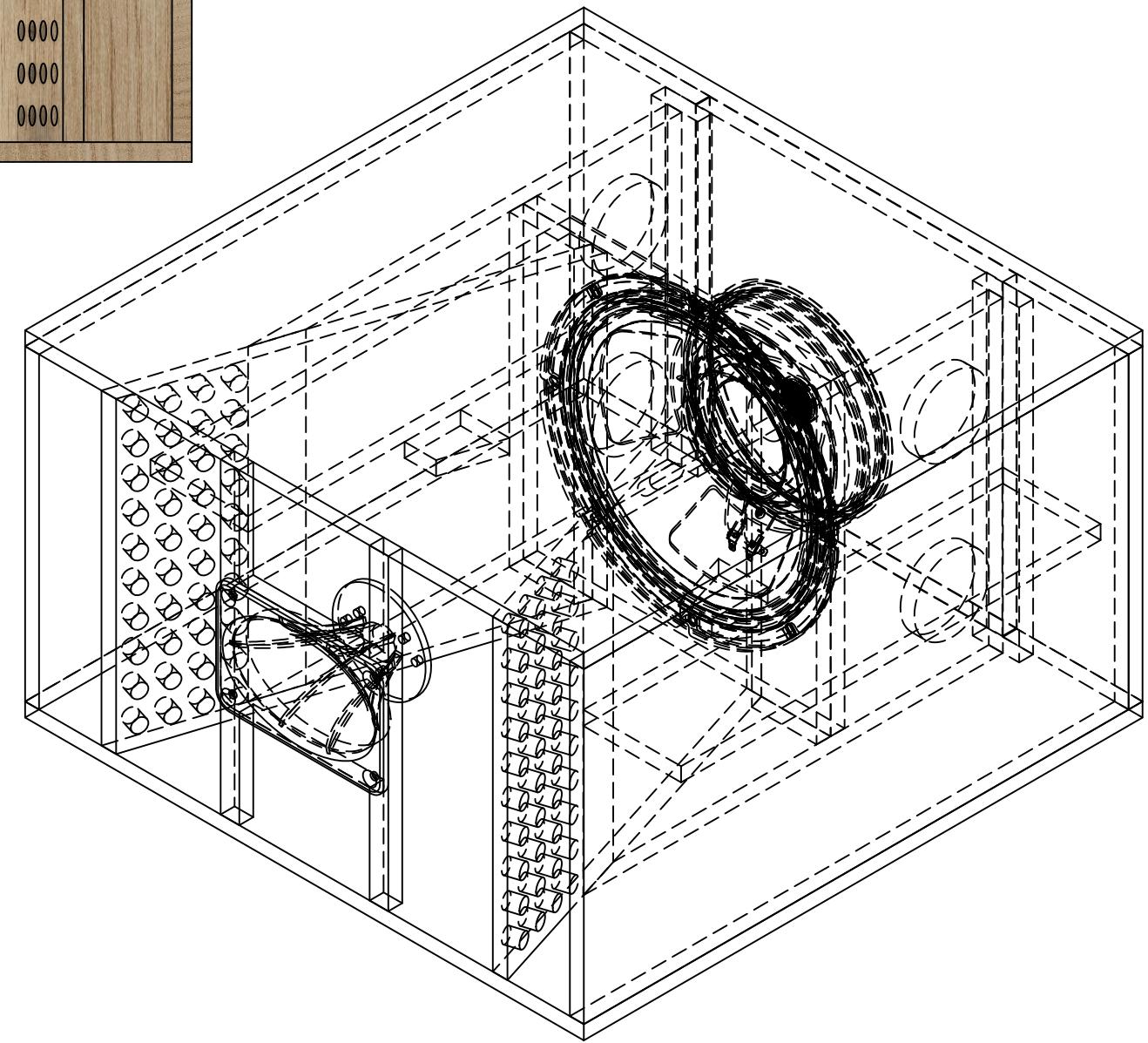
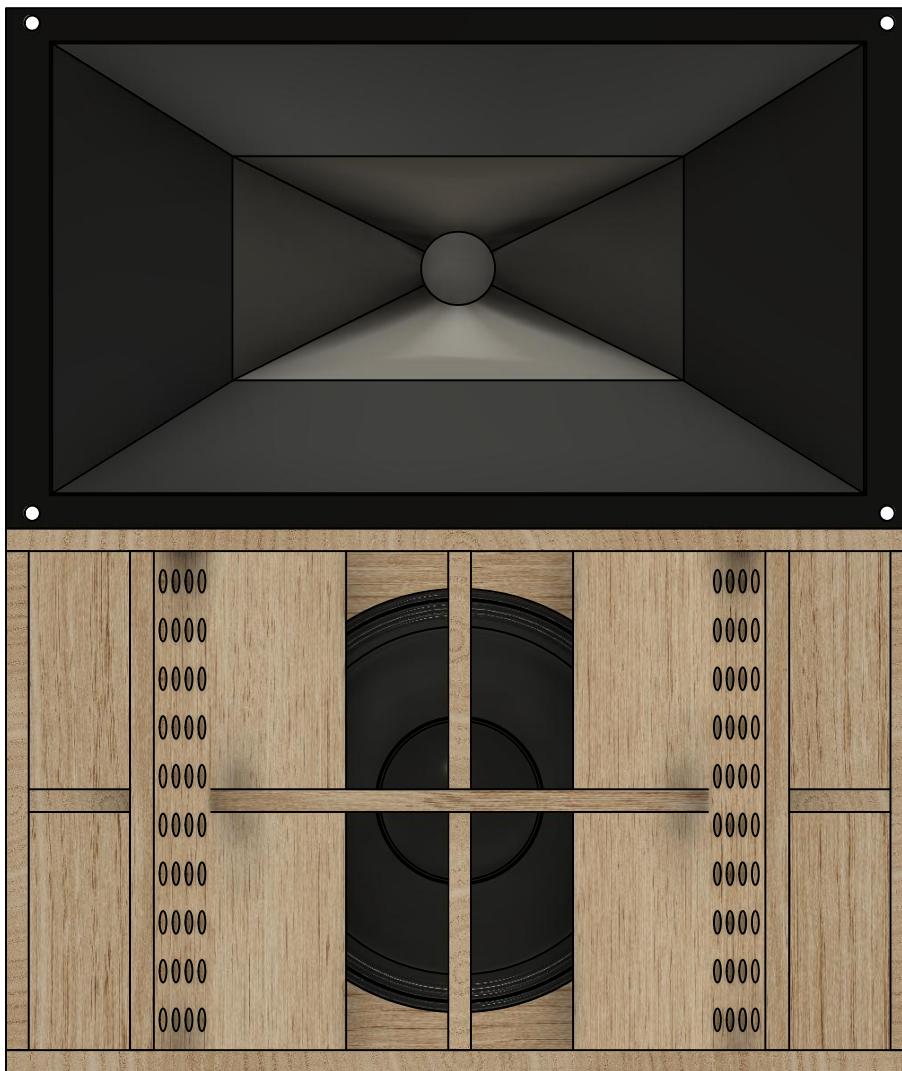


PARAFLEX תופ TOP

Author: Clément Noel
With the help and insight of Matthew
Morgan J, Patrick Sander, and HOQS

<https://www.facebook.com/groups/bassaz/>



A note on throat slot width

There are 2 throat slot width options for the cabinet, 110mm and 150mm. For simplicity's sake only the 150mm version is represented in this plan. The 150mm wide throat slot is what we recommend for most situations now but if you still prefer to use the smaller slot it is easy enough to accomplish.. A throat width modification involves changing the slot dimensions while adjusting the angle of the flare panels accordingly along with adjusting the angle at the end of the internal LF ducts. All other dimensions stay the same.

The smaller Throat Slot such as in the range of 80mm to 110mm sacrifices some upper extension for a bit of increased gain in the midrange octave between 400hz to 800hz..... This might be seen as useful in a situation where you plan to cross over to your HF as low as 900hz and or plan to array many of these cabinets and wish to have the additional midrange gain for the sake of compensating for changes in response that occur in a large array scenario...

The maximum recommended crossover point for the 110mm wide Throat Slot is 1200hz.
The maximum recommended crossover point for the 150mm wide Throat Slot is 1500hz.
The minimum High-Pass filter point is around 75hz BW24 for all configurations ("BW24"= 4th order slope Butterworth filter).

Which Throat Slot you choose should be a factor in determining your HF solution choice, or vice versa based on the crossover point requirements. In other words make sure that your compression driver & horn or waveguide are rated to safely support the frequency at which you are crossing over from your 12" (or 10") woofer to your HF section ..

Note that regardless of the Throat Slot width our Paraflex 1x12 top cabinet's horizontal pattern begins to narrow above 1200hz At 1200hz & below the cabinet's horizontal coverage is approximately 80 to 90 degrees total (or in other words 40 to 45 degrees each way off-axis from center)

Recommended Drivers

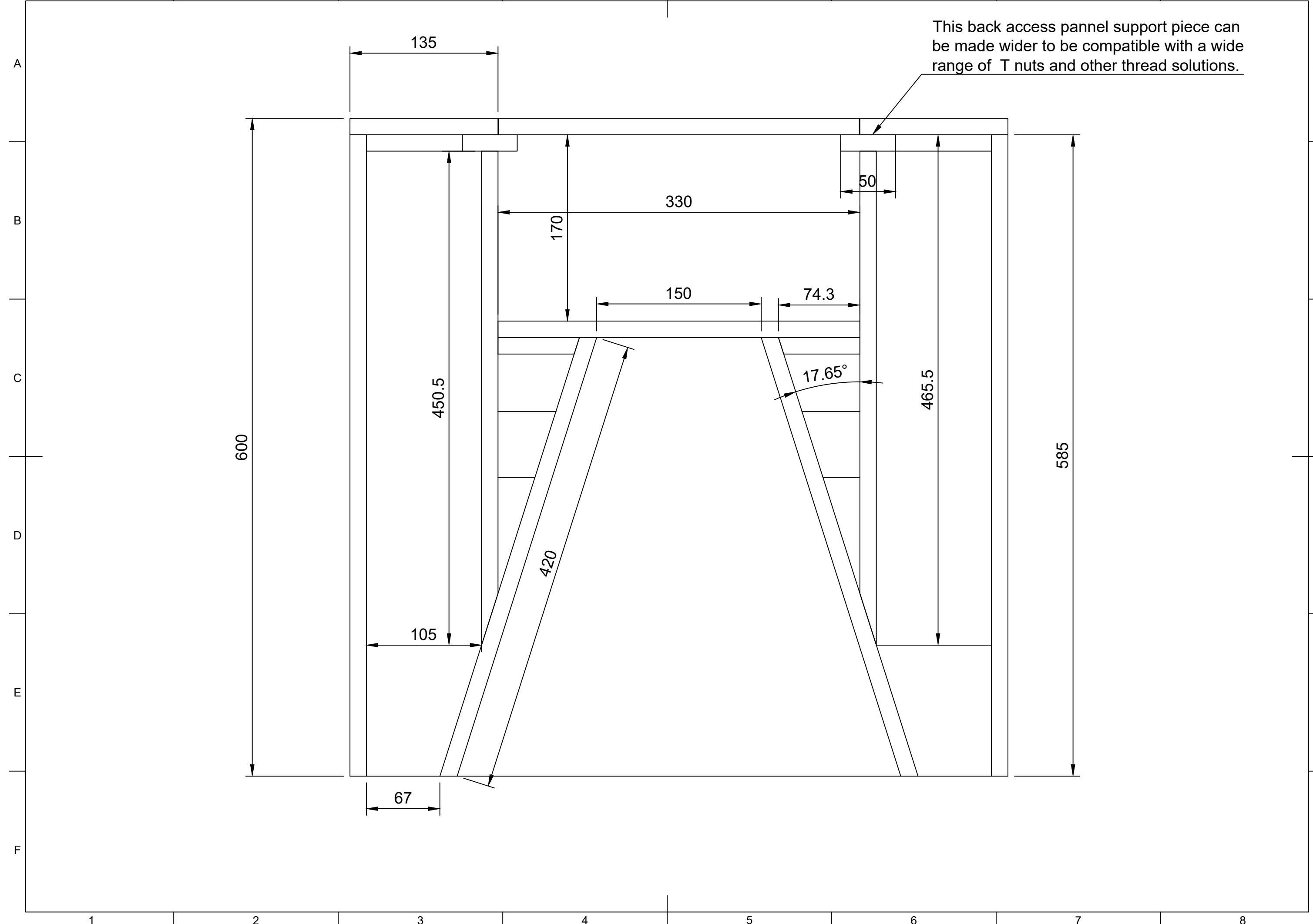
Listed below are many 12" drivers which can be used with the Paraflex 1x12 or 2x12 PA top cabinets ... The "Performance" category includes drivers for general usage including the arraying of many multiples (note that dedicated kickbins are not required, especially when multiples of these tops are being used together)

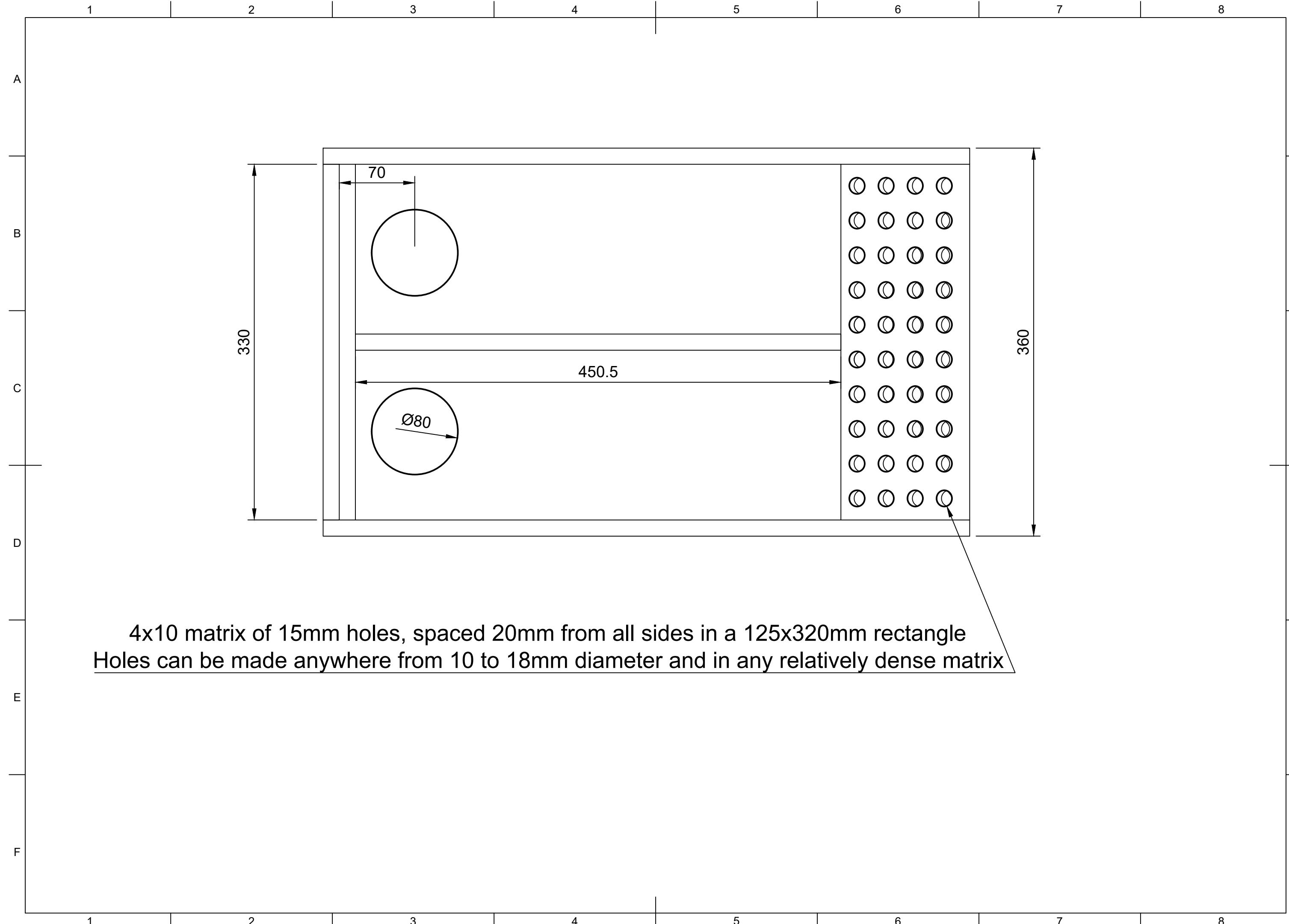
The "Special Application" category includes drivers with a bit less midrange sensitivity, generally higher power handling, and in many cases very strong motors, which makes them suited for situations where the Paraflex top is going to be employed as a single (not arrayed) and the system's subwoofer will be handing off directly to our PA top without anything in between (meaning no kickbins in the system) and will be crossed over to the top as low as 80hz -ish

In other words "Special Application" drivers are used in situations where the Paraflex top will be used by itself and it's bottom-end will be relied upon heavily while tonal balance is preferred without calling for processing ..

Performance Drivers	Performance Drivers	Special Application Drivers
18Sound 12ND930	B&C 12MH32	B&C 12NBX100
18Sound 12ND830	B&C 12NDL76 (4 and 8 ohm)	B&C 12CL76-4
18Sound 12ND1000	B&C 12FW76 (4 and 8 ohm)	LaVoce WAN124.01
18Sound 12ND610	Beyma 12P80ND/n	Beyma 12LX60V2
Faital Pro 12FH500	Beyma 12P80ND/V2	Eminence LA12850
Faital Pro 12FH520	Beyma 12P80FE/V2	RCF LF12X401
Faital Pro 12FH510	Eminence Kappalite 3012HO	18Sound 12NLW9300
RCF MB12N405	Ciare 12NDH-3	18sound 12LW1400
RCF MB12N351	P-Audio FL-12MB	
RCF L12P110K	PRV 12MR2000-NDY	Budget Drivers
Lavoce WAN123.00	DAS 12B	Beyma 12MI100-8
Lavoce WAF123.02	Snake HPX2120 (Brazil)	Oberton 12B450
	SB Acoustics Rosso 12MW300 (AU/NZ)	SELENIUM 12MB3P (130Hz+)
		Dayton PA-310
		Eminence Kappa 12a
		Peavey 1208-8 sps BWX (130Hz+)
		Peavey 1208-4 sps BWX (130Hz+)
		Eminence Kappa Pro 12a

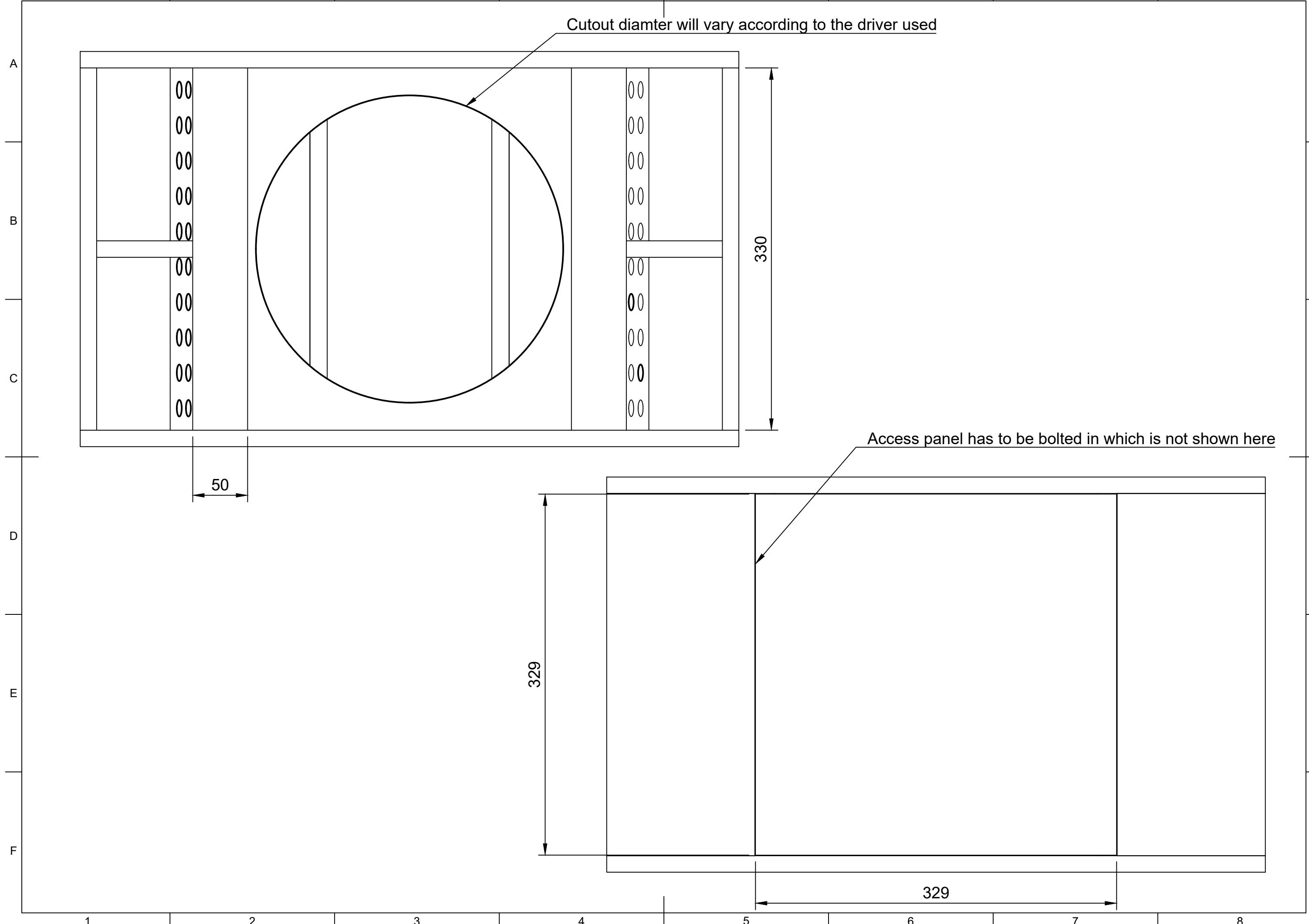
1 2 3 4 5 6 7 8





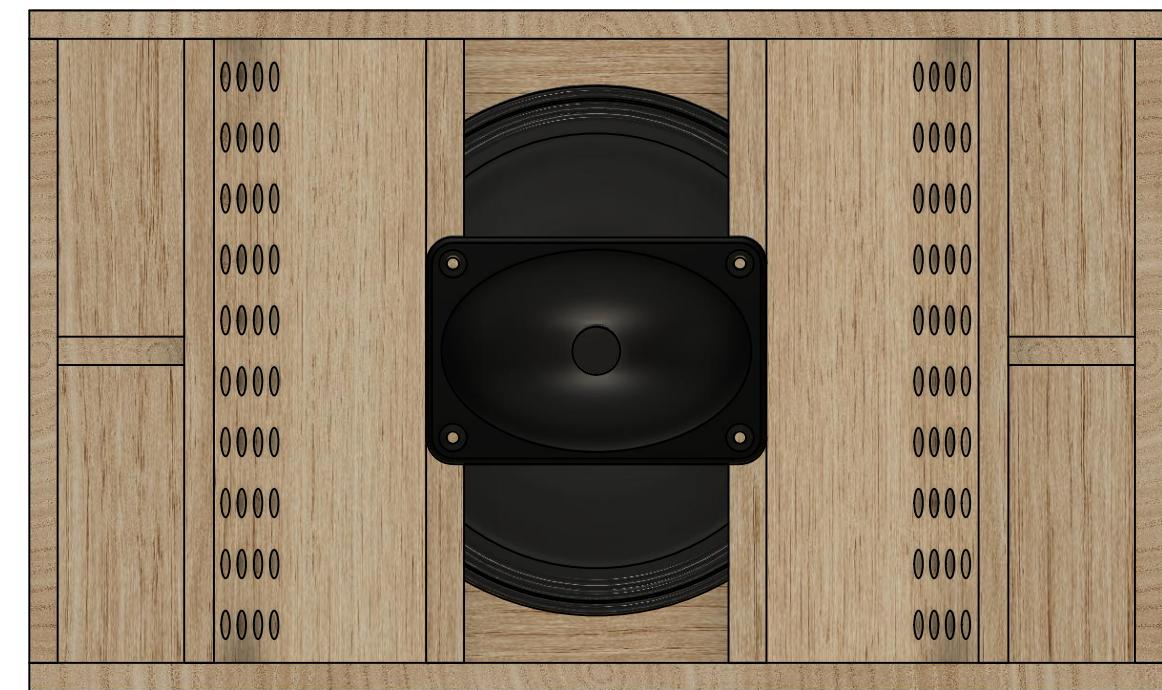
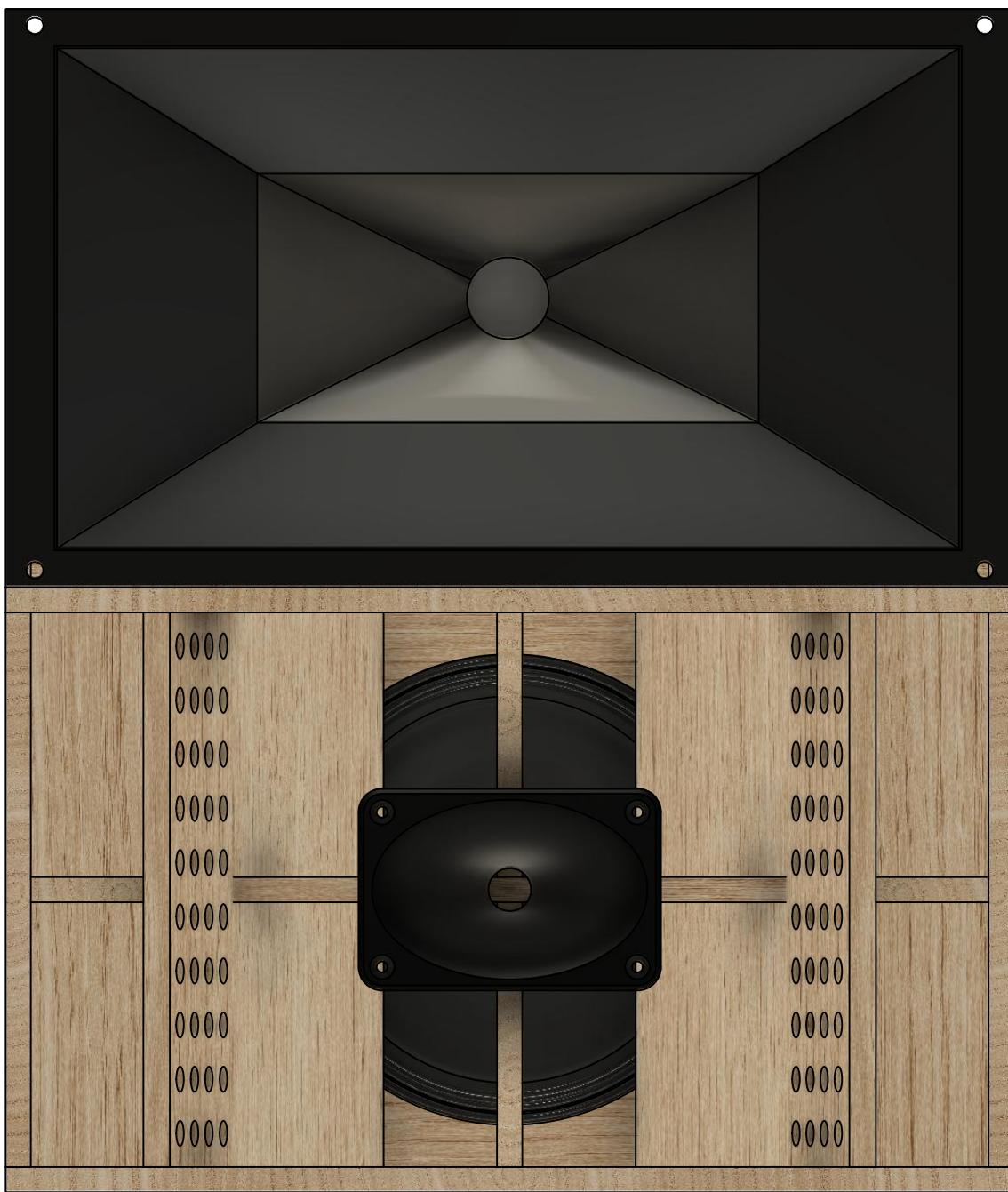
1 2 3 4 5 6 7 8

Cutout diameter will vary according to the driver used

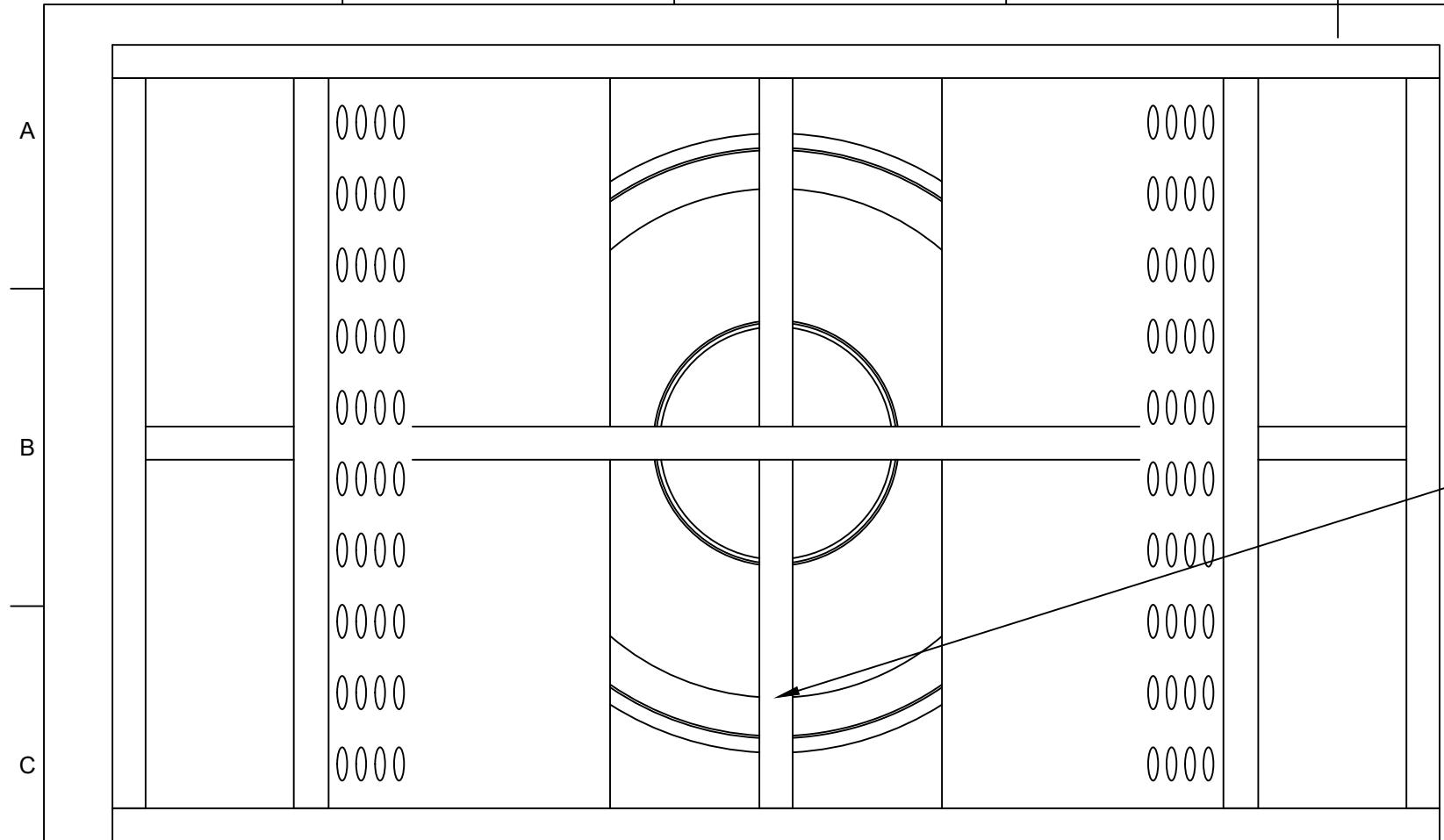


HF SOLUTION MOUNTING OPTIONS

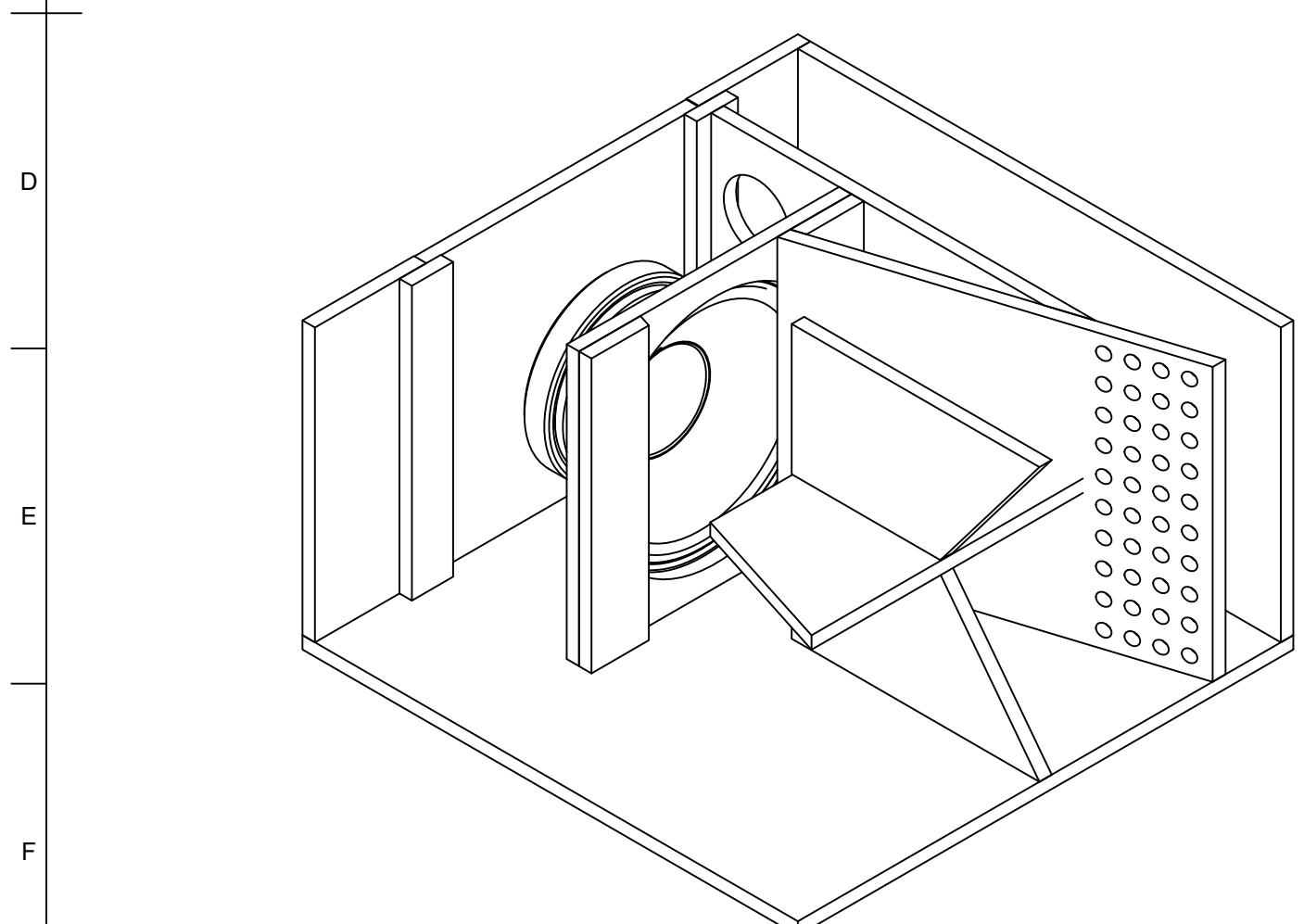
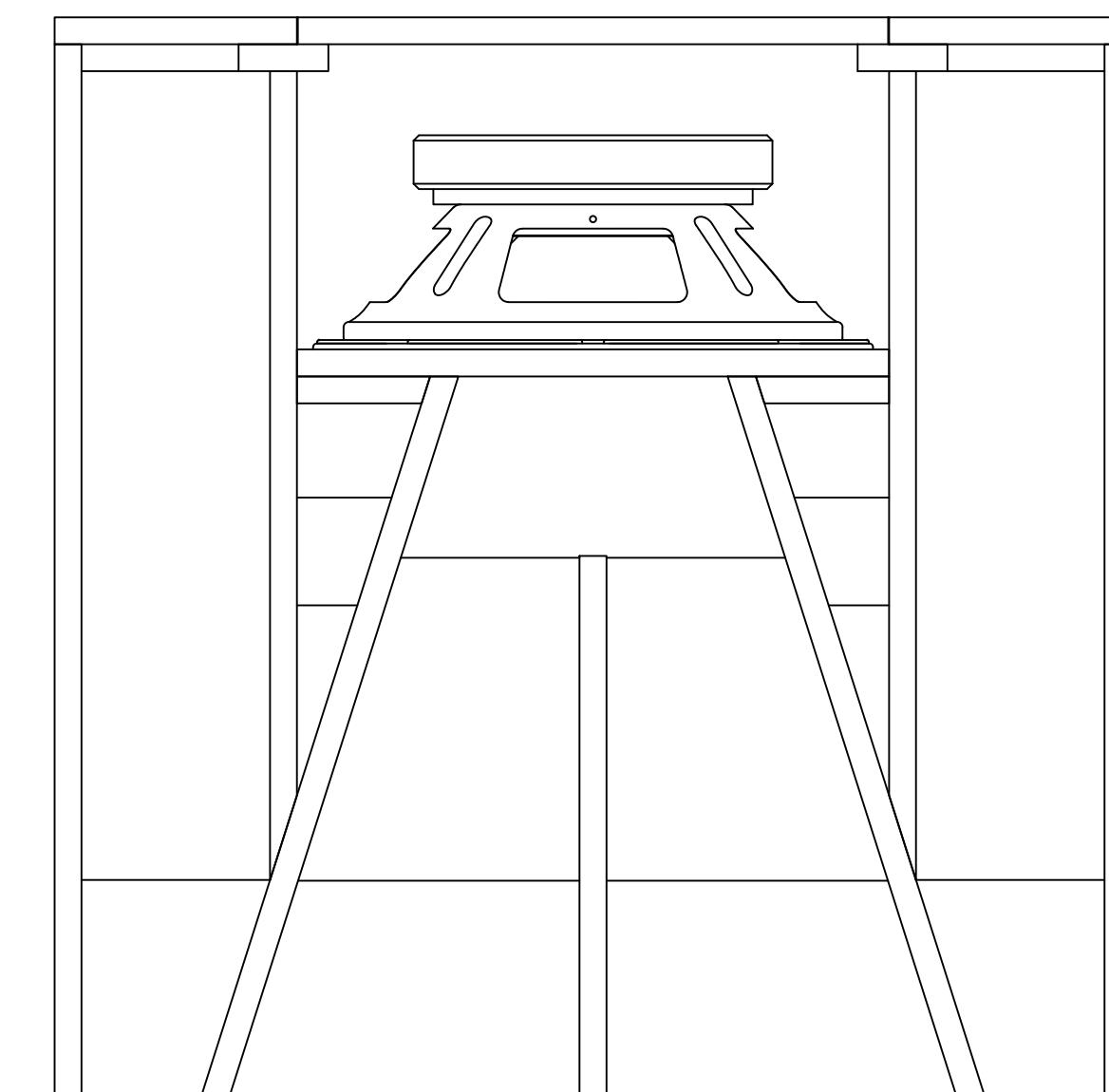
A sufficiently small high frequency horn (RCF HF101) or line array style waveguides can be mounted in the mouth of this cabinet "coaxial" style. Larger horns and high frequency solutions should be mounted on top of the cabinet.



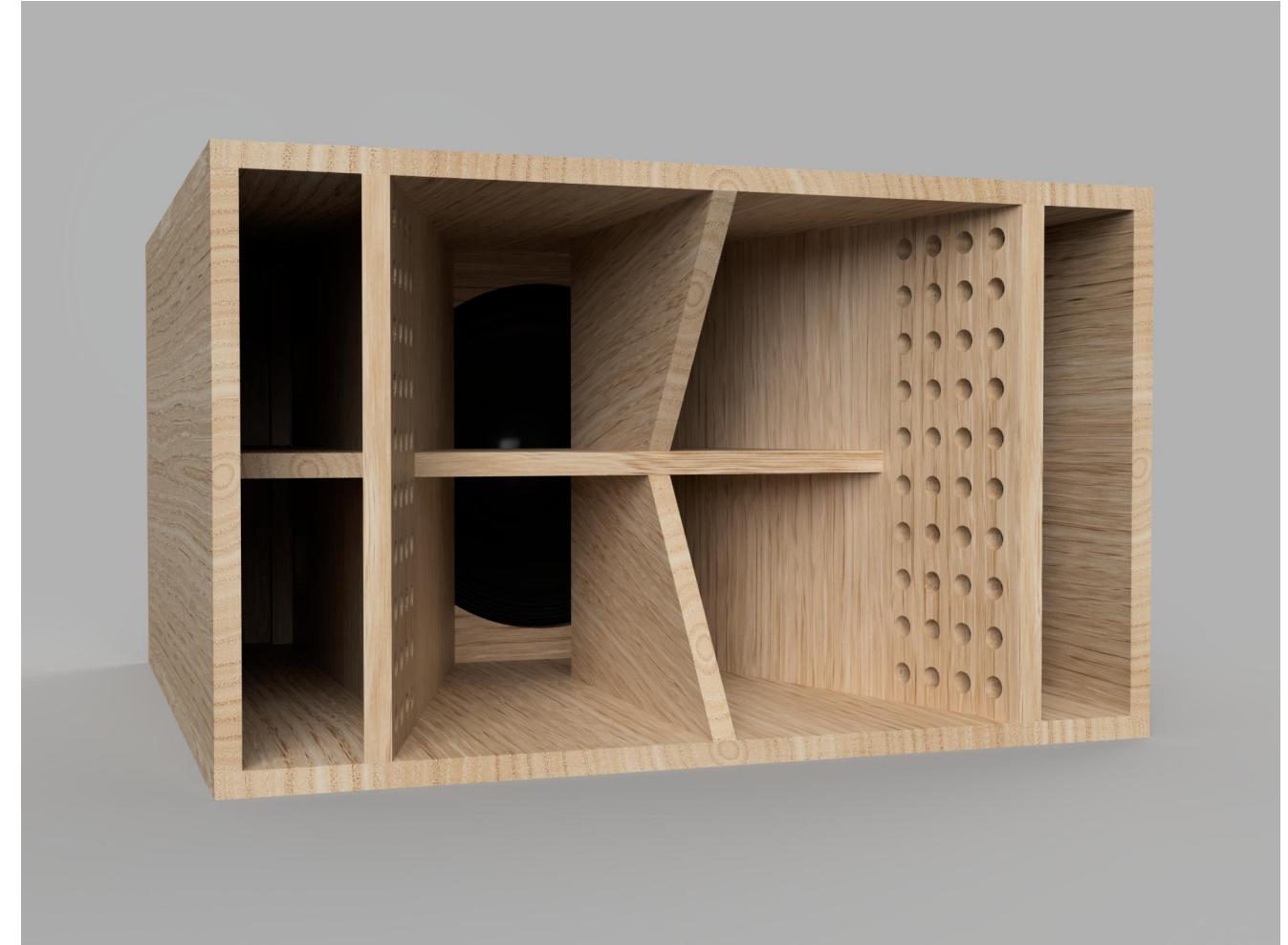
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8



If no HF solution is used in the mouth, it can be cross braced for some additional stiffness which not only increases the cabinet's structural strength & durability but also reduces the performance losses & sound coloration associated with even small amounts of panel flex.



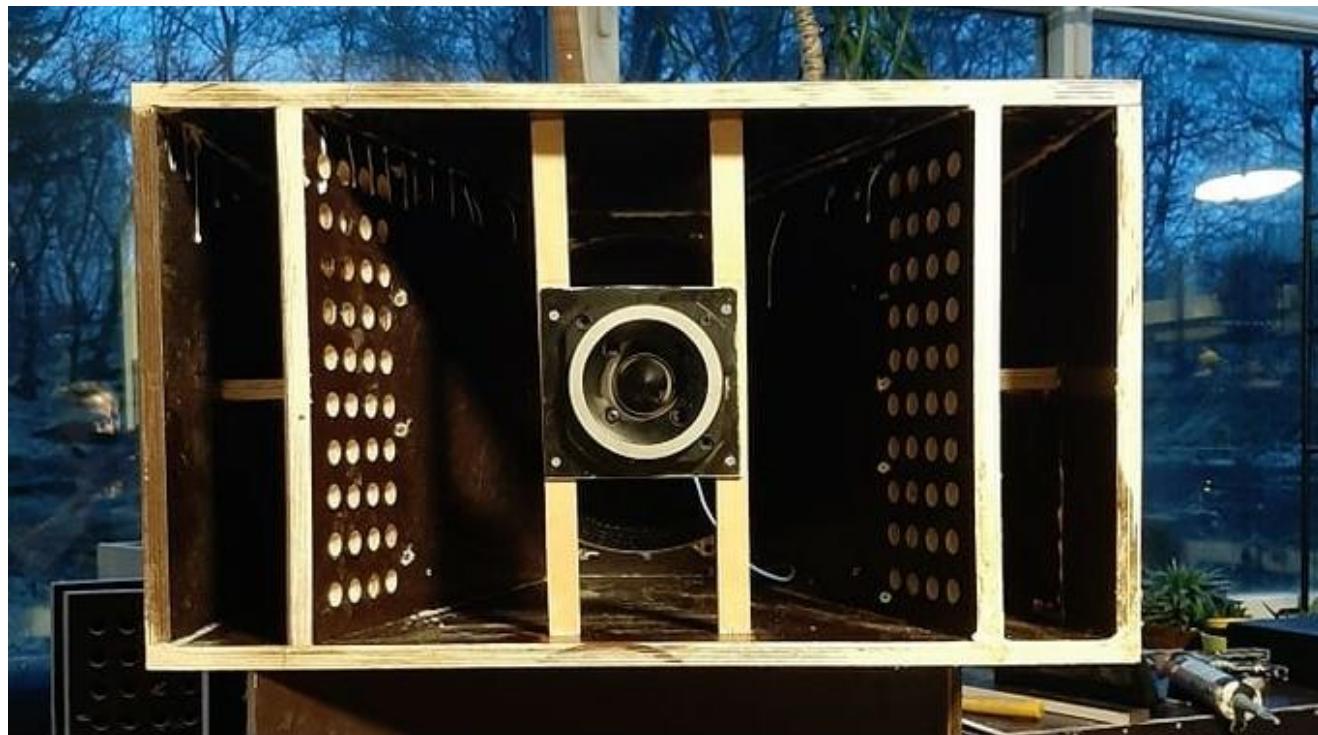
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8



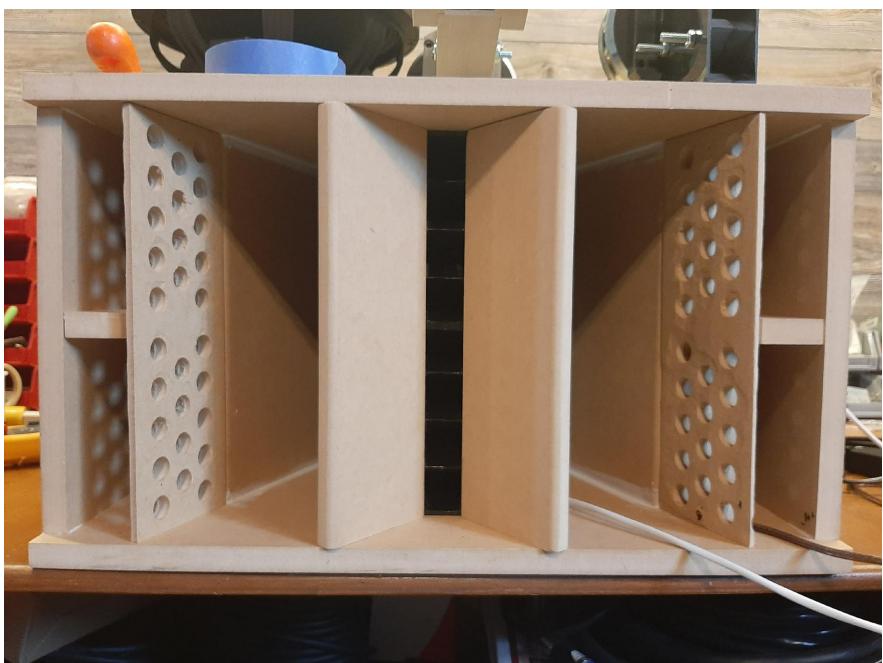
Build Gallery







Lewis Cafaro's HF Solution



Lewis Cafaro has developed a series of custom made line-array style waveguides which are time aligned specifically for Paraflex tops.. This means that when using such a waveguide the HF and LF elements of the cabinet are readily aligned in terms of phase & time so it is not necessary in DSP to apply additional delay to the HF compression driver (meaning no need to add more delay than you have on the 12" driver's DSP channel)

This achieves a naturally coherent & enjoyably musical midrange sound and contributes to the perception of clarity & immersive realism

This also means that creating a passive crossover network for this cabinet is now a very viable option..

Lewis Cafaro sells these waveguides in North America but they should also soon be available in Europe through Ben Wells.



LINKS AND REFERENCES

Here is the link to our referral list which can direct people to our regional support directors, designers, builders, consultants, CNC shops and some parts sources. If you have any questions, feedback or demands concerning this plan and any other Paraflex related item :

- <https://www.facebook.com/groups/bassaz/permalink/4018912068123890/>

Webstores for Lewis Cafaro's waveguides which are time aligned for paraflex tops :

- USA: <https://minerva.us/>
- Europe (UK Based): <https://www.elements-audio.com/>

Contact pages for Lewis Cafaro and Ben Wells who run both stores above :

- Lewis: <https://www.facebook.com/LewisCafaro> (USA)
- Ben: <https://www.facebook.com/ben.wells.188> (Europe)

Contact pages for Matthew Morgan J (Fellow Instigator of Paraflex/HOQS) and Clement Noel (author of this plan) :

- Matthew: <https://www.facebook.com/matthew.morganj>
- Clement: <https://www.facebook.com/clement.noel.167/>