AudioBar Speaker Kit Assembly

Thank you for purchasing the AudioBar powered sound bar speaker kit. This speaker kit was precision cut using CNC machinery for the best possible fit and finish. With a little time and patience, your finished product will provide years of enjoyment. Please follow the following instructions for the best possible results.

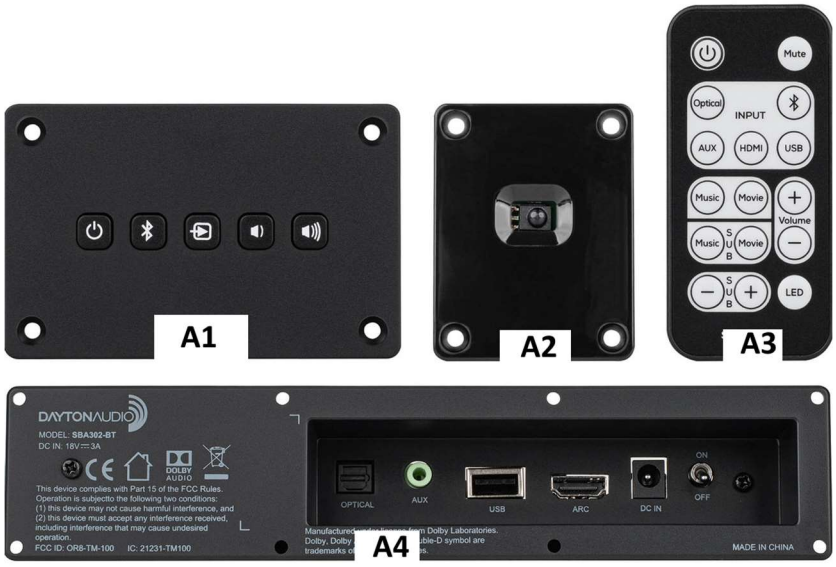
Suggested tools and consumables:

Drill
5/64" drill bit
Wood clamps (you can never have too many of these)
Sanding block and/or electric finishing sander
Wood glue
Rag or paper towels
Solder
Soldering iron
Hot glue gun
Polyurethane glue (Gorilla Glue)

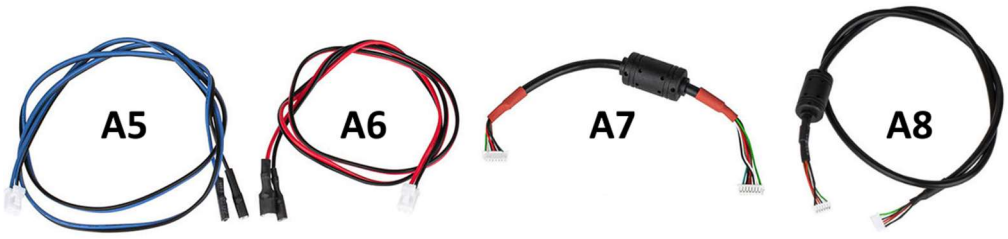
Package contents:

First, empty the contents of the package and review parts to ensure everything has been included and is in good condition. If any parts are missing or damaged please contact our customer service department at 1-800-338-0531.
Note: Crossover components may be substituted with parts of equal of higher quality depending on stock.

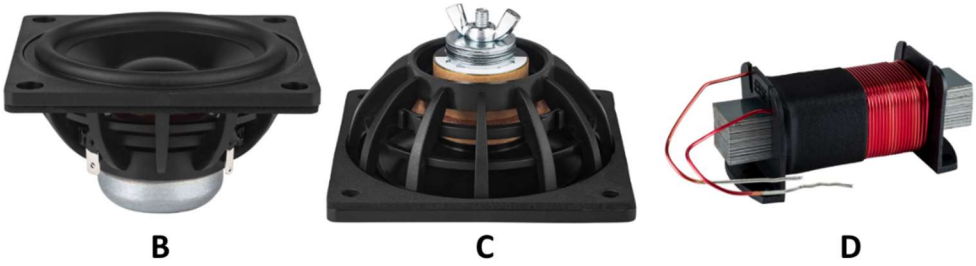
Components:



A) Dayton Audio SBA302EQ-BT Sound Bar Amplifier Kit With EQ for Sound Bar Kit
- **A1)** Control Panel
- **A2)** IR/LED Panel
- **A3)** Remote Control
- **A4)** Amplifier Module



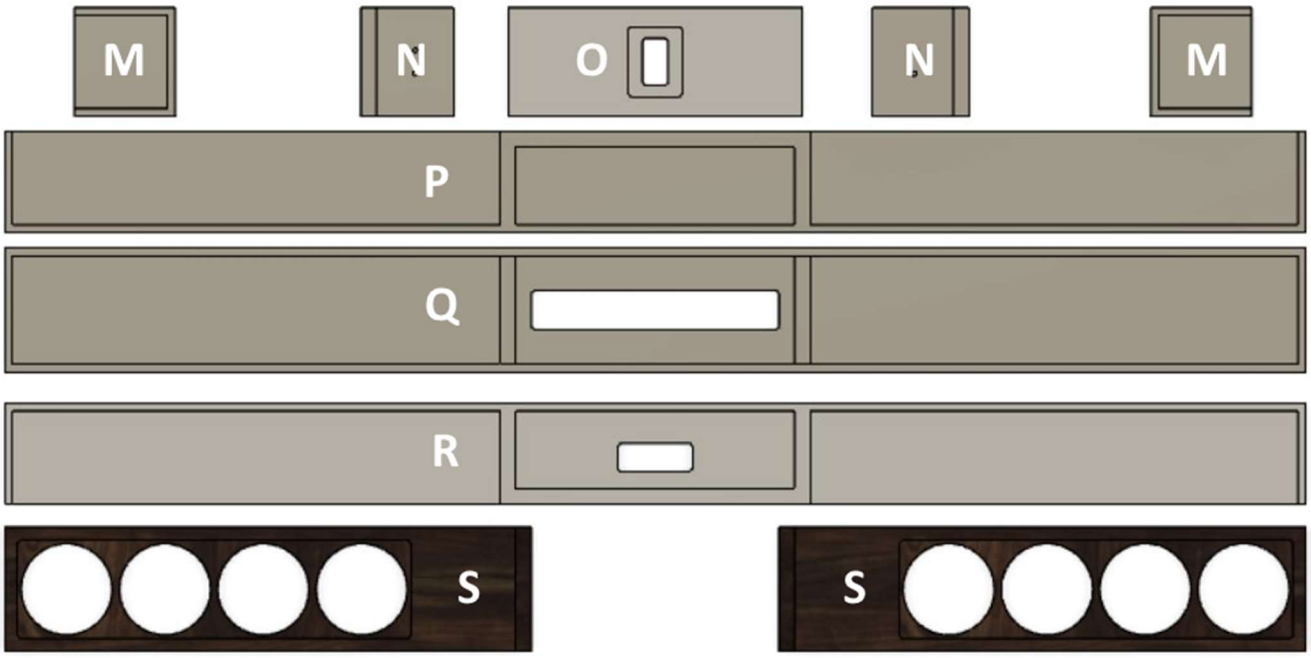
A5) 28” Left speaker wire (blue/black)
A6) 22” Right Speaker wire (red/black)
A7) 6” 7-pin cable (IR/LED panel)
A8) 23” 6-pin cable (Control panel)



B) 4 x Dayton Audio DMA80-8 3" Dual Magnet Aluminum Cone Full-Range 8 Ohm
C) 4 x Dayton Audio DMA80-PR 3" DMA Series Passive Radiator
D) 2 x 2.5mH 18 AWG I Core Inductor Crossover Coil

E) 50 x #6 x 3/4" Pan Head Deep Thread Black Screws
F) 10 x #8 x 1/2" Deep Thread Pan Head Screws Black
G) 10 x #4 x 5/8" Flat Head Wood Screw Zinc
H) 10 x M3 x 16mm Cap Head Wood Screws Black
I) 5 x 0.110" (16-14) Female Disconnect
J) 6 Feet 16 AWG 2-conductor Speaker Wire
K) 5 x 0.205" (16-14) Female Disconnect
L) 120V to 18 VDC 3A Power Supply

Enclosure :



M) 2 x End
N) 2 x Divider
O) Middle baffle
P) Bottom
Q) Back
R) Top
S) 2 x Driver baffles (walnut)

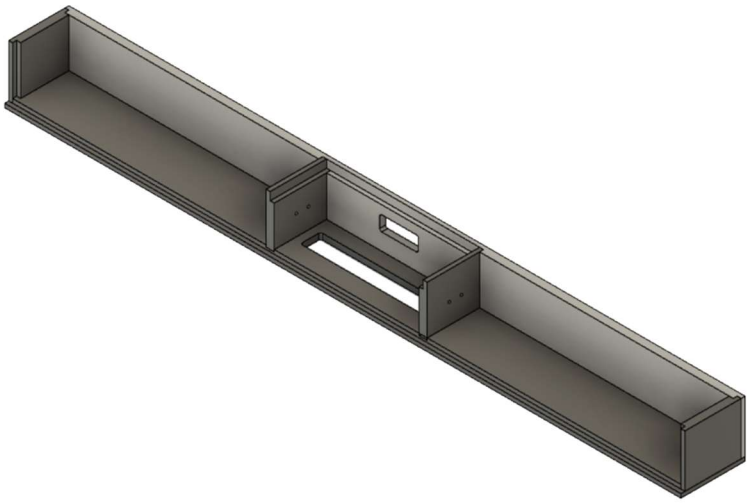
Enclosure Assembly:

1) First, before gluing anything, do a dry fit of the enclosure to familiarize yourself with the parts and assembly. This will also give you a chance to ensure that all pieces have been cut properly.

2) Due the design of this enclosure, all of the plywood parts can easily be assembled in one sitting.

3) Set the enclosure parts out on a flat level surface and ensure that all pieces are free of dust and debris.

4) With the ***Back*** (**Q**) lying flat, glue all mating surfaces of the ***Back*** and ***Top*** (**R**). Assemble so that even pressure is applied to the glued surface to ensure even distribution of glue.



5) Glue all mating surfaces of the ***Back/Top*** assembly with the ***2 x Dividers*** (**N**) and ***2 x Ends*** (**M**). Assemble so that even pressure is applied to the glued surface to ensure even distribution of glue. **Note:** The rabbets (notches) in the ***Dividers*** should face the center of the enclosure as shown above.

