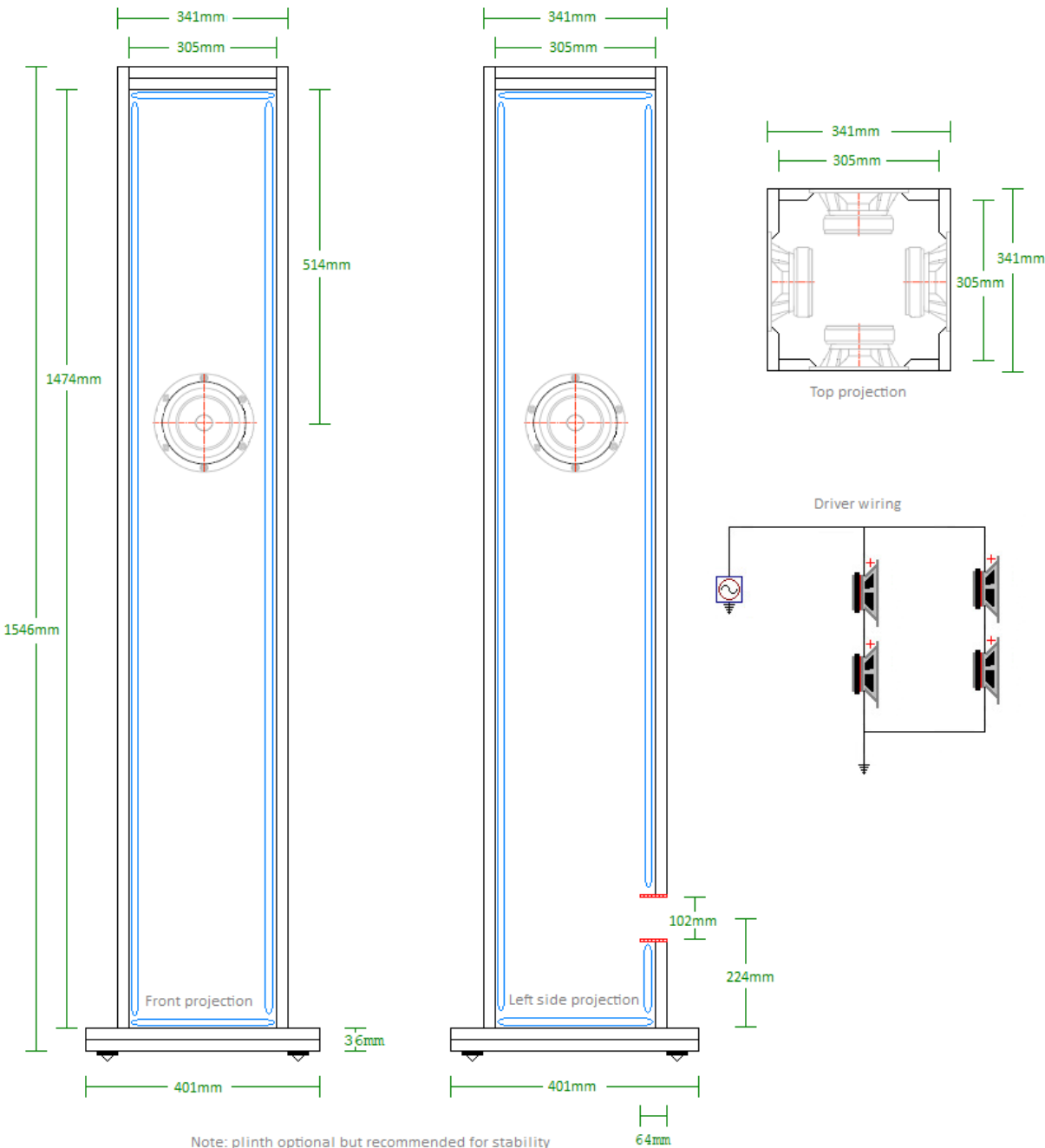


Linear Quadrupole for
Markaudio CHR120



Notes:

- 0/ Linear quadrupole. 4 x CHR120 wired in series-parallel. Single driver on each vertical face
- 1/ 18mm build material suggested. MDF acceptable, quality void-free multiply strongly recommended.
- 2/ Bracing not shown but strongly recommended. Ensure vertical plane not significantly disrupted to preserve longitudinal standing wave which forms active part of alignment
- 3/ Chamfer driver cut-out to enhance airflow
- 4/ All internal faces lagged 20mm - 25mm bonded acoustic fibreglass board, SAE-F10 rated felt, jute carpet underlay or equivalent. Avoid acoustic foam. Ensure does not block or come into contact with driver or vent cutouts
- 5/ Single duct 102mm diameter x 64mm total length on rear panel

-Design inspired by classic EPI 1000 quadratic tower speaker. All drive units reproduce full frequency range.

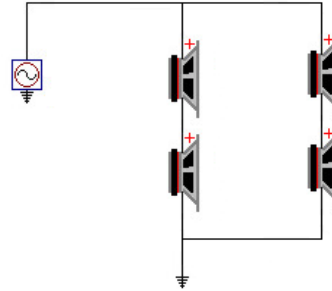
-Intended for large spaces & requires siting at least 4ft or more from room boundaries for optimum performance.

Note: This is not designed as a conventional hi-fi loudspeaker but a wideband interpretation of the classic range-topping model from EPI produced during the 1970s

Fb = 34Hz

F6 = 34Hz [nominal anechoic]

Driver wiring



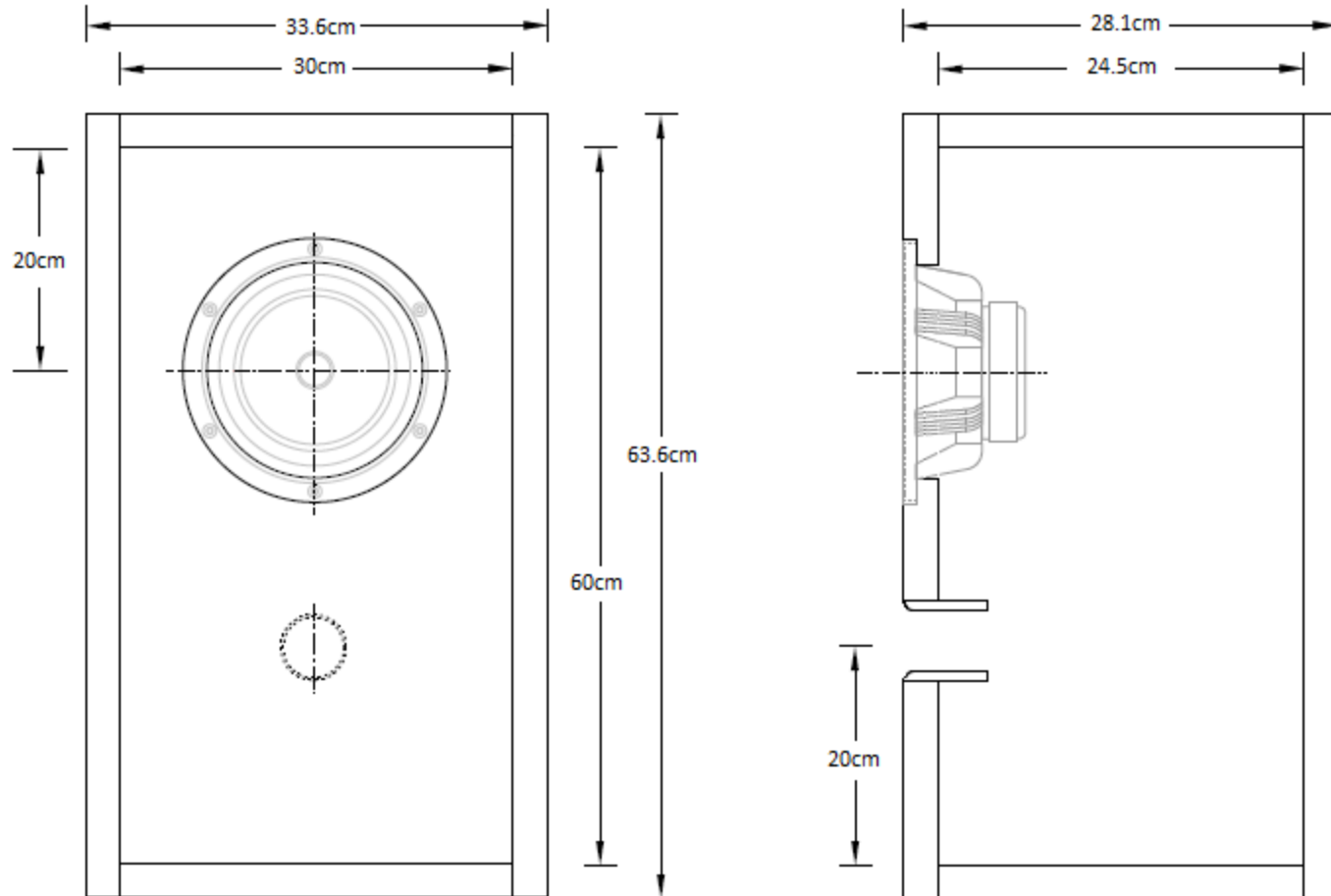
Note: plinth optional but recommended for stability

Fenlon 120

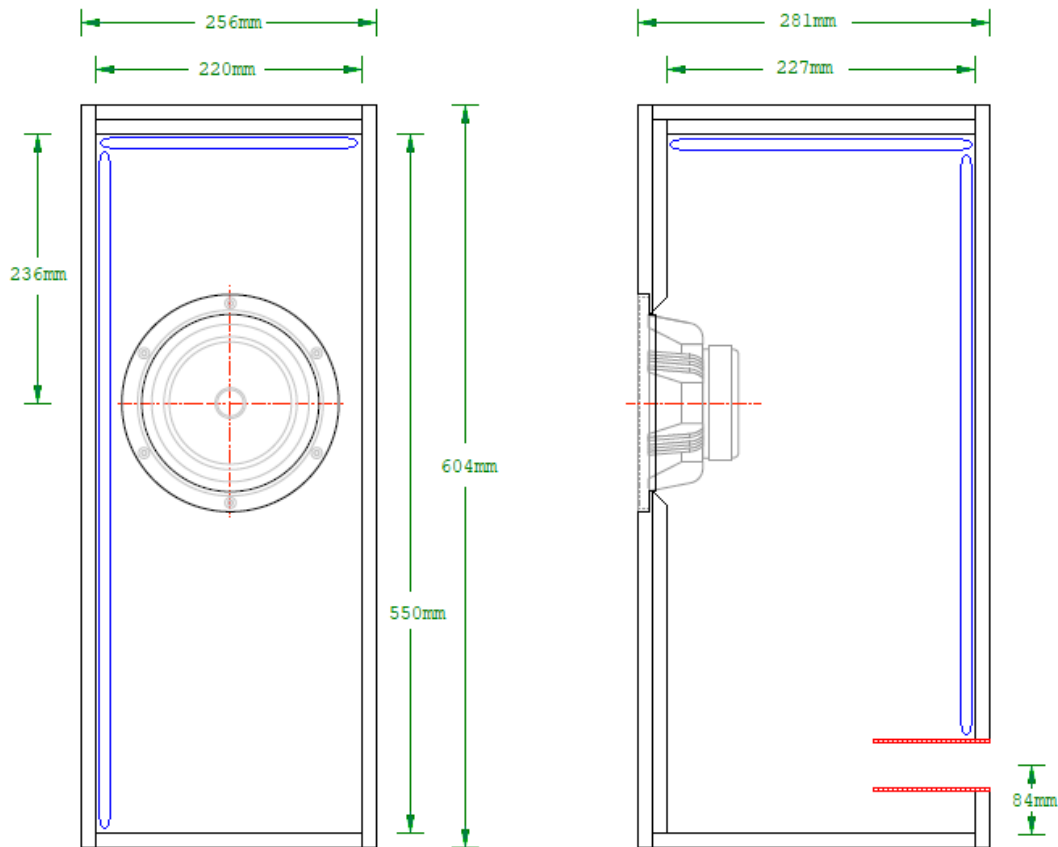


markaudio
New Audio Fidelity

- Simple vented box designed by Mark Fenlon for CHR120 driver!
- Industry norm front port!
- Projects bass forwards for interesting and captivating sound characteristic!
- Simple construction!
- Port 4.5cm wide and 4.6cm long for powerful bass performance!
- Line box apart from front panel with 2cm - 3cm thick polyester damping material



Design consultant: Dr. S. Lindgren



Vent options [diameter x length, untapered ducts]

