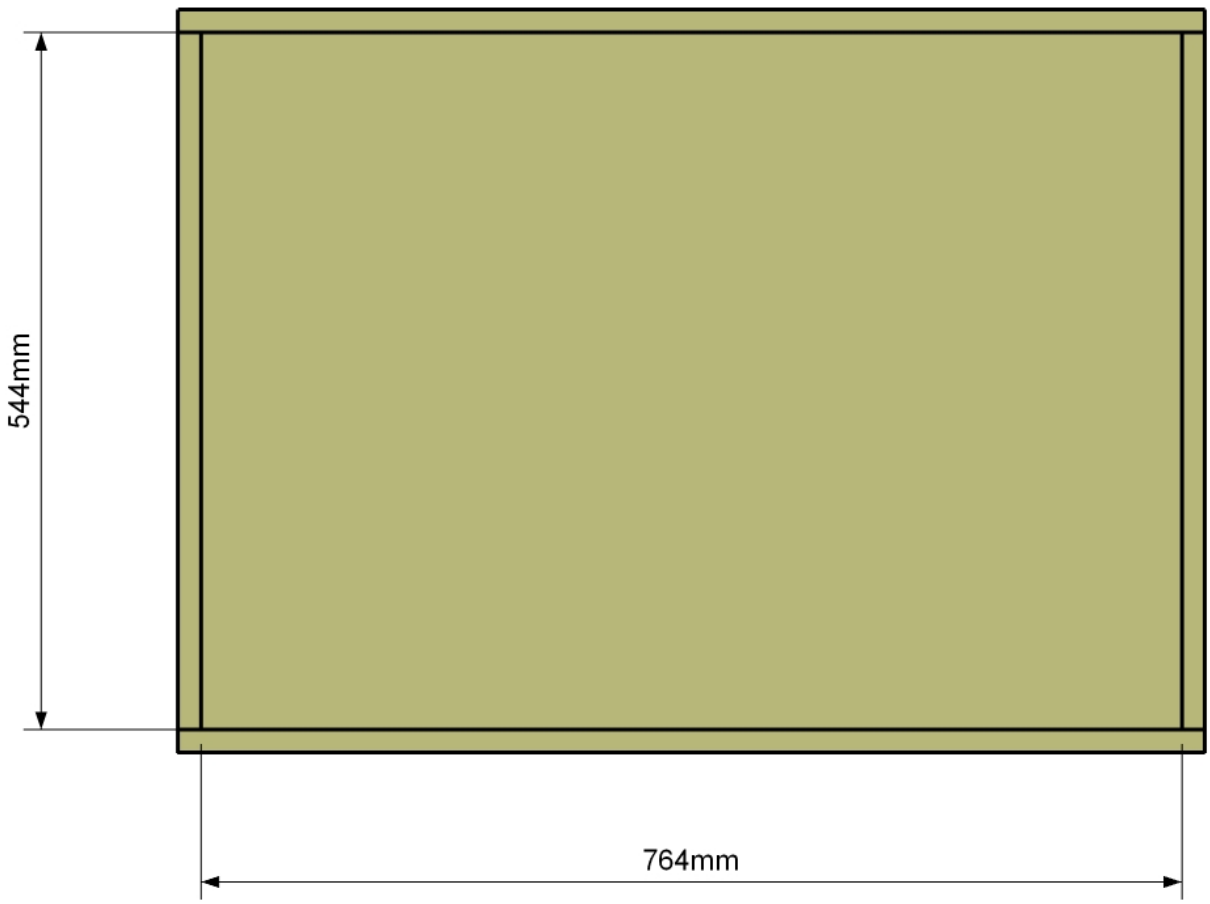
Rear panel



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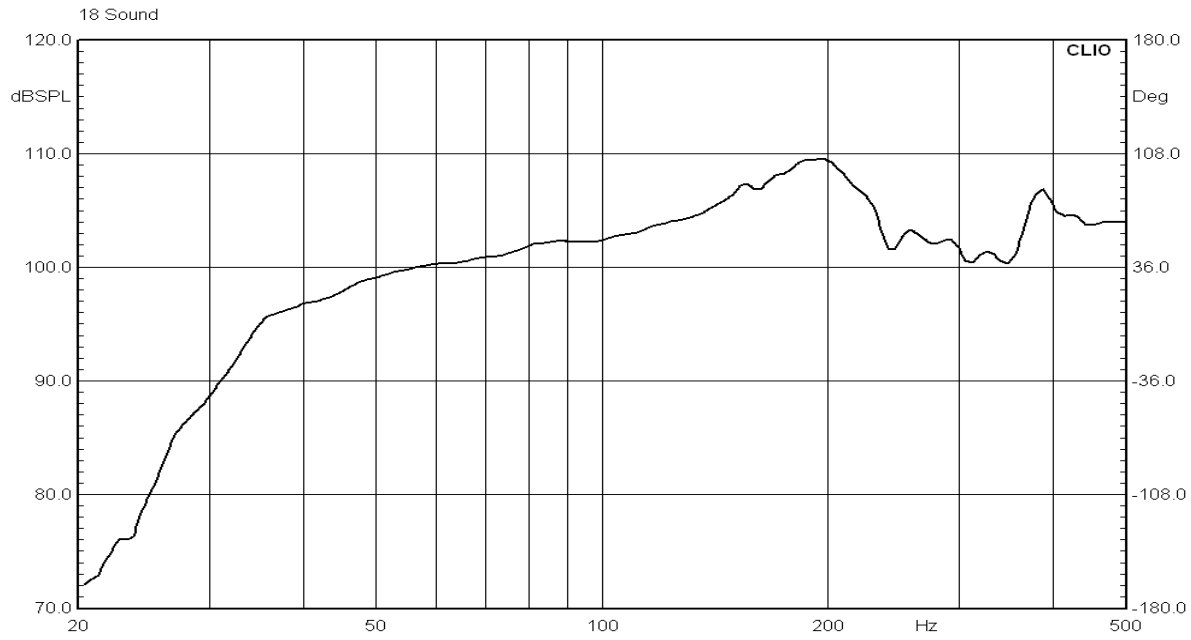
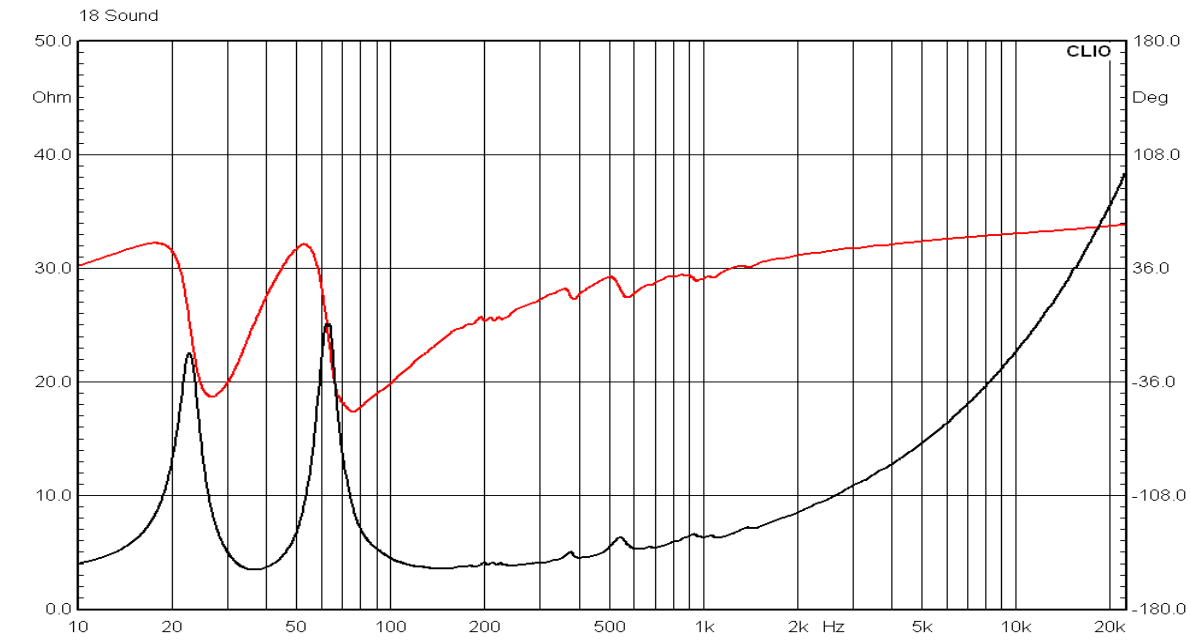
Measurements: 15LW1500



Frequency response - 1m@2.83Vrms



Impedance

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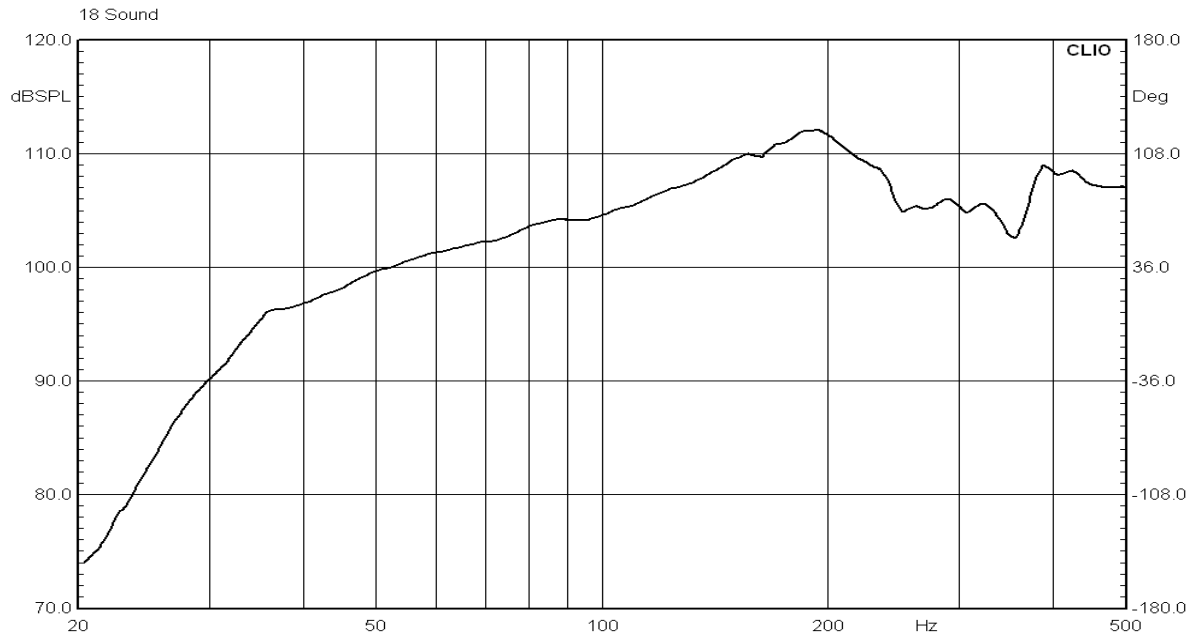
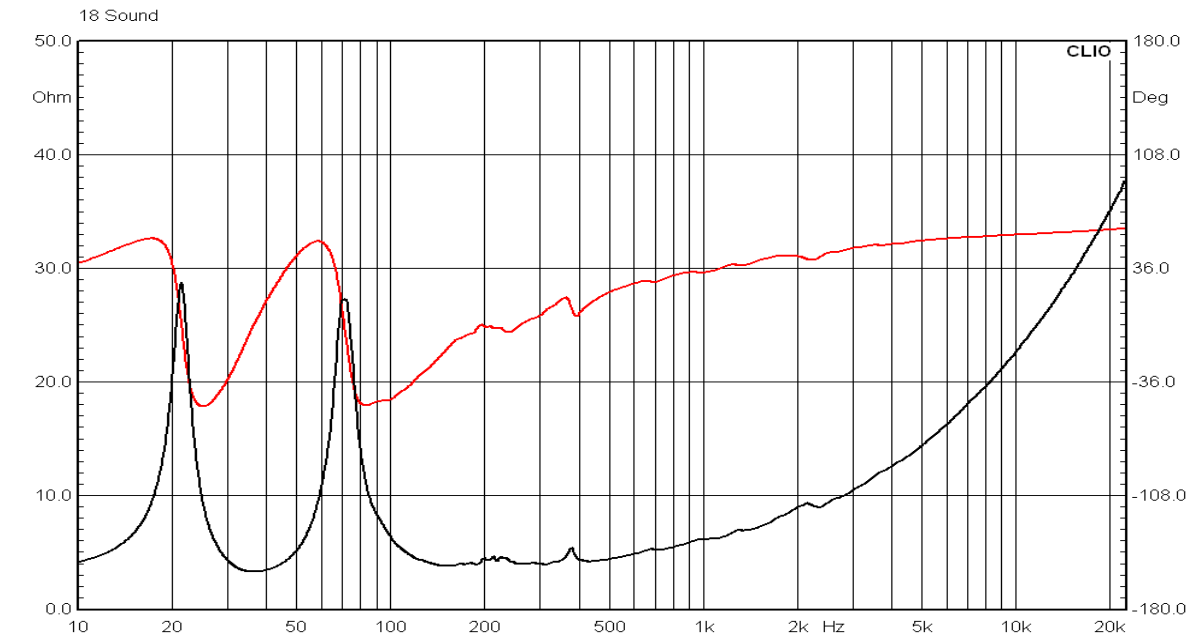
Measurements: 15ND930



Frequency response - 1m@2.83Vrms



Impedance

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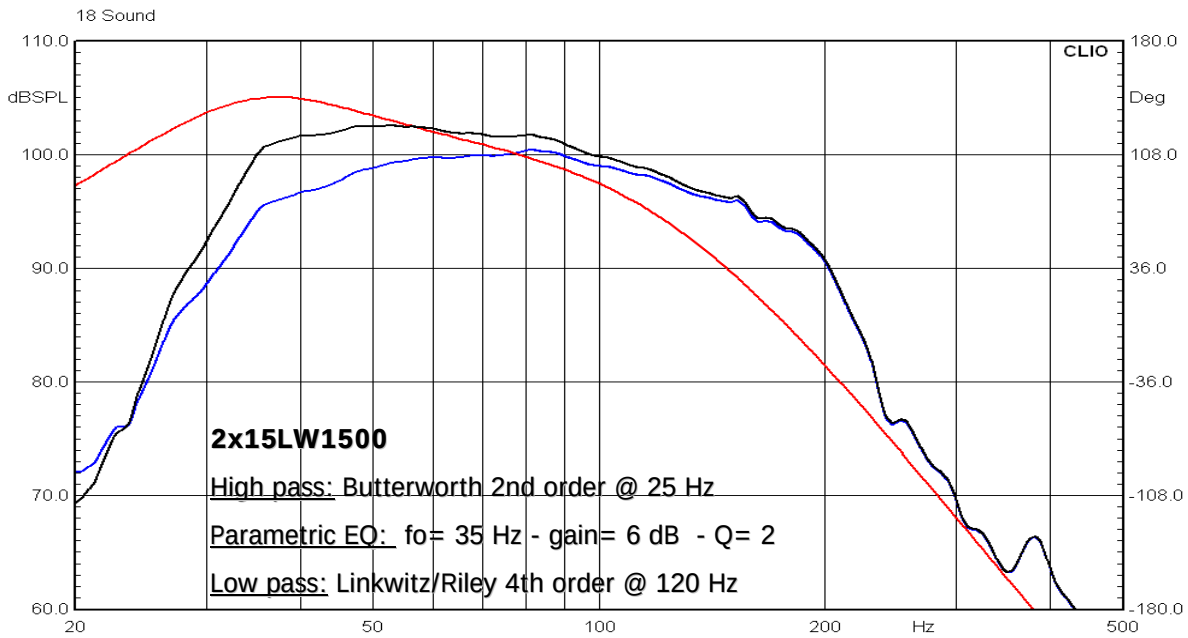
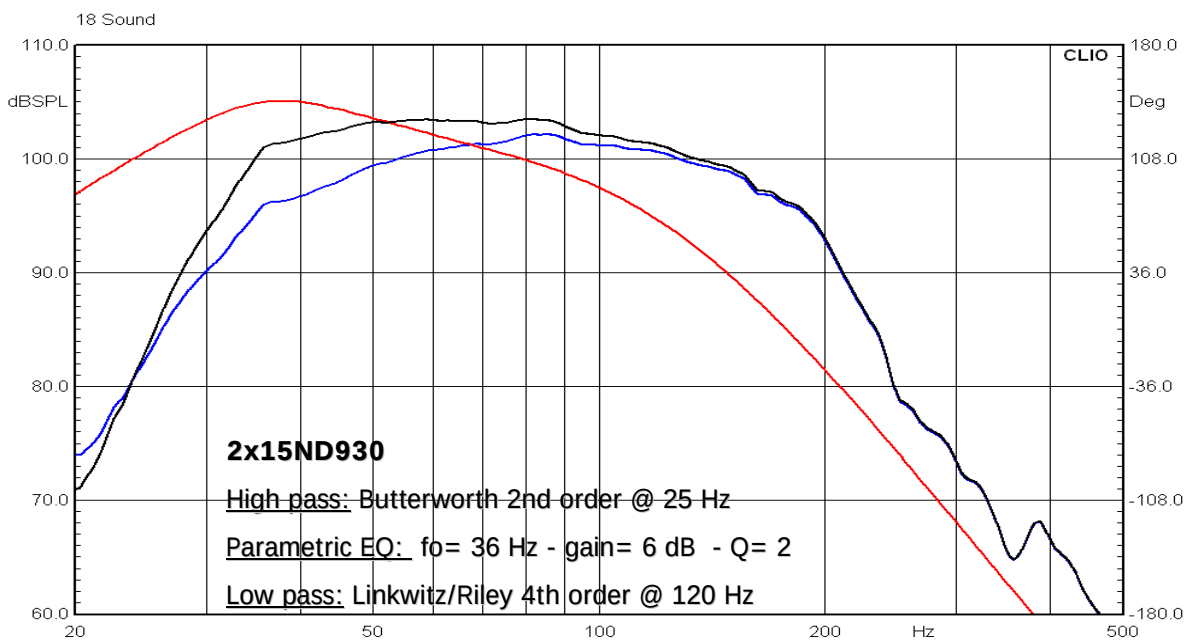
Equalization settings suggestions



black: equalized response - red: EQ response - blue: LP only response



black: equalized response - red: EQ response - blue: LP only response