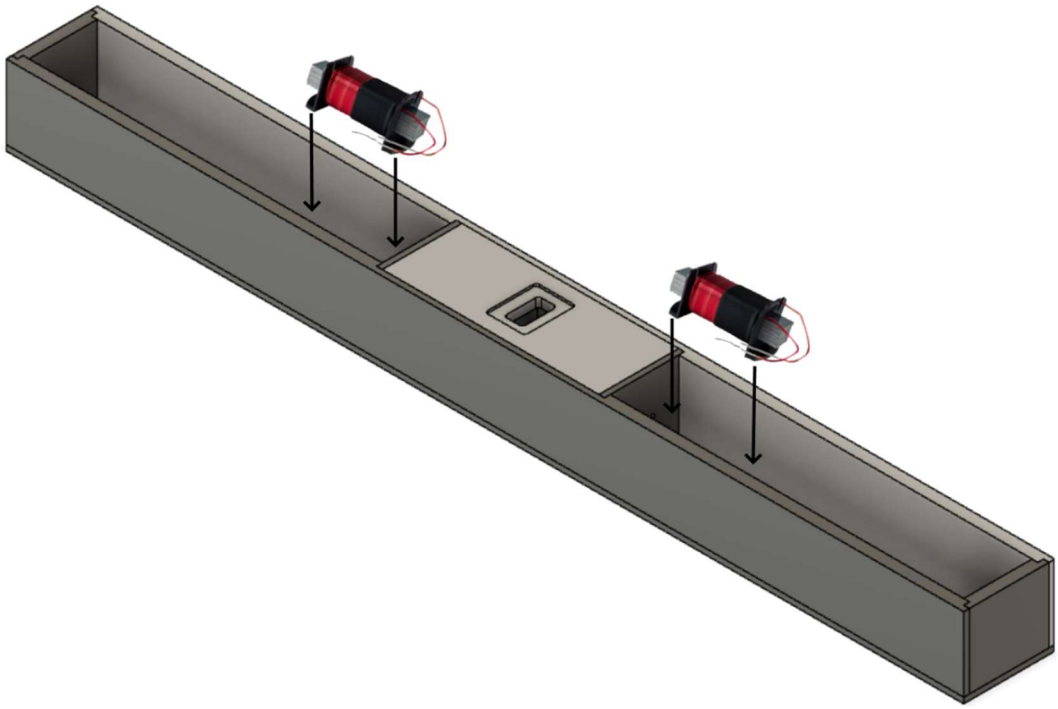
6) Glue all mating surfaces of the ***Back/Top/Ends*** assembly with the ***Bottom*** (**P**). Assemble so that even pressure is applied to the glued surface to ensure even distribution of glue. At this point ensure that the ***Dividers*** are completely seated into the dadoes in the ***Top***, ***Bottom***, and ***Back***.

7) Glue all mating surfaces of the ***Bottom/Top/Dividers*** assembly with the ***Middle Baffle*** (**O**). Assemble so that even pressure is applied to the glued surface to ensure even distribution of glue. Ensure that the ***Middle Baffle*** sits flush with the edges of the ***Top***, ***Bottom***, and ***Dividers***.

8) This is a good time to apply clamps. Apply ample pressure to ensure glue is spread evenly through each joint (some glue squeeze-out can be expected). Visually inspect all seams to make sure they are closed tightly, you may need to relocate clamps (or add more clamps) to get a perfect fit.

9) Wipe away any glue squeeze-out on the outside of the enclosure with a damp rag or paper towel (excess glue on the inside is fine). Allow to dry according to the glue manufacturer's recommendations and remove clamps.

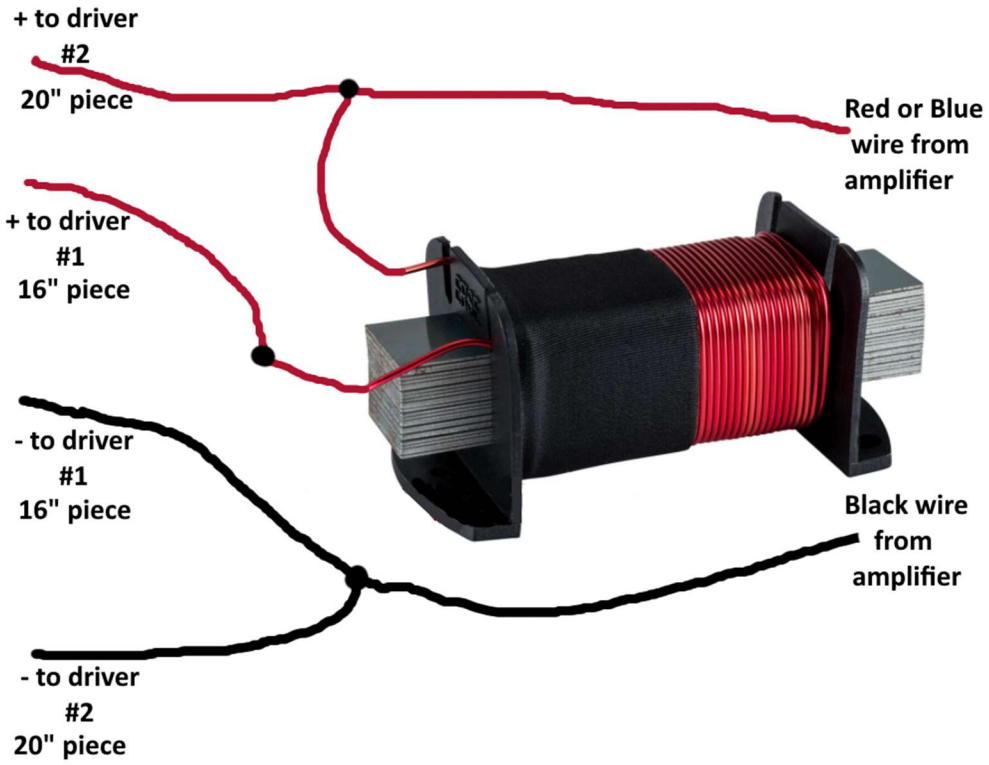
10) Sand all surfaces and seams until smooth. If you would like a 2-tone finish (for example, painted enclosure with hard wood baffles) then now is the best time to apply the finish. Finish enclosure and baffles to your liking. See our web page for ideas and examples. **Note:** If you would like a solid color finish (for example, all black) then you can wait until the baffles are in place before applying the finish (Step #17).