To maintain correct tuning, do not mix vent diameter x length values

- 01/ 35mm x 54mm
- 02/ 36mm x 57mm
- 03/ 38mm x 65mm
- 04/ 40mm x 73mm
- 05/ 45mm x 96mm
- 06/ 50mm x 121mm
- 07/ 51mm x 127mm

Design by Dr. Scott Lindgren
August 2021

Moai

Compact ducted-vent standmount
for
Markaudio CHR120

Deluxe Edition

Notes:

- 0/ Front & top baffles doubled for increased rigidity
- 1/ Chamfer / relieve driver cutout
- 2/ Top, rear & one side lagged 19mm - 25mm bonded acoustic fibreglass, polyester, wool felt, or equivalent. Avoid acoustic foam

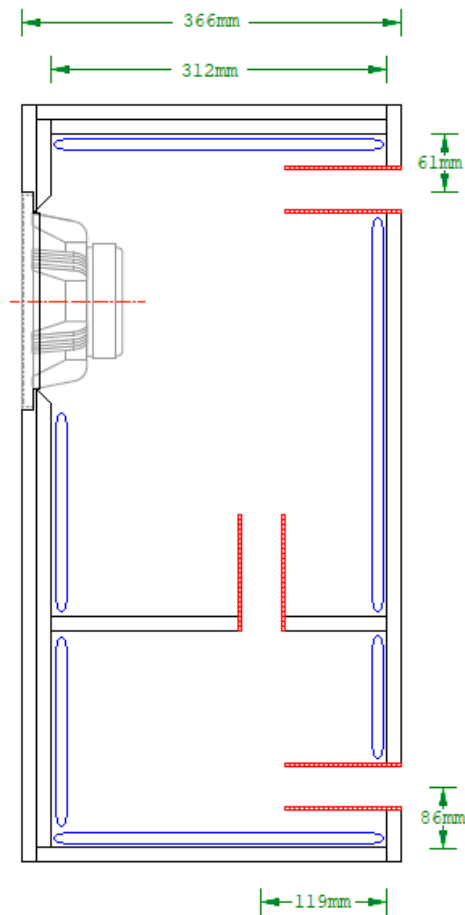
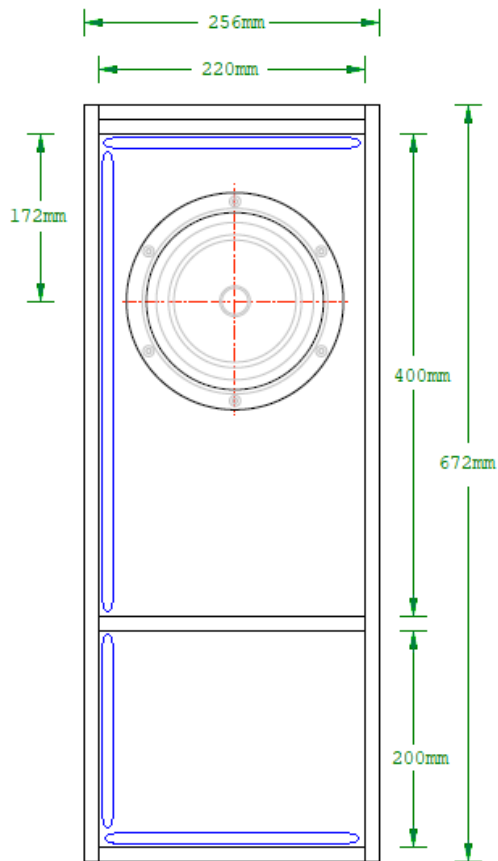
Fb = 38Hz

F6 = 42.5Hz [nominal anechoic]

F10 = 36.5Hz [nominal anechoic]

Design assumes voltage source amplifier with 1/2ohm series R
for typical wire loop, connection losses





Perdita

Traditional double-chamber reflex
for
Markaudio CHR120



Notes:

- 0/ 18mm sheet build material assumed. MDF acceptable, quality void-free multiply recommended
- 1/ Front & top baffles doubled for increased rigidity
- 2/ Bracing not shown but recommended.
- 3/ Chamfer / relieve driver cutout to reduce reflections & enhance airflow
- 4/ Top, front, rear & one side baffle lagged 19mm - 25mm bonded acoustic fiberglass, SAE-F10, jute or equivalent. Avoid acoustic foam

