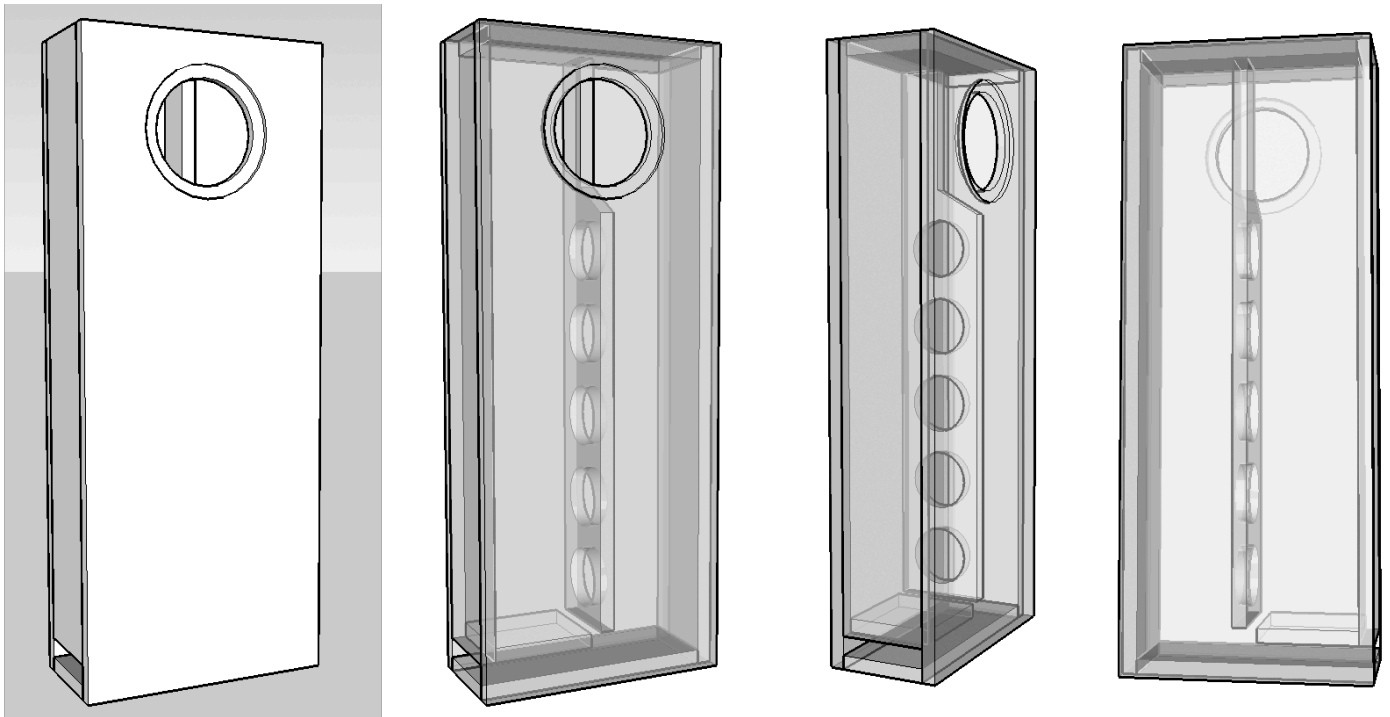




Poplar ML-TL for Alpair 10.3/10p

05-february-2018



A compact Mass Loaded Transmission Line for the Mark Audio Alpair 10.3/10p 5 1/4" drivers. Intended for placement against or near wall. Box is overdamped to suit this placement. In-room extension should be into the low 30s.

Notes:

- 1/ A optional base may be desired to raise the driver closer to seated ear level
- 2/ Vents should be mirror imaged (alternate vents and vent placement provided)
- 3/ Offsetting drivers (not shown) in mirror imaged pair will spread diffraction effects and give more versatility in room positioning Internal braces change to accommodate move of the driver. Main driver brace is centred on driver
- 4/ Chamfers or roundover suggested for at least all front edges – as large as feasible

Drawings/Contents (provisional)

io/ Intro

Visualization – detail description

Poplar Plan 18mm
Suggested Cut Plan

Damping diagram

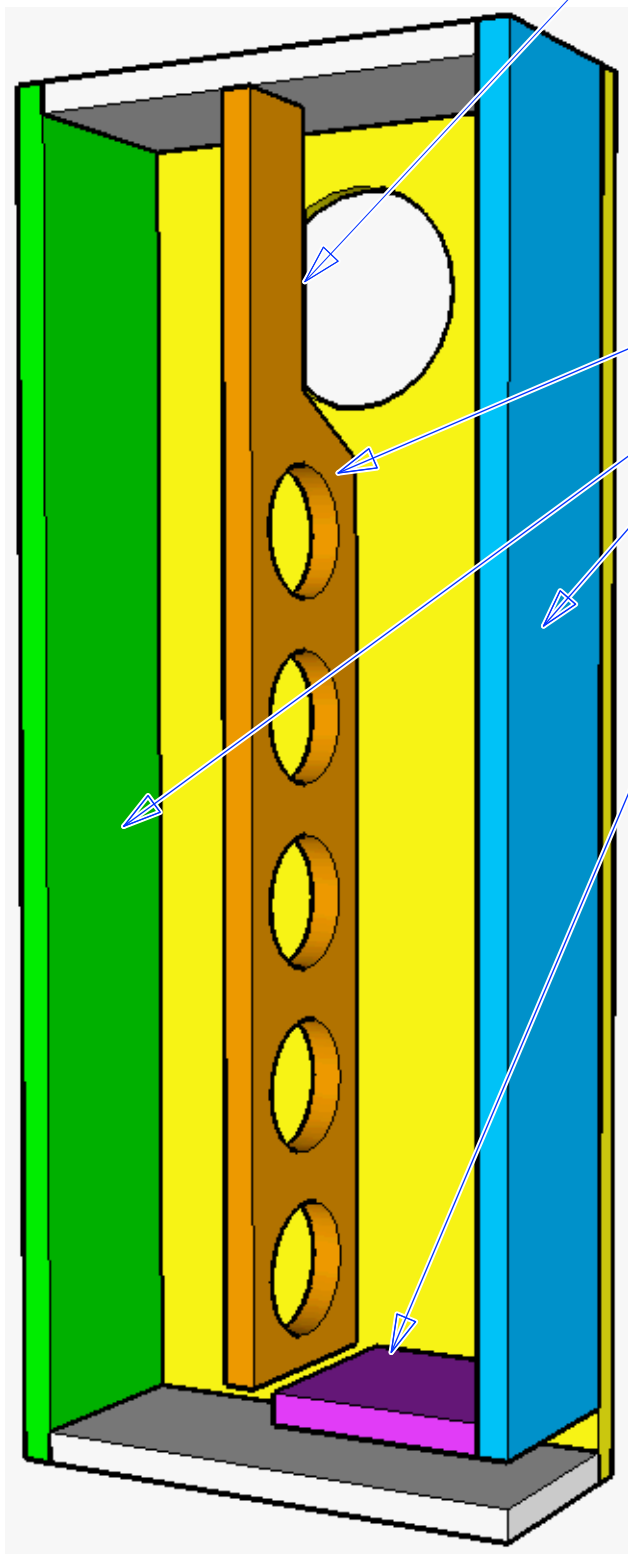
Alpair 10x dimensions

please email <david@planet10-hifi.com> with corrections & suggestions to improve this document



this depth dimension is best determined with a test fit. The brace stiffens the baffle (weakest panel in the box) by creating an ibeam (baffle-hole brace-back) with the back (and top/bottom). Driver reactive energy is shared is dissipated across 5 panels meaning less energy/area to excite potential panel resonances.

You want the driver magnet to be firmly braced against the holey brace. Tight but not so tight as to stress the driver basket. If needed shim with something stiff (ie shim, veneer piece).



holey-brace (orange). Braces baffle-back, and top together. Braces driver to the back. The brace should firmly touch the magnet but not so much as to stress the basket. Brace does not extend the bottom so as to not impinge of the vent entrance

Full side (green) and vent side (blue) panels are different lengths.

vent shelf forms the mass-loading vent. Box is overdamped for placement near wall

vent can also exit out the bottom (as long as speaker is raised off the floor and is not occluded by the base)

as well as slot vent, alternatively a cylindrical vent can be used out the side, bottom, or front. Since placed close to the wall rear firing vent is not a good idea

internal layout

A shallow box with a near-centre multi-purpose brace, and the side detail of the mass-loading vent.

Creates a stiff box.

An optional base can be added to raise the driver to sitting ear level. Can be a separate assembly or built off of an extension of the back panel. Speaker will be front heavy so any base should extend beyond the front baffle.

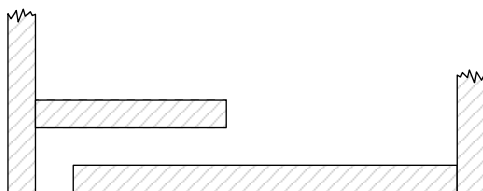
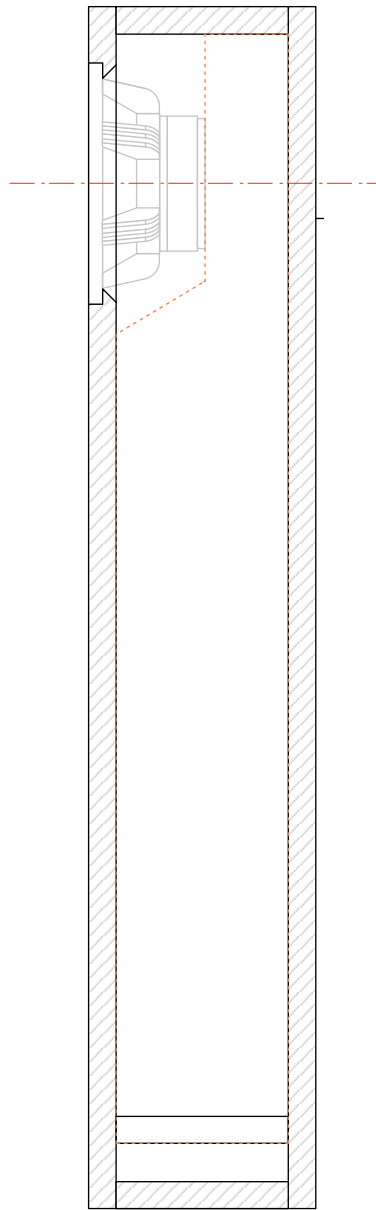
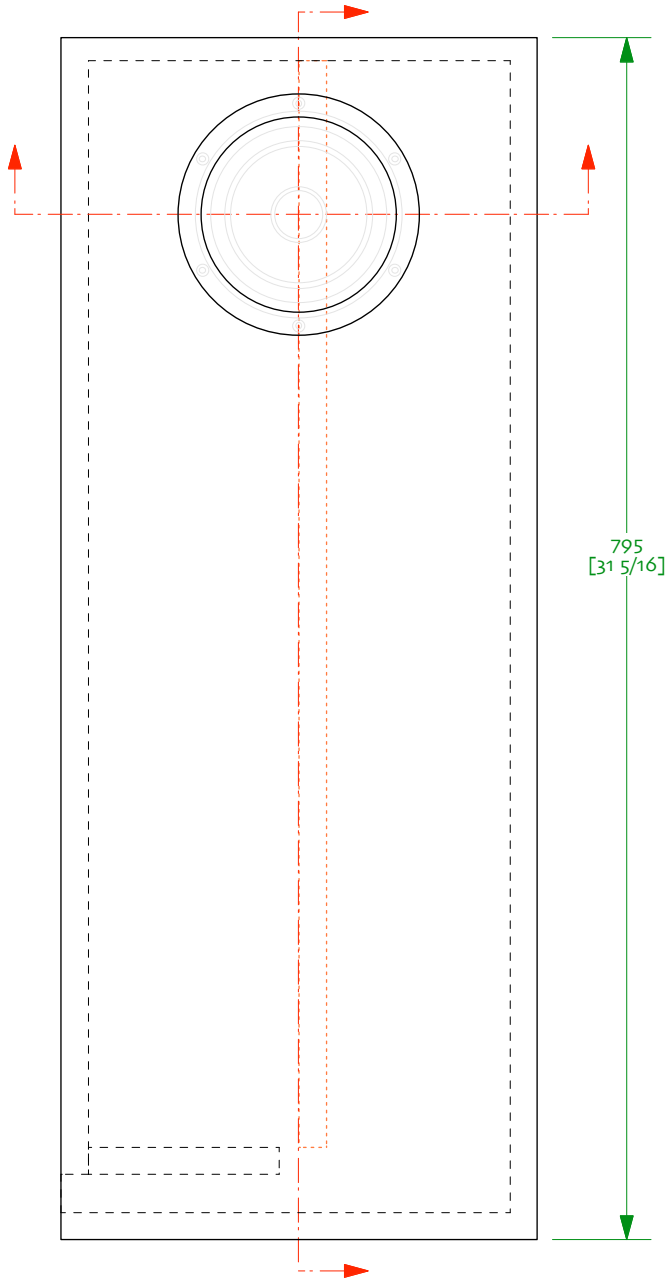
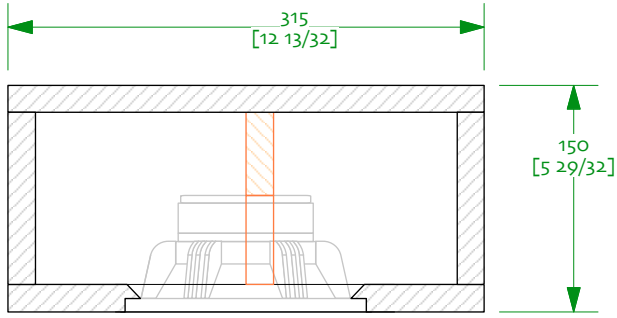
If wall mounted, some resilient damping layer suggested between back & wall.

Wire can exit from back or bottom.

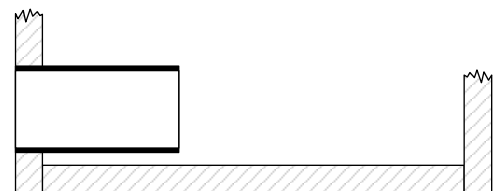
Vent can be configured so as to vent out the bottom.



Poplar "Wall" ML-TL ov82
Alpair 10p/10.3 | 18mm exyents
designed by S Lindgren | drawn by dld
27-february-2018
© 2017-18 Woden Design



detail of alternate bottom exit vent



detail of alternate cylindrical vent
can exit out side, bottom, or front