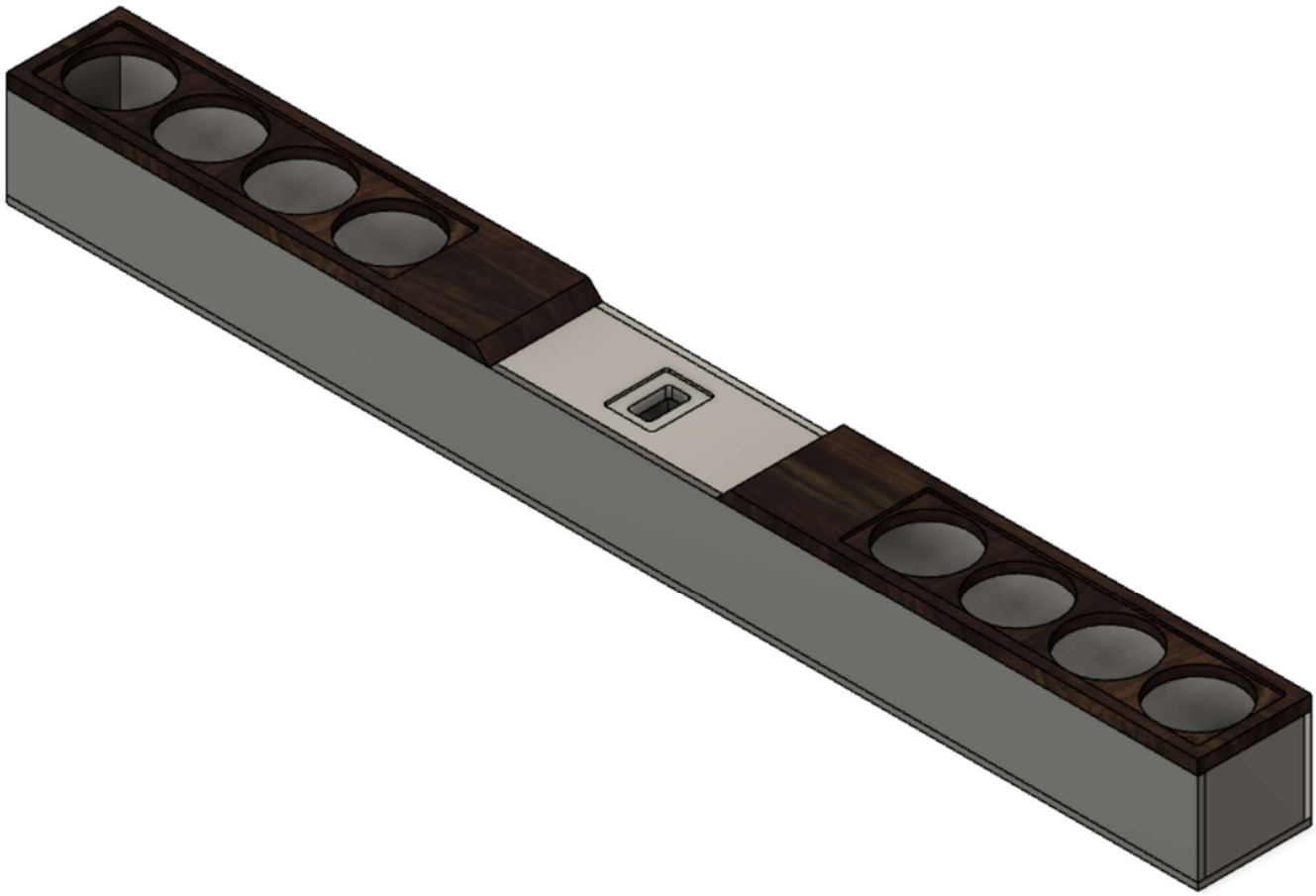
11) Due to the limited space inside this enclosure, now is the best time to install the inductors and speaker wires. Using 4 x ***#8 x 1/2" Deep Thread Pan Head Screws*** (**F**) install the ***2.5mH 18 AWG I Core Inductor Crossover Coils*** (**D**) in the speaker chambers close to the ***Dividers***.