Design assumes voltage source amplifier with 1/2ohm series R for typical wire loop, connection losses

Fb = 34.25Hz

F6 = 31.25Hz [nominal anechoic]

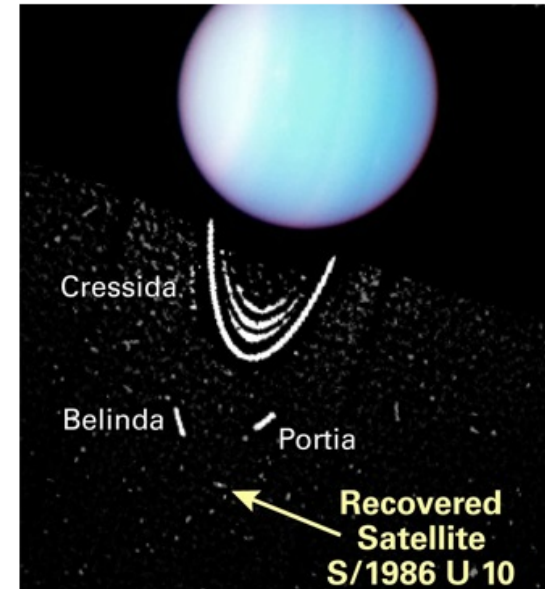
F10 = 26.5Hz [nominal anechoic]

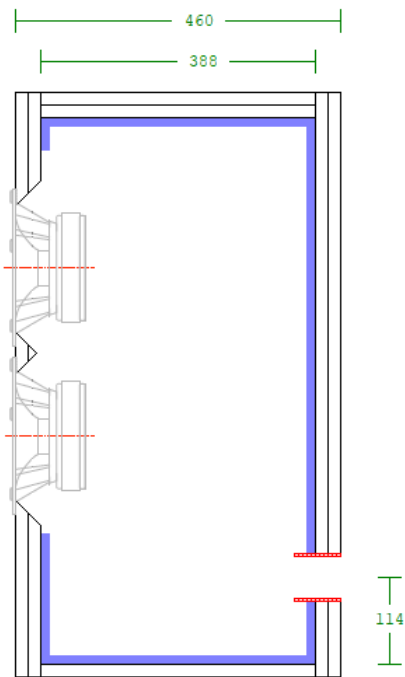
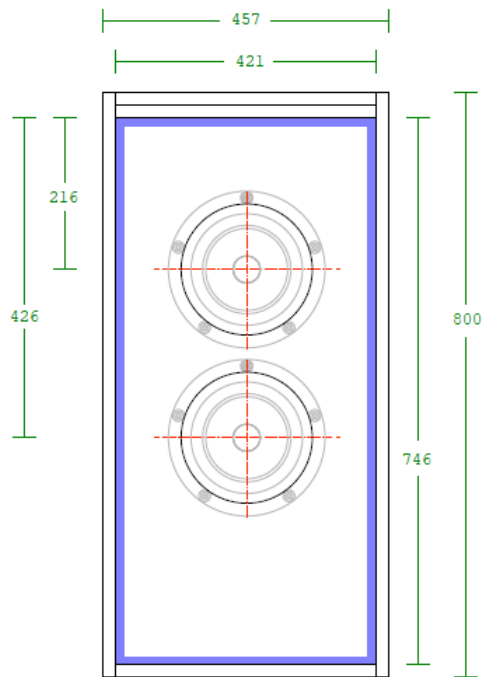
All vents identical size [untapered ducts]. Diameter x length options:

- 01/ 35mm x 99mm
- 02/ 36mm x 105mm
- 03/ 38mm x 118mm
- 04/ 40mm x 132mm

To maintain correct tuning, do not mix vent diameter x length values

Design by Dr. Scott Lindgren
July 2021





Vent options
(assumes unflared ducts)

- 1/ Single vent
60mm diameter x 47mm long
- 2/ Single vent
70mm diameter x 70mm long
- 3/ Single vent
100mm diameter x 165mm long
- 4/ Twin vent [mount side-by-side]
50mm diameter [each] x 83mm long
- 5/ Twin vent [mount side-by-side]
60mm diameter [each] x 125mm long
- 6/ Triple vent [mount side-by-side]
50mm diameter [each] x 137mm long

