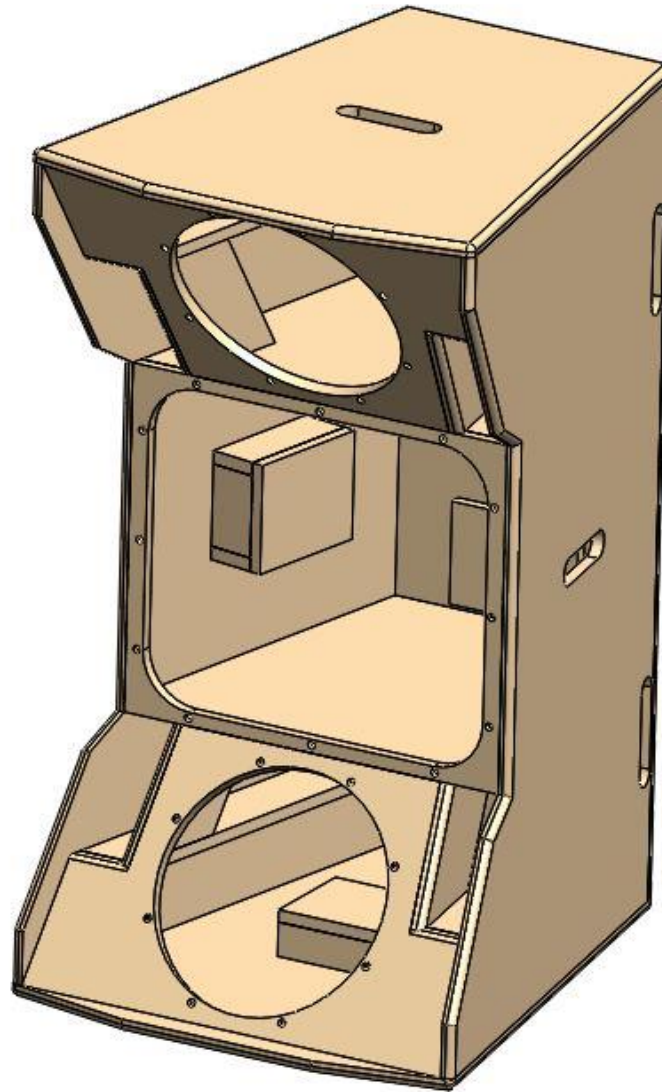




## **215-DCX**

**High spl, full range speaker**

2 x 15" LF Transducers – 15SW100 8 ohm  
1 x HF coaxial compression driver - DCX464 8ohm  
1 x HF extended horn - ME464  
1 x FB4648 passive crossover

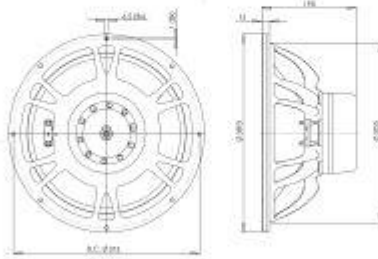


# TRANSDUCERS (15SW100 – 8 ohm)

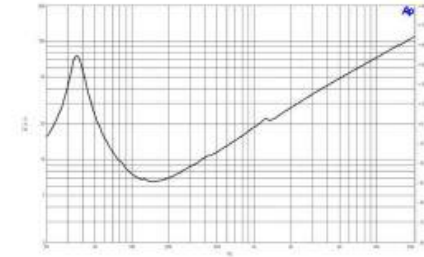
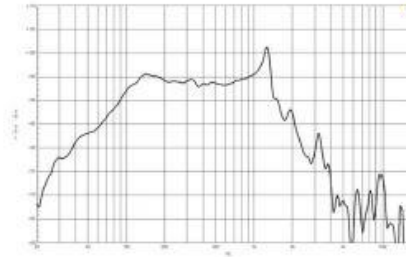
## 15SW100

8Ω

LF Drivers - 15.0 Inches



- 3000 W continuous program power capacity
- 100 mm (4 in) split winding copper voice coil
- 40 - 1500 Hz response
- 95 dB sensitivity
- Double silicone spider with optimized compliance
- Ventilated voice coil gap for reduced power compression
- Aluminium demodulating ring for very low distortion



### SPECIFICATIONS

Nominal Diameter	380 mm (15.0 in)
Nominal impedance	8 Ω
Minimum Impedance	6.5 Ω
Nominal Power Handling <sup>1</sup>	1500 W
Continuous Power Handling <sup>2</sup>	3000 W
Sensitivity <sup>3</sup>	95.0 dB
Frequency Range	40 - 1500 Hz
Voice Coil Diameter	100 mm (4.0 in)
Winding Material	Copper
Former Material	Glass Fibre
Winding Depth	32.0 mm (1.26 in)
Magnetic Gap Depth	16.0 mm (0.63 in)
Flux Density	1.15 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	120.0 dm <sup>3</sup> (4.24 ft <sup>3</sup> )
Recommended Tuning	35 Hz

### PARAMETERS<sup>4</sup>

Resonance Frequency	37 Hz
Re	5.4 Ω
Qes	0.34
Qms	4.8
Qts	0.31
Vas	110.0 dm <sup>3</sup> (3.9 ft <sup>3</sup> )
Sd	855.0 cm <sup>2</sup> (132.5 in <sup>2</sup> )
η <sub>o</sub>	1.6 %
X <sub>max</sub>	± 12.5 mm
X <sub>var</sub>	± 13.0 mm
M <sub>ms</sub>	176.0 g
Bl	25.6 Txm
Le	2.2 mH
EBP	108 Hz

### MOUNTING AND SHIPPING INFO

Overall Diameter	393 mm (15.5 in)
Bolt Circle Diameter	374 mm (16.7 in)
Baffle Cutout Diameter	353.0 mm (13.9 in)
Depth	190 mm (7.5 in)
Flange and Gasket Thickness	16 mm (0.63 in)
Air Volume Occupied by Driver	6.0 dm <sup>3</sup> (0.21 ft <sup>3</sup> )
Net Weight	9.6 kg (21.16 lb)
Shipping Units	1
Shipping Weight	10.9 kg (24.03 lb)
Shipping Box	425x425x224 mm (16.73x16.73x8.82 in)

### SERVICE KIT

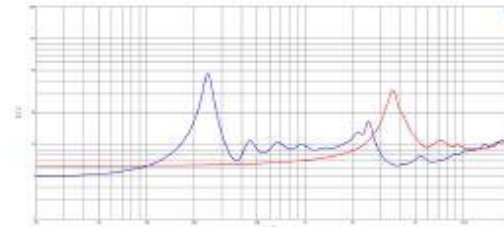
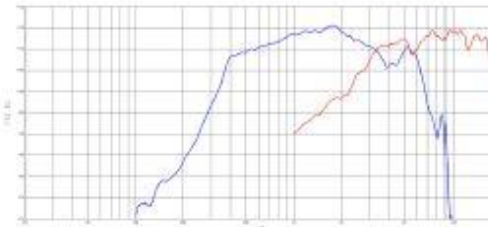
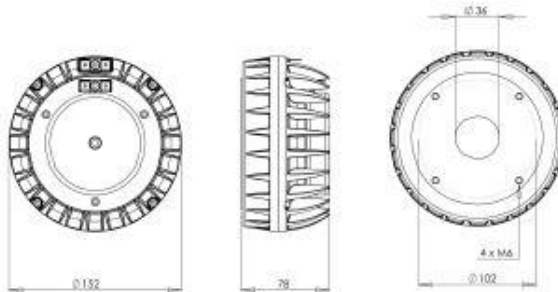
Recone kit	RCK15SW100B
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# TRANSDUCERS (DCX464 - 8ohm)

## DCX464

8Ω

Coaxials HF - 1.4 Inches



### SPECIFICATIONS MF UNIT<sup>1</sup>

Throat Diameter	36 mm (1.4 in)
Nominal Impedance	8 Ω
Minimum Impedance	6.4 Ω
Nominal Power Handling <sup>2</sup>	110 W
Continuous Power Handling <sup>3</sup>	220 W
Sensitivity (1W/1m) <sup>4</sup>	111.1 dB
Frequency Range	0.3 - 5.5 kHz
Recommended Crossover <sup>5</sup>	0.3 kHz
Voice Coil Diameter	100 mm (4.0 in)
Winding Material	Aluminium
Inductance	0.14 mH
Diaphragm Material	HT Polymer
Flux Density	1.9 T
Magnet Material	Neodymium Ring

### SPECIFICATIONS HF UNIT<sup>6</sup>

Throat Diameter	36 mm (1.4 in)
Nominal Impedance	8 Ω
Minimum Impedance	9.0 Ω
Nominal Power Handling <sup>7</sup>	80 W
Continuous Power Handling <sup>8</sup>	160 W
Sensitivity <sup>9</sup>	111.4 dB
Frequency Range	3.5 - 18.0 kHz
Recommended Crossover <sup>10</sup>	4.0 kHz
Voice Coil Diameter	65 mm (2.5 in)
Winding Material	Aluminium
Inductance	0.1 mH
Diaphragm Material	HT Polymer
Flux Density	2.14 T
Magnet Material	Neodymium Inside Slug

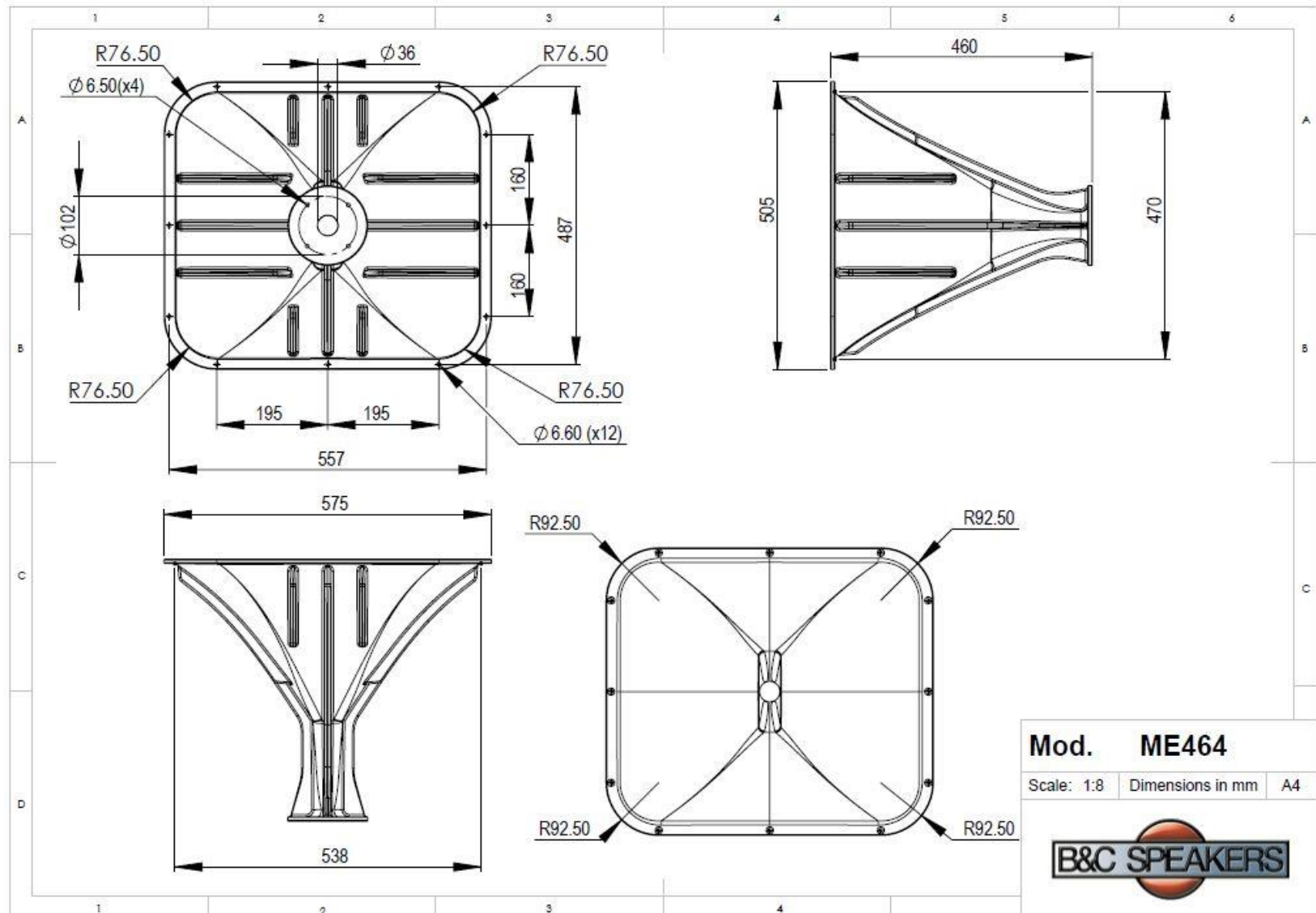
### MOUNTING AND SHIPPING INFO

Four M6 holes 90° on 102 mm (4") diameter	
Overall Diameter	152 mm (5.98 in)
Depth	78 mm (3.07 in)
Net Weight	3.7 kg (8.16 lb)
Shipping Units	1
Shipping Weight	3.9 kg (8.6 lb)
Shipping Box	170x170x140 mm (6.69x6.69x5.51 in)
Other Details	4x M6 Mounting Studs with bolts and washers included

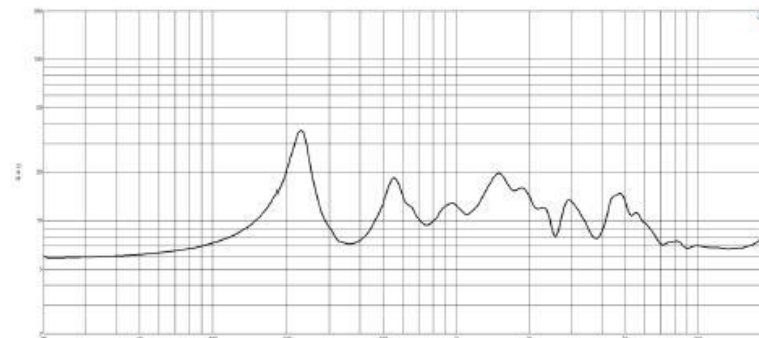
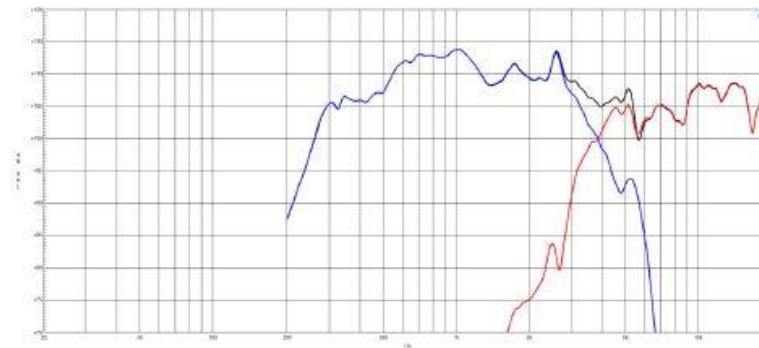
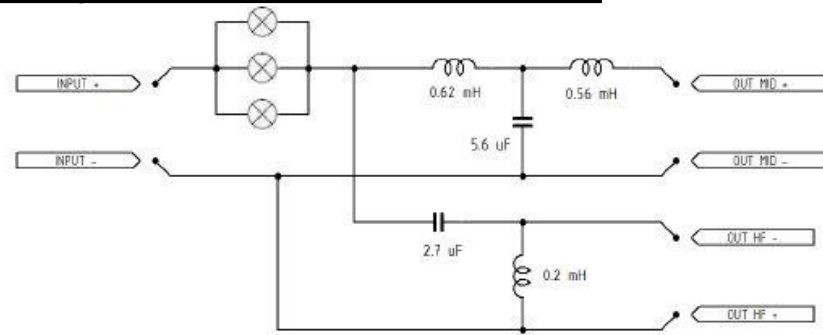


- Time coherent coaxial ring radiator design
- 1.4" horn throat diameter
- 300 - 18000 Hz response
- 111.4 dB sensitivity
- 220 W continuous program power capacity
- Neodymium magnet assembly

# ME464 horn



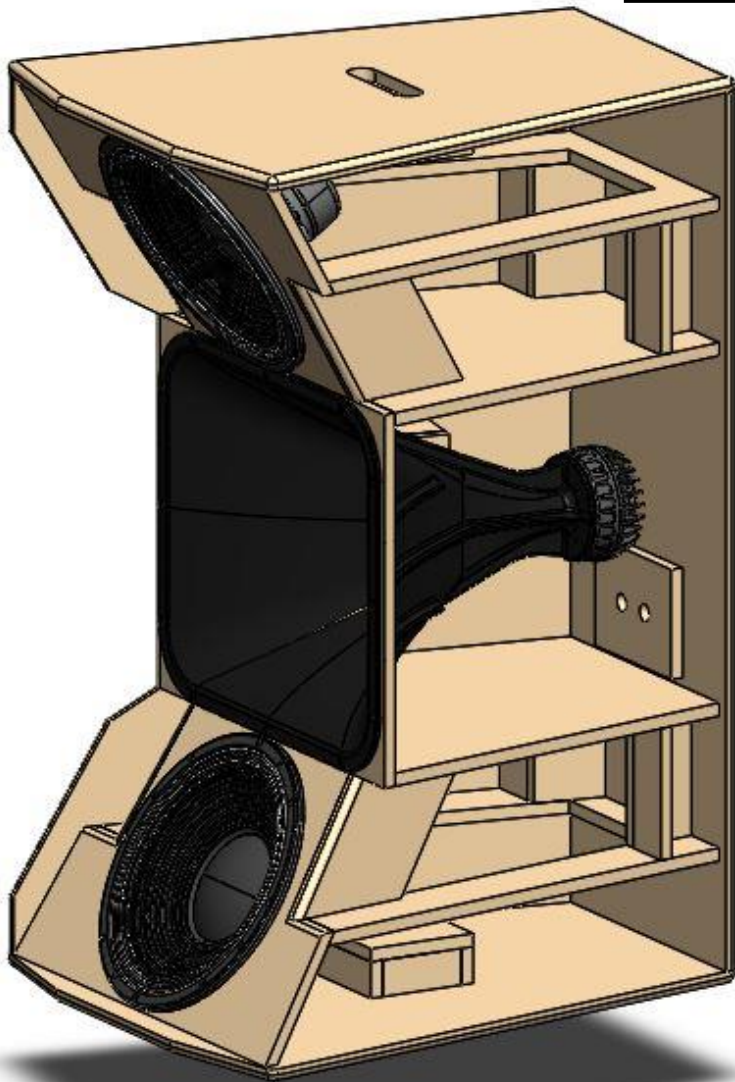
# FB4648 – passive crossover





# ENCLOSURE DESIGN

## Assembly and notes



- 18mm wood thickness (birch plywood suggested)

- A good dampening material should be placed inside the woofers chambers except in the areas close to the ports.

- M6 screws suggested for fixing the transducers.

- 4 pins speakon recommended. Pins 1+/1- connect the two woofers in parallel. Pins 2+/2- are connected to the FB464 crossover inputs.

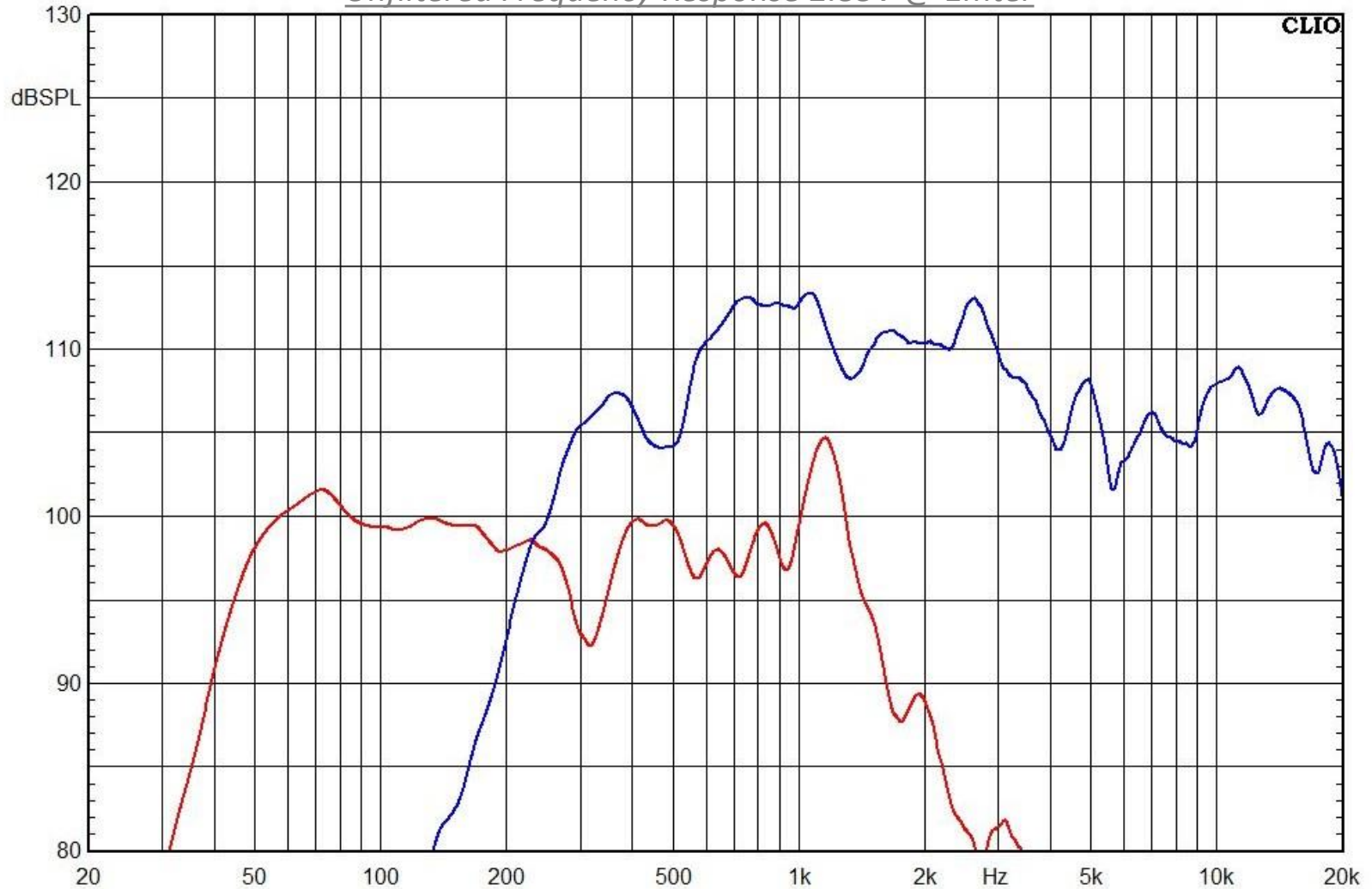
- M6 screws suggested for fixing the transducers.

- Handles shape and positions have to be intended as a suggestion.

Internal view without side panel

# Measurements

*Unfiltered Frequency Response 2.83V @ 1mter*

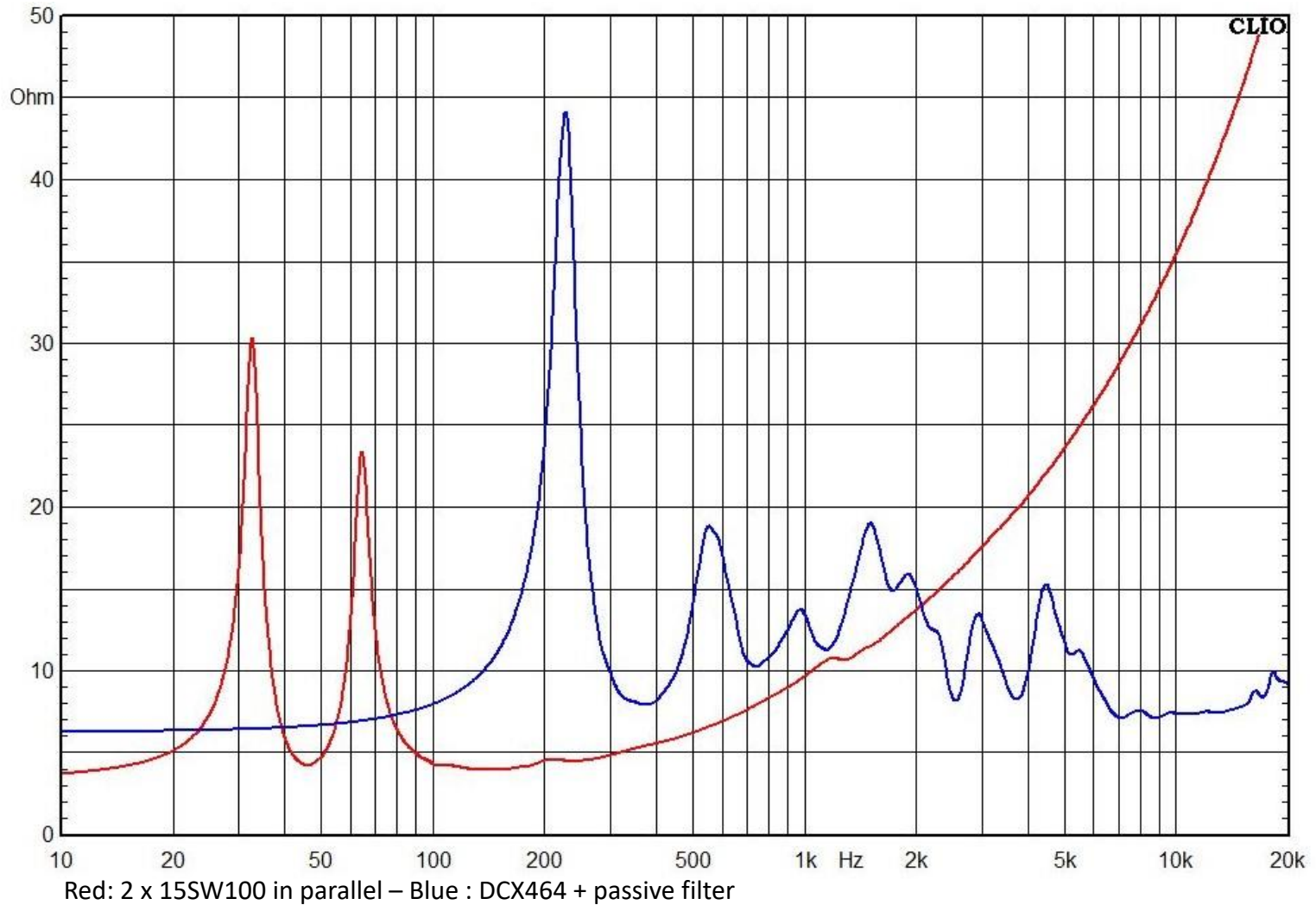


Red: 2 x 15SW100 in parallel – Blue : DCX464 + passive filter

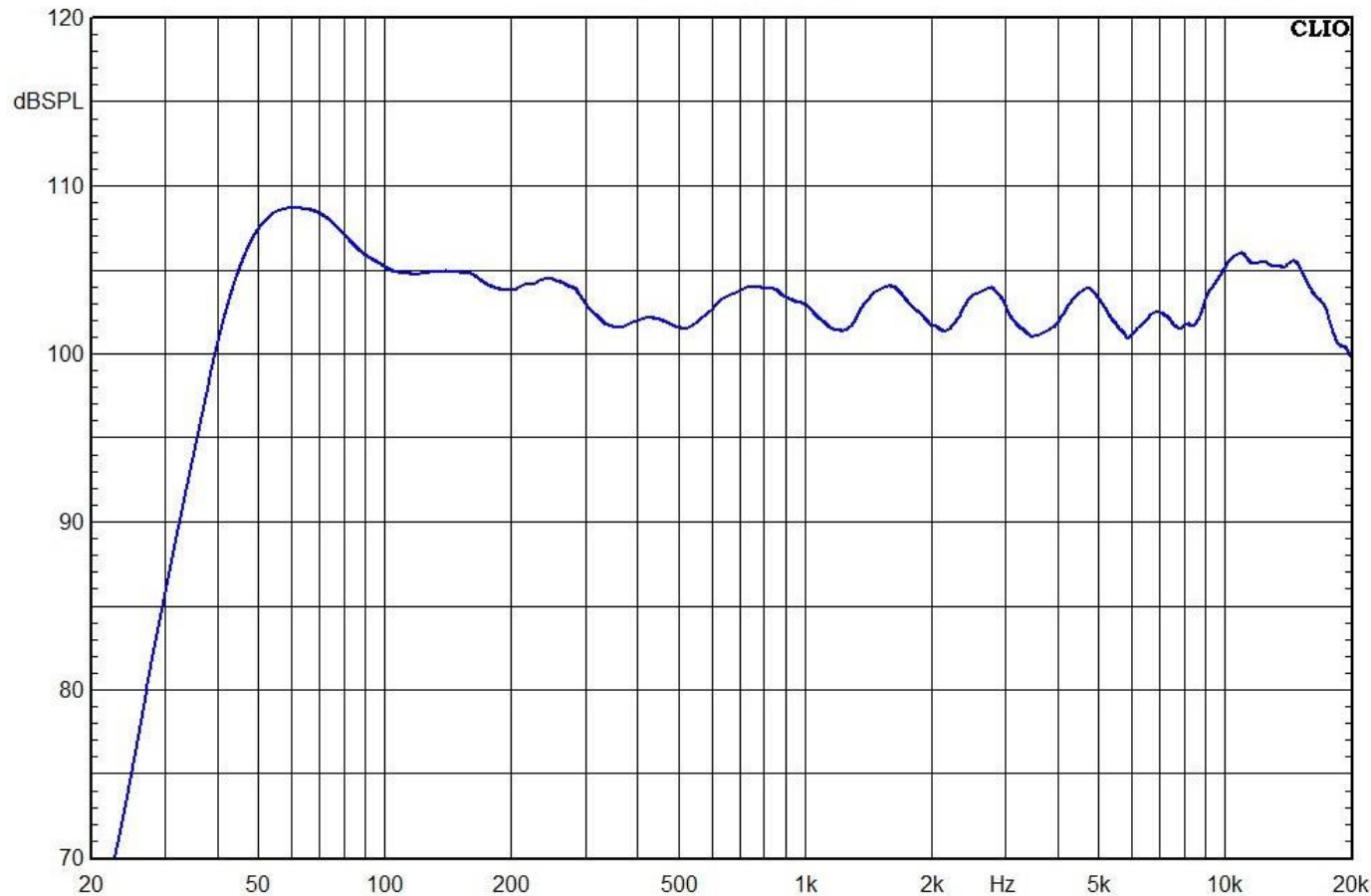


# Measurements

*Impedance @-20dBu input*



## Active dsp settings



*LF:*

*In: 6dB*

*HPF: 25Hz – BTW 24dB/Oct*

*Peaking #1: +6dB – Q:1 – Frq:45Hz*

*Peaking #2: +6dB – Q:2.5 – Frq:300Hz*

*Peaking #3 -3dB – Q:2 – Frq:440Hz*

*Peaking #4: +3dB – Q:3 – Frq:750Hz*

*All Pass filter: Q:5 – Frq:320Hz*

*All Pass filter: Q:5 – Frq:600Hz*

*LPF: 400Hz – BTW 12dB/Oct*

*HF:*

*In: -7dB – Delay: 0,66 ms*

*HPF: 400Hz – BTW 24dB/Oct*

*Peaking #1: -2dB – Q:3 – Frq:800Hz*

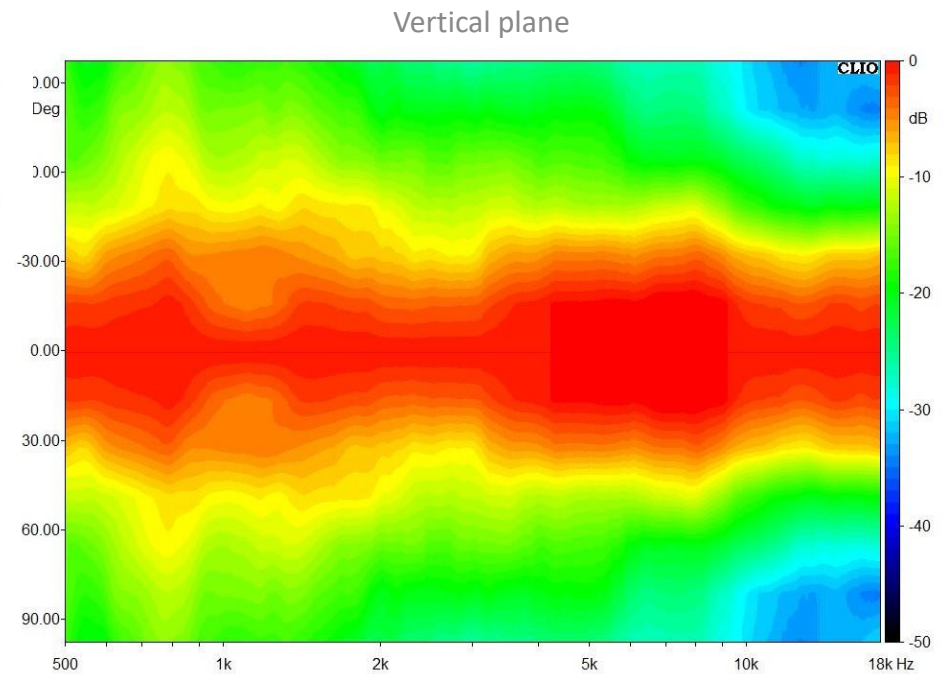
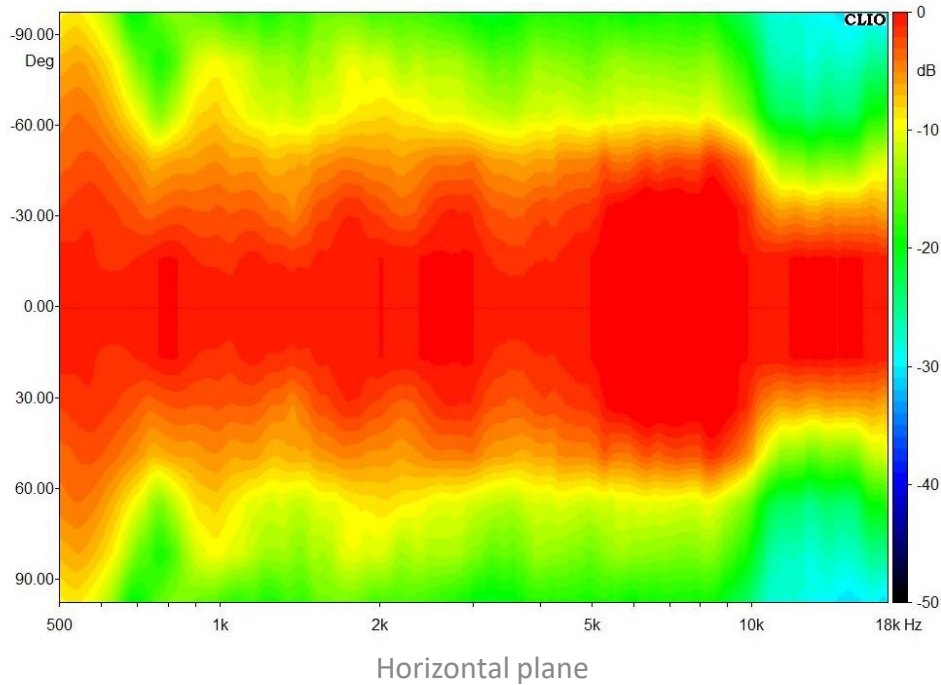
*Peaking #2: +4dB – Q:4 – Frq:1.5KHz*

*Peaking #3: +4dB – Q:4 – Frq:4.2KHz*

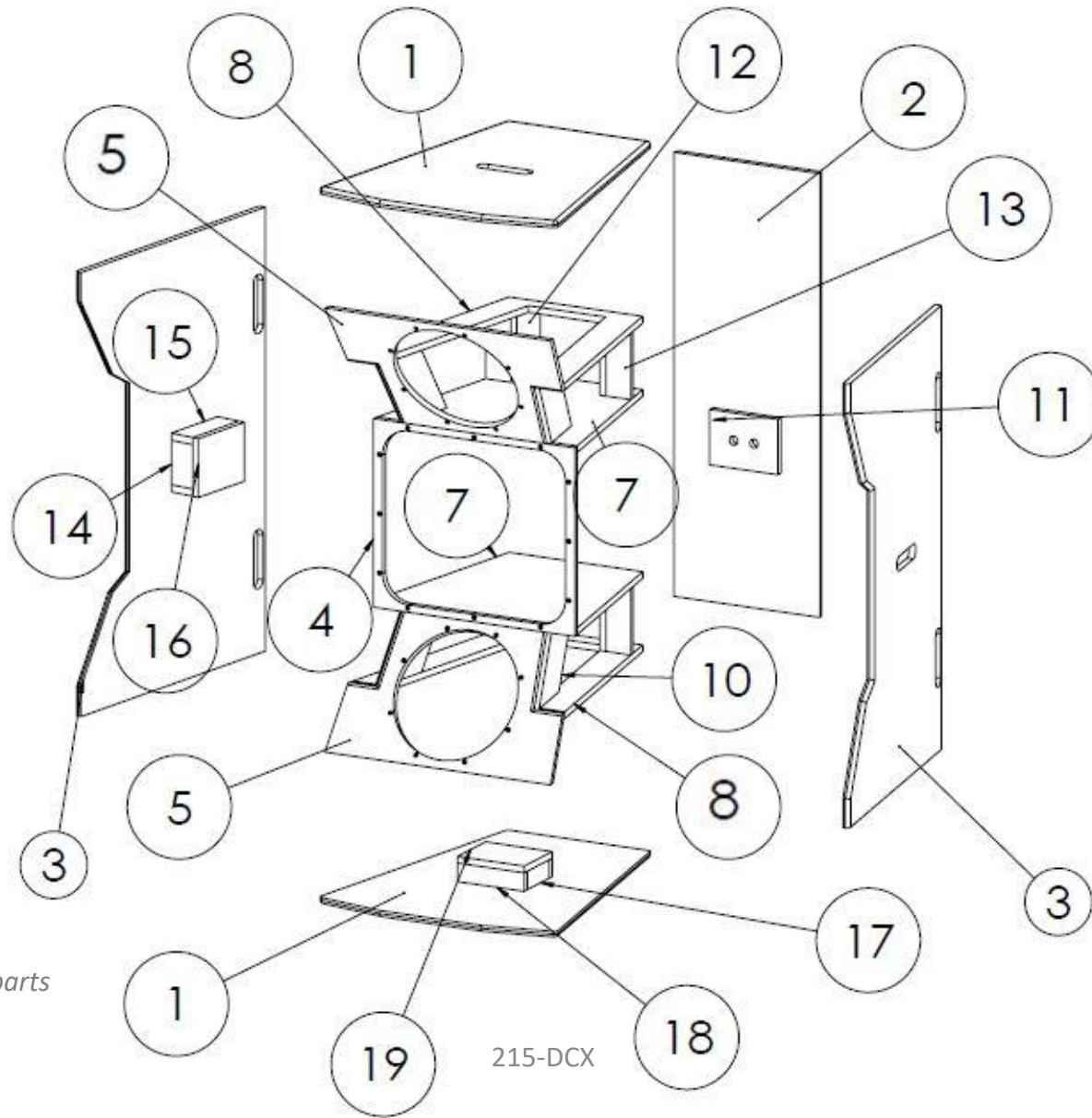
*Peaking #4: +2dB – Q:6 – Frq:6KHz*

*High Shelving: 3dB – Q:1.25 – Frq:12KHz*

## *Polar maps with active dsp settings*



## ENCLOSURE DESIGN

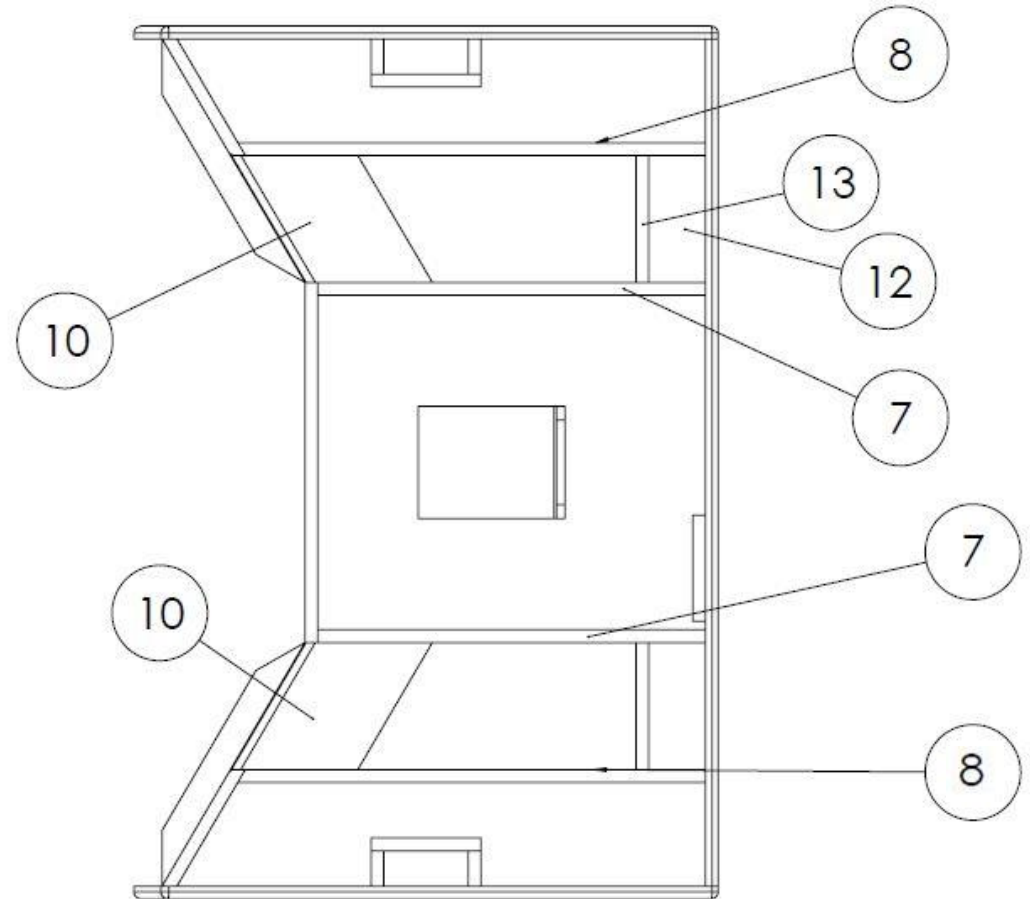
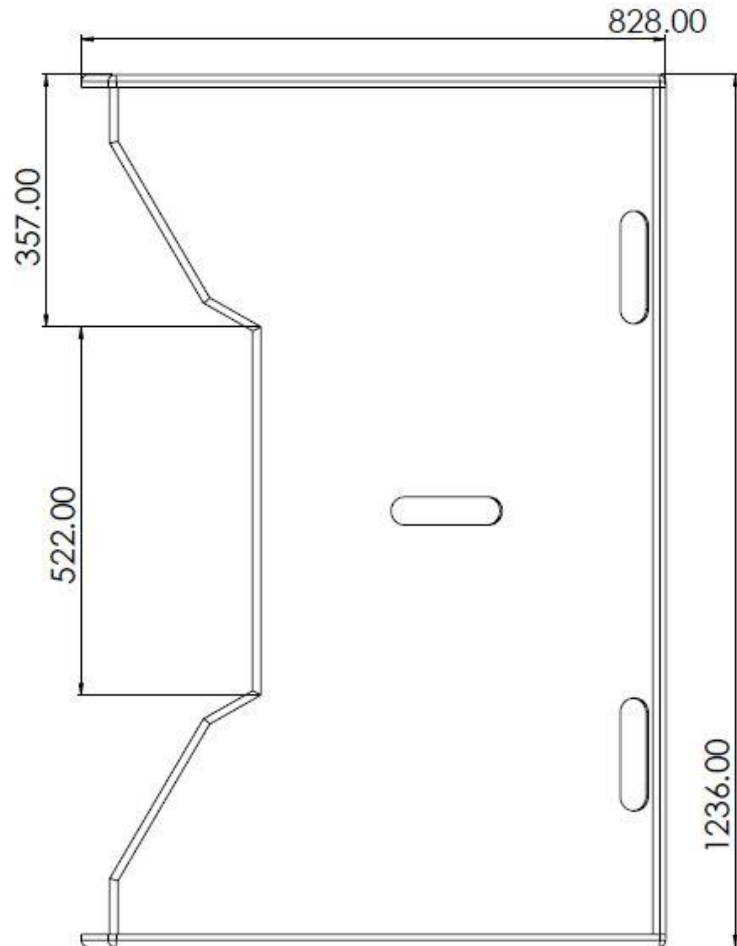


*Exploded view / parts*

215-DCX

# ENCLOSURE DESIGN

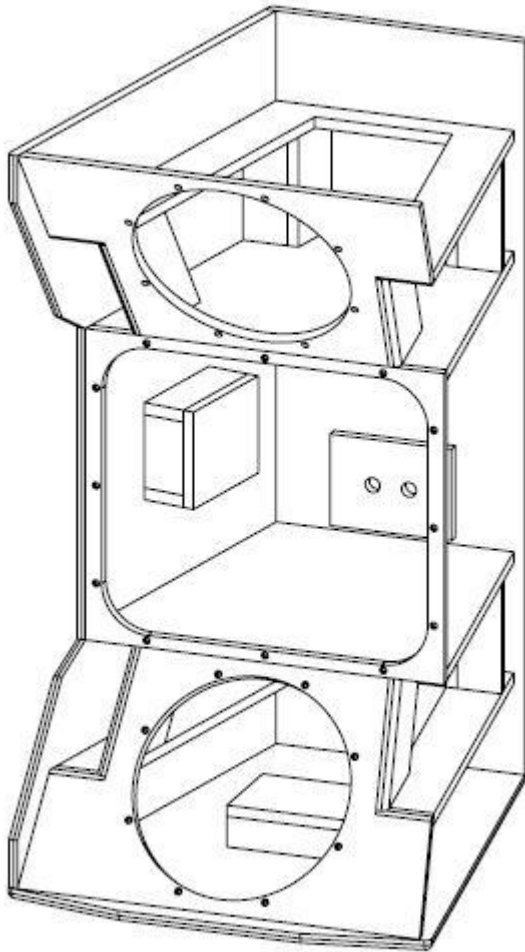
Assembly and overall dimensions



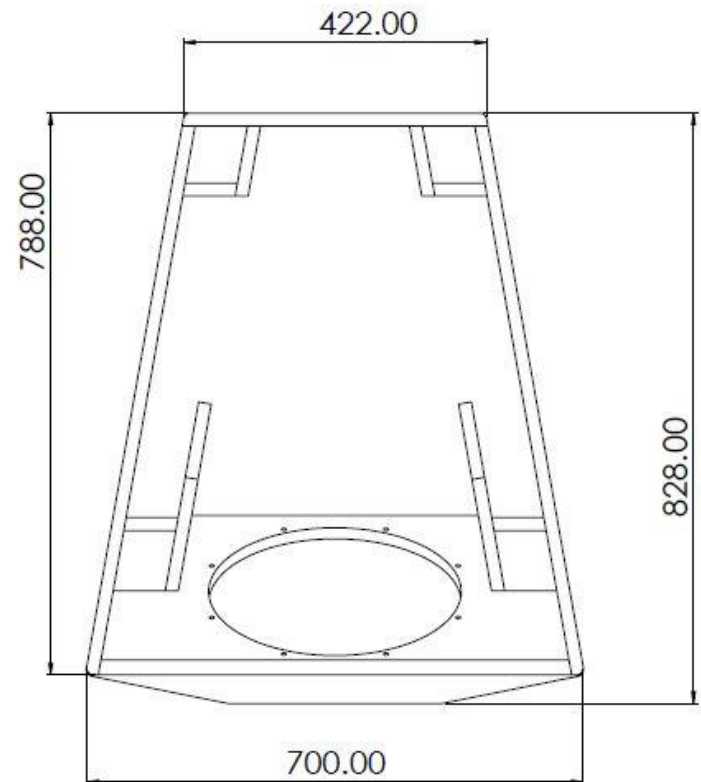


# ENCLOSURE DESIGN

Assembly and overall dimensions



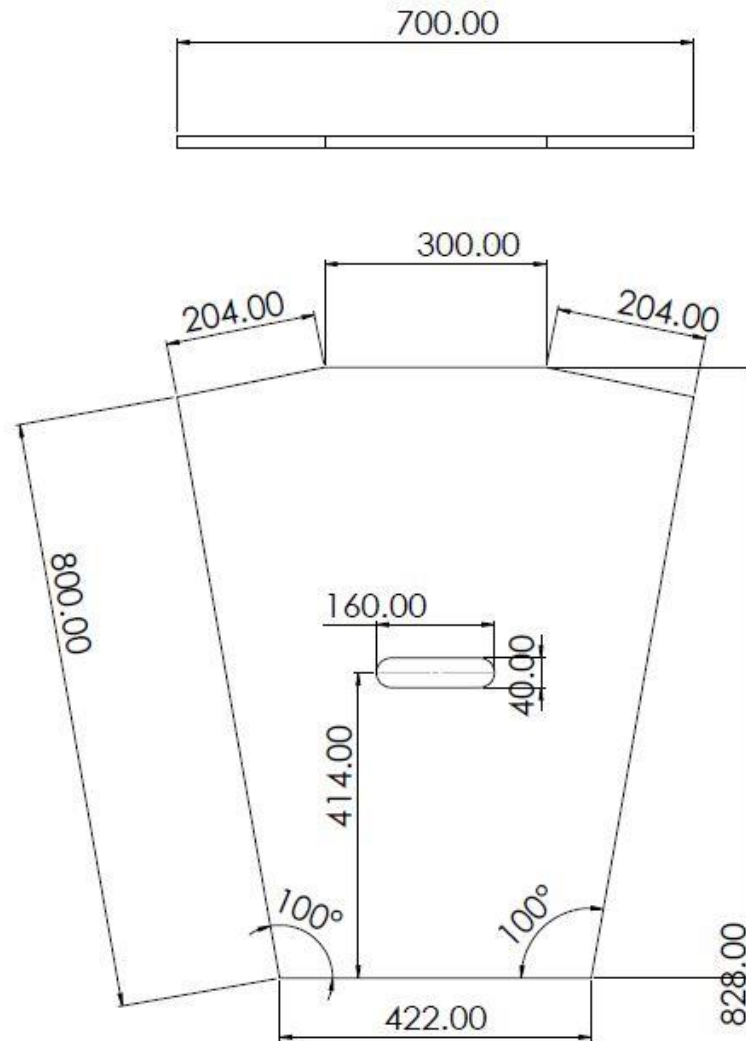
*Internal view*



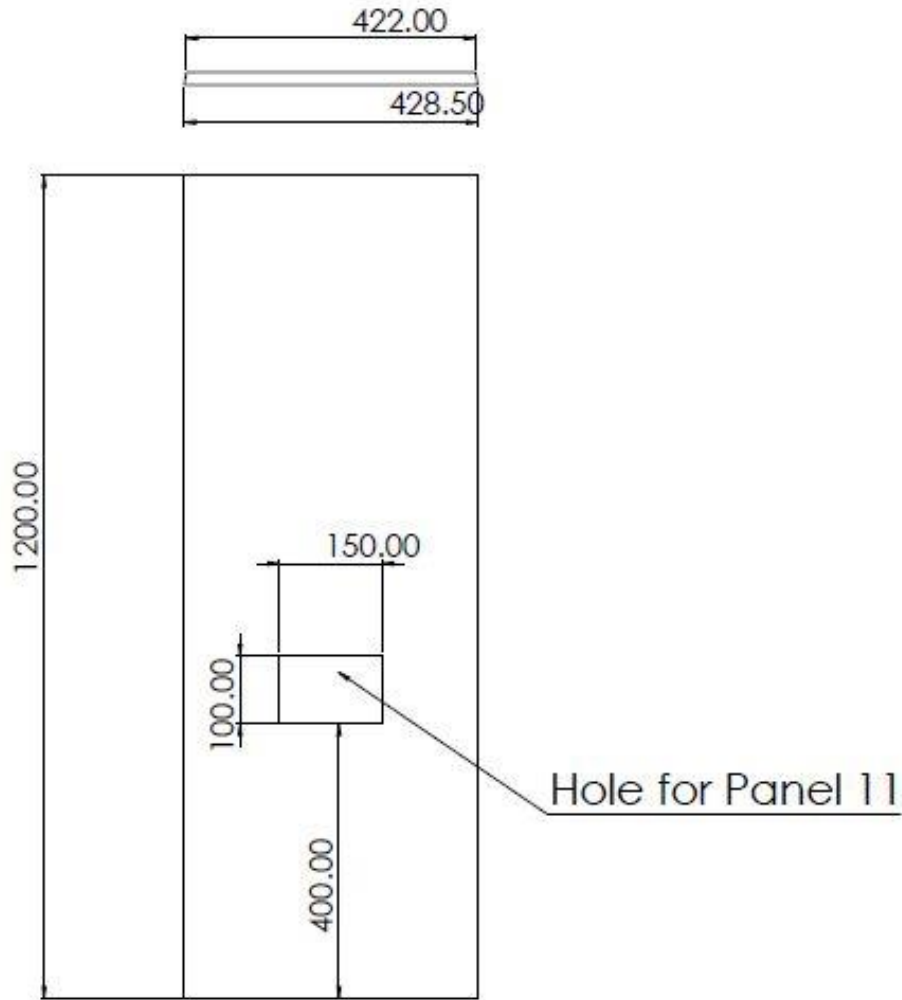
*Woofer chamber (upper view without top panel and internal reinforcement).*

# ENCLOSURE DESIGN

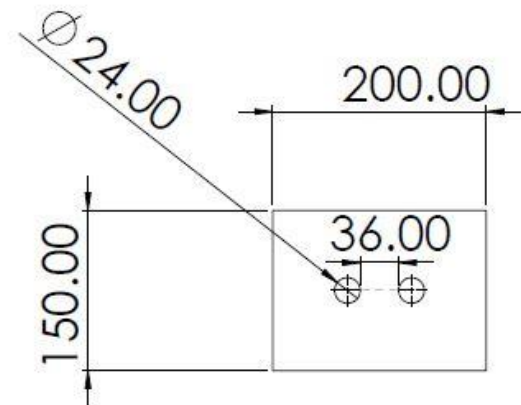
Part 1: Bottom/Top panels (nr:2)



# ENCLOSURE DESIGN



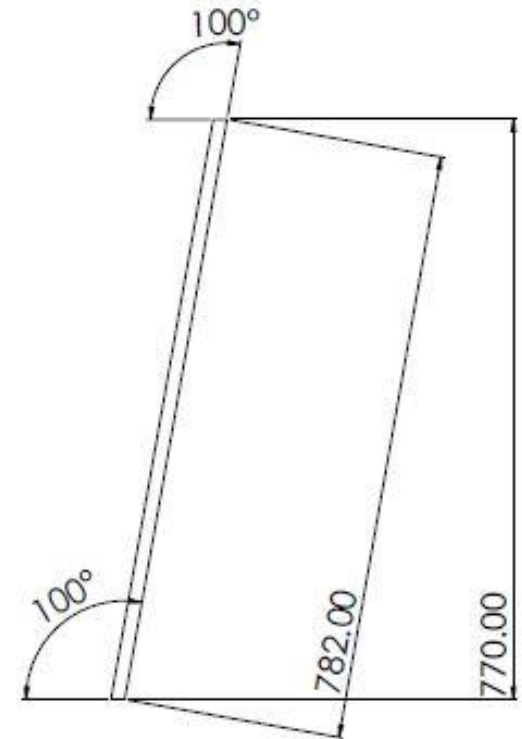
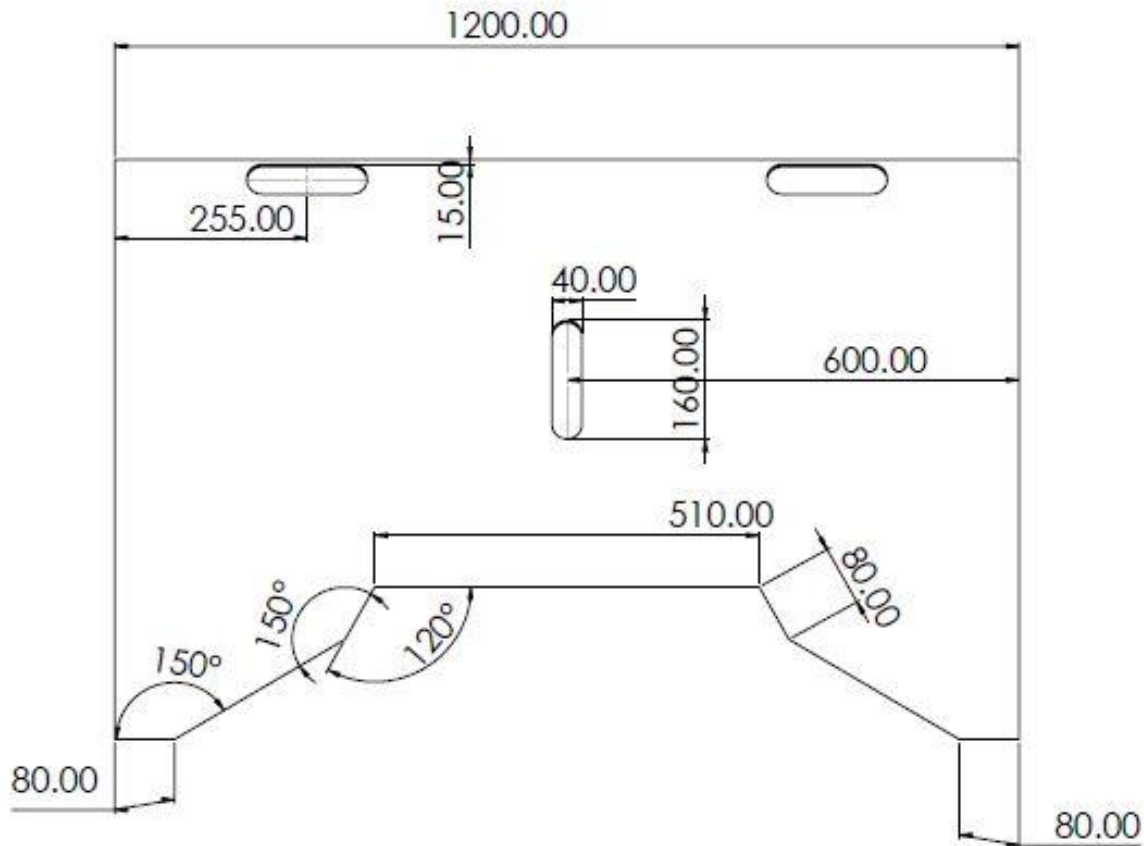
Part 2: Back panel



Part 11: Connectors panel

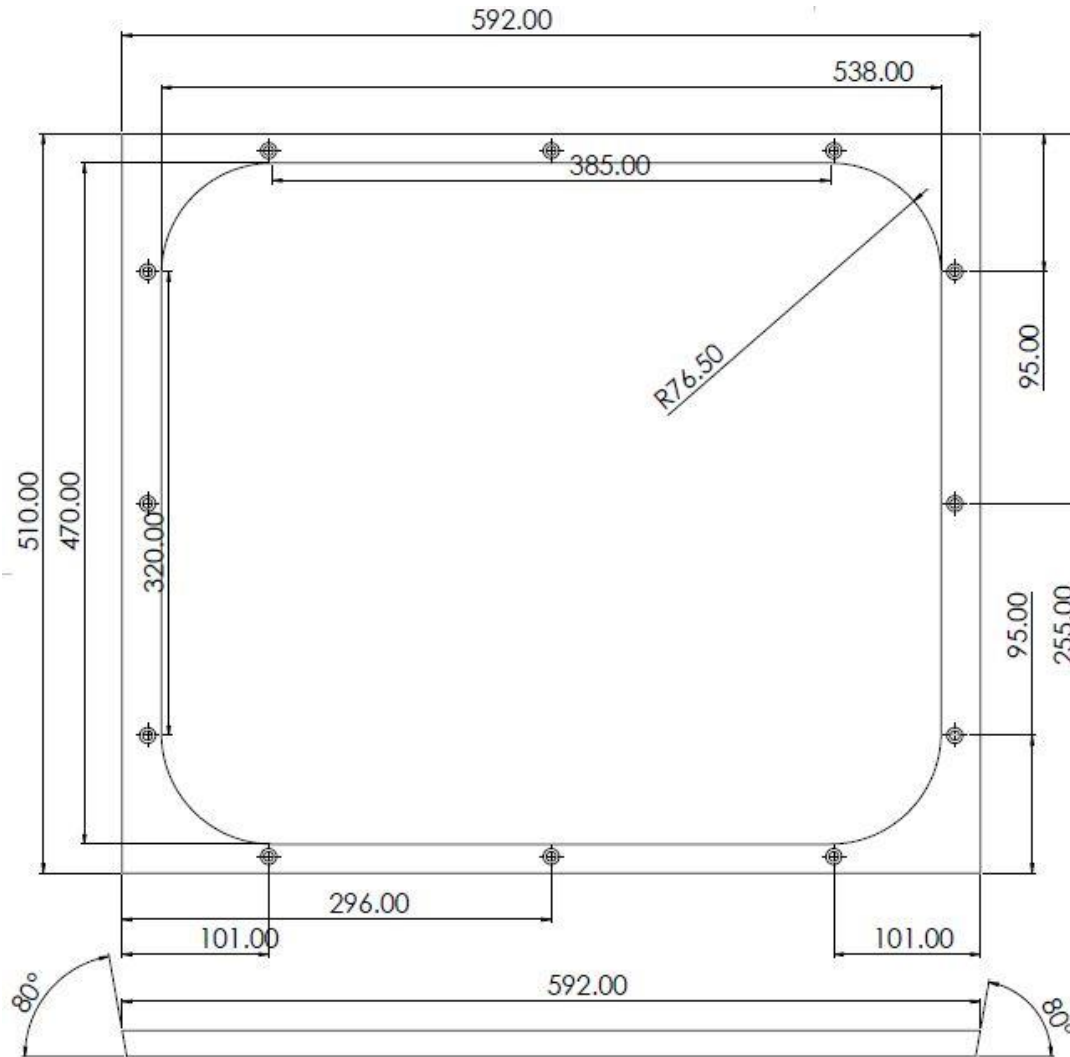
# **ENCLOSURE DESIGN**

## Part 3: Side panels (nr:2)



## ENCLOSURE DESIGN

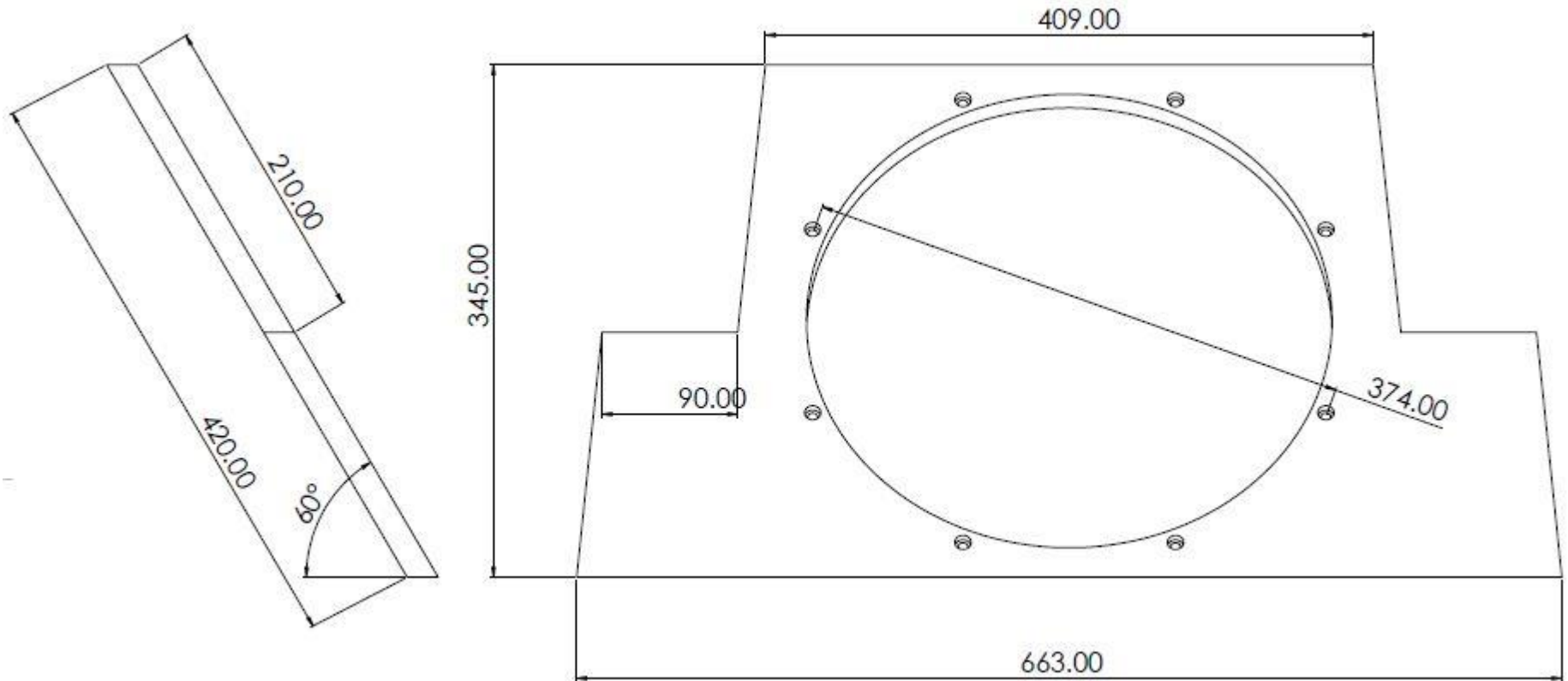
### Part 4: Horn panel



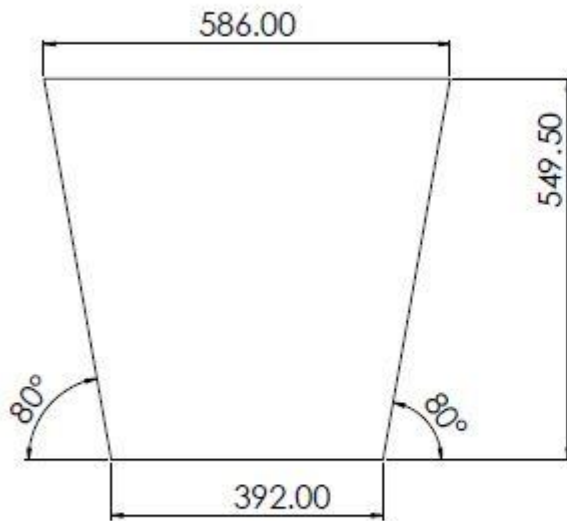


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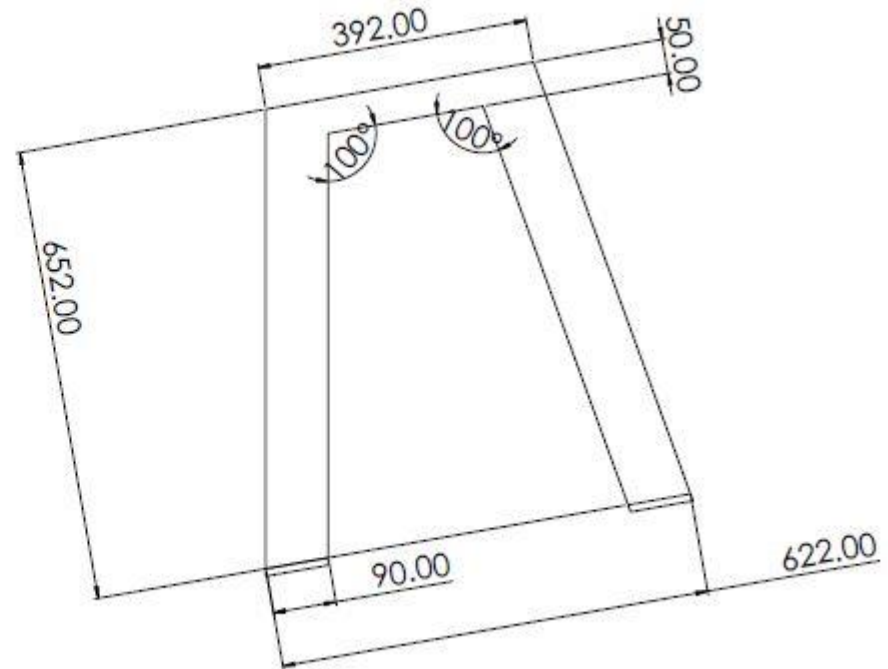
## Part 5: Woofers Baffles (nr:2)



## ENCLOSURE DESIGN



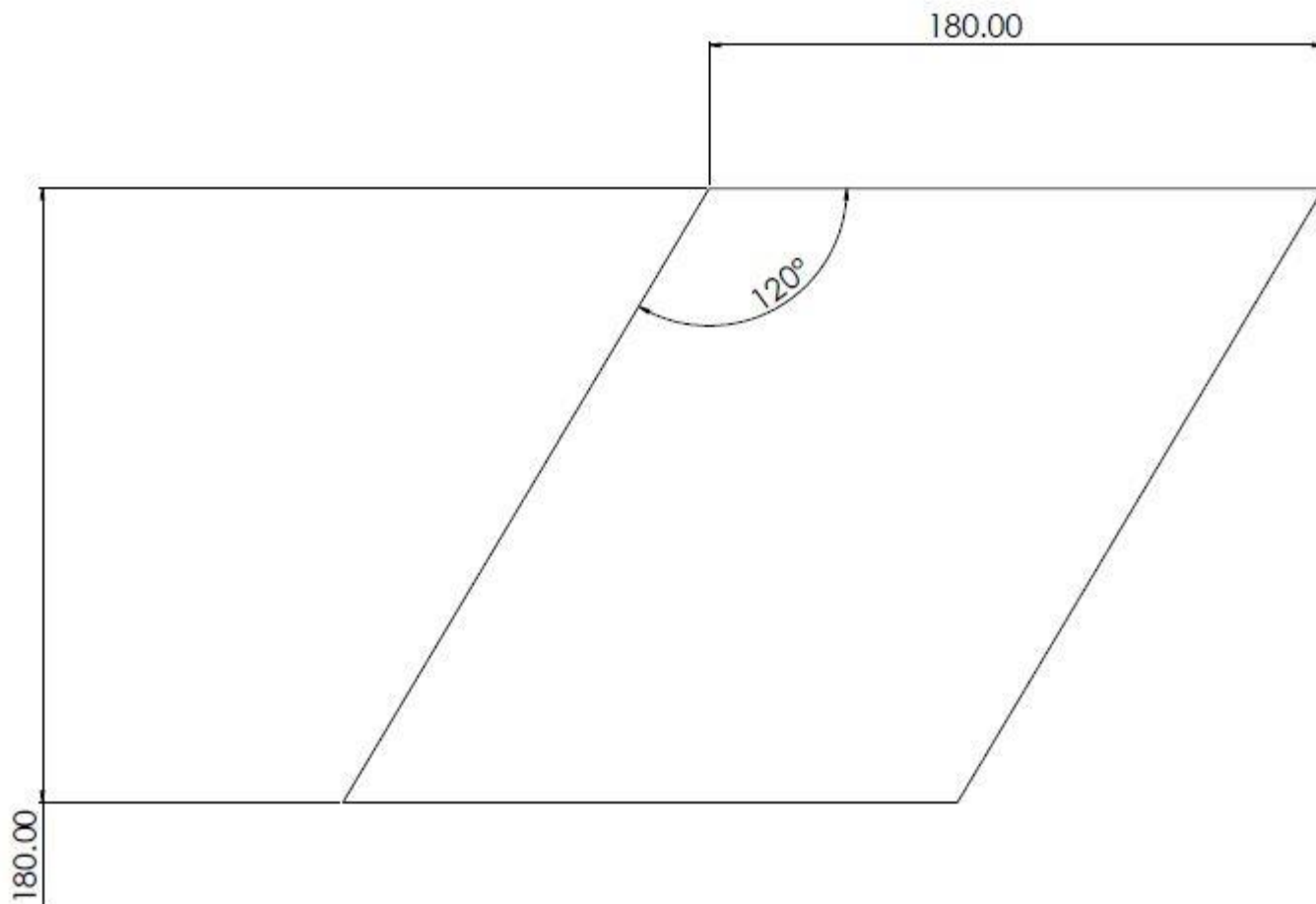
Part 7: Chambers divisions (nr:2)



Part 8: Chambers reinforcements (nr:2)

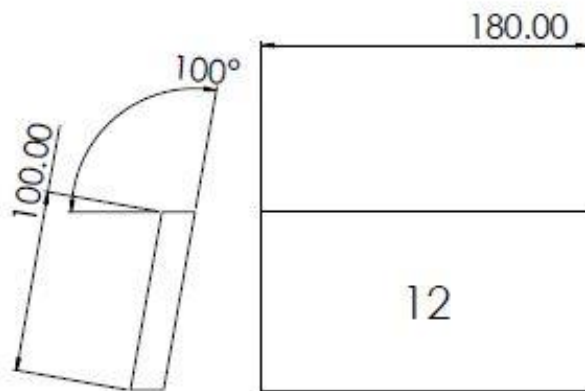
## ENCLOSURE DESIGN

Part 10: Reflex ducts walls (nr:4)

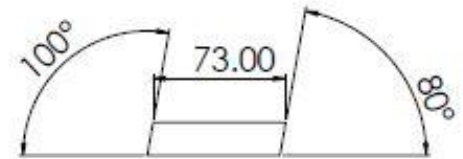


# ENCLOSURE DESIGN

Rear handles internal panels



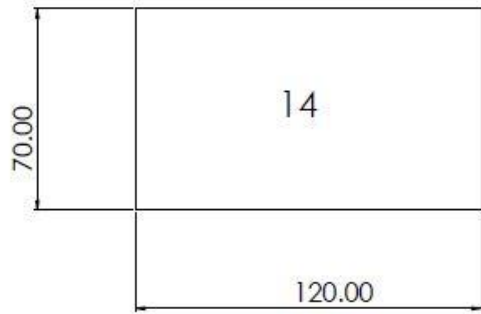
Part 12 (nr:4)



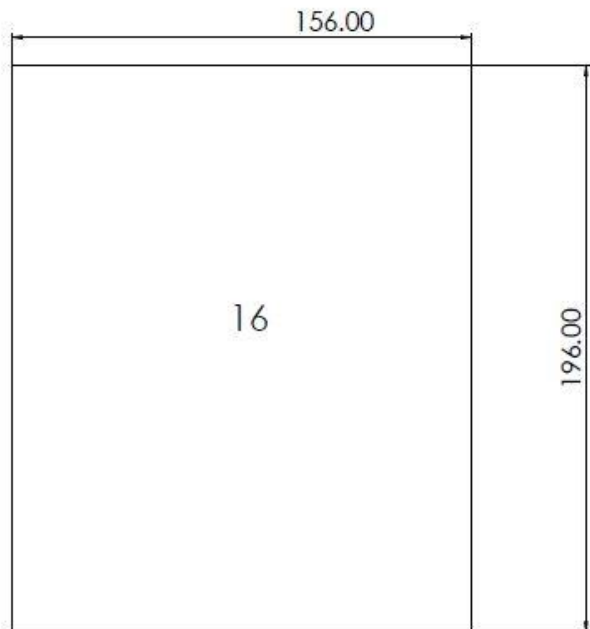
Part 13 (nr:4)

# ENCLOSURE DESIGN

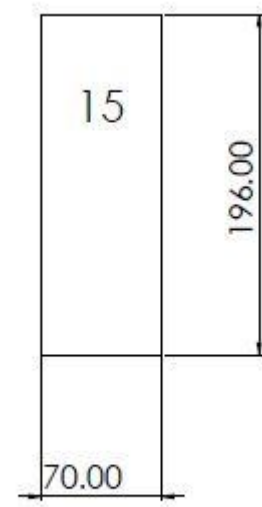
Side handles internal panels



Part 14 (nr:2)



Part 16 (nr:2)

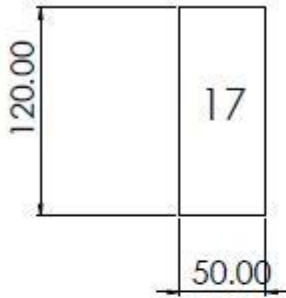


Part 15 (nr:2)

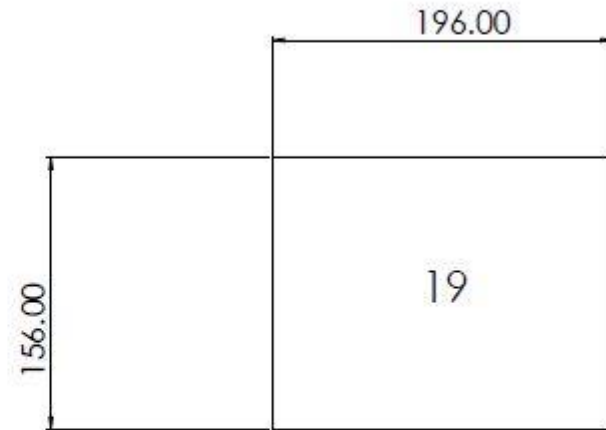


# ENCLOSURE DESIGN

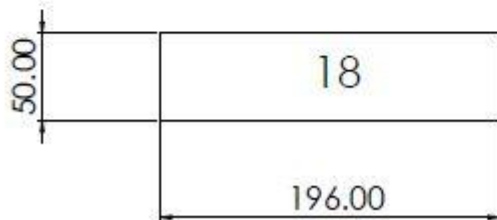
Top/bottom handles internal panels



Part 17 (nr:2)



Part 19 (nr:2)



Part 18 (nr:2)