12) Cut off the solderless terminals on the ends of the ***Left and Right Speaker Wires*** (**A5** and **A6**) and discard. (**Important:** Only cut the solderless terminals covered in black heat shrink, do not cut the white 2-pin connectors.) Push the cut end of the speaker wires through the hole in the dividers from inside the middle chamber into the left and right speaker chambers. The 28" Left speaker wire (blue/black) (**A5**) into the left speaker chamber and the 22" Right Speaker wire (red/black) (**A6**) into the right speaker chamber. Leave at least 12" of the blue/black wire and 6" of the red/black wire inside the center chamber to ensure that the 2-pin connectors will fit to the appropriate sockets on the Amplifier Module (**A4**). Glue the wires into place and seal the holes in the ***Dividers*** (hot glue is recommended, but wood glue, polyurethane glue, or even poster tack will suffice) **Note:** The left and right chambers are determined by facing the front of the enclosure.

13) Cut the ***16 AWG 2-conductor Speaker Wire*** (**J**) into 4 pieces. 2 at about 16” long (to driver #1) and 2 at about 20” long (to driver #2). Strip about 3/4” of insulation from one end of each cut.



14) Assemble the simple filter circuit at this time. Follow the diagram above. Make sure that the stripped ends of the wires are securely wrapped around the tinned (silver) ends of the inductor leads. With a hot soldering iron, apply solder to the connections between the wires and inductor. Heat the connections evenly and verify that the solder flows into the connection rather than forming a "blob" on the surface (cold joint). Wrap each connection with electrical tape or cover with heat shrink tubing to protect the connections and prevent shorts. **Note:** Label the wires #1 and #2 as shown above.