Cape Buffalo

Classic vented box standmount for
Twin Markaudio C.A.R120 6 1/2in wideband drive units



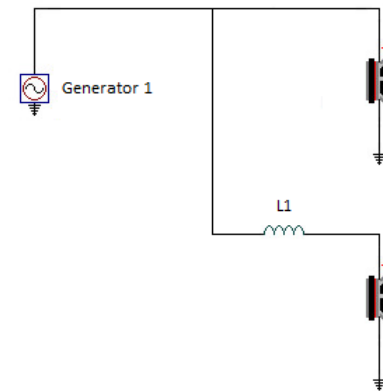
120 litre standmount

Notes:

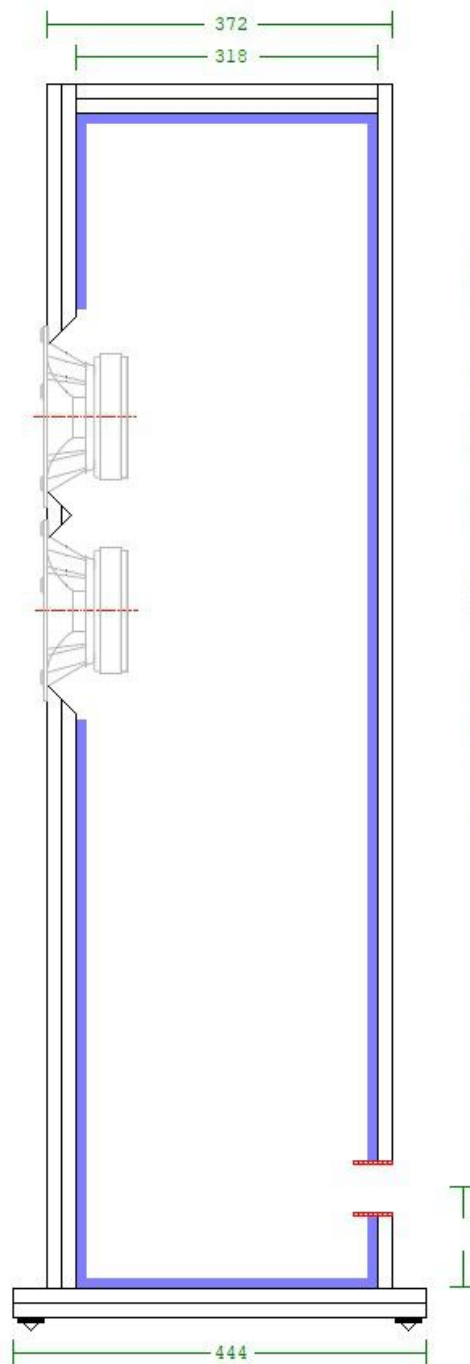
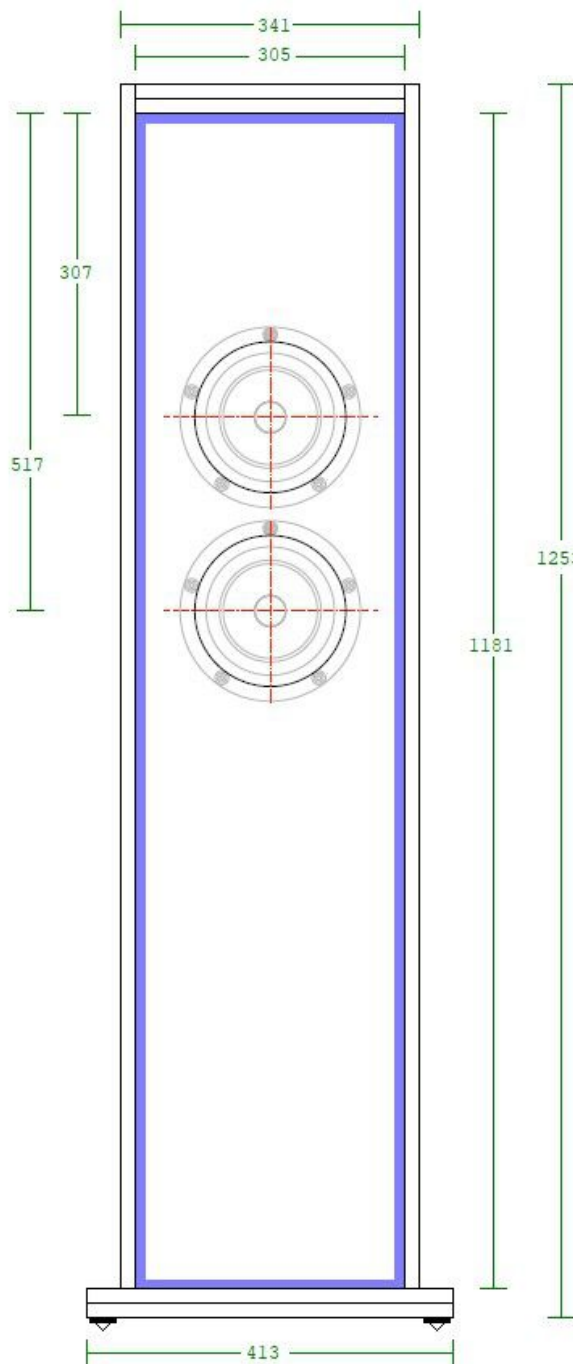
- 0/ Diagram in mm. Drawing not to scale
- 1/ 18mm sheet material assumed. MDF acceptable, quality void-free multiply (Baltic birch, apple, marine, bamboo) recommended
- 2/ Front, top & rear baffles doubled for increased stability
- 3/ Bracing not shown but recommended. See SuperPencil 12P drawing for example of preferred longitudinal bracing
- 4/ Chamfer / relieve driver cutouts to improve airflow & reduce reflections
- 5/ All internal faces lagged 15mm - 20mm acoustic fibreglass, wool felt, jute or similar. Avoid acoustic foam
- 6/ Vent[s] positioned on rear baffle
- 7/ Drivers wired in parallel for nominal 3.6ohm impedance

