

## Standing Waves in a Glass Bar



Item	Quantity	Description
Top/bottom	1 each	11-1/4" x 24"
Back	1	10-1/2" x 24"
Sides	2	10-1/2" x 10-1/2"
Interior baffles with holes for speakers	2	10-1/2" x 10-1/2"
Front	1	12" x 24" polycarbonate
Banana plugs	1 red 1 black	
Speakers	2	
Speaker wire	13" double wire 8" single wire	
#8 x 1-1/2" screw w/ washer, lock washer, and nut	8	For mounting speaker
#8 x 1-1/4" drywall screw	About 20	For box assembly
#10 x 1" particle board screw	About 8	For fastening polycarbonate front
3/4" x 1/4" weather stripping	About 2 yds	For sealing front panel
Liquid Nails construction adhesive		For box assembly

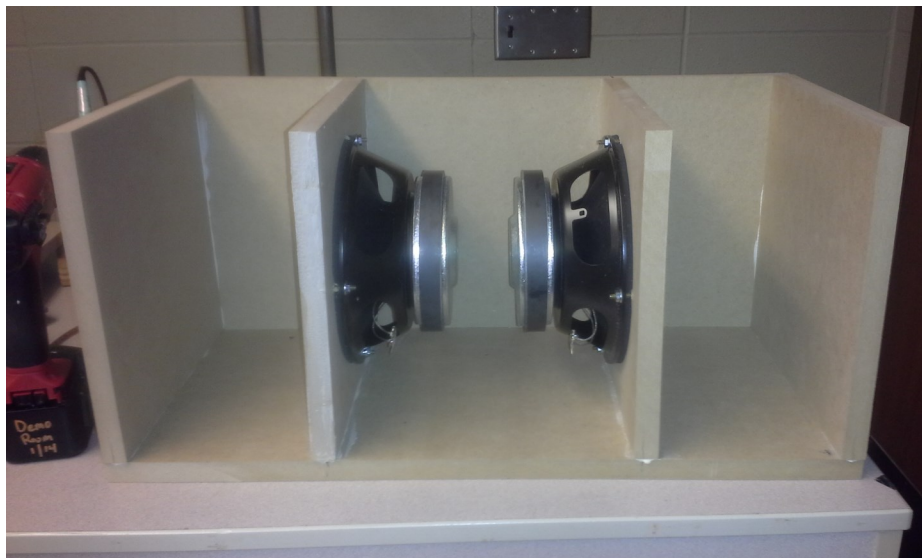
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Suggested drill sizes

Drywall screw—pilot hole (3/32"), clear hole (5/32")

Banana plug—clear hole (1/4")

Front cover—clear hole (7/32"), pilot hole (5/32")



Assemble box—Drill two clear holes in the bottom panel along the rear edge. Good dimensions are 3/8" in from the rear edge and about 1" in. Align back panel and mark hole locations, then drill pilot holes. Fasten back panel on top of bottom panel with a THIN bead of construction adhesive and screw together. Make sure the back is flush with the rear edge of the bottom panel.

In a similar manner, attach the two side walls using construction adhesive and screws.

Predrill speaker holes— Center a speaker baffle on a speaker, then carefully flip over and mark the mounting holes. Take note where the signal connectors are located. You want those toward the lower front of the box when fully assembled. Drill the four clear holes for a #8 machine screw. Repeat this process for the other speaker.

Using the precut assembly jig, adhesive and screw the two speaker baffles to the bottom and rear panels.

Drill 3 x 2" holes, centered on each of the chambers. Do your math... Half of 6" is 3", but the side is 3/4". Account for that. The chambers are 10-1/2 deep. Mark and drill your holes (in the hallway, please). Attach the top with adhesive and screws.

Carefully mount the speakers making sure that you do not poke your hands through the paper cone. (If you are not skilled at soldering, you may want to delay this step.)

Mark clear holes on the polycarbonate front. Make sure your hole positions make sense, i.e. hold the panel up to your box to see if they align with the structure. Drill your clear holes. Mark these holes on the box and drill pilot holes. Proper alignment is critical.

Mark and drill clear holes for the banana plugs. Attach the banana plugs. 3" up from the bottom and 1" on either side of center is a good location for these holes.

Attach weather stripping around front edges of all box parts

Wire the speakers—The speakers are wired in series. Yes, direction matters. We want the speakers in phase, so the which terminal you use matters. Lay the front face down and solder one lead of the double wire to the red banana plug, the other wire to black one. Solder the opposite ends of these wires to the connector on the speaker closest to you. Solder the remaining wire to connect both speakers.

Attach panel with #10 particle board screws.

Try it!!!

Cut some glass, help clean up, and go home! Hope you had fun!!