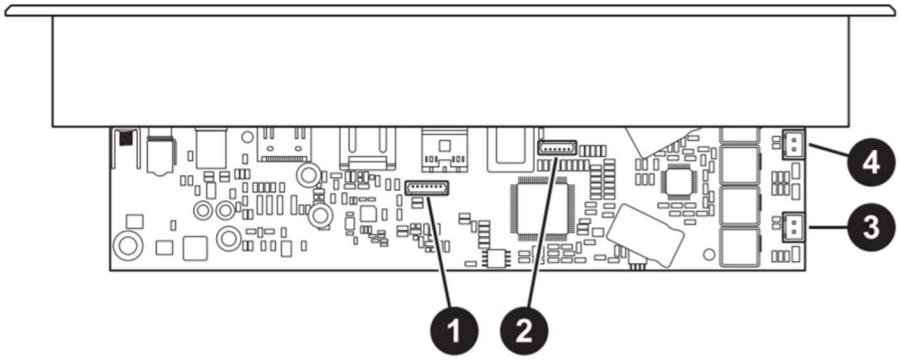


15) Finally, glue all mating surfaces of the enclosure assembly with the ***Driver Baffles*** (**S**). Assemble so that even pressure is applied to the glued surface to ensure even distribution of glue. Ensure that the Driver Baffles are flush with the top, bottom, and ends.

16) Use clamps to apply ample pressure to ensure glue is spread evenly through each joint (some glue squeeze-out can be expected). Wipe away any glue squeeze-out on the outside of the enclosure with a damp rag or paper towel (excess glue on the inside is fine). Allow to dry according to the glue manufacturer's recommendations and remove clamps.

17) At this point the enclosure assembly and filter circuit is complete and you can begin final assembly.

Final Assembly:



18) Begin final assembly by installing the ***Amplifier Module*** (**A4**). Prepare the Amplifier Module by attaching the ***6" 7-pin cable*** (**A7**) and ***23" 6-pin cable*** (**A8**) to the appropriate connectors on the Amplifier Module according to the diagram above. Attach the ***6" 7-pin cable*** to connector #1. Attach the ***23" 6-pin cable*** to connector #2.

19) Place the ***Amplifier Module*** near the opening in the back of the enclosure and connect the Left and Right Speaker Cables to the appropriate connectors on the diagram above. Attach the ***Left Speaker Cable (blue/black)*** to connector #4. Attach the ***Right Speaker Cable (red/black)*** to connector #3.

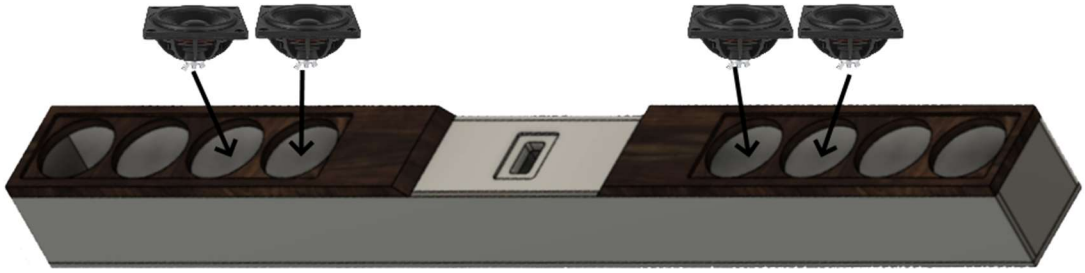
20) Insert the ***Amplifier Module*** into the opening in the back of the enclosure. While inserting the ***Amplifier Module*** carefully feed the ***23" 6-pin cable*** through the opening in the top of the enclosure, and the ***6" 7-pin cable*** through the opening in the front of the enclosure. The ***Amplifier Module*** should fit flush into the opening, make sure that no wires are pinched between the mounting flange and enclosure.

21) Insert 8 x ***M3 x 16mm Cap Head Wood Screws Black*** (**H**) into the corresponding holes in the ***Amplifier Module*** using a 2.5mm hex wrench or bit. Tighten screws just until tight, do not over tighten.

