

# DA-Wave Bookshelf Speaker Kit

Thank you for purchasing the DA-Wave Bookshelf 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	Rag or paper towels
5/64" drill bit	Solder
Wood clamps (you can never have too many of these)	Soldering iron
Sanding block and/or electric finishing sander	Hot glue gun
Wood glue	Binding post/terminal cup
Speaker or hook-up wire	Polyurethane glue (Gorilla Glue)
0.11" female disconnect terminal	Cyanoacrylate Adhesive (super glue)
0.205" female disconnect terminal	#6 x 3/4" Pan head wood screws

## 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 or higher quality depending on stock.**

## Components:

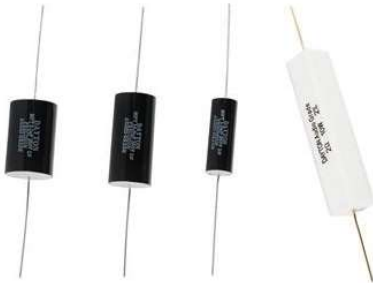


**A**



**B**

- A)** 2 x Dayton Audio RST28A-4 1-1/8" Reference Series Aluminum Dome Tweeter 4 Ohm  
**B)** 2 x Wavecor WF146WA05 5-3/4" Glass Fiber Cone Mid-Woofer 4 Ohm



**C**

**D**

**E**

**F**



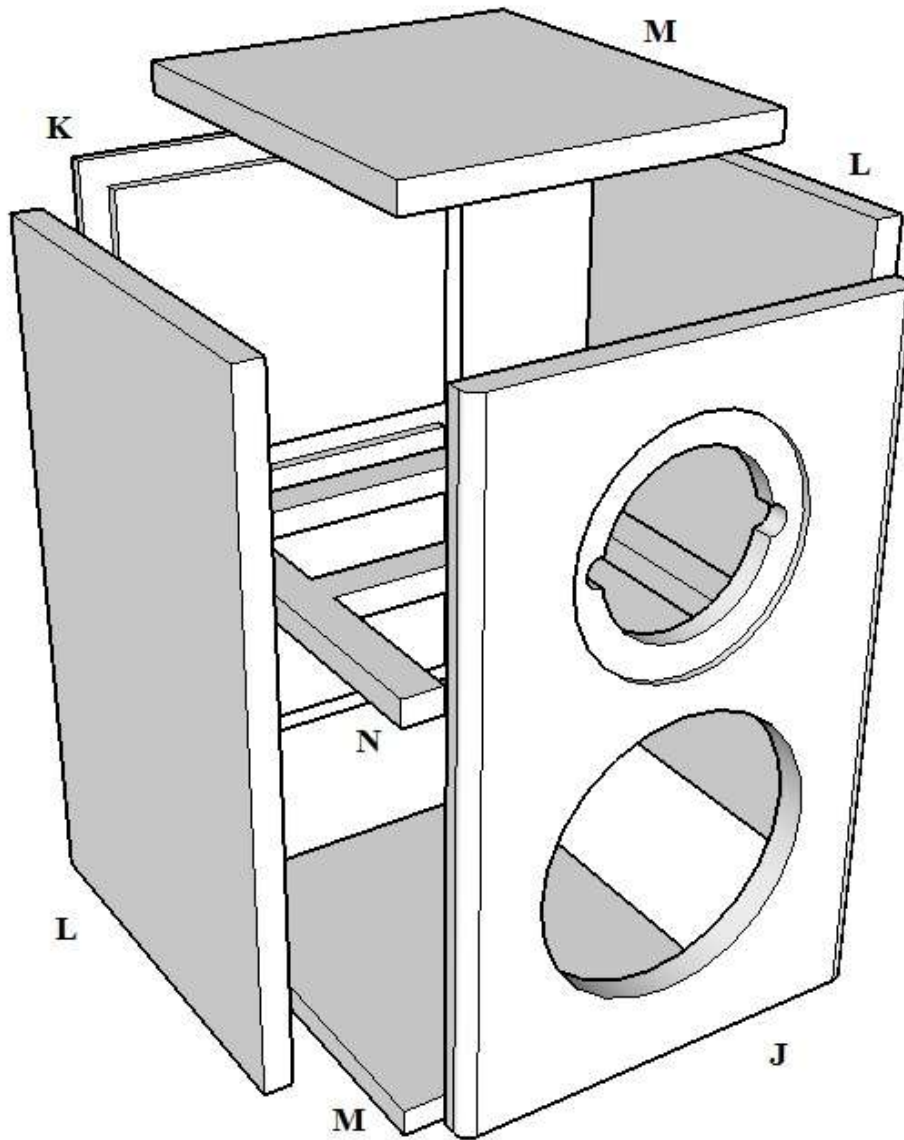
**G**

**H**

**I**

- C)** 2 x Dayton Audio PMPC-5.1 5.1uF 250V Precision Audio Capacitor  
**D)** 2 x Dayton Audio PMPC-10 10uF 250V Precision Audio Capacitor  
**E)** 2 x Dayton Audio PMPC-1.5 1.5uF 250V Precision Audio Capacitor  
**F)** 2 x Dayton Audio DNR-2.0 2 Ohm 10W Precision Audio Grade Resistor  
**G)** 2 x Dayton Audio LW18-20 0.20mH 18 AWG Perfect Layer Inductor  
**H)** 2 x Dayton Audio LW141 1.0mH 14 AWG Perfect Layer Inductor  
**I)** 2 x Dayton Audio LW18-13 0.13mH 18 AWG Perfect Layer Inductor

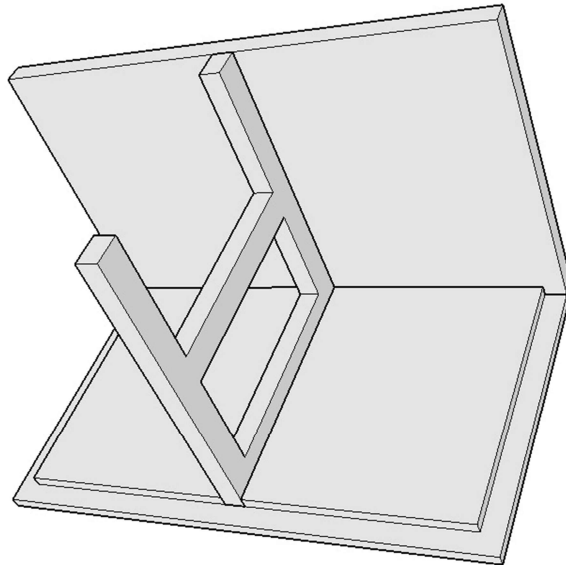
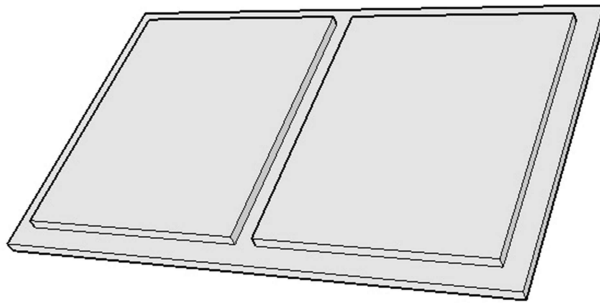
**Enclosures:**

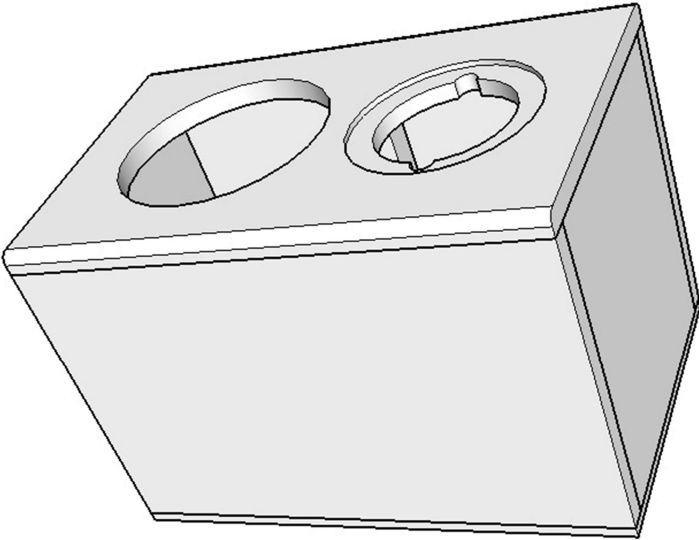
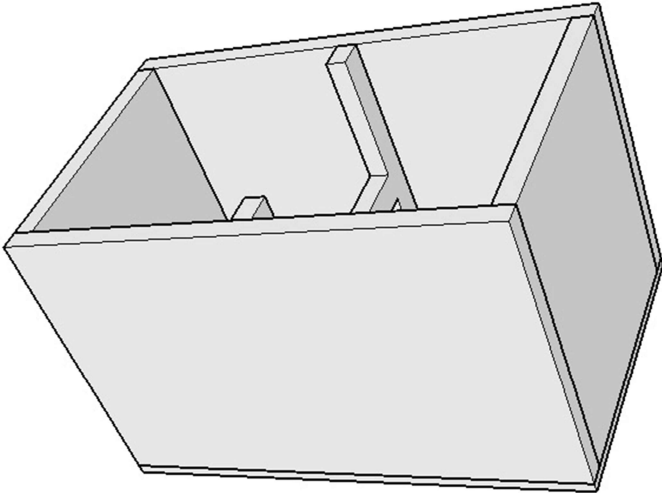
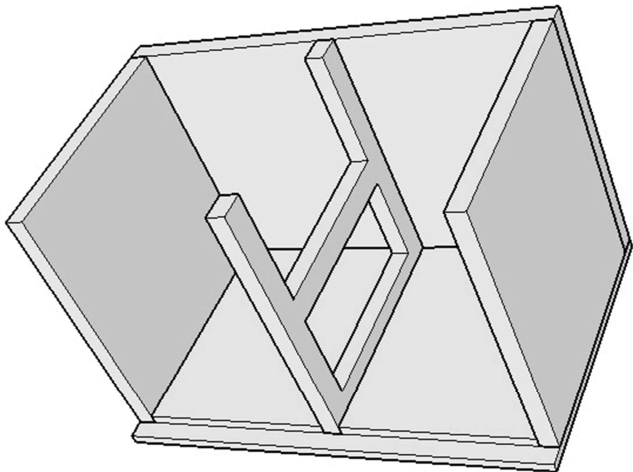


- J)** 2 x Front
- K)** 2 x Back
- L)** 4 x Sides
- M)** 4 x Top/Bottom

## **Enclosure Assembly:**

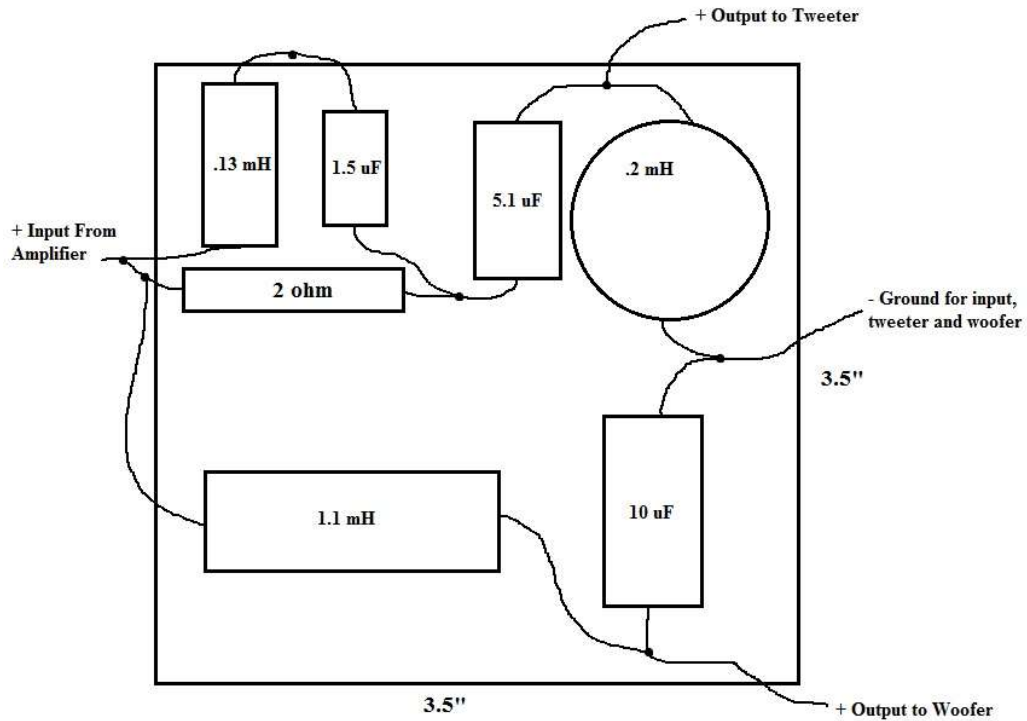
- 1) First, take the back panel and cut or drill holes required for the speaker termination of your choice (binding posts, terminal cup, Speakon, etc...). I would recommend drilling them a couple inches off of the bottom due to the small space allowed for the crossover at the bottom of the cabinet.
- 2) Next, set the enclosure parts out on a flat level surface and ensure that all pieces are free of dust and debris.
- 3) With the back panel lying flat, glue all mating surfaces of each panel in the order shown below. These cabinets are small enough that you should be able to clamp all six sides together at one time using only four or five clamps.





- 4) Make sure all mating surfaces are flush with each other. Apply two clamps from the front to the back panel, one clamp from top to bottom and one or two clamps from side to side.
- 5) Using a damp rag or paper towel, wipe away any glue squeeze-out on the outside of the enclosure (excess glue on the inside is fine). Allow to dry according to the glue manufacturer's recommendations and remove clamps.
- 6) Sand and finish enclosure to your liking. See our web page for examples.

### Crossover assembly:



### Point-to-point wiring diagram

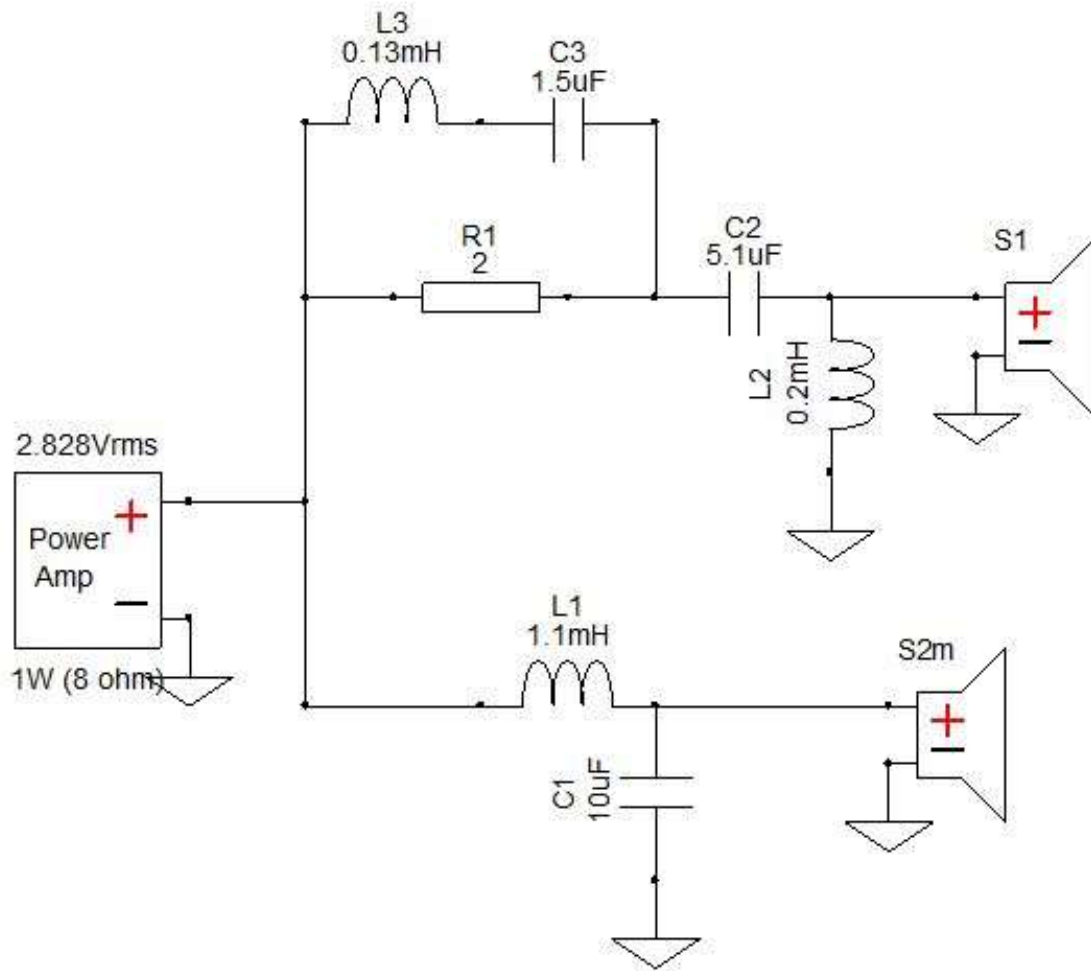
- 7) Arrange the components as illustrated in the point-to-point wiring diagram above so the leads can be connected together as shown. Take careful note of the component type and the value of the component. (The crossover schematic is provided at the end of this assembly guide.)

- 8) Connect the leads of the components as shown in the diagram by twisting them together or creating interlocking "hooks" with the leads. Double check your layout to ensure all components are in the proper location and connections are correct.
- 9) With a hot soldering iron, apply solder to the connections between components. Heat the junction evenly and verify that the solder flows into the connection rather than forming a "blob" on the surface (cold joint).
- 10) Cut two lengths of 2-conductor speaker wire approximately 8"-12" in length, then solder them at the outputs of the crossover network as shown in the schematic so that the marked polarity of the wire matches the driver polarity shown in the schematic. Label each wire "woofer" or "tweeter" corresponding to the schematic.
- 11) Finally, cut one length of 2-conductor speaker wire approximately 8-10" in length, and label the length of wire "Input".

### **Final Assembly:**

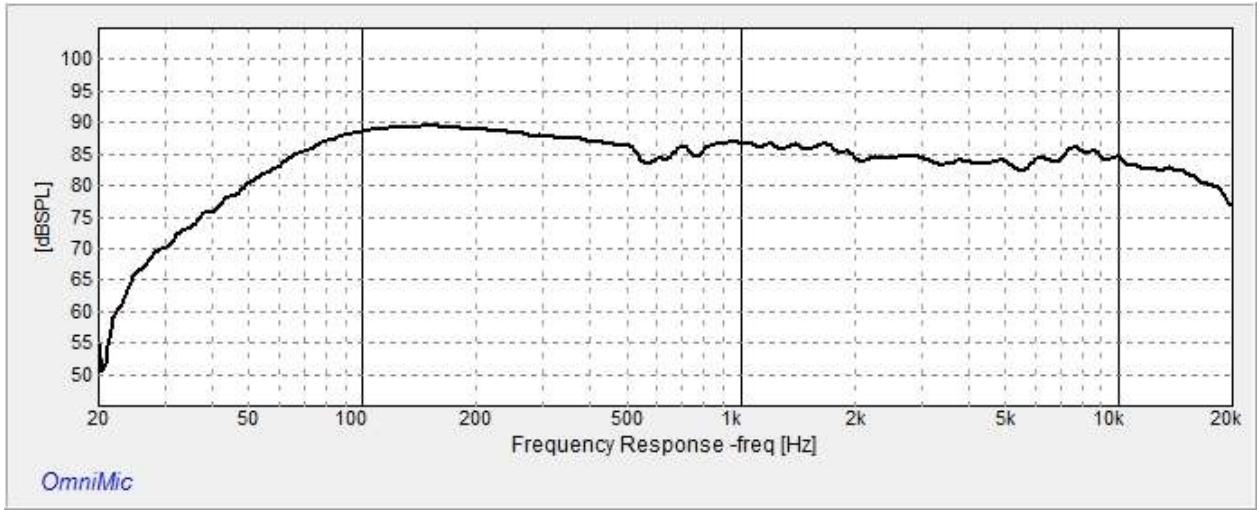
- 12) Insert crossover through woofer hole and glue crossover to the bottom of the enclosure (polyurethane glue, high temperature hot glue gun, or epoxy is recommended). Ensure all crossover components are securely held in place to prevent rattles.
- 13) Install the rear binding posts and connect the input wires from the crossover while observing polarity (positive = red, negative = black)
- 14) Connect tweeter wires to tweeter terminals while observing polarity (the positive terminal is marked with red marker). Install tweeters.
- 15) Connect woofer wires to woofer terminals while observing polarity. Set woofer in place. Using a screwdriver, secure woofer with screws just until tight being careful not to strip out the holes (a power drill is not recommended).
- 16) You are now ready to enjoy your finished DA Wave bookshelf speakers.

## Crossover Schematic:





## Measured Frequency Response:



## Impedance and Phase:

