



U14
Multi-Purpose
14" woofer equipped,
point source speaker.

3-way - biamped

14NA100 / 8 ohm - Neo woofer

DCX354 / 8ohm - Neo coaxial mid/high driver

FB354V2/ 8 ohm - crossover

2-way - passive

14NA100 / 8 ohm - Neo woofer

DE780 / 8 ohm – Neo HF driver

FBCXN88 - crossover



Woofer



- 1600 W continuous program power capacity
- 100 mm (4 in) aluminum voice coil
- 45 - 2000 Hz response
- 99 dB sensitivity
- Excursion optimized lead wires (woven through spider)
- Aluminium demodulating ring allows a very low distortion figure
- Double silicone spider with optimized compliance
- Ventilated voice coil gap for reduced power compression



14NA100 8 Ω

SPECIFICATIONS

Nominal Diameter	359 mm (14 in)
Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
Nominal Power Handling	800 W
2 hours test made with continuous pink noise signal within the range Fs-10Fs. Power calculated on rated minimum impedance. Loudspeaker in free air.	
Continuous Power Handling	1600 W
Power on Continuous Program is defined as 3 dB greater than the Nominal rating.	
Sensitivity	99 dB
Applied RMS Voltage is set to 2.83 V for 8 ohms Nominal Impedance.	
Frequency Range	45 Hz - 2000 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Aluminium
Former Material	Glass Fibre
Winding Depth	23 mm (0.91 in)
Magnetic Gap Depth	11 mm (0.43 in)
Flux Density	1.15 T
Woofer Cone Treatment	WP Waterproof Front Side

PARAMETERS

Thiele-Small parameters are measured after a high level 20 Hz sine wave preconditioning test.

Fs	43 Hz
Re	5.1 Ω
Qes	0.24
Qms	5.6
Qts	0.23
Vas	99.5 dm ³ (3.51 ft ³)
Sd	707 cm ² (109.59 in ²)
η_0	3.1 %
Xmax	8.8 mm
Xvar	8.5 mm
Mms	96.5 g
Bl	23.5 Tm
Le	0.74 mH
EBP	179 Hz

Coaxial HF



- Time coherent coaxial ring radiator design
- 1.4" horn throat diameter
- 111.1 dB MF sensitivity
- 112.8 dB HF sensitivity
- 400 - 20000 Hz response
- Neodymium magnet assembly

DCX354 8 Ω

SPECIFICATIONS MF UNIT

Driver mounted on 320 Hz exponential horn

Throat Diameter	36 mm (1.4 in)
Nominal Impedance	8 Ω
Minimum Impedance	7.9 Ω
Nominal Power Handling AES Standard	90 W
Continuous Power Handling Power on Continuous Program is defined as 3 dB greater than the Nominal rating.	180 W
Sensitivity Applied RMS Voltage is set to 2.83 V for 8 ohms Nominal Impedance.	111.1 dB
Frequency Range	0.4 kHz - 6 kHz
Recommended Crossover 12 dB/oct. or higher slope high-pass filter.	0.4 kHz
Voice Coil Diameter	76 mm (3 in)
Winding Material	Aluminum
Inductance	0.26 mH
Flux Density	1.93 T
Diaphragm Material	HT Polymer Ring



SPECIFICATIONS HF UNIT

Driver mounted on 320 Hz exponential horn.

Throat Diameter	36 mm (1.4 in)
Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
Nominal Power Handling AES Standard	50 W
Continuous Power Handling Power on Continuous Program is defined as 3 dB greater than the Nominal rating.	100 W
Sensitivity Applied RMS Voltage is set to 2.83 V for 8 ohms Nominal Impedance.	112.8 dB
Frequency Range	5 kHz - 20 kHz
Recommended Crossover 12 dB/oct. or higher slope high-pass filter.	4.5 kHz
Voice Coil Diameter	51 mm (2 in)
Winding Material	Aluminum
Inductance	0.1 mH
Flux Density	1.96 T
Diaphragm Material	HT Polymer Ring

Mid/High passive filter

FB354V2 8 Ω

SPECIFICATIONS

Frequency response and Impedance graphs measured on ME484 horn

Crossover Frequency	5.6 kHz
Filter Type	Two Way
Slope	18 - 12 dB/oct
Overall Dimensions	105x137 mm (4.13x5.39 in)

MOUNTING AND SHIPPING INFO

Net Weight	0.55 kg (1.21 lb)
Shipping Units	1 pcs
Shipping Weight	0.59 kg (1.3 lb)
Shipping Box	147x117x58 mm (5.79x4.61x2.28 in)

POTENTIAL APP. COAXIALS HF

DCX354	8 Ω
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Reinforced PRO version of the popular FB354 crossover, for more challenging applications. The FB354v2 shares the same circuit diagram of the FB354, substituting inductors with higher power ratings and eliminating the built-in light bulb protection network. The FB354v2 allows the user more control to optimize DSP limiter settings for higher maximum SPL while maintaining a safe work margin for the DCX354.



Constant directivity horn

- 1.4" throat entry
- 80° x 60° nominal coverage
- Constant Directivity
- Excellent loading down to 900 Hz

ME90

SPECIFICATIONS

<p>Horn mounted on B&C DE900 compression driver.</p>

Throat Diameter	36 mm (1.4 in)
Nominal Coverage Horizontal	80 °
Nominal Coverage Vertical	60 °
Cutoff Frequency	0.9 kHz
Material	Cast Aluminium
Dimensions	270x270x138 mm (10.6x10.6x5.4 in)

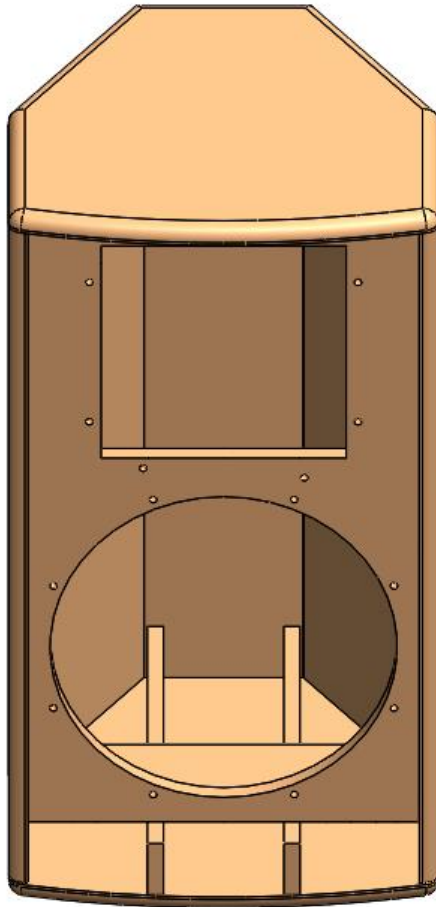
MOUNTING AND SHIPPING INFO

Baffle Cutout Dimension	225 mm (8.86 in)
Air Volume Occupied by Driver	0.42 dm ³ (0.01 ft ³)
Net Weight	1.45 kg (3.19 lb)
Shipping Units	1 pcs
Shipping Weight	2.05 kg (4.52 lb)
Shipping Box	295x314x175 mm (11.61x12.36x6.89 in)



Enclosure Design

Notes

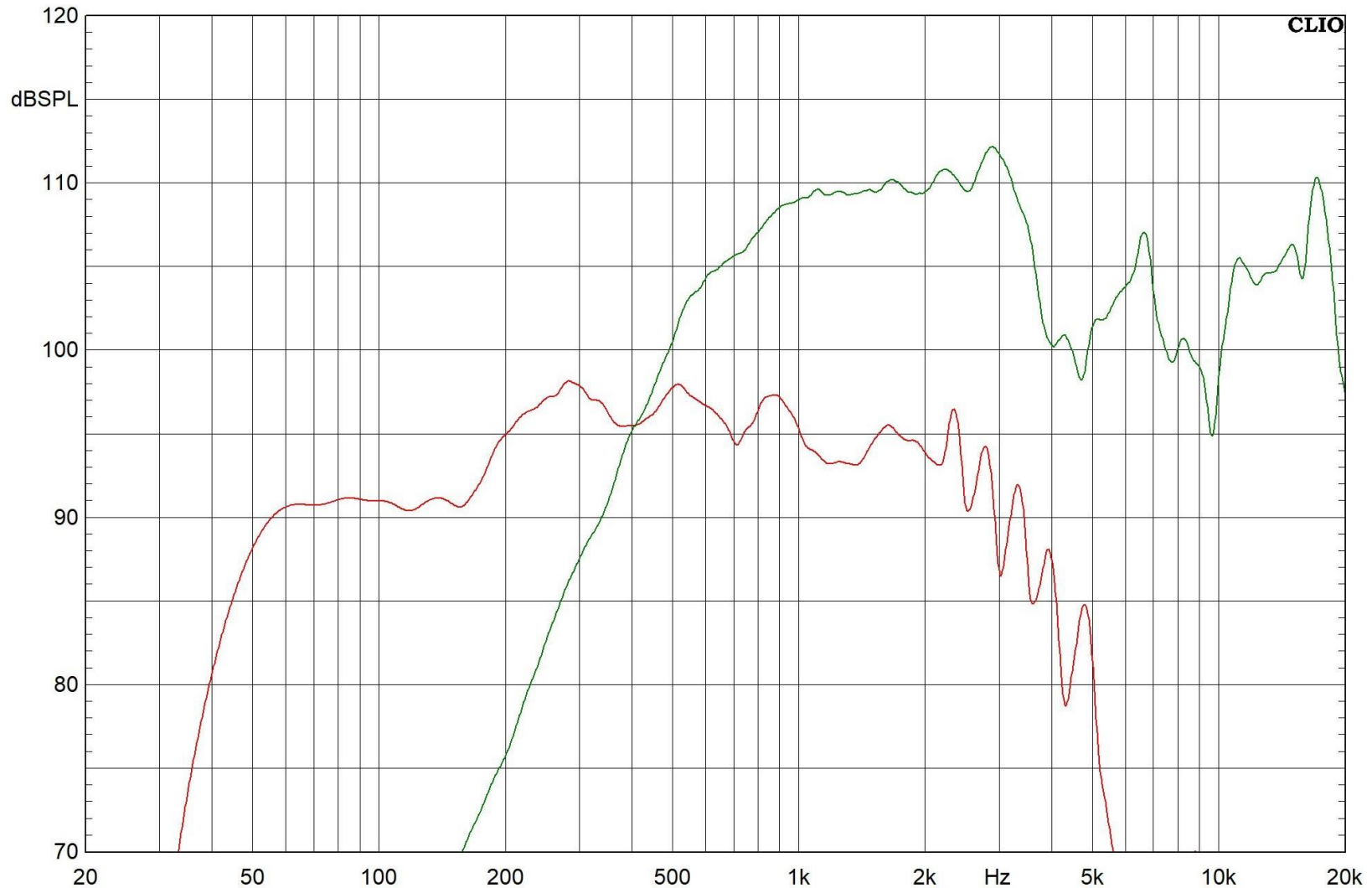


- 18mm wood thickness (birch plywood suggested). It might be reduced to 15mm for weight reduction.
- Internal parts are 15mm thick.
- - A good dampening material should be placed inside the all cabinet internal panels, with the exception of the bottom panel.
- Transducers bolts: M6 suggested.
- Connectors, handles and other details are left to final users choices.

Measurements

Unfiltered Frequency Response 2.83V @ 1meter.

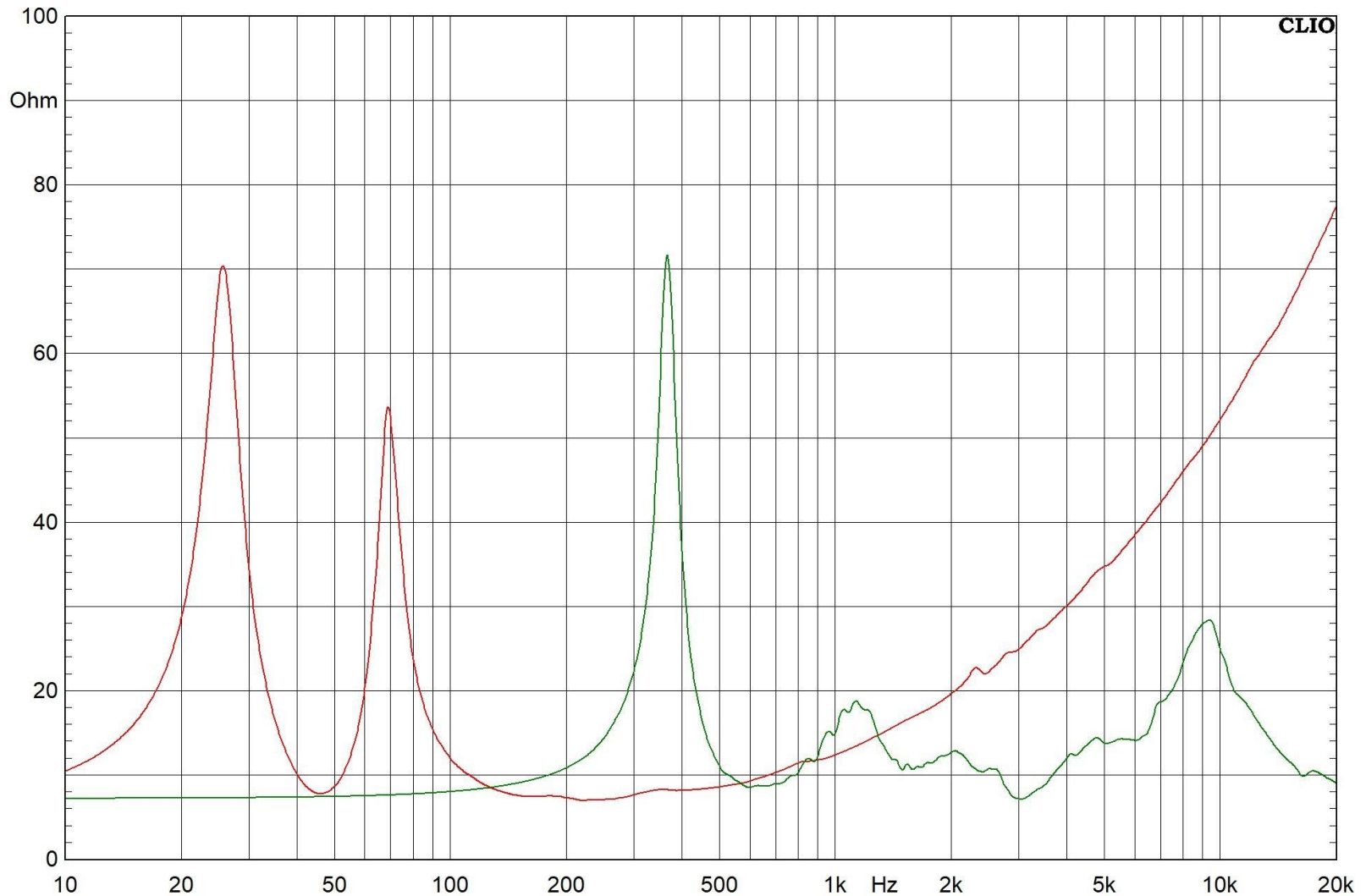
RED: 14NA100 - GREEN: DCX354 connected to FB354V2 passive filter.



Measurements

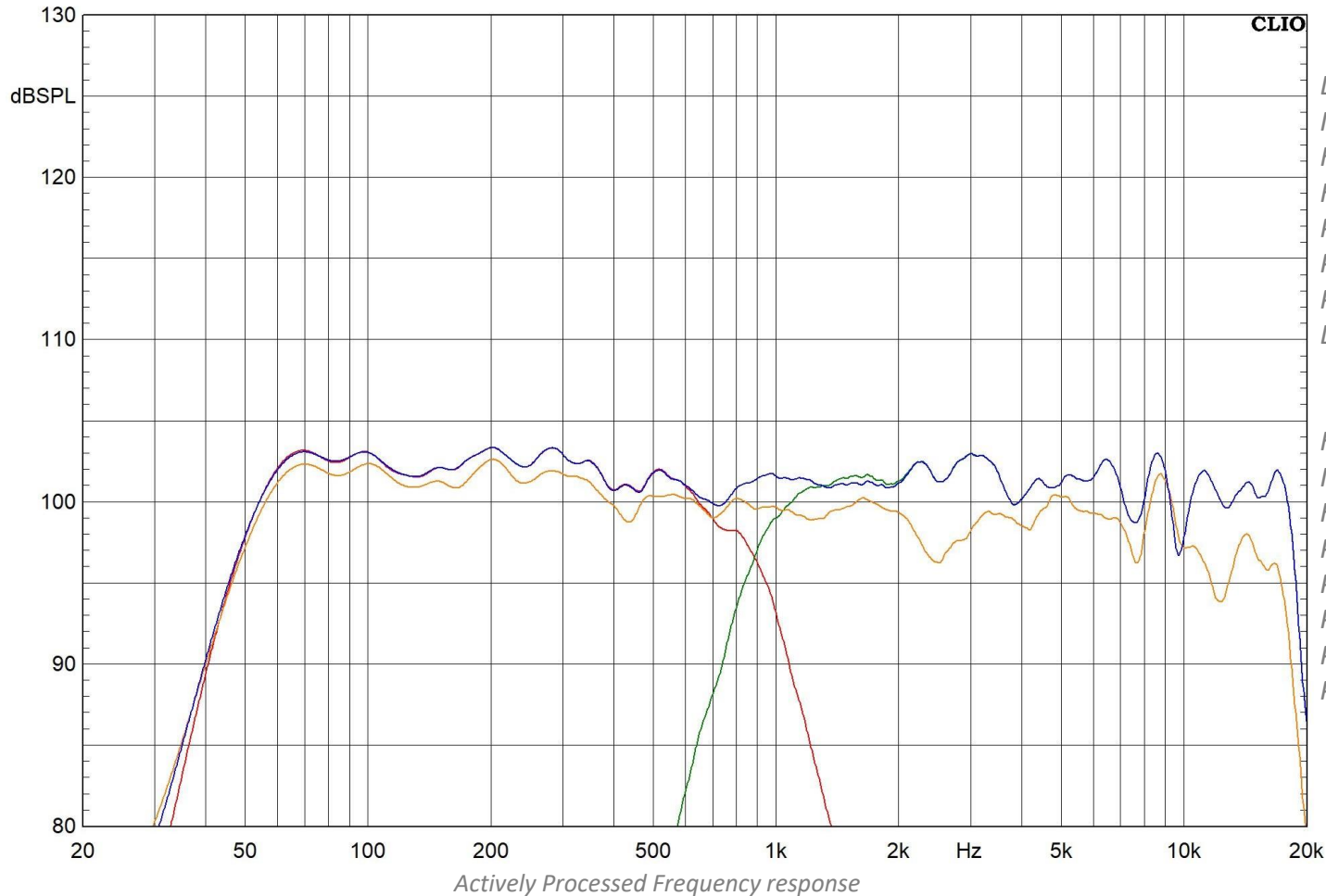
Impedance at -20dBU

RED: 14NA100 - GREEN: DCX354 connected to FB354V2 passive filter.



Bi-amp 3-way active dsp settings

Frequency response at 2 meters (-14dBu output – 32dB gain amp).



LF:

In: 0dB

HPF: 40Hz – BTW 24dB/Oct

HSL: +6dB – Q:1 – Frq:190Hz

Peaking #1: +6dB – Q:1 – Frq:60Hz

Peaking #2: +3dB – Q:2 – Frq:150Hz

Peaking #3: +3dB – Q:1 – Frq:1100Hz

LPF: 800Hz – BTW 24dB/Oct

HF:

In: -12dB

HPF: 1KHz – BTW 24dB/Oct

Peaking #1: -3dB – Q:4 – Frq:3KHz

Peaking #2: +2.5dB – Q:5 – Frq:3.8KHz

Peaking #3: +11dB – Q:3 – Frq:4.8KHz

Peaking #4: +12dB – Q:4 – Frq:9KHz

Peaking #5: +3dB – Q:3 – Frq:14.3KHz

RED: 14NA100 - GREEN: DCX354

BLUE: Summed on axis – ORANGE: 30° off axis (horizontal)

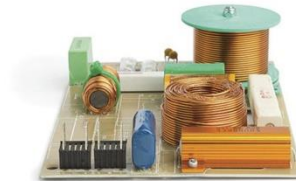
Passive version (single amplifier channel)

Suggested components:

14NA100 – 8ohm



FBCXN88 crossover



DE780 – 8ohm



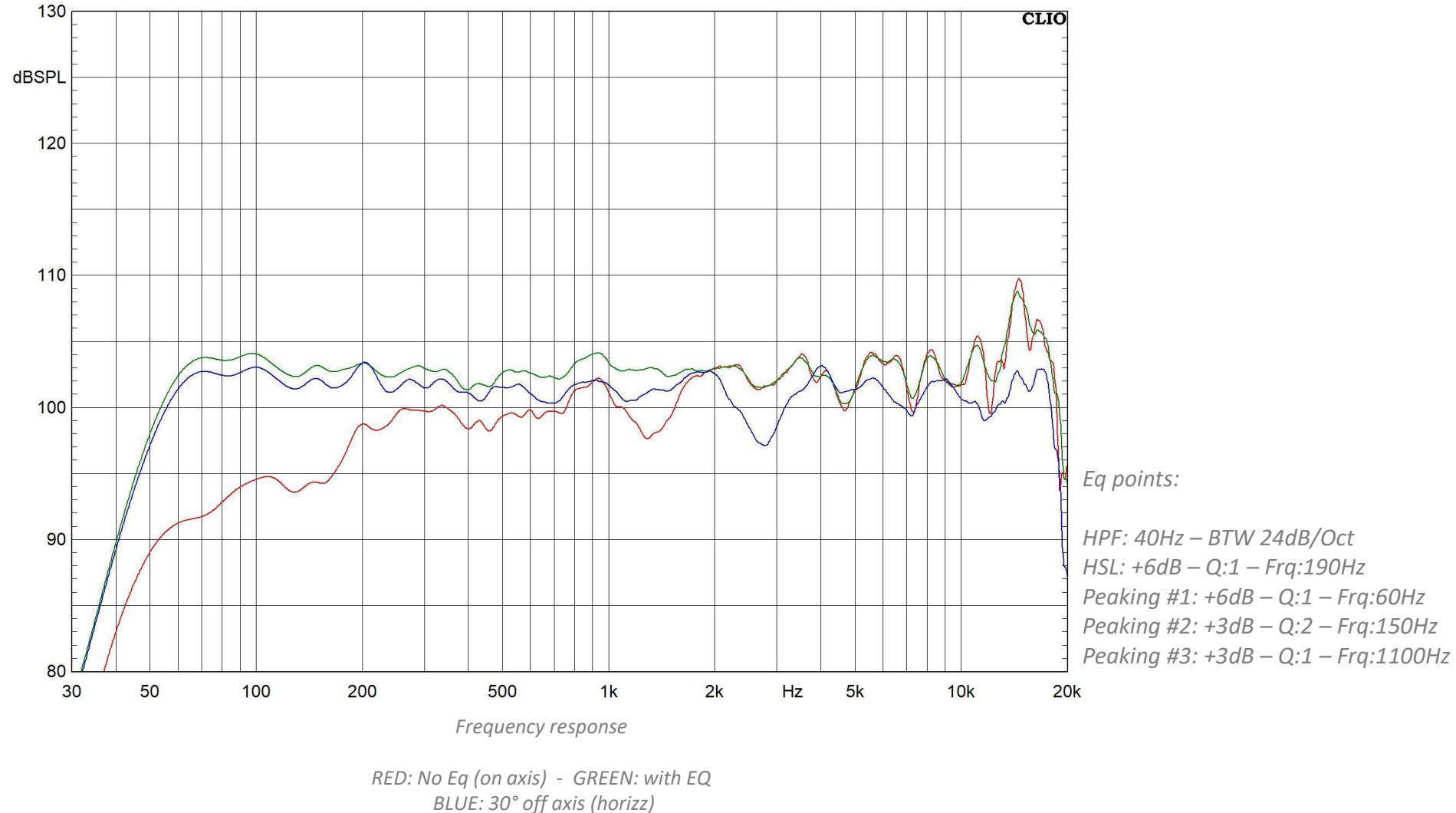
NOTES

The passive crossover high frequency protection circuit can be bypassed using jumpers if optimized active limiters are used.

Other compression drivers can be used in this configuration but their phase match and equalization has to be carefully verified.

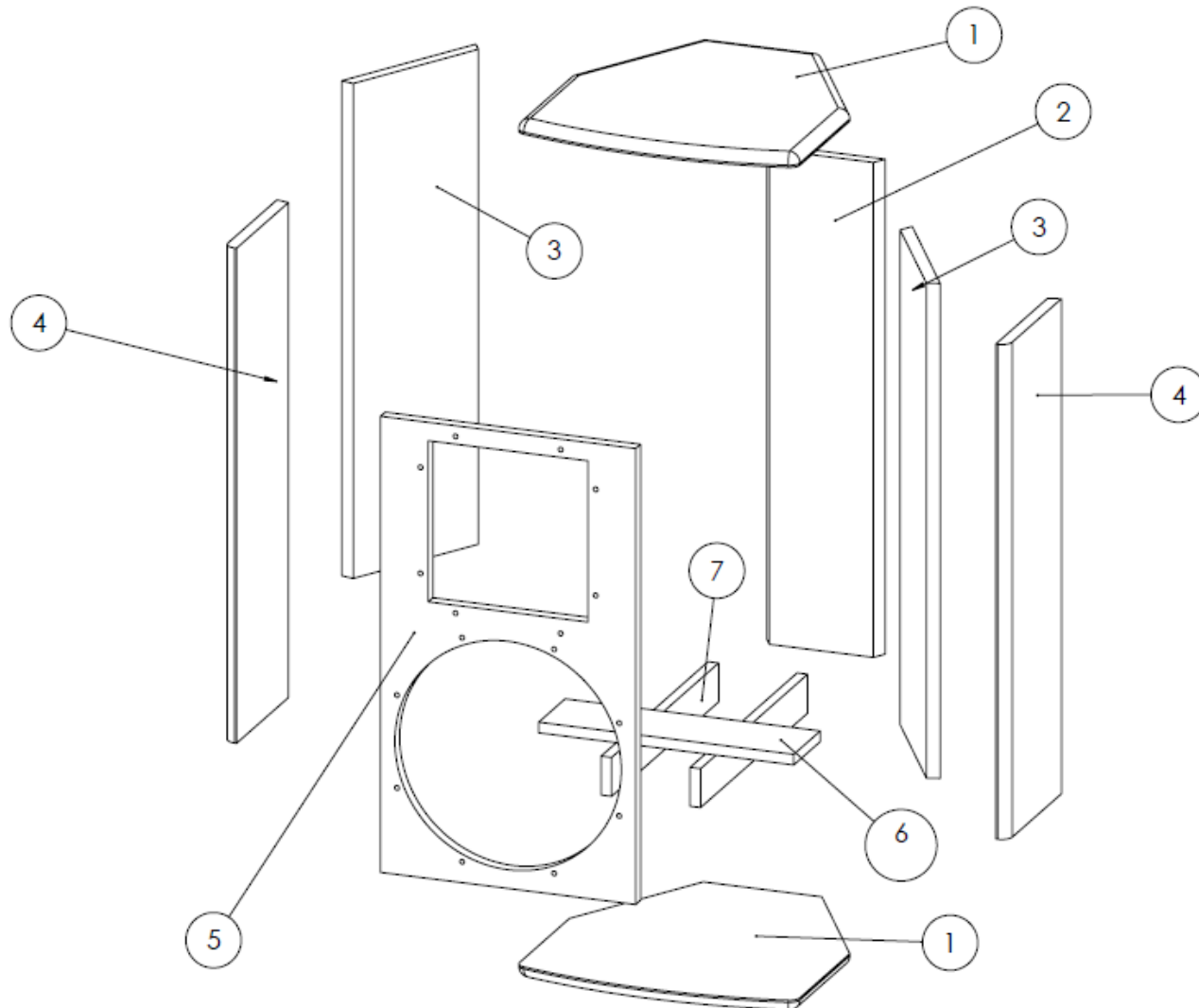
Passive version (single amplifier channel)

Frequency response at 2 meters (-14dBu output – 32dB gain amp).



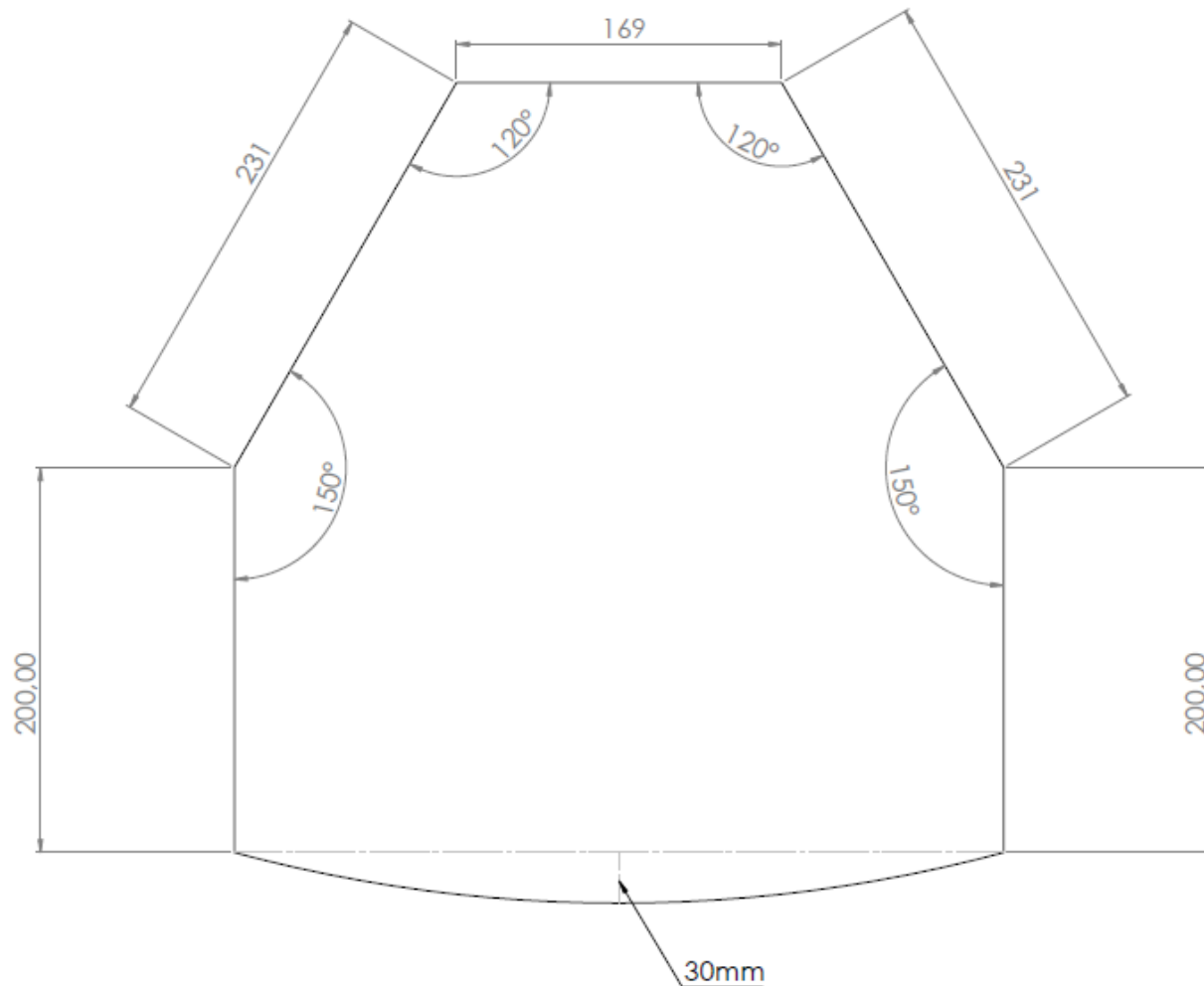
Enclosure Design

Exploded View and Parts



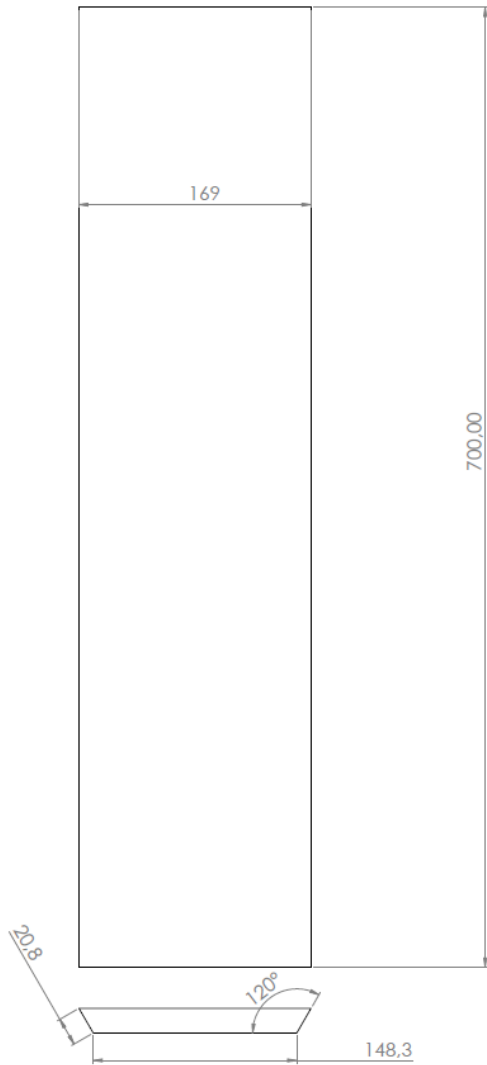
Enclosure Design

Part 1 (Top/Bottom)

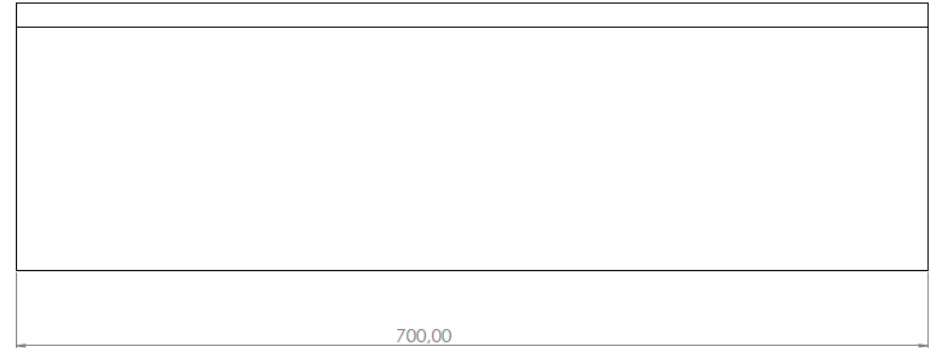
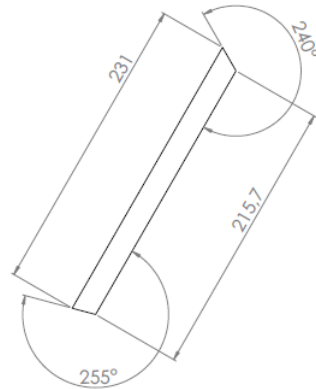


Enclosure Design

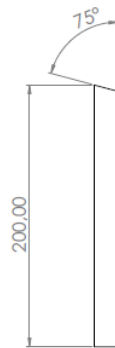
Part 2 (Back)



Part 3 (Back sides, 2pcs)

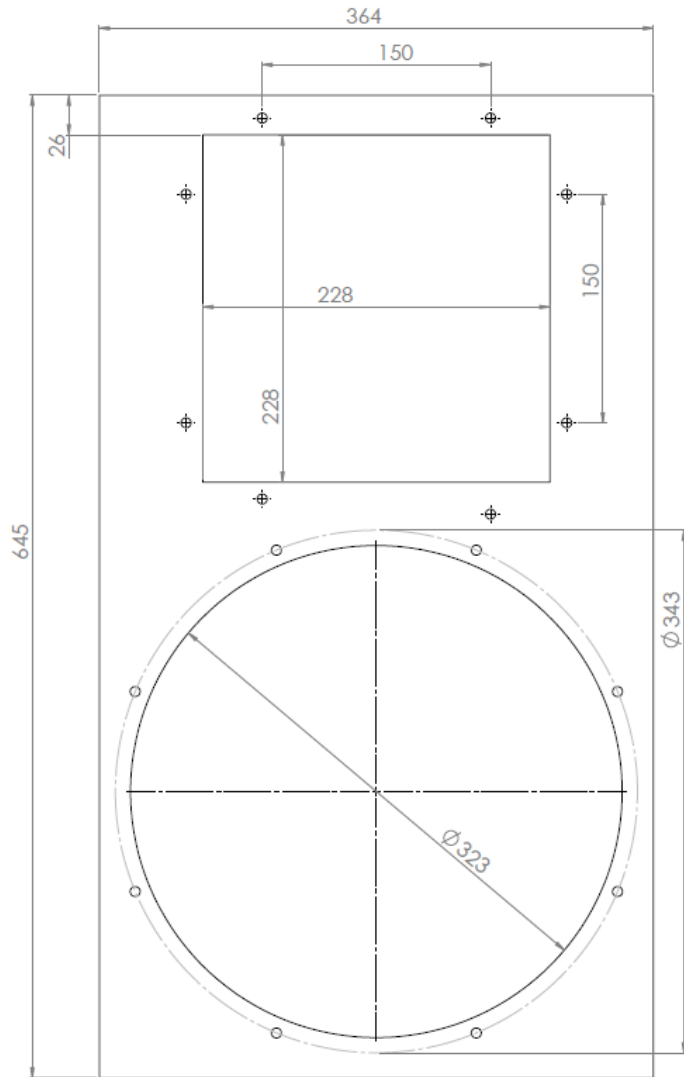


Part 4 (Sides, 2pcs)

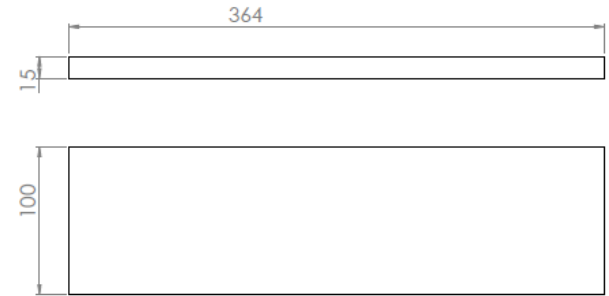


Enclosure Design

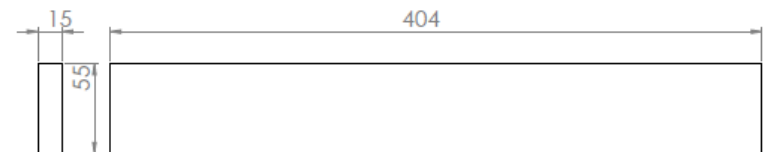
Part 5 (Baffle)



Part 6 (Ports Roof)



Part 7 (Ports Dividers, 2pcs)



Enclosure Design

Internal assembly