Design assumes voltage source amplifier & 1/2 ohm series resistance for typical wire loop, connections.

- Fb = 31Hz
F3 = 32Hz [nominal anechoic]
F6 = 26Hz [nominal anechoic]



Lower driver may be rolled off if desired with series inductor. Suggest nominal 2.7mH starting value & adjust as desired



Hirota

Mass-loaded quarter-wave for twin Markaudio C.H.R.120 6 1/2in wideband drive units

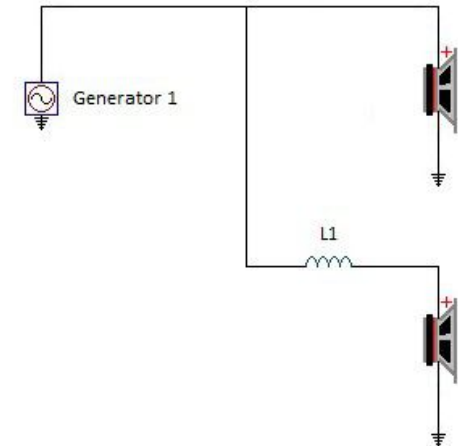
Notes:

- 0/ Diagram in mm. Drawing not to scale
- 1/ 18mm sheet material assumed. MDF acceptable, quality void-free multiply (Baltic birch, apple, marine, bamboo) recommended
- 2/ Front, top baffles doubled for increased stability
- 3/ Bracing not shown but recommended. See SuperPencil 12P drawing for example of preferred longitudinal bracing
- 4/ Chamfer / relieve driver cutouts to improve airflow & reduce reflections
- 5/ All internal faces lagged 20mm - 25mm acoustic fibreglass, wool felt, jute or similar. Avoid acoustic foam
- 6/ Vent[s] positioned on rear baffle
- 7/ Drivers wired in parallel for nominal 3.6ohm impedance

Design assumes voltage source amplifier & 1/2 ohm series resistance for typical wire loop, connections.