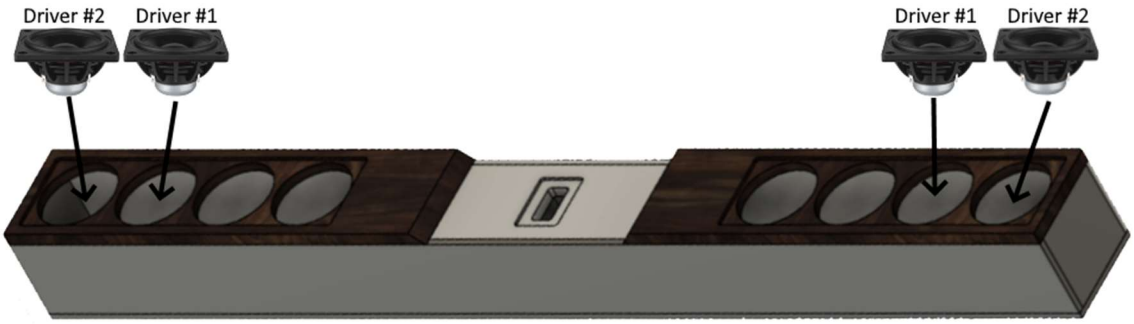
22) Plug the ***23" 6-pin cable*** into the connector in the back of the ***Control Panel*** (**A1**). Insert the ***Control Panel*** into the opening in the top of the enclosure. The ***Control Panel*** should fit flush into the opening, make sure that no wires are pinched between the mounting flange and enclosure. Secure the ***Control Panel*** with 4 x ***#4 x 5/8" Flat Head Wood Screws*** (**G**). Tighten screws just until tight, do not over tighten.

23) Plug the ***6" 7-pin cable*** into the connector in the bottom of the ***IR/LED Panel*** (**A2**). Insert the ***IR/LED Panel*** into the opening in the front of the enclosure. The ***IR/LED Panel*** should fit flush into the opening, make sure that no wires are pinched between the mounting flange and enclosure. Secure the ***IR/LED Panel*** with 4 x ***#4 x 5/8" Flat Head Wood Screws*** (**G**). Tighten screws just until tight, do not over tighten.

24) Strip approximately 1/2” of insulation from the ends of each speaker wire. Crimp a ***0.110" (16-14) Female Disconnect*** (**I**) to the end of each black wire (x 4). Crimp a ***0.205" (16-14) Female Disconnect*** (**K**) to the end of each red wire (x 4).



25) Prepare the 4 x ***Dayton Audio DMA80-PR 3" DMA Series Passive Radiators*** (**C**) by attaching the included weights (3 washers per driver) and securing tightly with the included wing nut. Insert the Passive Radiators into the innermost openings as shown above. Secure each passive radiator with 4 x ***#6 x 3/4" Pan Head Deep Thread Black Screws*** (**E**). Tighten screws until passive radiators are countersunk approximately 1/8” into the baffle.



26) Connect the speaker wires to the 4 x ***Dayton Audio DMA80-8 3" Dual Magnet Aluminum Cone Full-Range Drivers*** (**B**) as shown above. Insert the drivers into the appropriate driver openings as shown above. Secure each driver with 4 x ***#6 x 3/4" Pan Head Deep Thread Black Screws*** (**E**). Tighten screws until drivers are countersunk approximately 1/8” into the baffle. **Note:** Be extremely careful if you need to remove the drivers for any reason. The solderless connectors will be tight, secure the driver terminals to avoid damage.

27) At this point adjust all the screws so the drivers and passive radiators sit flush with each other while still maintaining ample pressure on the foam gaskets for an air-tight seal.

28) Assembly is complete. You are now ready to enjoy your finished AudioBar sound bar.

Additional parts used:

• 260-034 Band-It White Melamine 24" x 96" Iron-On

• Baffles finished with Tru-Oil oil based finish

Tips:

• For wall mounting we recommend the Dayton Audio SB-LP Low-Profile Wall Mount Speaker Bracket Pair (part # 182-399). These brackets will easily support the weight of the AudioBar and are small enough to be completely hidden.

• Due to the force from the passive radiators and drivers, the AudioBar will vibrate at low frequencies. If you will be placing the AudioBar on a TV stand or shelf then we recommend adding adhesive rubber feet to avoid rattles and keep the AudioBar from moving. (part# 320-435)

• Stuffing or damping material can be added to the AudioBar, make sure that the damping material does not interfere with the operation of the passive radiators.

AudioBar passive crossover schematic: