

Advanced Ported Reflex Box Plan

Markaudio's Alpair 10 Advanced Box plan is designed for an more efficient use of the internal pressure waves created by the driver. The rear sloping back helps to direct the waves down towards the port. These waves will expand, creating a slightly lower resonance frequency. This design also helps to further reduce reflected waves hitting the back of the driver cone. Also, the port can be larger to take advantage of the extra space at the base of the box. Construction is still relatively easy, remaining suitable for audio builders with limited construction experience and those enthusiasts who enjoy creating a higher performance speaker system. Briefly, this plan will make a box with 11.95 litres internal volume suitable for use with our Alpair 10 full range drivers units. We recommend the following:

Construction

Make the panels using 20-mm MDF or Marine Ply board. Thicker material can be used if desired. Jointing methods and joint positions are down to personal choice but we do recommend using a strong PVA glue and jigs or straps to tightly pull the joints together to prevent air leaks.

Ports

We've suggested a large port size since it can benefit from the larger space at the bass of the box. But other sizes can be used to suit personal listening preferences. PVC drain and waste pipes often work well or pre-made ports can be bought from various audio accessory outlets. The port tuning frequency is 40Hz. You can vary the length and diameter to create alternate frequencies.

Sound Proofing

We recommend lining the internal walls of the box with 25-mm (1") of sound proofing foam. This material is available from many audio accessory outlets or sound proofing merchants. We don't recommend using a loose material which could impact of the rear of the driver cone, or block the free air between the driver and the port.

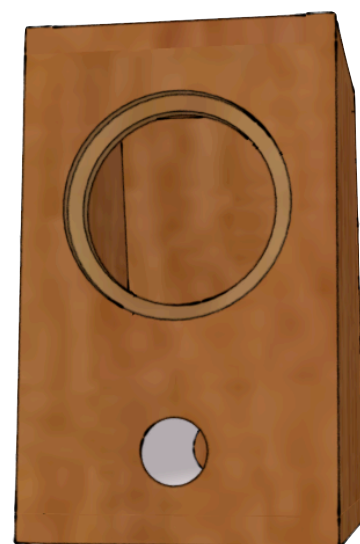
Fitting Out

Carefully install the driver. **DON'T TOUCH THE CONE.** It's thin material is easily damaged if pressed. Use some sealant or buy our custom rubber seal to fit behind the driver frame. Use good binding posts (Markaudio makes sets of gold plated posts – see web store page) and decent wiring. Soldering the electrical connections is strongly recommended (see Markaudio's [soldering page](#)).

Finishes

MDF or Marine Ply is great for painting, applying PVC or wood veneers, just about anything you like.

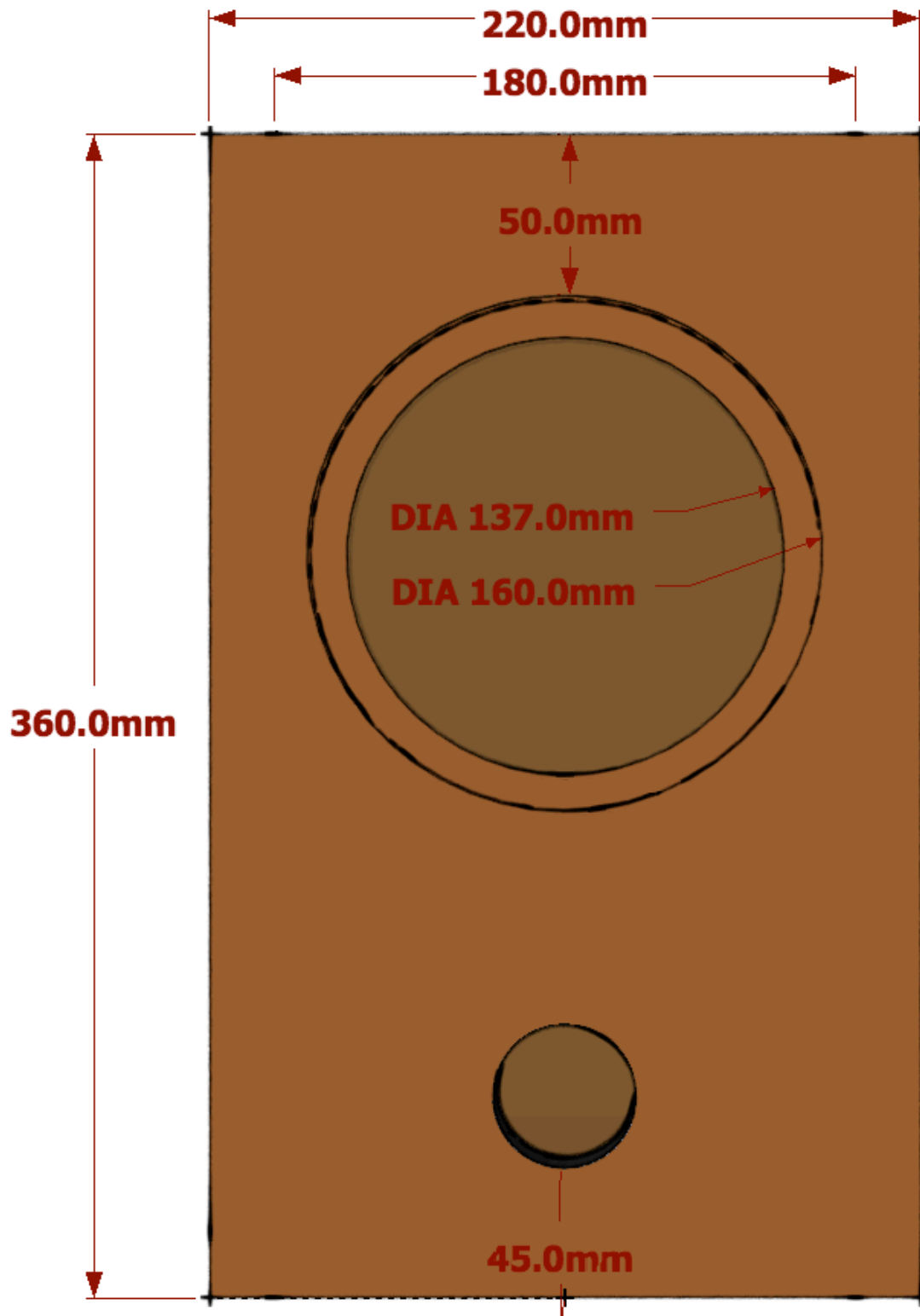
Have fun and enjoy the music:



ALPAIR 10



Simple Ported Reflex Box Plan



ALPAIR 10



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