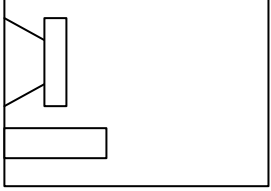
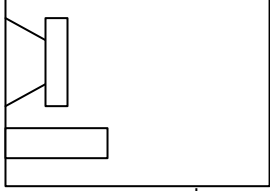
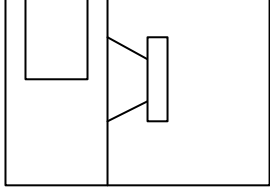
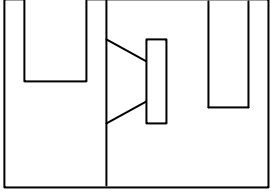
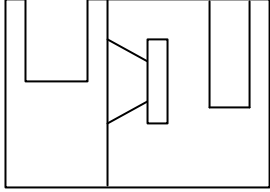


Construction plan for AUDIO SYSTEM Subwoofer (Volume includes Subwoofer and Port)

BOX	HELON 12 SPL	HELON 15 SPL	THIELE SMALL PARAMETER
PORTED (Bassreflex)	 $V = 60 \text{ l}$ $d = 10 \text{ cm}$ $l = 12 \text{ cm}$ $f = 45 \text{ Hz}$	 $V = 95 \text{ l}$ $d = 15 \text{ cm}$ $l = 32 \text{ cm}$ $f = 35 \text{ Hz}$ oder $V = 120 \text{ l}$ $d = 15 \text{ cm}$ $l = 30 \text{ cm}$ $f = 32 \text{ Hz}$	<u>HELION 15</u> $f_s = 33 \text{ Hz}$ $Q_{ts} = 0.46$ $V_{AS} = 76 \text{ L}$
ISOBARIC 5th (Einfach-ventilierter Bandpass)		 $V_1 = 60 \text{ l}$ $d = 20 \text{ cm}$ $l = 27 \text{ cm}$ $f = 60 \text{ Hz}$ $V_2 = 35 \text{ l}$	<u>HELION 12</u> $f_s = 41 \text{ Hz}$ $Q_{ts} = 0.31$ $V_{AS} = 30 \text{ L}$
ISOBARIC 7th (Doppel-ventilierter Bandpass)	 $V_1 = 25 \text{ l}$ $d_1 = 15 \text{ cm}$ $l_1 = 18 \text{ cm}$ $f_1 = 85 \text{ Hz}$ $V_2 = 50 \text{ l}$ $d_2 = 10 \text{ cm}$ $l_2 = 20 \text{ cm}$ $f_2 = 42 \text{ Hz}$	 $V_1 = 50 \text{ l}$ $d_1 = 20 \text{ cm}$ $l_1 = 12 \text{ cm}$ $f_1 = 85 \text{ Hz}$ $V_2 = 85 \text{ l}$ $d_2 = 12,5 \text{ cm}$ $l_2 = 28 \text{ cm}$ $f_2 = 35 \text{ Hz}$	
Original Boxes	HELON 12 BR HELON 12 BP	HELON 15 BR HELON 15 BP	