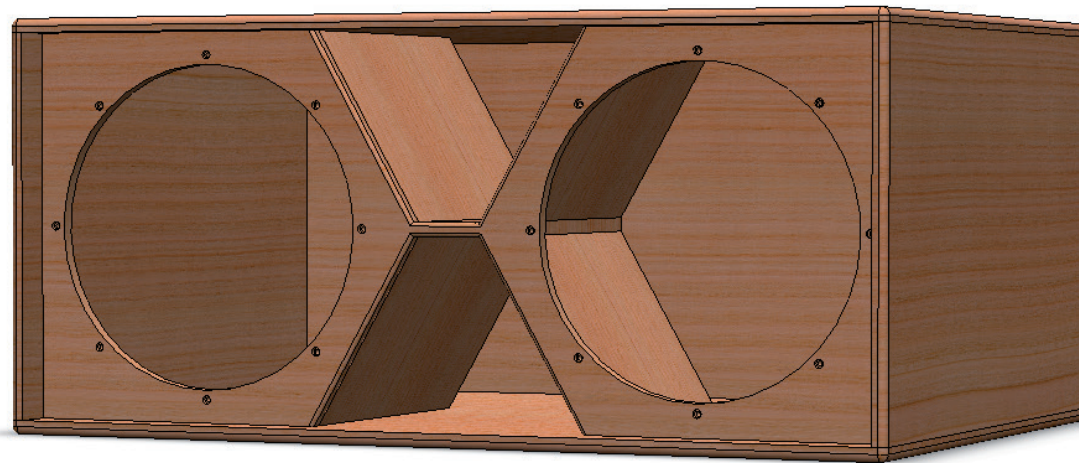




PROFESSIONAL
LOUDSPEAKERS

APPLICATION NOTE



18" DUAL SUBWOOFER

KEY FEATURES

> High performance 2 x 18" subwoofer system optimized for 18TLW3000 transducer

18TLW3000 subwoofer key features:
3600 W AES power handling
100 mm (4 in) Tetracoil dual voice coil
Ultra linear suspension behaviour for excellent sound clarity
Low noise forced air cooling desingn



18TLW3000

GENERAL SPECIFICATIONS

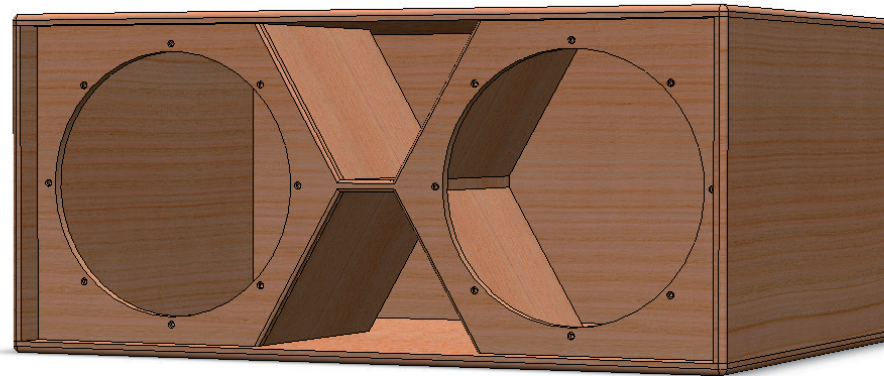
NOMINAL DIAMETER	460 mm (18 in)
RATED IMPEDANCE	8 Ohm
AES POWER	1800W
PROGRAM POWER	3600W
PEAK POWER	10000W
SENSITIVITY	95 dB
FREQUENCY RANGE	30 ÷ 2000 Hz
POWER COMPRESSION @-10dB	0.6 dB
POWER COMPRESSION @-3dB	2.0 dB
POWER COMPRESSION @0dB	3.4 dB
MAX RECOMM. FREQUENCY	300 Hz
RECOMM. ENCLOSURE VOLUME	100 ÷ 350 lt (3.53÷12.36cuft)
MINIMUM IMPEDANCE	5.7 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	45 mm (1.77 in)
VOICE COIL DIAMETER	100 mm (4 in)
VOICE COIL WINDING MATERIAL	Copper
SUSPENSION	Triple roll, Polycotton
CONE	Curvilinear fiberglass loaded cellulose

THIELE SMALL PARAMETERS

Fs	33 Hz
Re	4.6 Ohm
Sd	0,1225 sq. mt. (189,88 sq. in.)
Qms	13.00
Qes	0.42
Qts	0.41
Vas	185 lt. (6.53 cuft)
Mms	266 gr. (0,59 lb)
BL	24.5 Tm
Linear mathematical Xmax	± 12 mm (± 0,47 in)
Le (1kHz)	1.80 mH
Ref. Efficiency 1W@1 m (half space)	94.0 dB

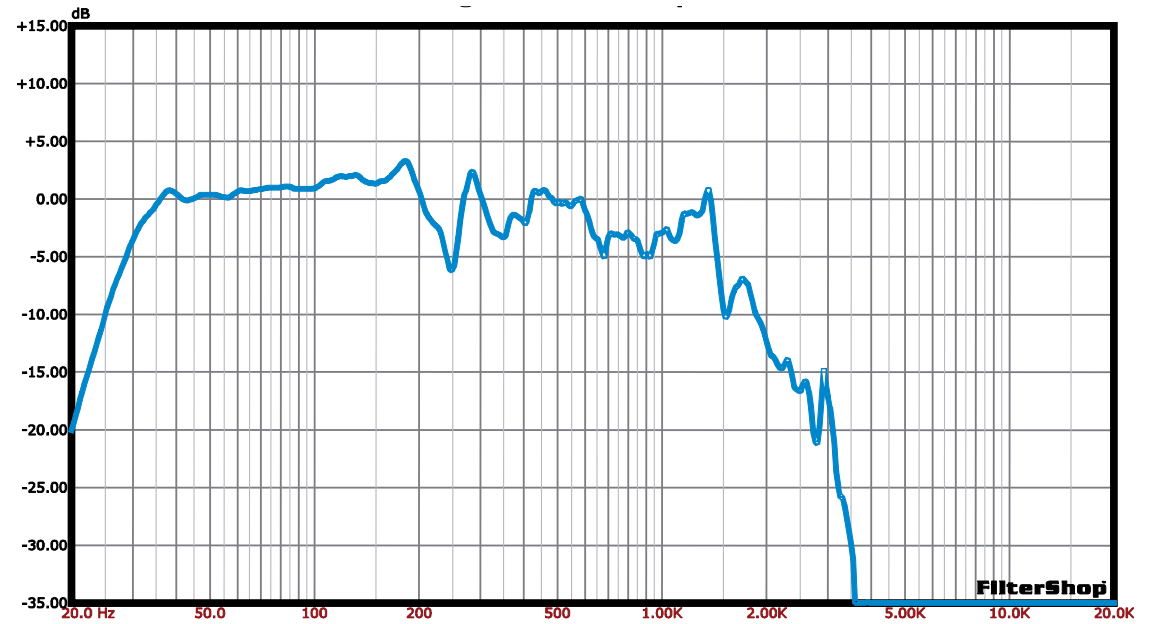
KEY FEATURES

- > The enclosure should be made of baltic birch plywood (18mm thickness)
- > Bolts are M6x35mm (M6 T-nuts recommended)
- > Handling, rigging and connectors are user's choice
- > It's recommended to well damp the cabinet interior (an high density dampening material, such as Dacron or other synthetic fibers. Is required for better performance)

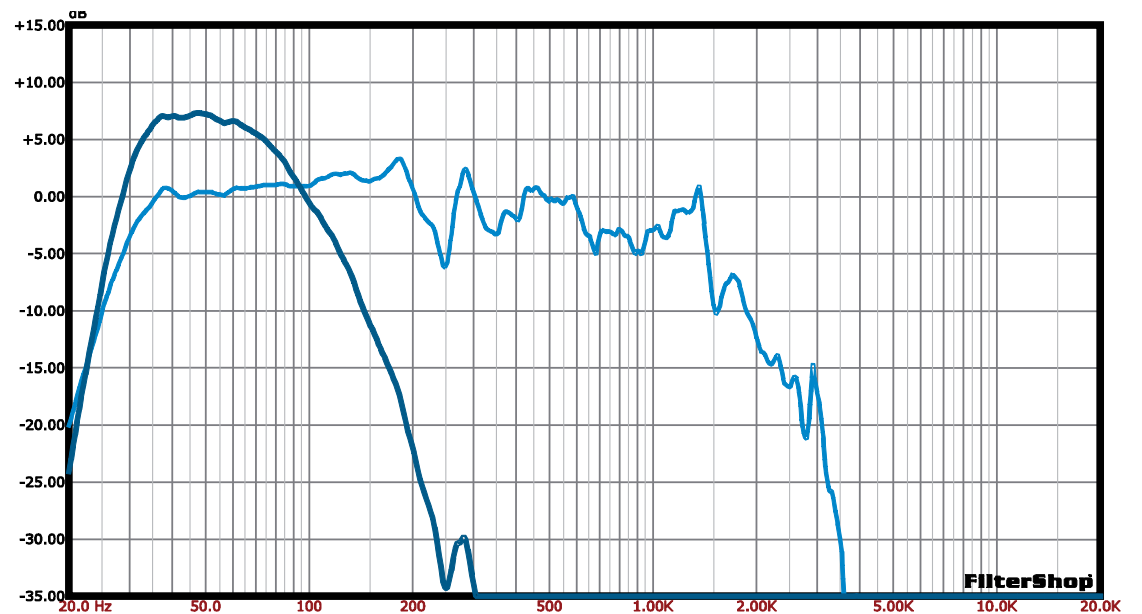


MEASUREMENTS: MAGNITUDE RESPONSE

UNFILTERED FREQUENCY RESPONSE



UNFILTERED AND TOTAL PROCESSED RESPONSE



18" DUAL SUBWOOFER KIT

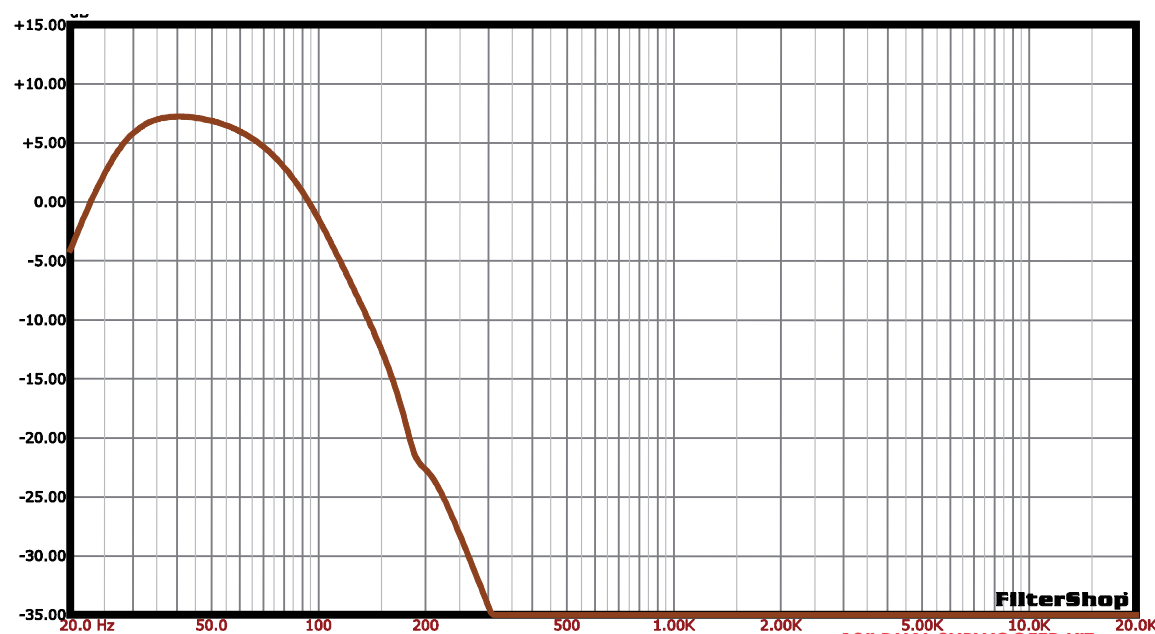
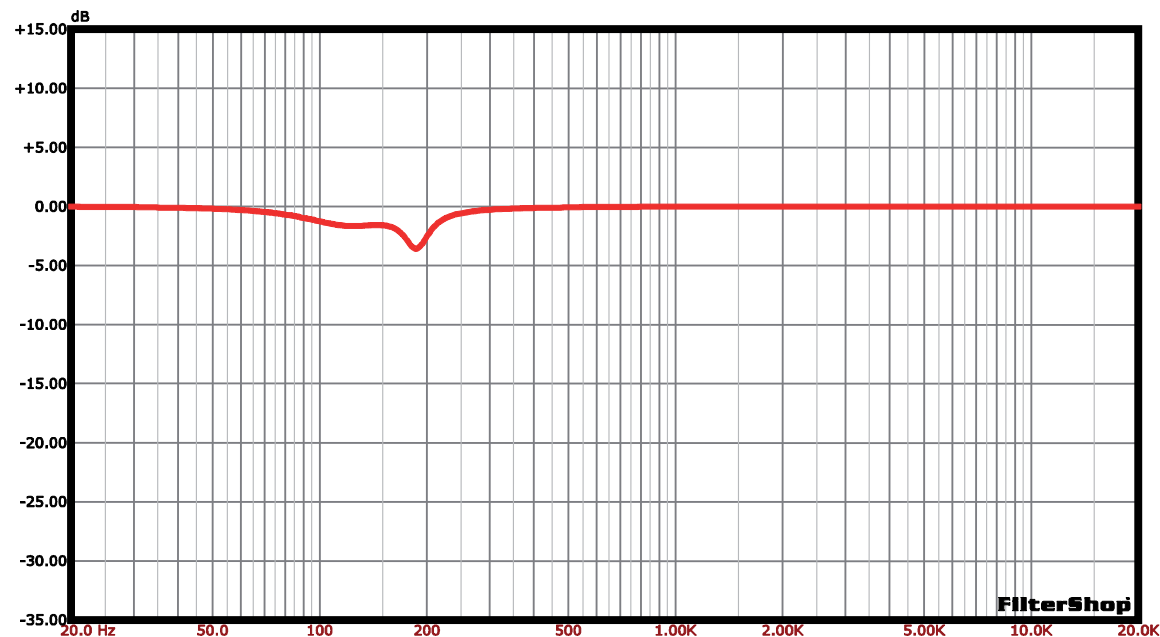
MEASUREMENTS: EQUALIZER RESPONSE AND TOTAL PROCESSING CURVE WITH +8DB GAIN

NECESSARY PROCESSOR SETTINGS:

- > EQ1 = 120Hz, -1.5dB, Q: 1.5
- > EQ2 = 187Hz, -3dB, Q: 6
- > HP Filter = 28Hz, 24dB/Oct, Butterworth
- > LP Filter = 90Hz, 24dB/Oct, Linkwitz-Riley
- > Output GAIN = +8dB (with 32dB Amplifier Gain)
- > Limiter = Th.: +9dBu, Atk.: 100ms, Rel.: 100ms

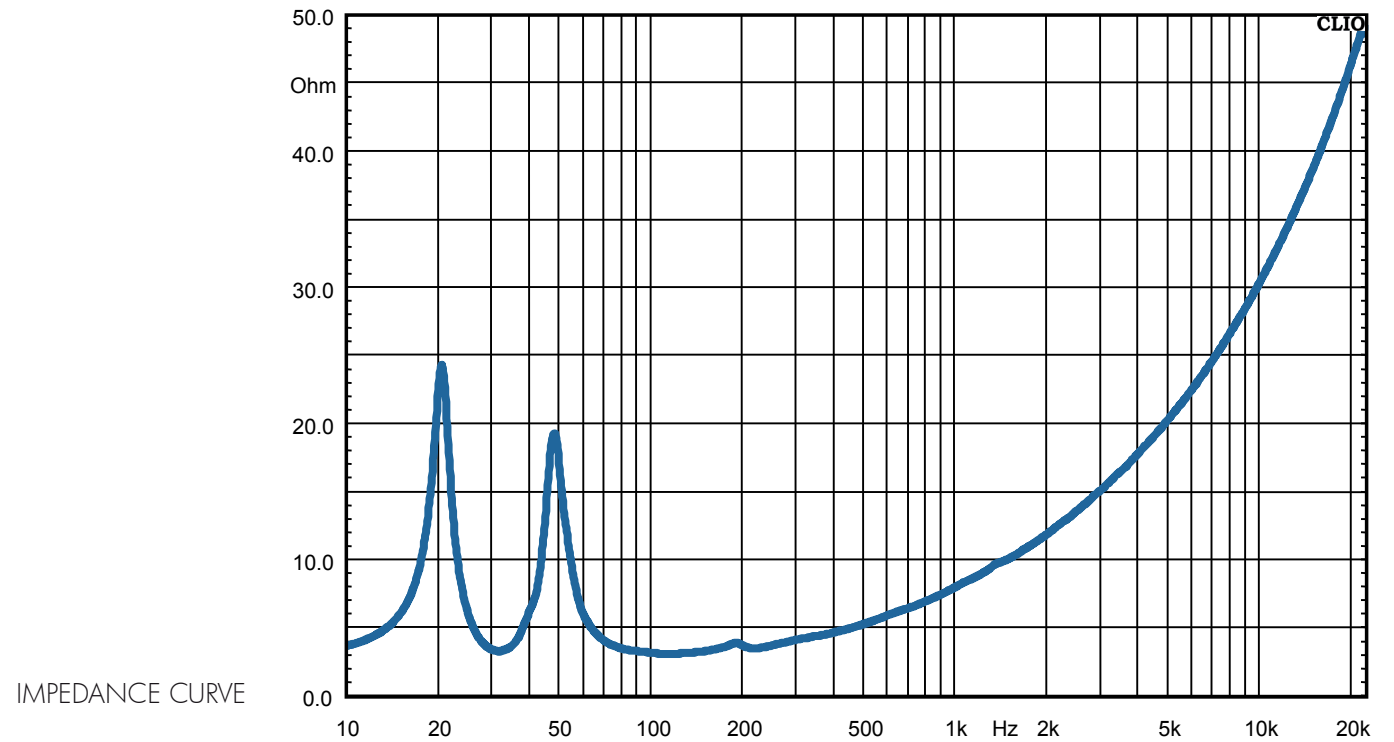
Values referred to XTA DP Series DSP Processor (or equivalent)
Suggested amplifier: Powersoft K10 or equivalent

EQUALIZATION FILTERS

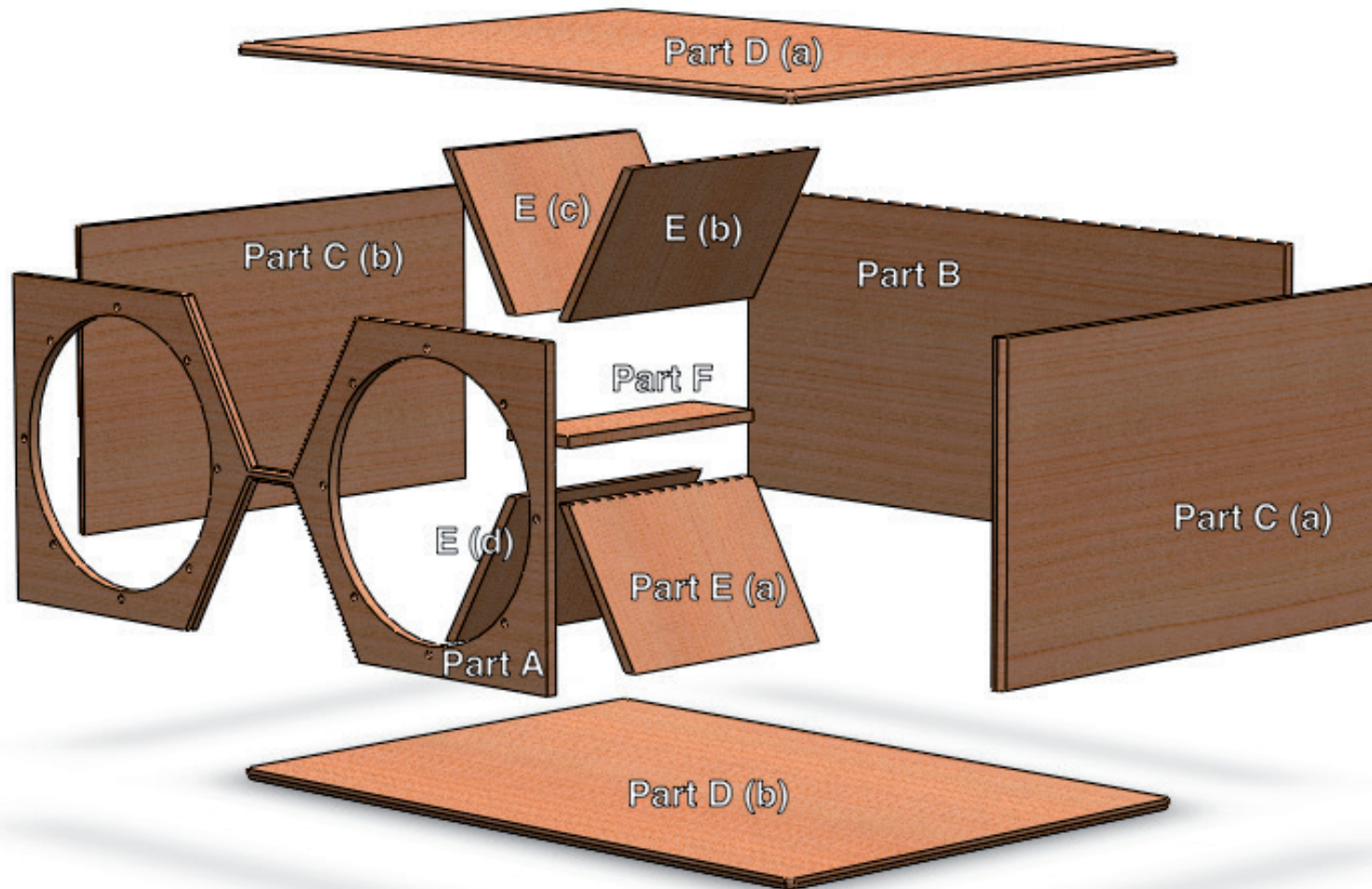


TOTAL PROCESSING CURVE WITH EQ, CROSSOVER AND GAIN

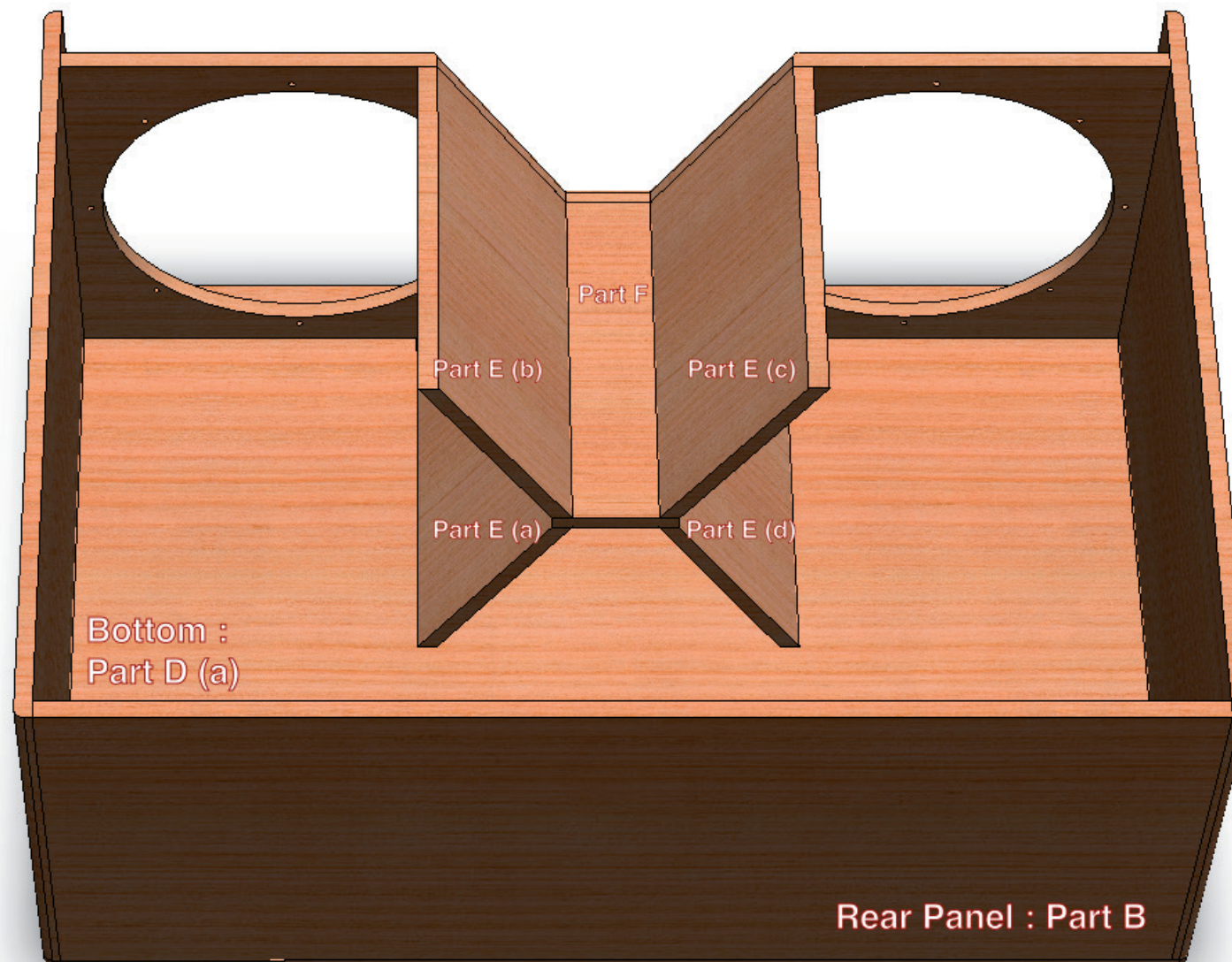
MEASUREMENTS: IMPEDANCE CURVE



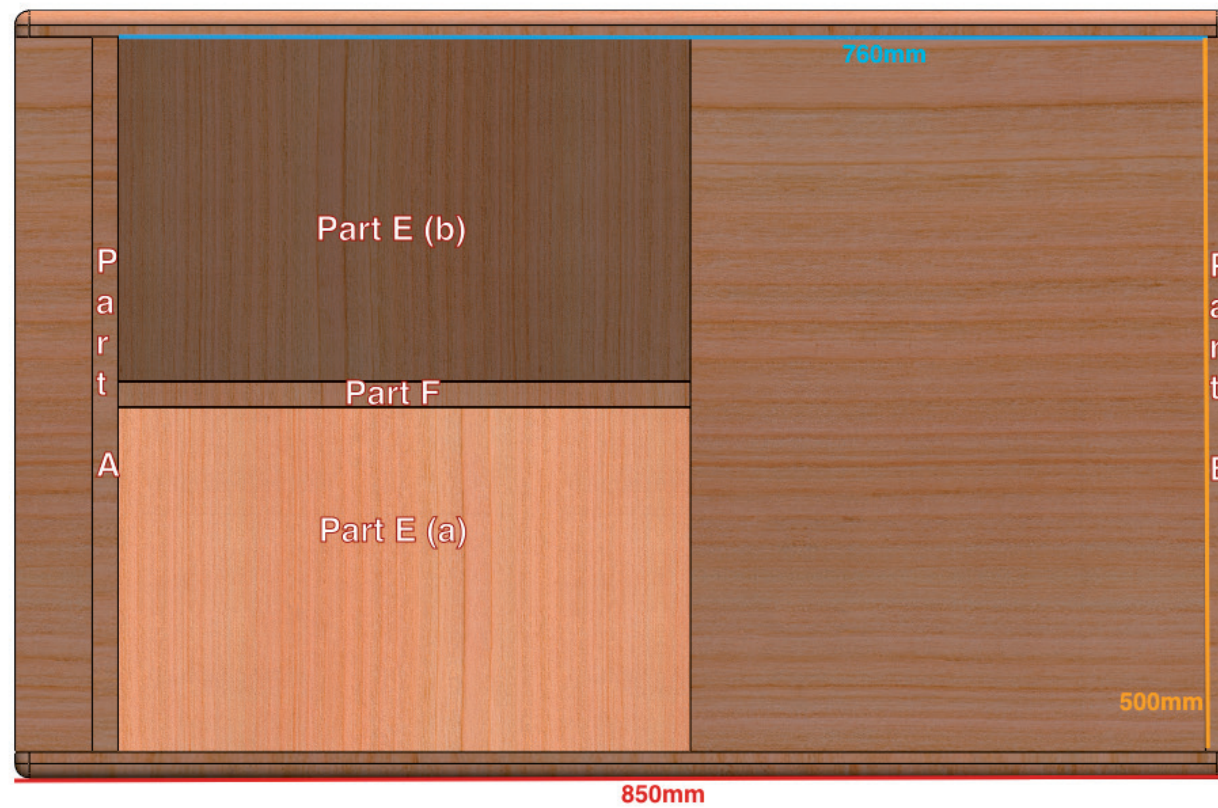
EXPLODED VIEW



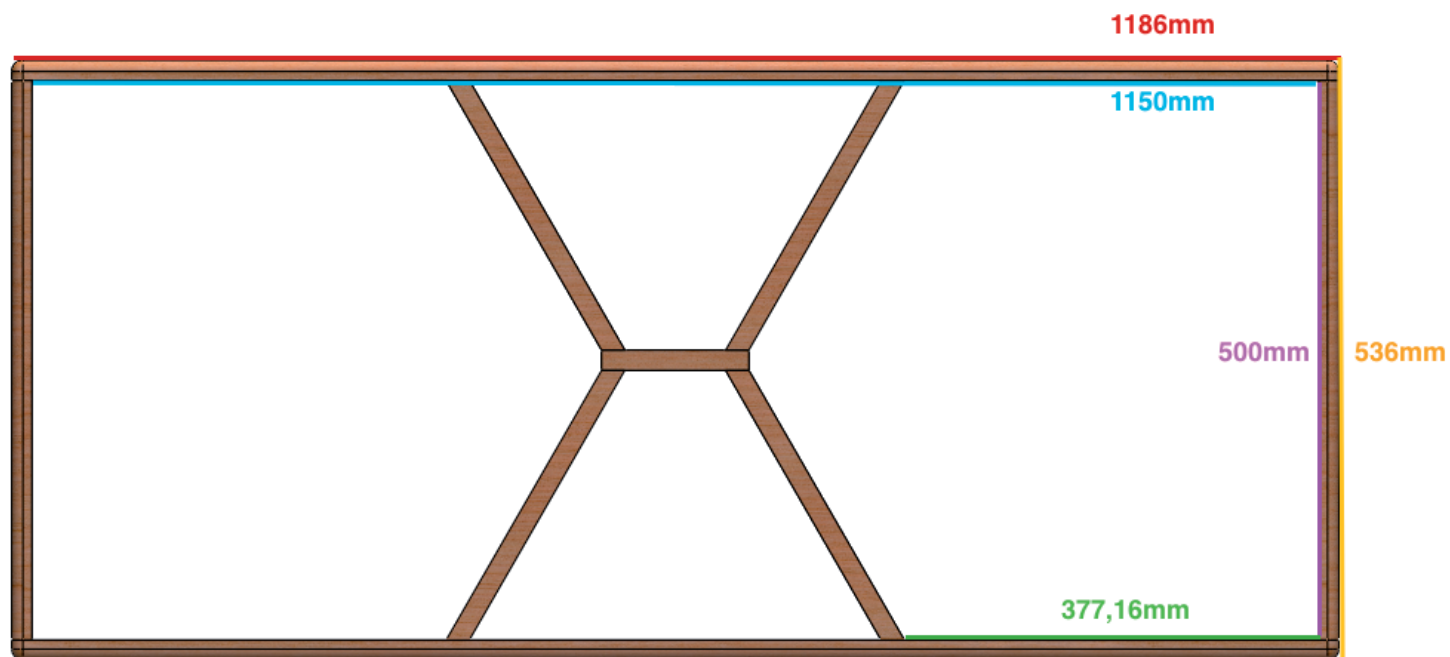
INTERNAL VIEW



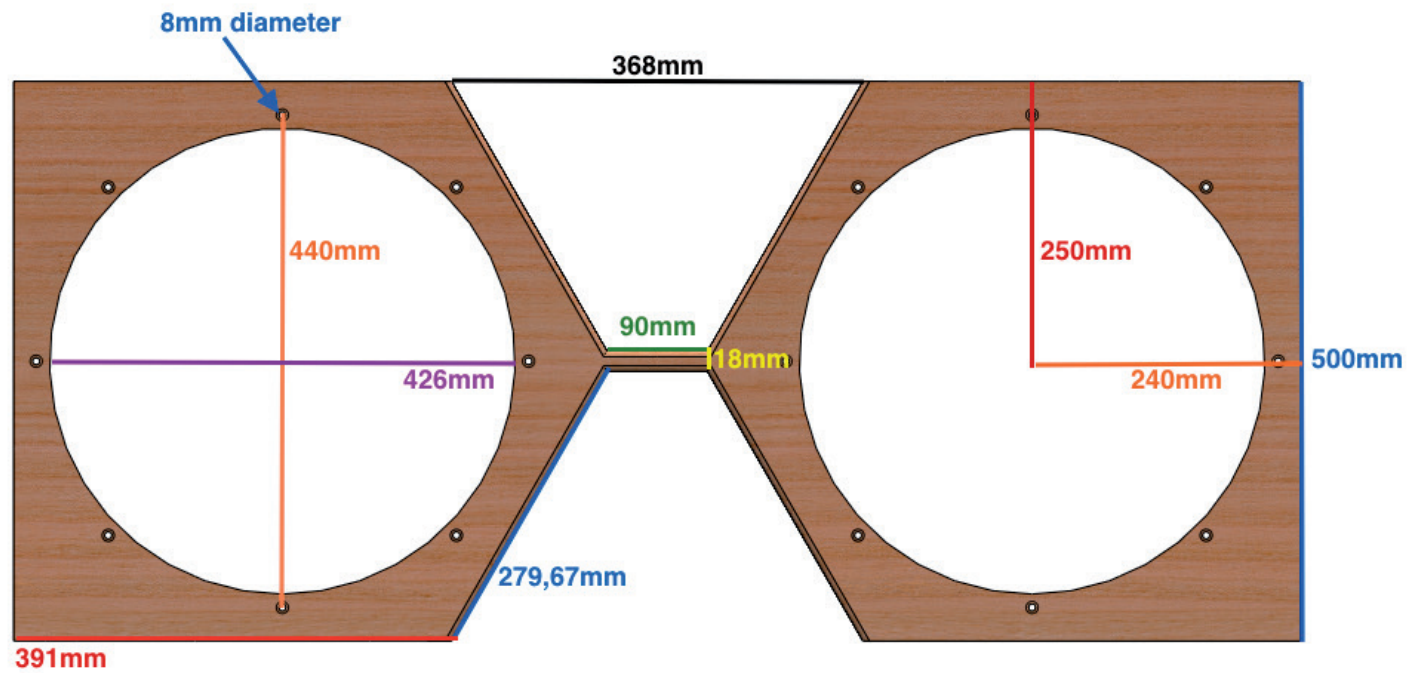
SIDE SECTION VIEW



FRONT SECTION VIEW



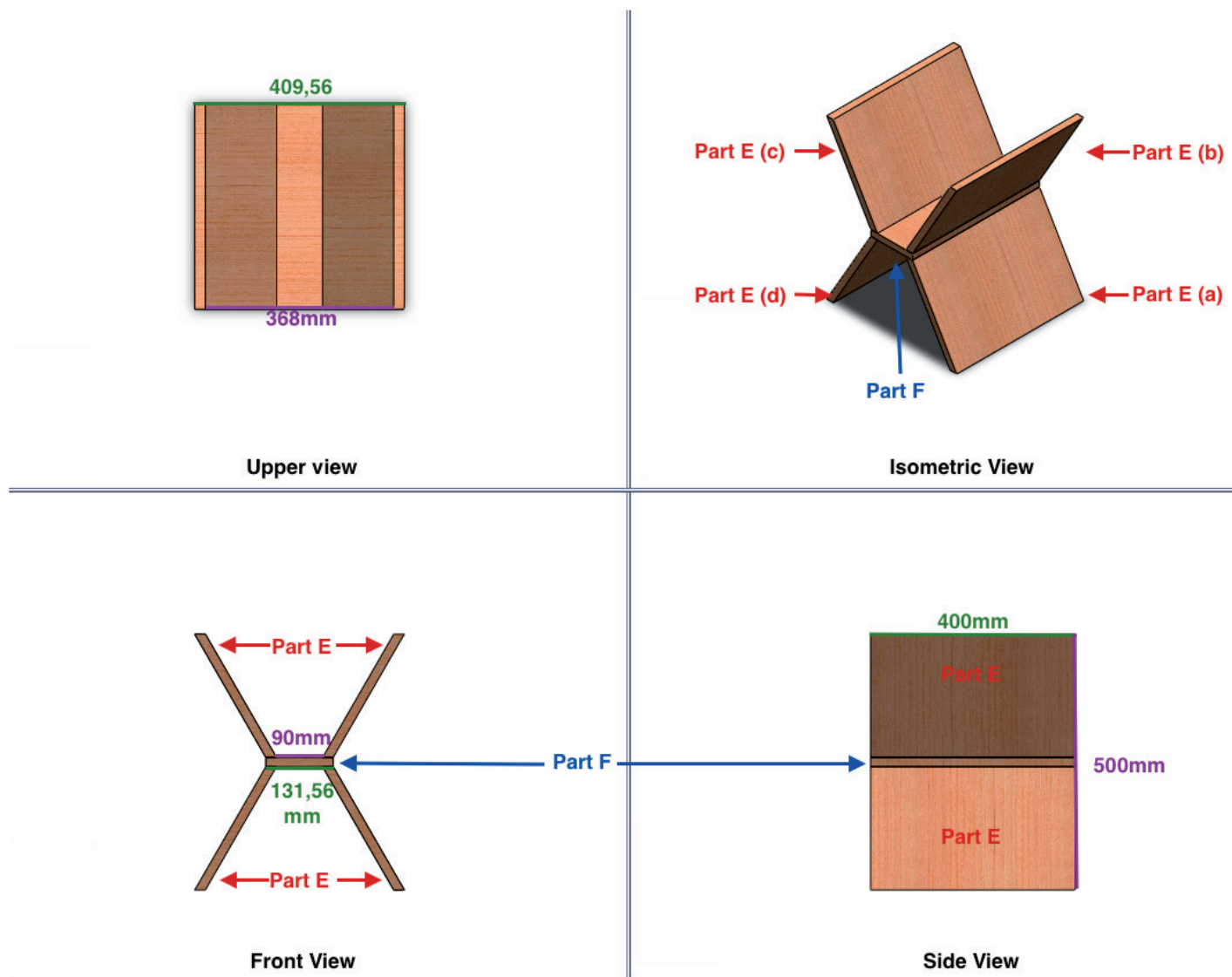
FRONT PANEL - PART A



REAR PANEL - PART B



REFLEX DUCT DETAIL (PART E AND PART F)



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