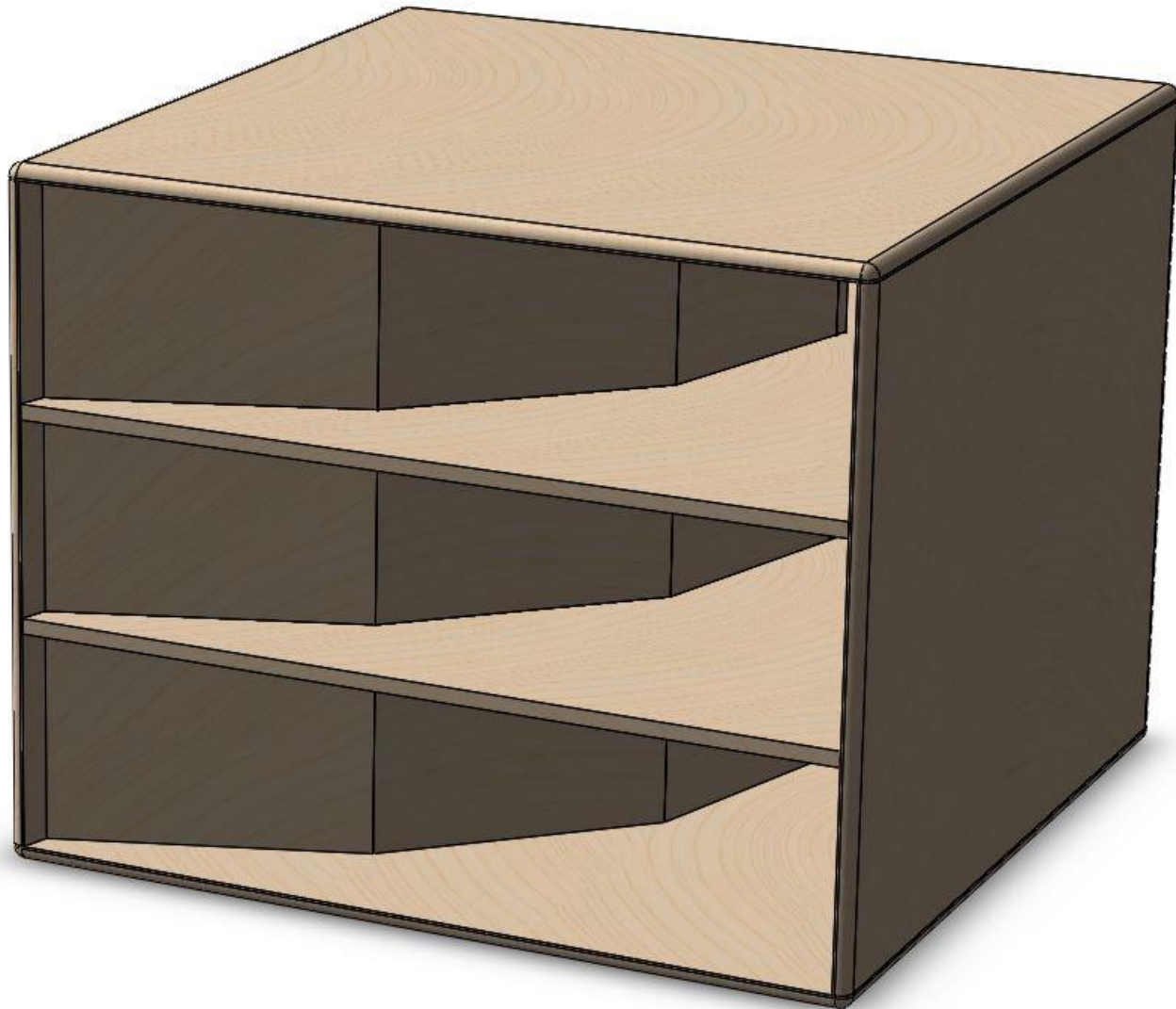




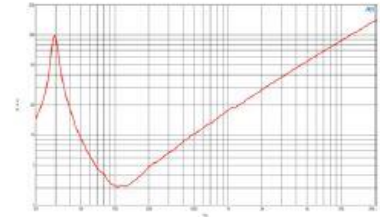
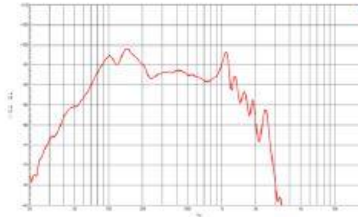
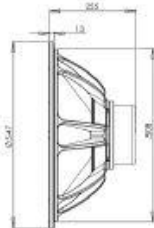
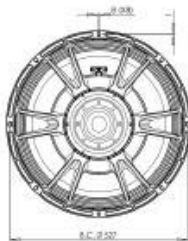
## **S21HL**

**Horn loaded  
21 Subwoofer**

1x21" Woofer – 21DS115 / 4 ohm



# Transducer (21DS115 / 4 ohm)



## SPECIFICATIONS

Nominal Diameter	530 mm (21.0 in)
Nominal Impedance	4 Ω
Minimum Impedance	3.1 Ω
Nominal Power Handling <sup>1</sup>	1700 W
Continuous Power Handling <sup>2</sup>	3400 W
Sensitivity <sup>3</sup>	99.0 dB
Frequency Range	30 - 1000 Hz
Voice Coil Diameter	116 mm (4.5 in)
Winding Material	Aluminium
Former Material	Glass Fibre
Winding Depth	36.0 mm (1.42 in)
Magnetic Gap Depth	14.0 mm (0.55 in)
Flux Density	0.8 T

## DESIGN

Surround Shape	Triple Roll
Cone Shape	Radial
Magnet Material	Neodymium Inside Slug
Spider	Double Silicone
Pole Design	T-Pole
Woofer Cone Treatment	TWP Waterproof Both Sides
Recommended Enclosure	130.0 dm <sup>3</sup> (4.59 ft <sup>3</sup> )
Recommended Tuning	40 Hz

## PARAMETERS<sup>4</sup>

Resonance Frequency	30 Hz
Re	2.2 Ω
Qes	0.2
Qms	11.0
Qts	0.21
Vas	274.0 dm <sup>3</sup> (9.68 ft <sup>3</sup> )
Sd	1680.0 cm <sup>2</sup> (260.4 in <sup>2</sup> )
ηi	3.4 %
Xmax	15.0 mm
Xvar	17.0 mm
Mms	412.0 g
Bl	28.8 T·m
Le	2.4 mH
BBP	150 Hz

## MOUNTING AND SHIPPING INFO

Overall Diameter	547 mm (21.54 in)
Bolt Circle Diameter	527 mm (20.7 in)
Baffle Cutout Diameter	508.0 mm (20.0 in)
Depth	255 mm (10.04 in)
Flange and Gasket Thickness	13 mm (0.51 in)
Air Volume Occupied by Driver	15.0 dm <sup>3</sup> (0.53 ft <sup>3</sup> )
Net Weight	14.8 kg (32.63 lb)
Shipping Units	1
Shipping Weight	17.1 kg (37.7 lb)
Shipping Box	570x570x320 mm (22.44x22.44x12.60 in)

## SERVICE KIT

Recone kit	RC121DS1154
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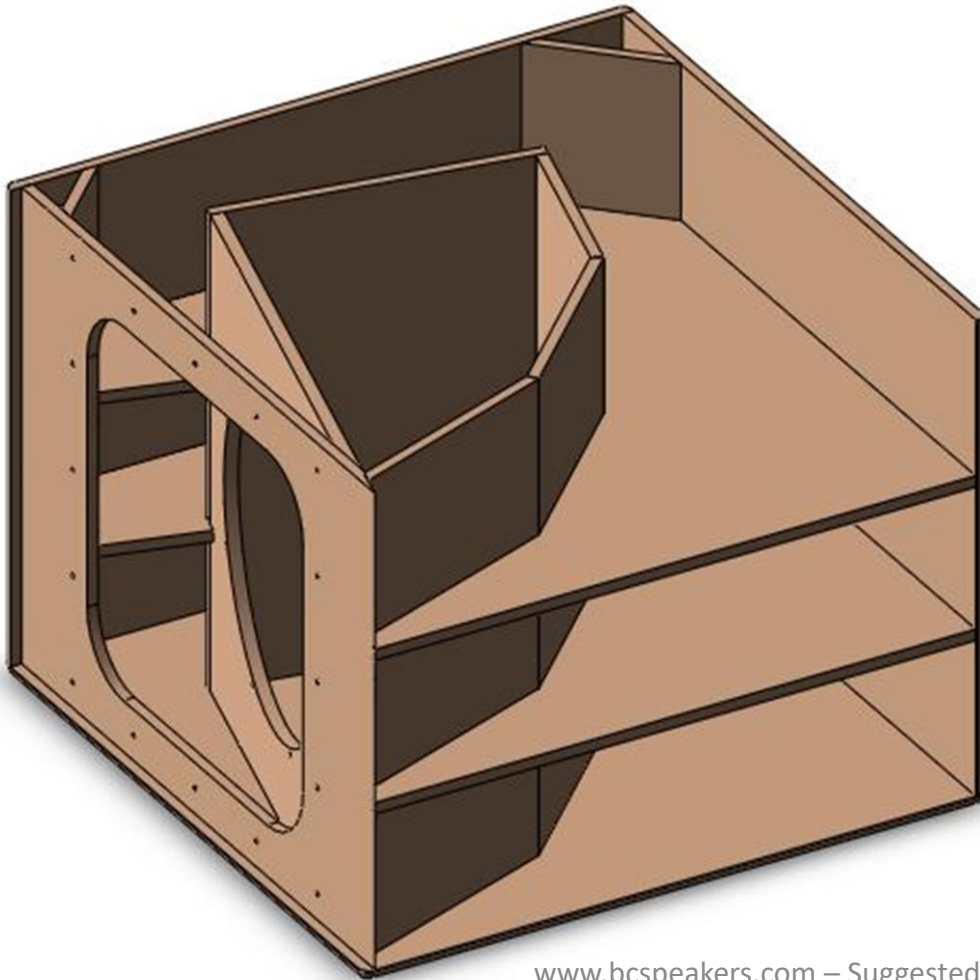
- 3400 W continuous program power capacity
- 116 mm (4.5 in) four layer aluminum voice coil
- 30 - 1000 Hz response
- 99 dB sensitivity
- Double silicone spider with optimized compliance
- Ventilated voice coil gap for reduced power compression
- Aluminium demodulating ring for very low distortion

This next evolution subwoofer uses a new, longer, four layer aluminum voice coil. The result is more energy in the gap, less heat, higher sensitivity, higher power handling, lower distortion and better overall performance. The 21DS115 features a 36 mm long, 4.5 inch diameter (116mm) Copper Clad Aluminum Wire voice coil. With a 1700watt AES power rating, 99 dB sensitivity, and over 17 mm of Xvar, this high energy subwoofer is a significant step forward from similar models in the B&C range, even approaching the performance of our 6" voice coil alternatives.

1. 7 hours test made with continuous pink noise signal within the range Fs-10Fs. Power calculated on rated minimum impedance. Loudspeaker in free air.  
 2. Power on Continuous Program is defined as 3 dB greater than the Nominal rating.  
 3. Applied RMS Voltage is set to 2.83 V for 8 ohms Nominal impedance.  
 4. Thiele-Small parameters are measured after a high level 20 Hz sine wave preconditioning test.

# Enclosure Design

## Internal View and Notes



- 18mm Wood thickness (birch plywood suggested)
- A good dampening material (acoustic foam suggested) should be placed inside the rear chamber.
- M8 screws suggested for attaching the transducer to the baffle
- M6 screws suggested for the access panel.

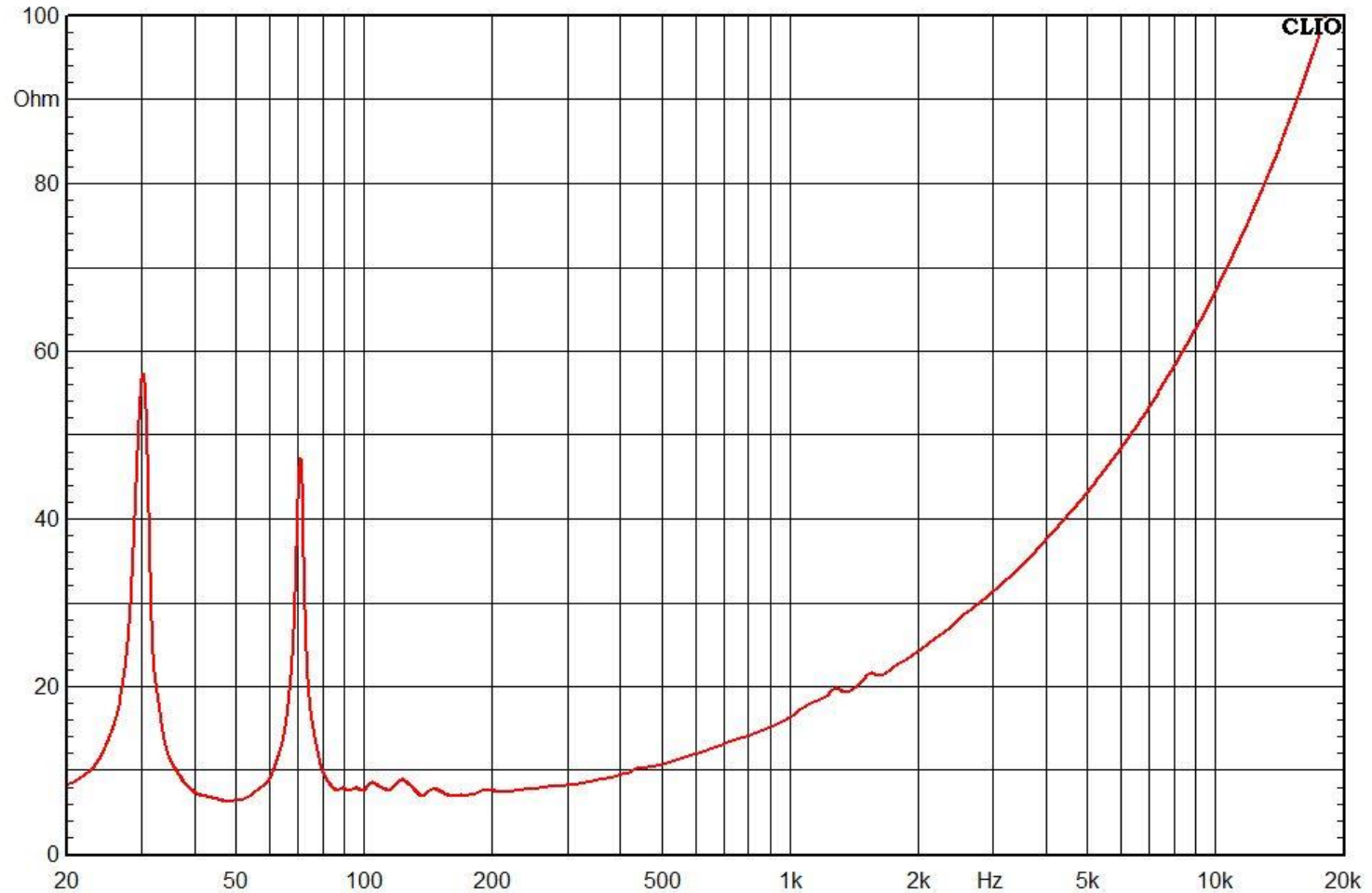
# Measurements

Unfiltered Frequency Response 2V @ 1m

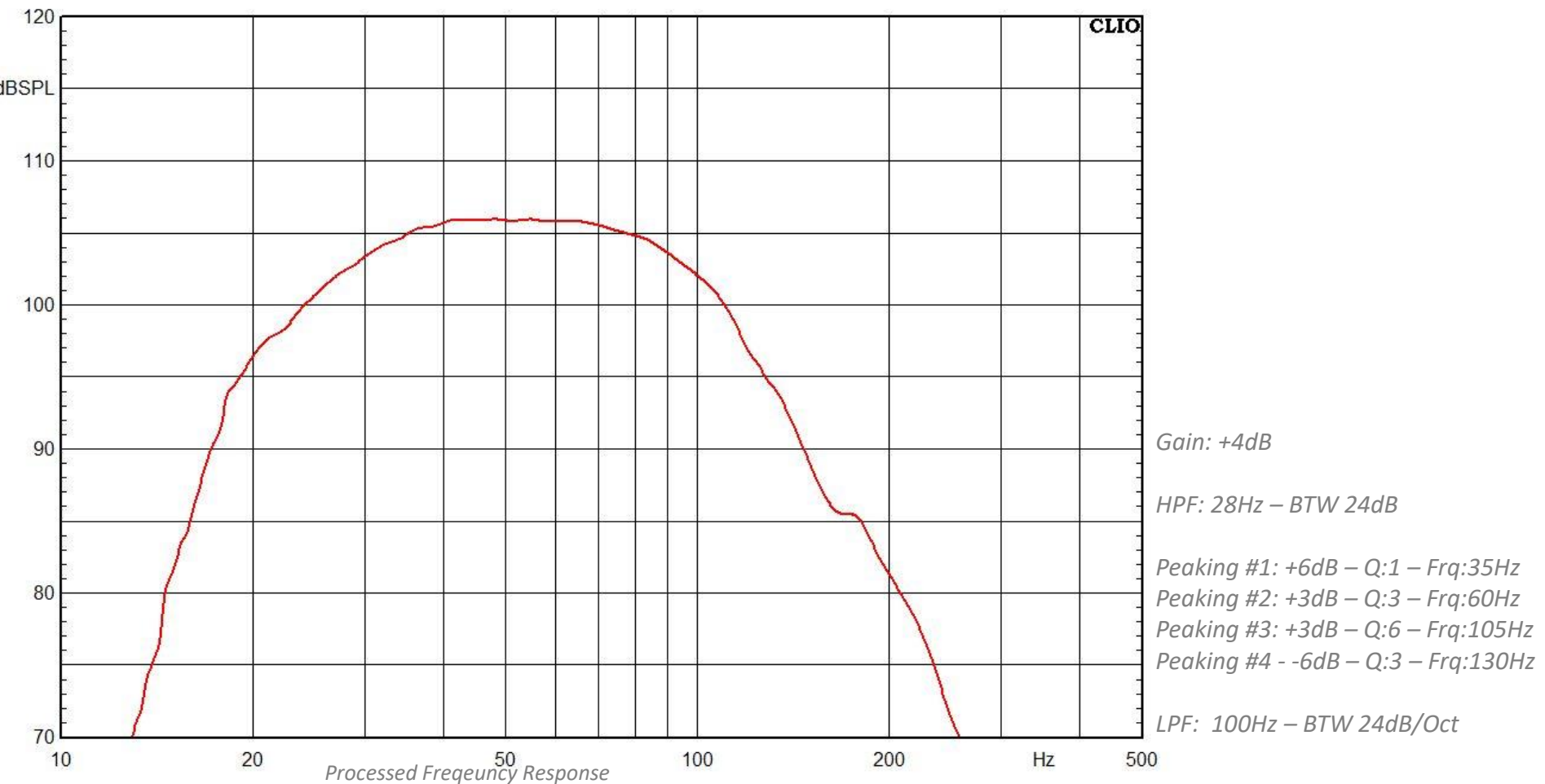


# Measurements

Impedance @-20dBu Input



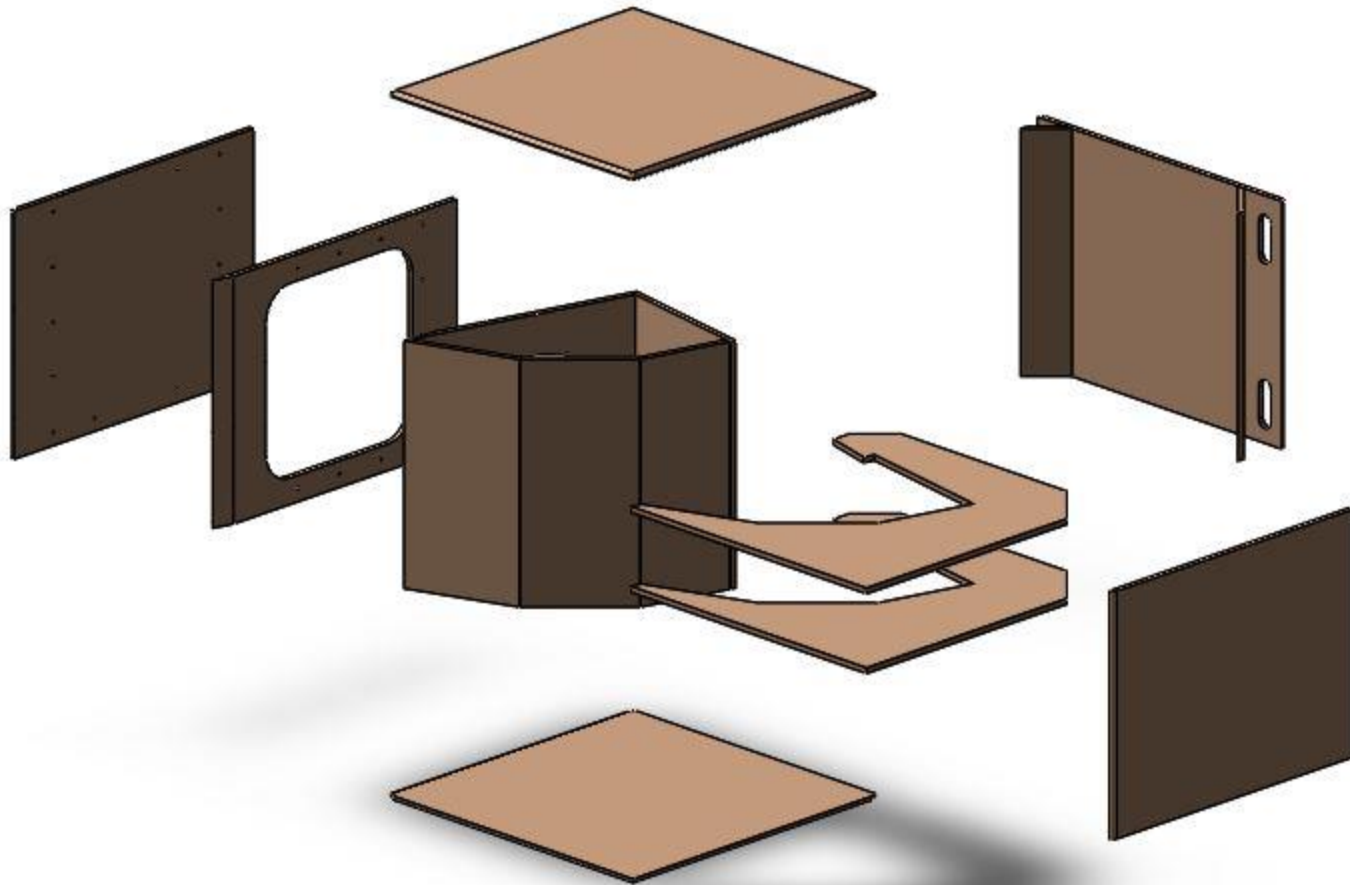
## Active DSP Settings





# Enclosure Design

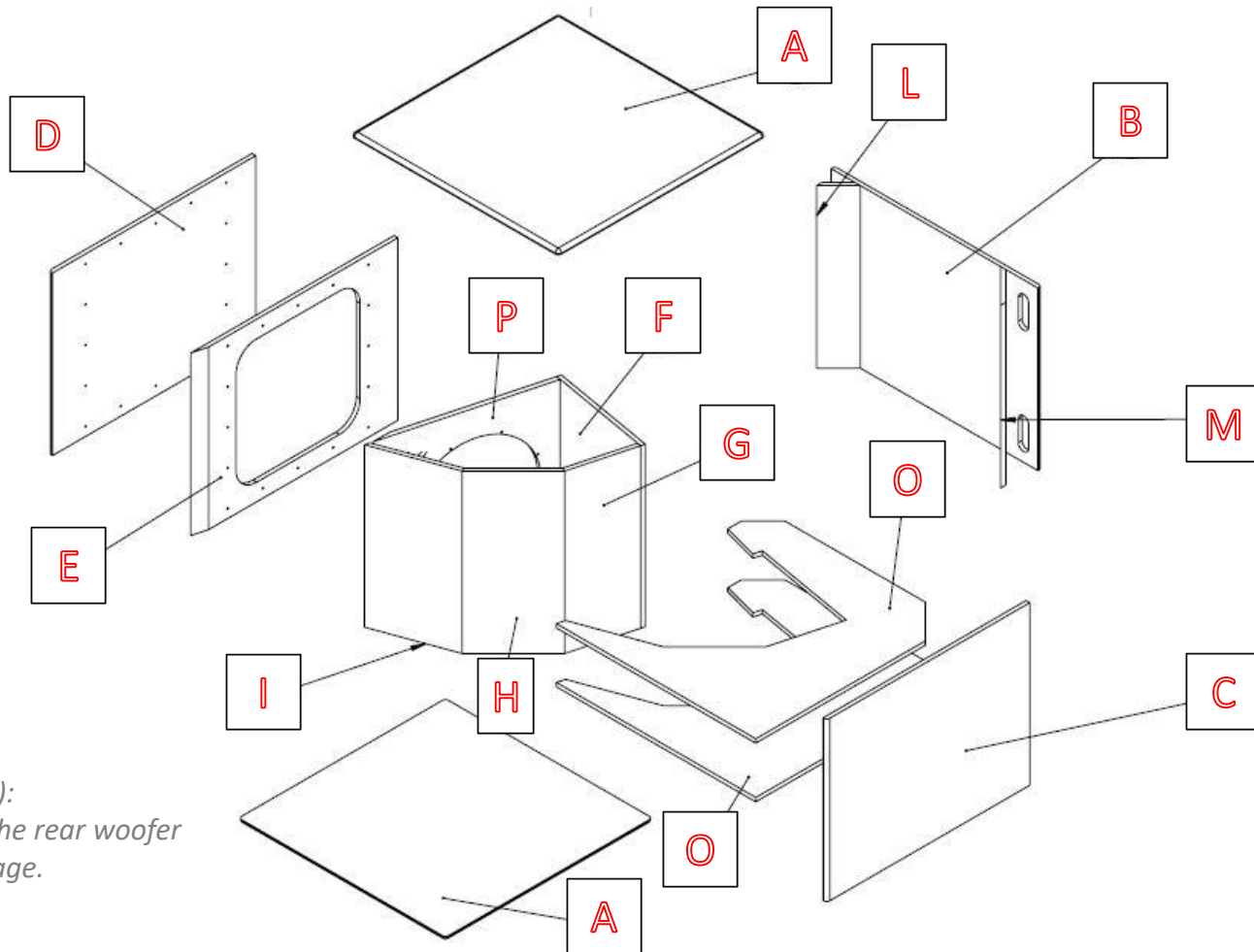
Exploded View





# Enclosure Design

## Exploded View and Parts

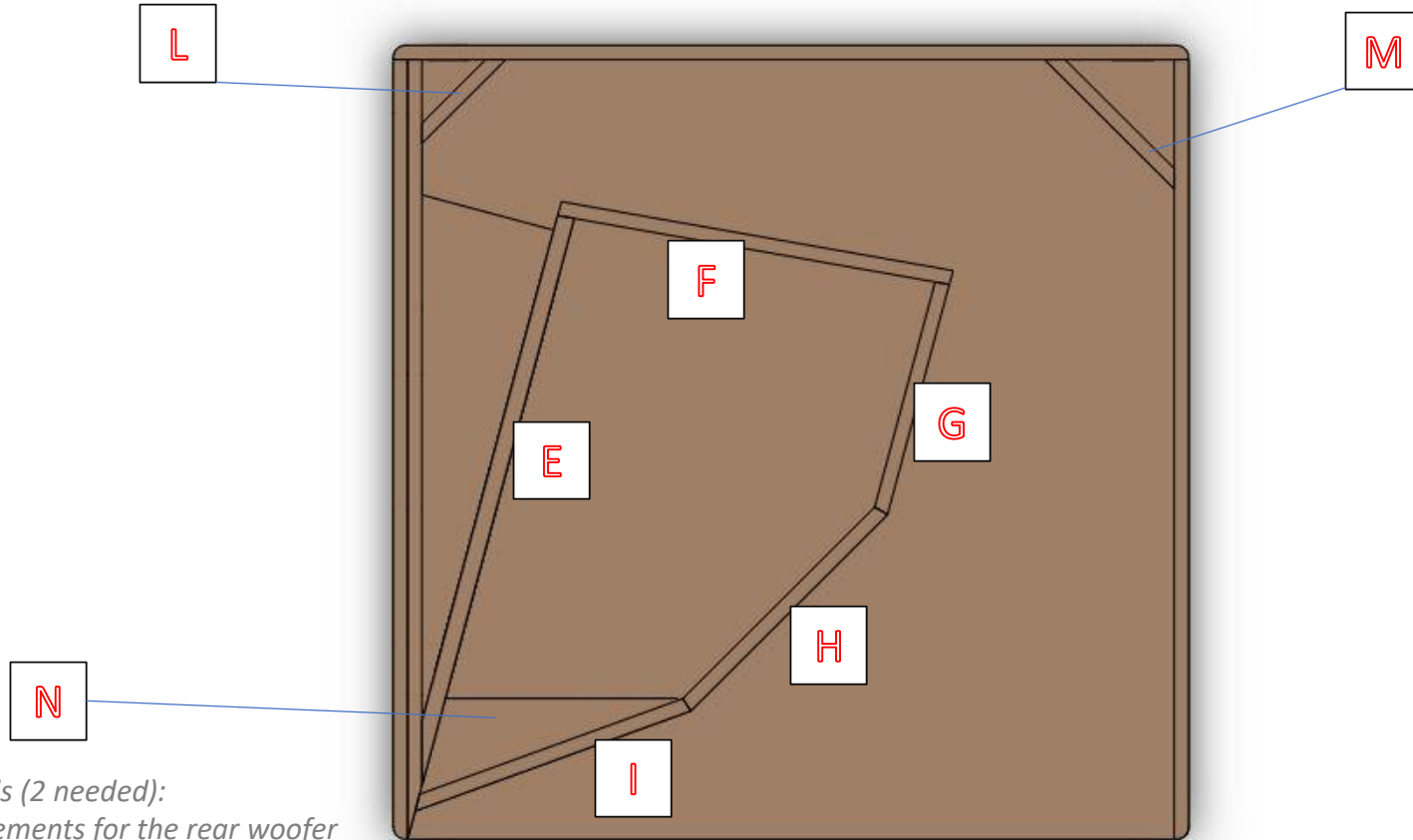


N

'N' panels (2 needed):  
Reinforcements for the rear woofer  
chamber, see next page.

# Enclosure Design

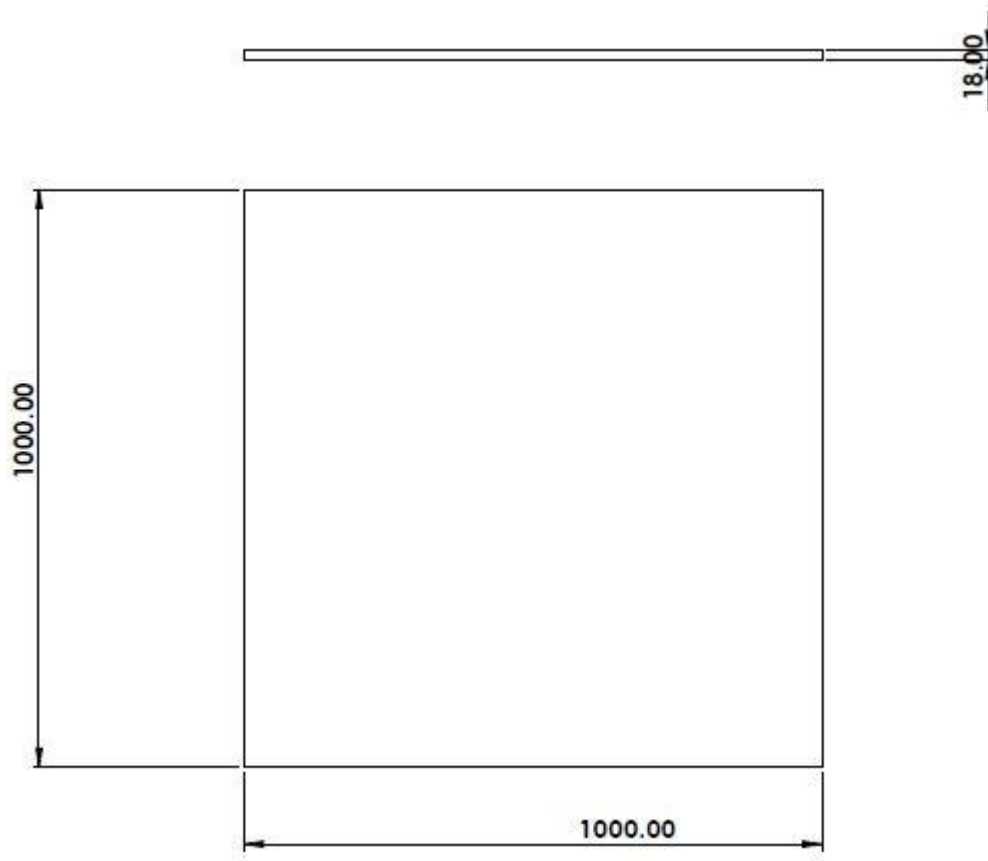
## Internal Components Assembly (Upper View Without Top Panel)



*'N' Panels (2 needed):  
Reinforcements for the rear woofer chamber, they have to be placed between panel E and I, in the same position of the horn reinforcements (O panels).*

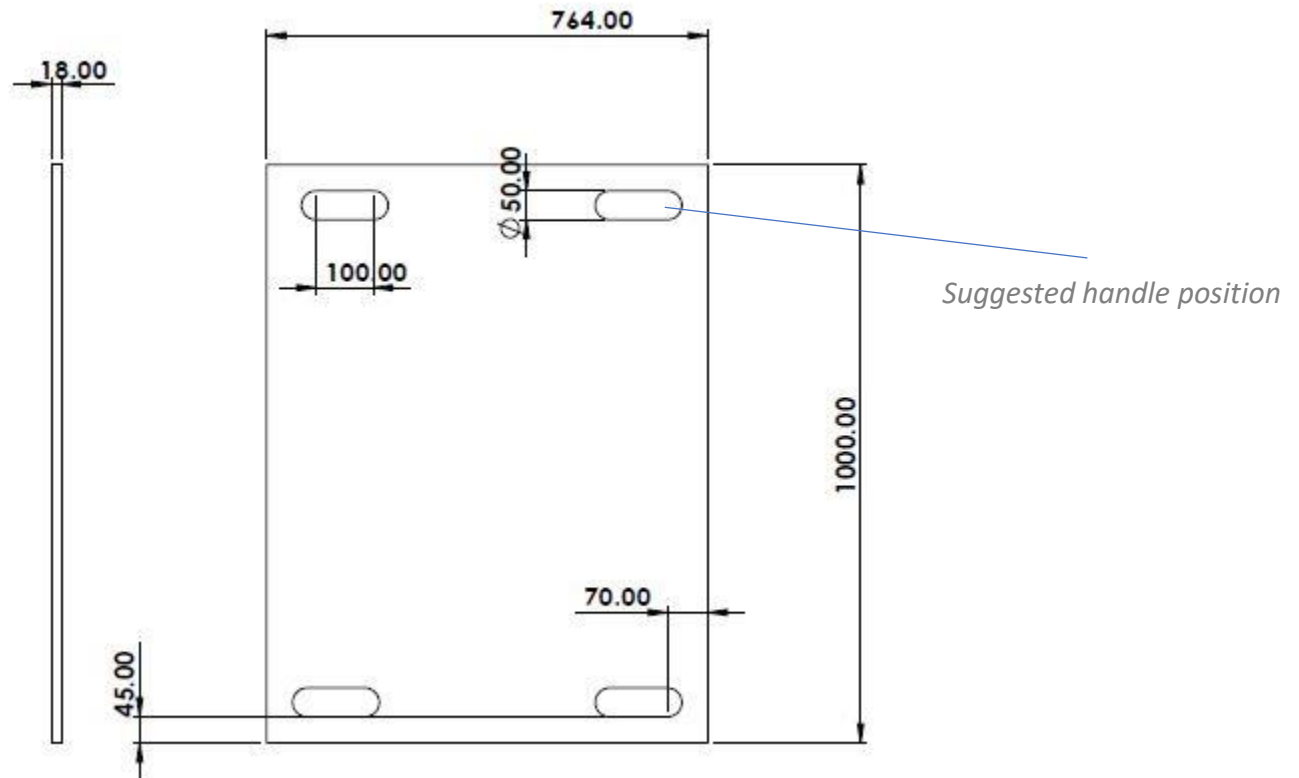
# Enclosure Design

## Part A: Bottom/Top Panels (2 Needed)



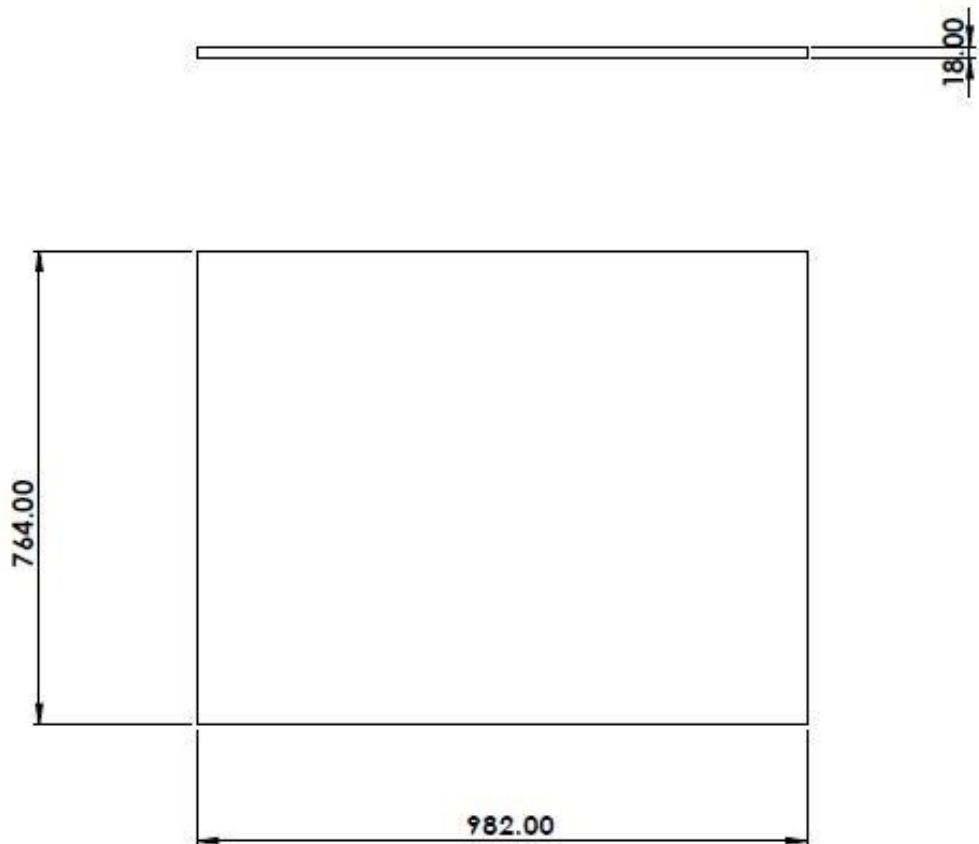
# Enclosure Design

## Part B: Back Panel



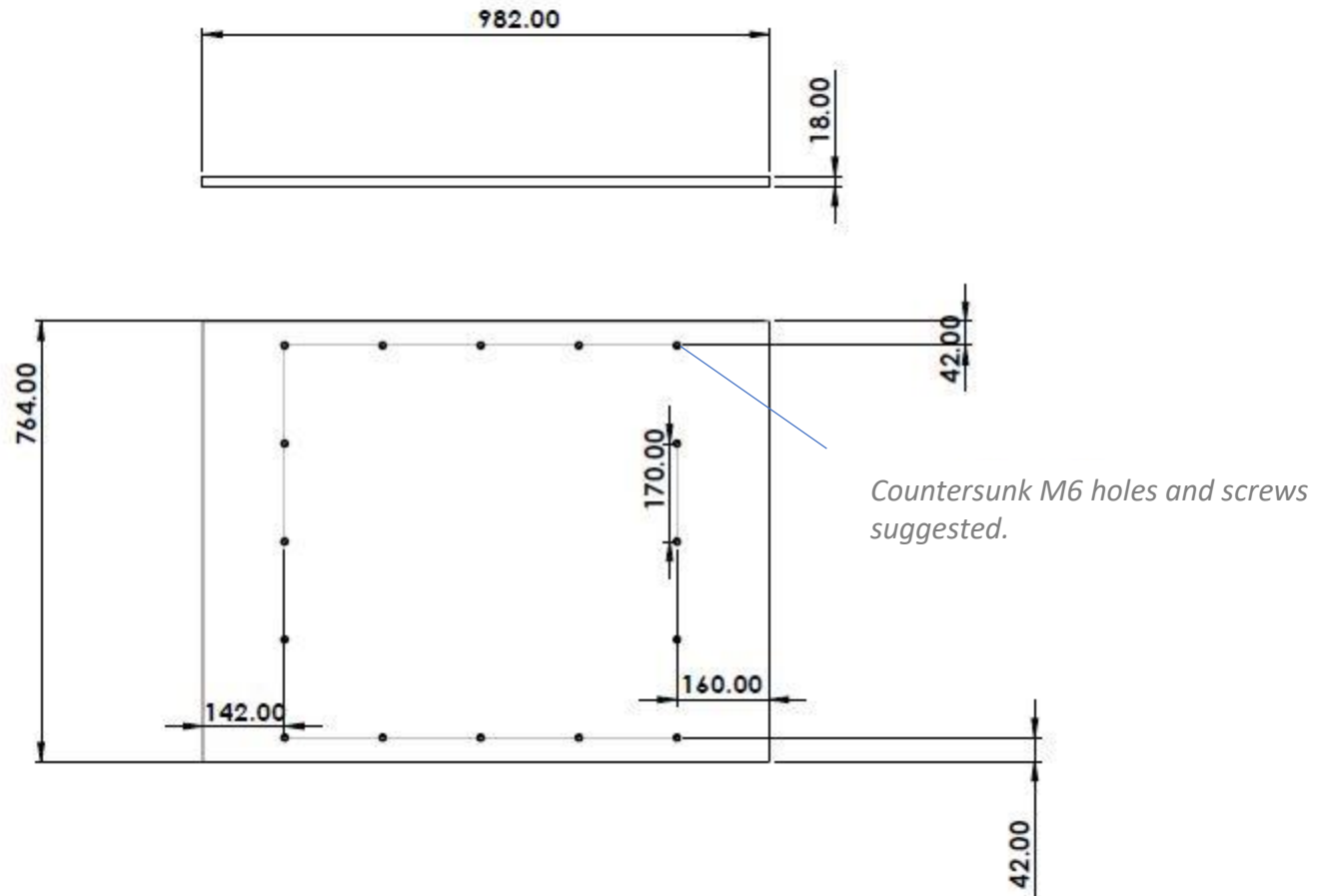
# Enclosure Design

## Part C: Horn Side Panel



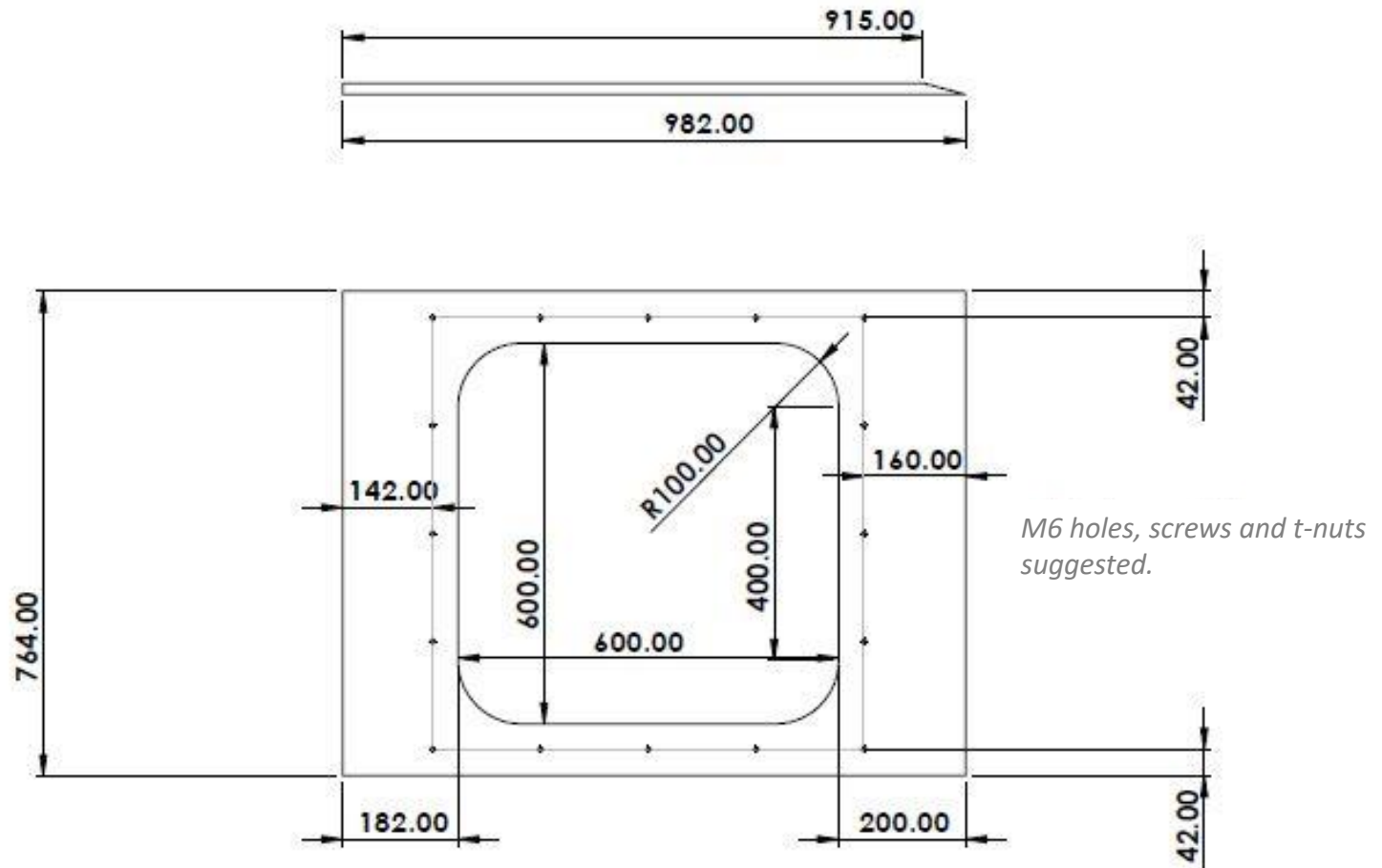
# Enclosure Design

## Part D: External Access Panel



# Enclosure Design

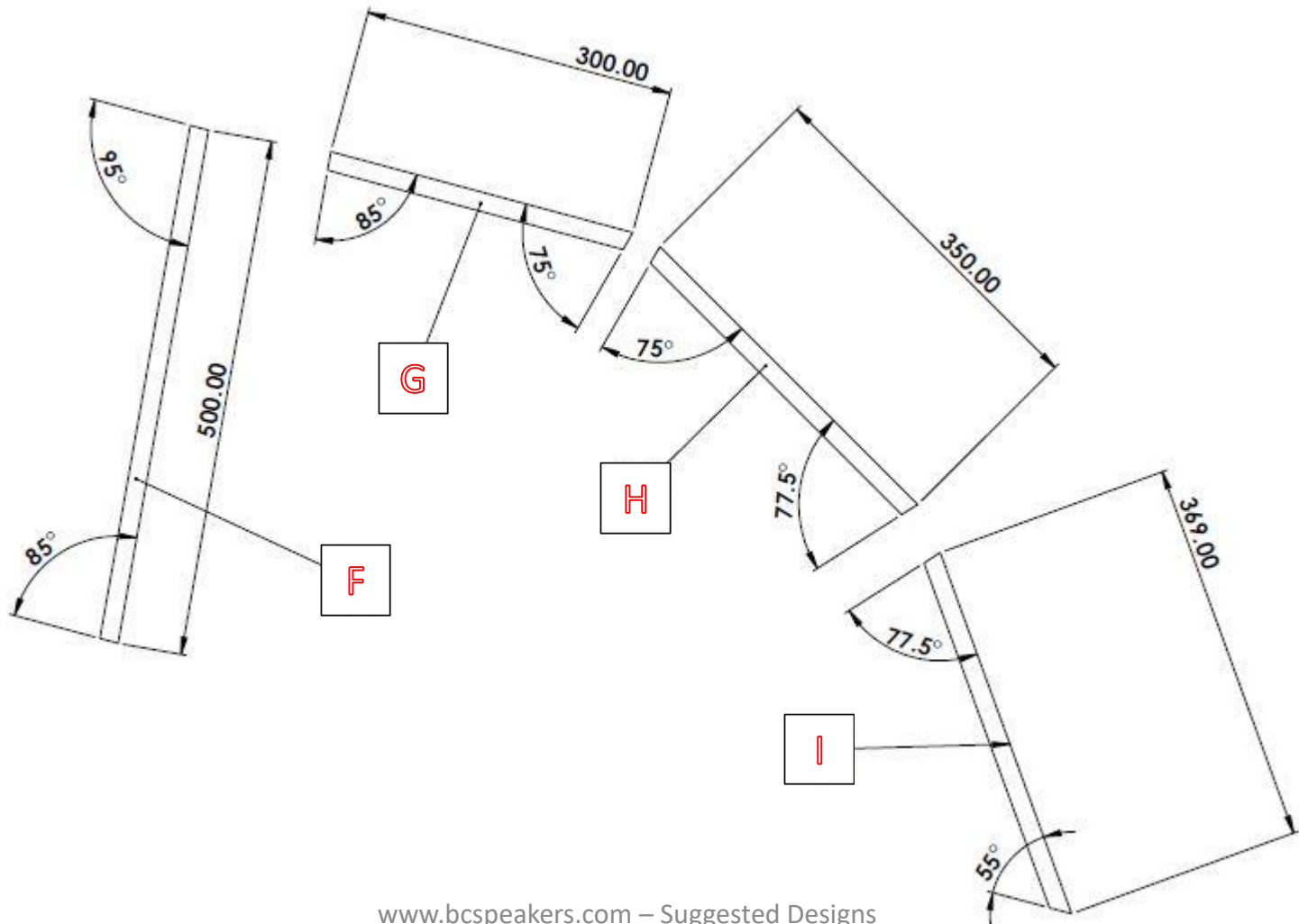
## Part E: Internal Access Panel





# Enclosure Design

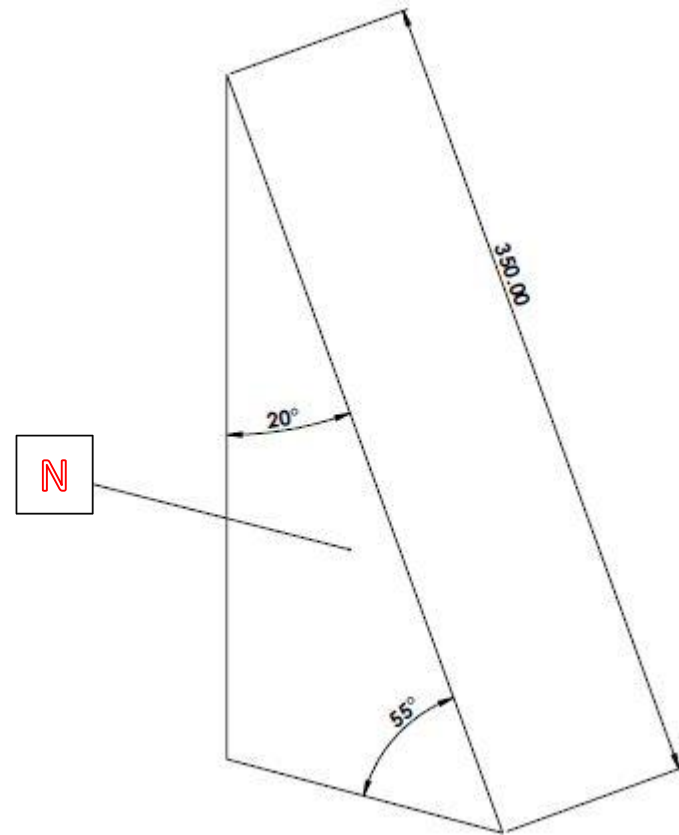
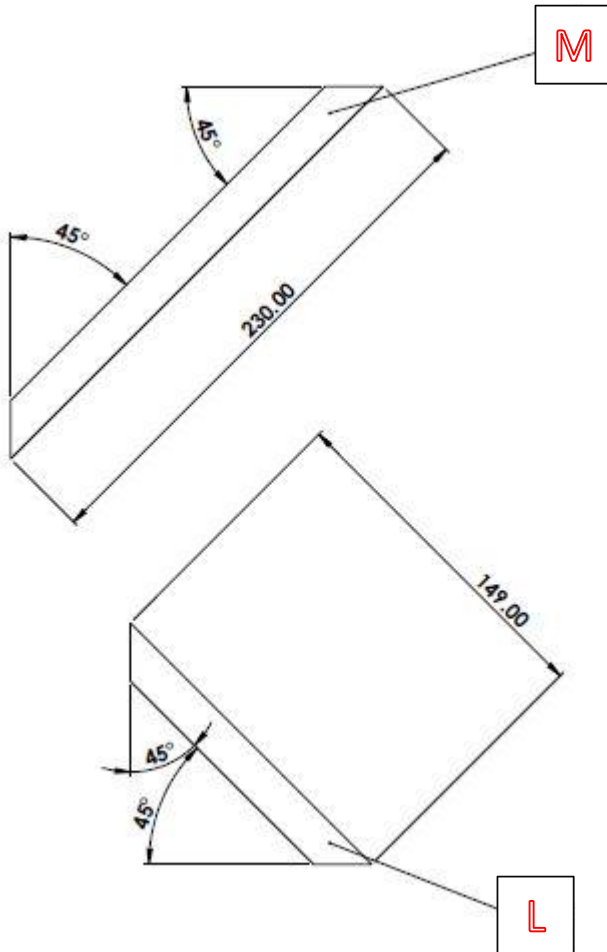
Part F / G / H / I : Woofer Chamber Panels



# Enclosure Design

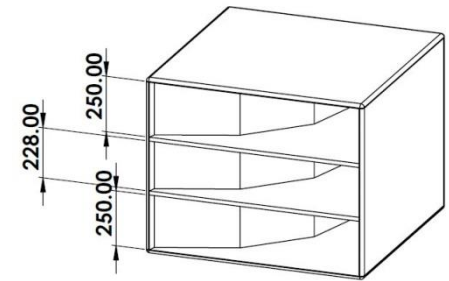
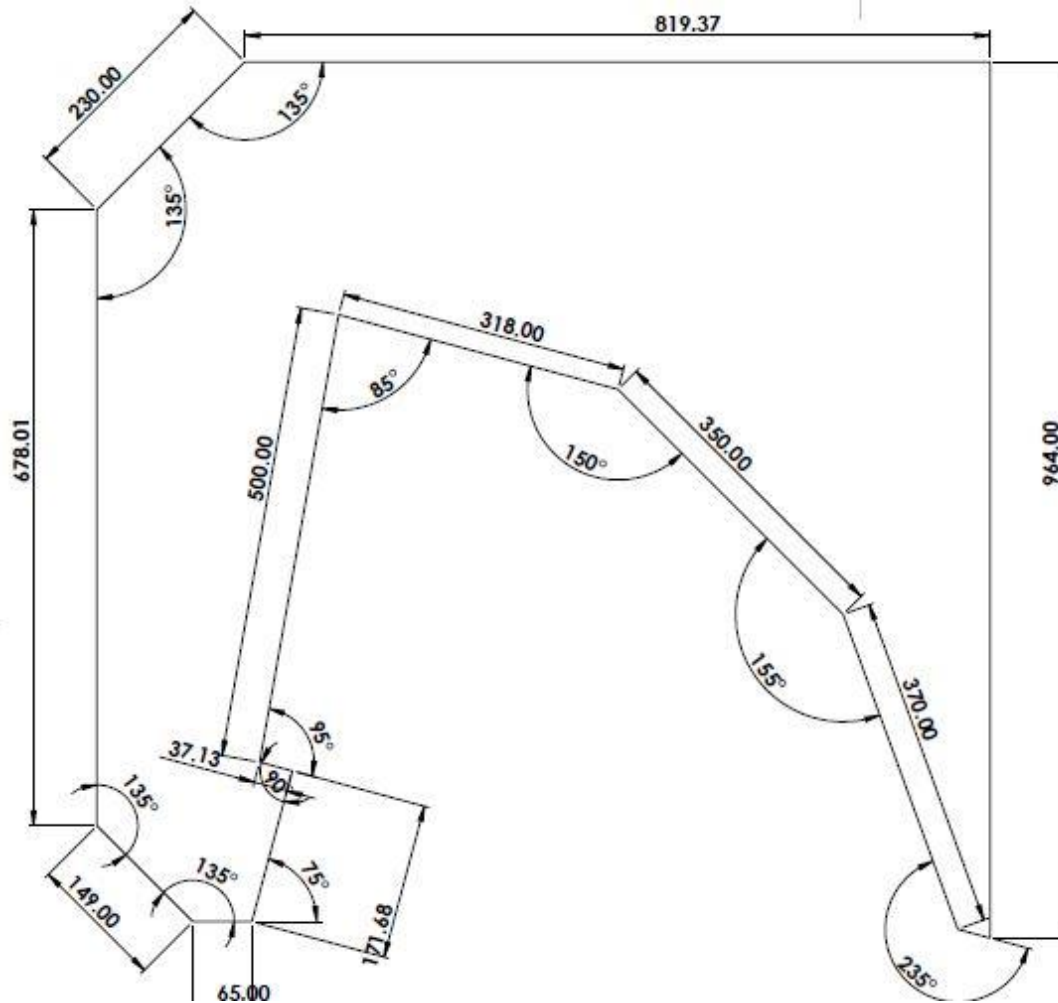
Part L / M : Horn Internal Angles

Part N : Rear Woofer Chamber Reinforcements (2 Needed).



# Enclosure Design

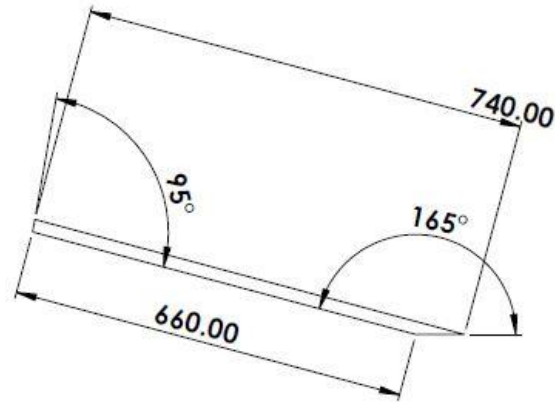
Part O : Horn Reinforcements (2 Needed)



'O' panels positioning.  
Same distances for N panels

# Enclosure Design

## Part P : Baffle Panel



- 8 M6 holes on 527mm diameter
- Baffle cutout for the woofer is 510 mm