Vent options (unflared ducts)

- 1/ Single vent 50mm diameter x 18mm long
- 2/ Single vent 75mm diameter x 57mm long
- 3/ Single vent 100mm diameter x 121mm long

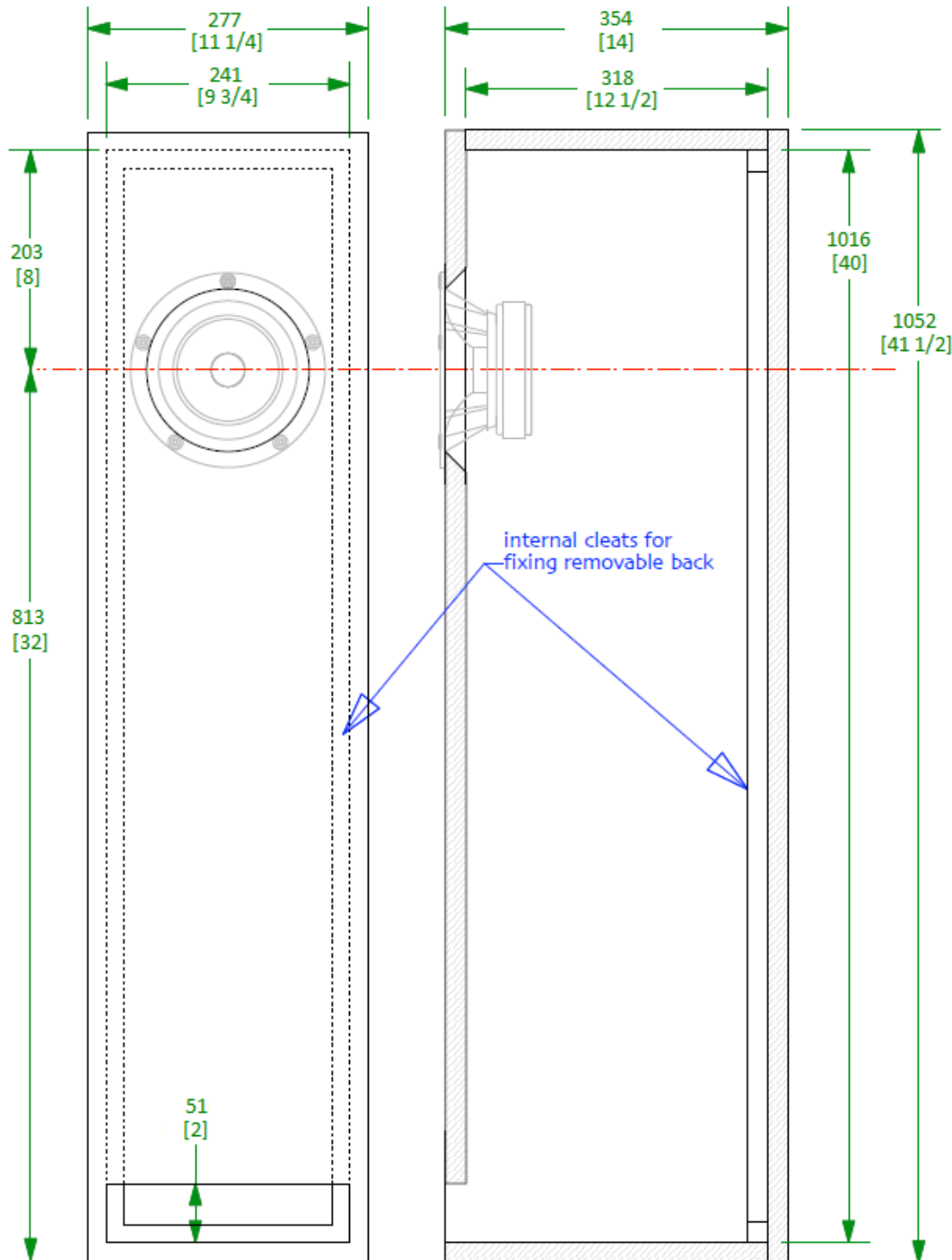


Lower driver may be rolled off if desired with series inductor. Suggest nominal 2.7mH starting value & adjust as desired



Pensil 120 | CHR120

designed by S Lindgren drawn by dld
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written approval from Markaudio



Notes:

- 0/ drawing uses 18mm or 3/4in material. 19-20mm OK. Quality multi-ply recommended
- 1/ stuff uniformly with 0.85lbs / ft³ of polyfill. Keep from direct proximity with driver
- 2/ cleats on back to allow for removable back panel, useful for adjusting the stuffing
- 3/ bracing is optional. For bracing ideas please see the bracing sheet in the superPensil12P plans
- 4/ dont forget to open up the back of the driver cut-out