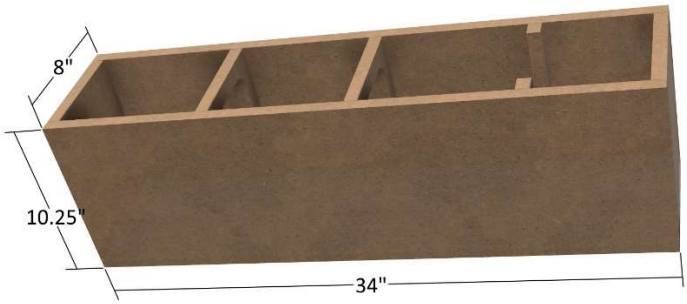
Amiga MT Tower Speaker Kit

Thank you for purchasing the Amiga MT tower speaker kit. The enclosure for this speaker kit was precision cut using CNC machinery for a tight fit to make it easy to finish. With a little time and patience, your finished product will provide years of enjoyment. Please follow these instructions for the best possible results.

Note: If you purchased the Baffle Only version of the Amiga kit (300-7122), then you will need to cut and assemble the majority of the enclosure yourself. Once that is complete you can begin following this instruction beginning on **Step 10**.

The enclosure will need to be assembled with 3/4" stock to the following dimensions: 34" H x 8" W x 10.25" D



Suggested tools and consumables:

Drill
Screwdriver
Wood clamps (you can never have too many of these)
Sanding block and/or electric finishing sander
Wood glue
Wire stripper/crimper
Rag or paper towels
Solder
Soldering iron
Hot glue gun
Polyurethane glue (Gorilla Glue)
Wrench/pliers

Package contents:

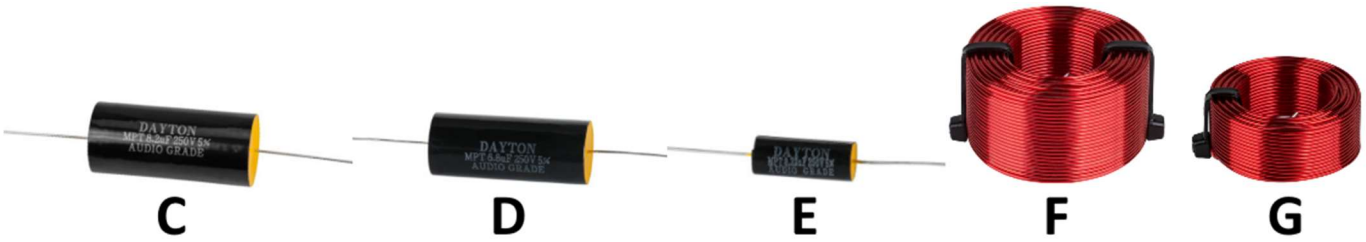
First, empty the contents of the package and review parts to ensure everything has been included and is in good condition. If any parts are missing or damaged, please contact our customer service department at 1-800-338-0531.

Note: Some components may be substituted with parts of equal or higher quality depending on stock.

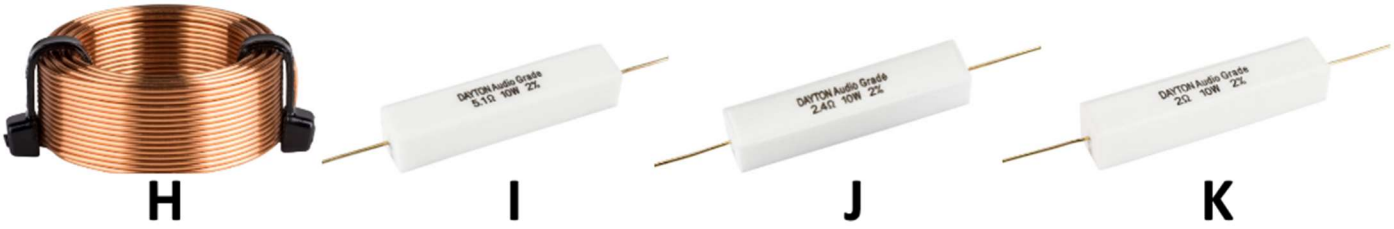
Main Components:

A) Dayton Audio RS180S-8 7" Reference Shielded Woofer 8 Ohm
B) Peerless DX25TG59-04 1" Fabric Dome Tweeter

Crossover Components:

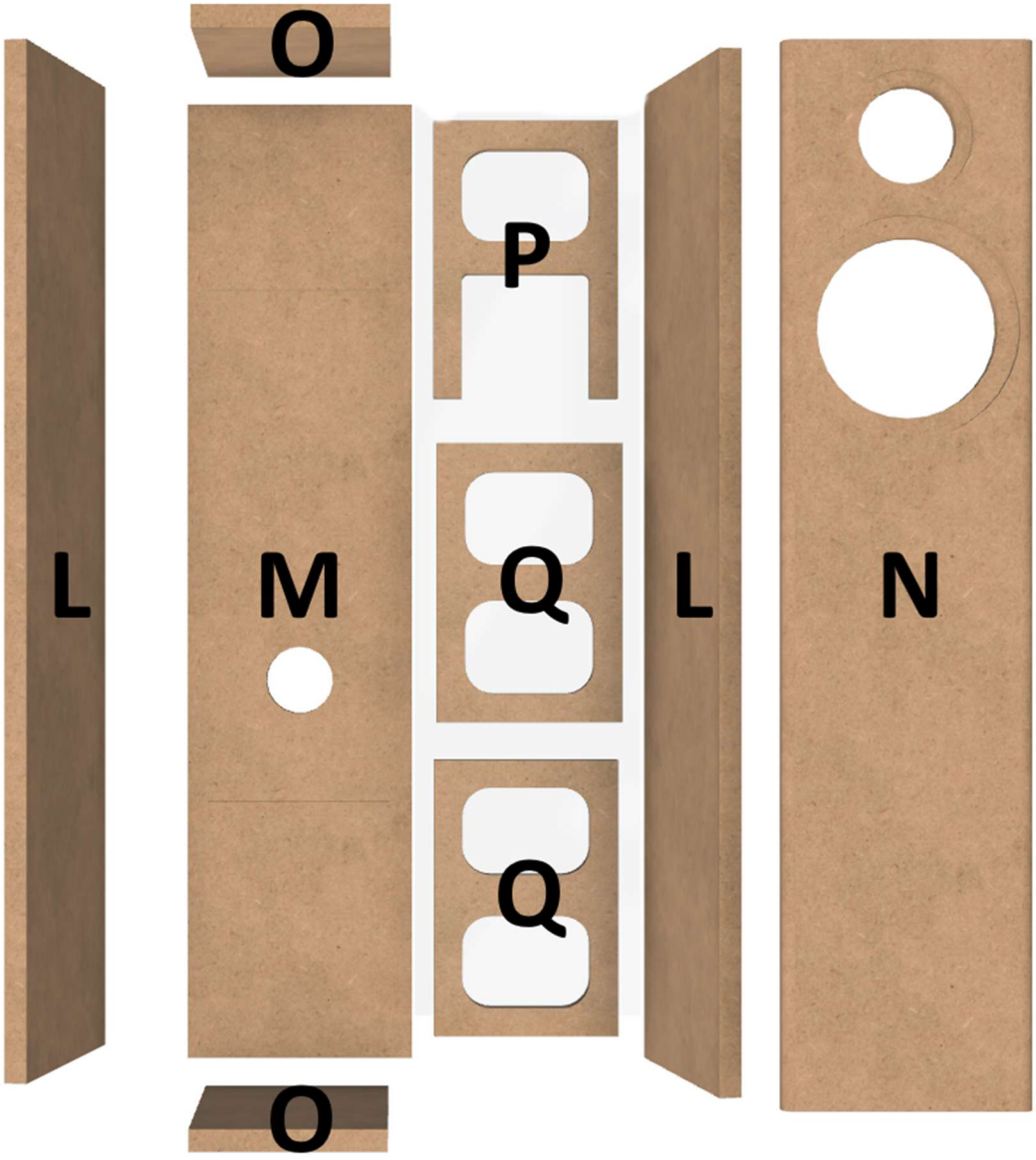


C) DMPC-8.2 8.2uF 250V Polypropylene Capacitor
D) DMPC-6.8 6.8uF 250V Polypropylene Capacitor
E) DMPC-0.22 0.22uF 250V Polypropylene Capacitor
F) LW182 2.0mH 18 AWG Perfect Layer Inductor
G) LW18-40 0.40mH 18 AWG Perfect Layer Inductor



H) AC20-35 0.35mH 20 AWG Air Core Inductor Coil
I) DNR-5.1 5.1 Ohm 10W Precision Audio Grade Resistor
J) DNR-2.4 2.4 Ohm 10W Precision Audio Grade Resistor
K) DNR-2.0 2 Ohm 10W Precision Audio Grade Resistor

Enclosure Components:



L) **2 x** Side Panels
M) Back Panel
N) Front Baffle
O) **2 x** Top/Bottom Panels
P) Top Brace
Q) **2 x** Center/Bottom Brace

Other Components:

R

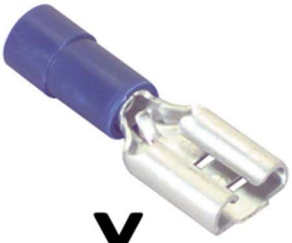
S

T

U

V

W



X

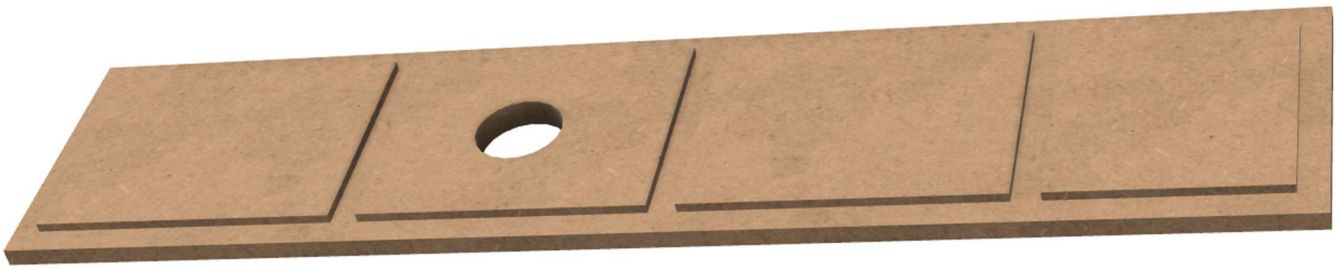
R) 2" ID Adjustable Port Tube
S) **2 x** Sonic Barrier 1/2" Acoustic Foam w/PSA 18" x 24"
T) **10 feet** 16 AWG 2-conductor Power Speaker Wire (Red/Black)
U) **25 x** #8 x 3/4" Pan Head Deep Thread Black Screws
V) Dayton Audio BPA-38G HD Binding Post Pair Gold
W) **2 x** 0.110" (16-14) Female Disconnect
X) **2 x** 1/4" (16-14) Female Disconnect

Enclosure Assembly:

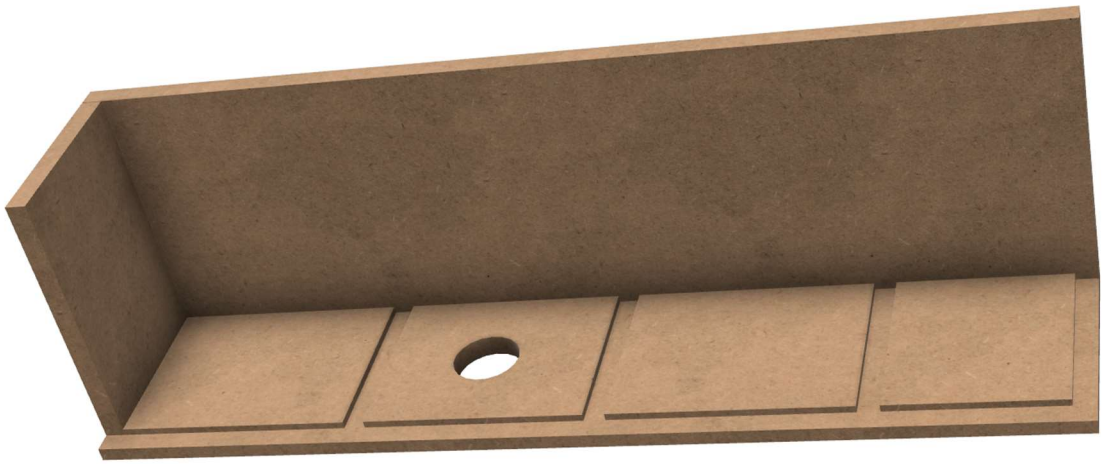
1) First, before gluing anything, do a dry fit of the enclosure to familiarize yourself with the parts and assembly. This will also give you a chance to ensure that all pieces have been cut properly.

2) Next, set the enclosure parts out on a flat level surface and ensure that all pieces are free of dust and debris.

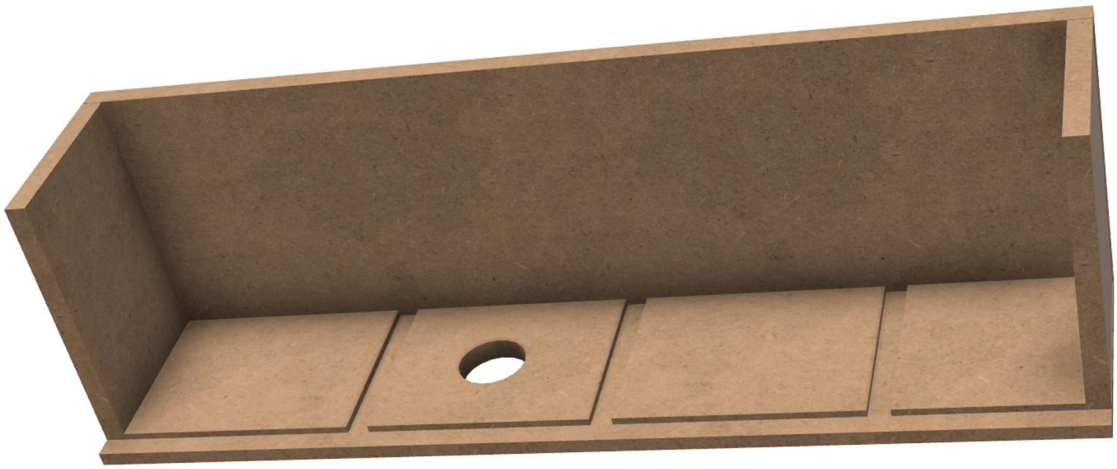
3) Start with the **Back Panel** (**M**) lying flat with the dadoed side up, as shown.



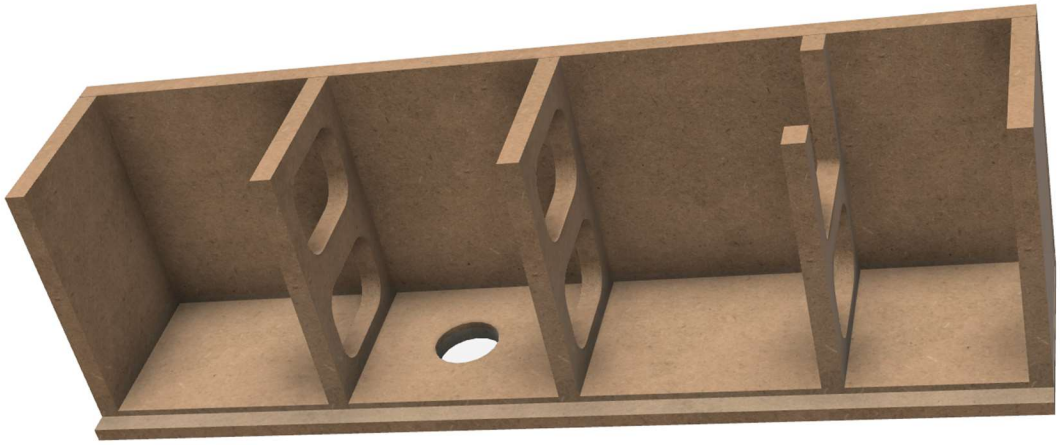
4) Apply a small bead of glue to the joining surface of the **Back Panel** and the **Bottom Panel** (**P**). Set the Bottom Panel in place applying enough pressure to ensure glue is spread through the joint (some glue squeeze-out can be expected). Then apply a small bead of glue to all joining surfaces of the Bottom Panel/Back Panel and one **Side Panel** (**L**). Then set the Side Panel in place applying enough pressure to ensure glue is spread through each joint (some glue squeeze-out can be expected). Align the seam between the Bottom and Side Panels to ensure that both panels are flush and square.



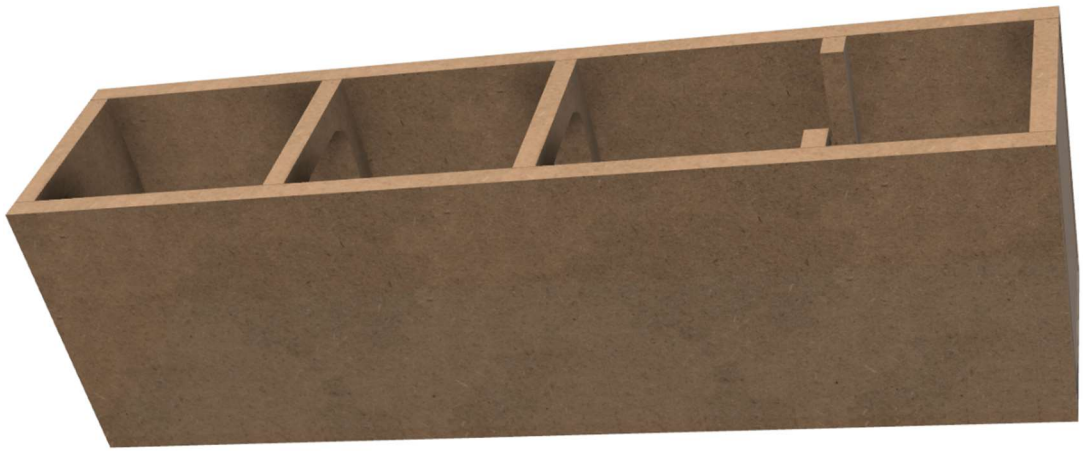
5) Apply a small bead of glue to the joining surface of the Back Panel/Side Panel and the **Top Panel** (**P**). Then set the Top Panel in place applying enough pressure to ensure glue is spread through each joint (some glue squeeze-out can be expected). Align the seam between the Top and Side Panels to ensure that both panels are flush and square.



6) Apply a small bead of glue to the joining surface of the Back Panel/Side Panel and the **Bottom Brace** (**Q**), **Center Brace** (**Q**), and **Top Brace** (**P**). Then set the Braces in place applying enough pressure to ensure glue is spread through each joint (some glue squeeze-out can be expected). Make sure the Top Brace is in the proper location (as shown below) to allow clearance for the woofer's magnet assembly. Also, ensure that the braces are all perpendicular to the Back Panel using a square or anything with a 90° angle (such as a piece of scrap wood).



7) Apply a small bead of glue to the joining surface of the enclosure assembly and the other **Side Panel** (**L**). Set the Side Panel in place applying enough pressure to ensure glue is spread through each joint (some glue squeeze-out can be expected). Align the seam between the Top Panel, Bottom Panel, and Side Panel to ensure that all panels are flush and square.



8) Make sure that all edges are flush and securely apply clamps from side to side, top to bottom, and front to back. 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 all 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.

Note: If you are planning on giving your Amiga a 2-tone finish (for example veneered cabinet with a black baffle) then you may want to apply the finish at this time. If so, refer to step **14** first.

10) Due to the restricted access inside the enclosure, we recommend that you install the crossover network, binding posts, and damping material at this time:

a) Crossover Newtwork: See steps **15** through **21** for crossover assembly instructions. Install the crossover in a convenient location inside the enclosure, we recommend mounting the crossover on the Back Panel directly behind the woofer opening (the crossover can be mounted to a 3" x 5" board for easier handling). Make sure the wires for the woofers, tweeter, and input will reach their intended locations.

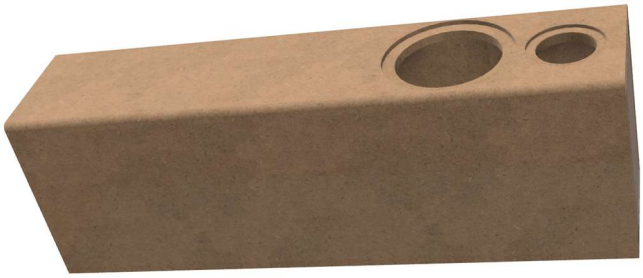
b) Binding Posts: Lay out the **Dayton Audio BPA-38G HD Binding Posts** (**V**) in a convenient location on the back panel. Make sure that they are located in an open space on the back panel and will not interfere with the bracing. Standard spacing for use with dual banana plugs is 3/4" on center. Drill a 1/4" hole for each binding post. When you are ready to install the binding posts remove all solder lugs, nuts, and washers then tap into place with a mallet or hammer (use a scrap wood block to protect the finish if using a hammer). Secure the binding posts with one nut each and tighten with a 10 mm nut driver or socket.

Connect the "Input" wires to the binding posts by adding a lock washer, solder ring terminal (connected to the input wires), lock washer, and then nut. Be sure to observe polarity when making these connections. Tighten each nut with a 10 mm socket. Inspect the wire routing and secure any wires that may be touching the enclosure walls or bracing with cable ties, hot glue, or wrapped in small pieces of **Sonic Barrier 1/2" Acoustic Foam** (**S**).

c) Damping Material: Line the inside of the enclosure assembly with the 2 x **Sonic Barrier 1/2" Acoustic Foam w/PSA 18" x 24"**(**S**). Cut the Sonic Barrier Acoustic Foam into manageable sized pieces using a sharp razor or scissors and a straight edge. Peel off the backing and firmly press the pieces into place. There is enough Sonic Barrier Acoustic Foam to completely cover the inside of the enclosure at this point (do not apply to the baffle).

Note: In this photo we left open space for the binding post and crossover installation. These spaces will be covered after the binding posts and crossover is installed.

11) Apply a small bead of glue to the joining surface of the enclosure assembly and the **Front Baffle** (**N**). Set the Front Baffle in place applying enough pressure to ensure glue is spread through each joint (some glue squeeze-out can be expected). Align the seams between the enclosure assembly and Front Baffle to ensure that all panels are flush and square.

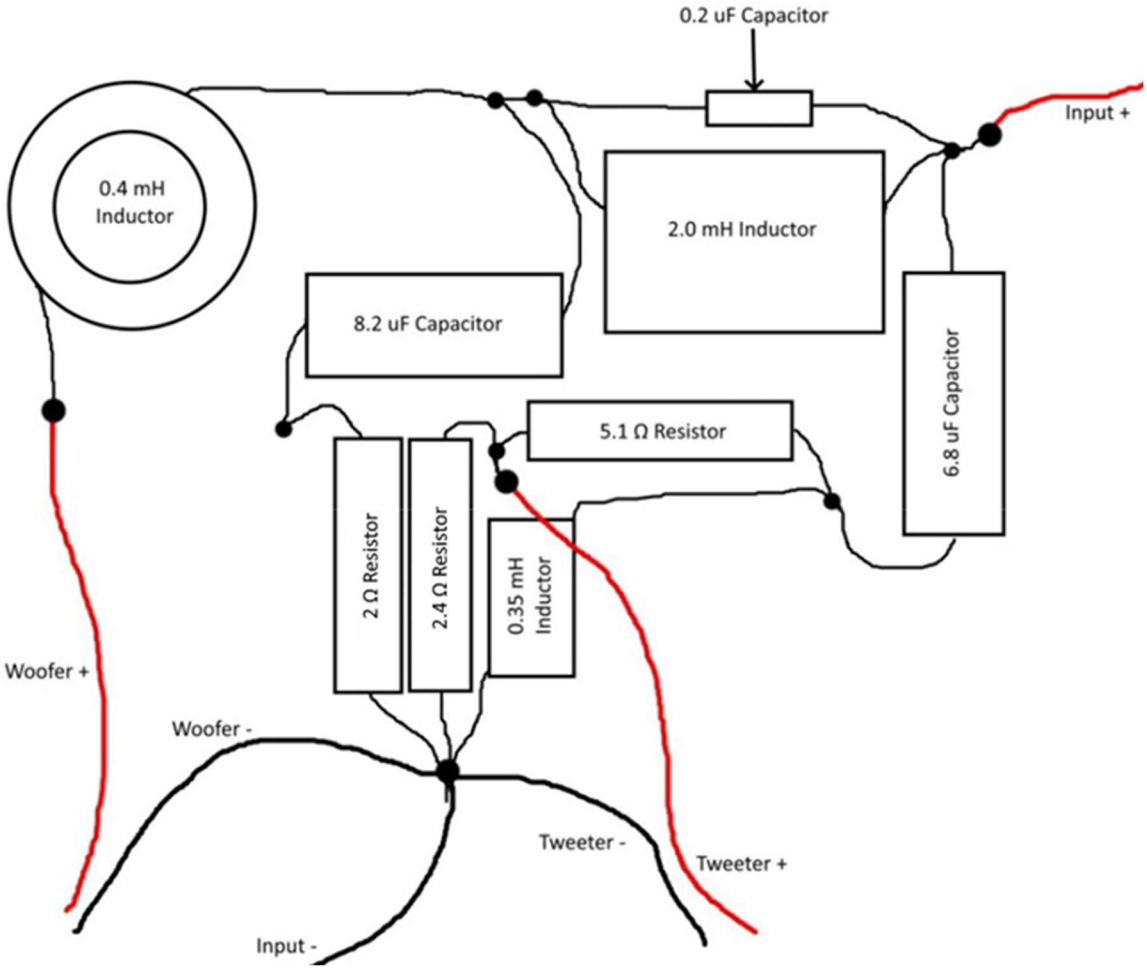


12) Make sure that all edges are flush and apply clamps securing the Front Baffle in place. Apply ample pressure to ensure glue is spread evenly through each joint (some glue squeeze-out can be expected). Visually inspect all seams to make sure they are flush and closed tightly, you may need to relocate clamps (or add more clamps) to get a perfect fit.

13) 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.

14) Finally, fill any open seams with wood filler or a mixture of sawdust and wood glue. Then sand all surfaces and seams until smooth. Finish enclosure to your liking. See our web page for ideas and examples.

Crossover assembly:



Point-to-Point Wiring Diagram

15) 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.
Note: The crossover schematic is provided at the end of this assembly guide

16) 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.

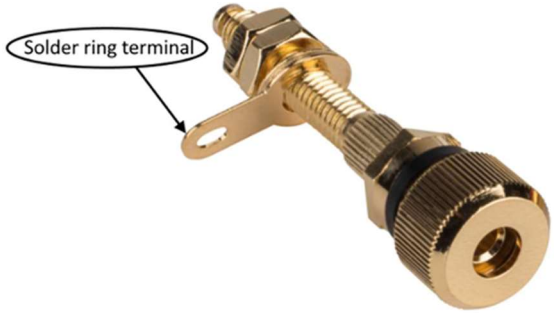
17) With a hot soldering iron, apply solder to the connections between components. Heat the junctions evenly and verify that the solder flows into the connections rather than forming a "blob" on the surface (cold joint).

18) Cut two pieces of **16 AWG 2-conductor Speaker Wire (Red/Black)** (**T**) approximately 18" – 24" in length and label these wires "woofer" and "tweeter". Strip 3/4" – 1" of insulation from one end of each wire. Solder the red wires to the corresponding connections in the point-to-point wiring diagram labeled "Woofer +" and "Tweeter +".

19) Next cut another piece of **16 AWG 2-conductor Speaker Wire (Red/Black)** (**T**) approximately 20" – 24" in length and label this wire "input". Strip 3/4" – 1" of insulation from one end of this wire. Solder the red wire to the connection in the point-to-point wiring diagram labeled "Input +".

20) Solder all the stripped black ends to the negative (-) connection at one time. This connection may require a lot of heat to properly wick the solder, so take your time and be patient when making this connection.

21) Finally, remove the nuts and solder ring terminals from the **Dayton Audio HD Binding Posts** (**V**). Strip approximately 3/4" of insulation from the other end of the "input" wire and make sure the strands are tightly twisted together. Insert the stripped ends through the small hole in the solder ring terminals and fold the wire tightly to secure it to the terminal. Using a soldering iron, apply heat to the terminals and solder the wire and terminal together. See images below:



Wire wrapped through terminals

Wires soldered to terminals

Final Assembly:

Note: We recommend that you temporarily wire everything up at this point to ensure all parts (crossovers and drivers) are performing properly.

22) At this point we recommend that the binding posts, crossover, and Sonic Barrier damping material is already installed. If not, please refer to step **10** above before continuing

23) Using a hand saw or jigsaw, cut the **2" ID Adjustable Port Tube** (**R**) to a reccommended length of 3.5". Set the 2" ID Adjustable Port Tube into its opening in the Back Panel. Secure the Port Tube with 4 x **#8 x 3/4" Pan Head Deep Thread Black Screws** (**U**).

24) Strip about 1/2" of insulation from the ends of the "Woofer" and "Tweeter" wires. Securely crimp the 2 x **0.110" (16-14) Female Disconnects** (**W**) to the "Tweeter" wires. Securely crimp the 2 x **1/4" (16-14) Female Disconnects** (**X**) to the "Woofer" wires.

25) Connect the wires labeled "Tweeter" to the **Peerless DX25TG59-04 1" Fabric Dome Tweeter** (**B**). Be sure to observe polarity while making this connection (red wire to +, black wire to -).
Note: The polarity for the tweeter is labeled on the back of the mounting flange, as shown below:

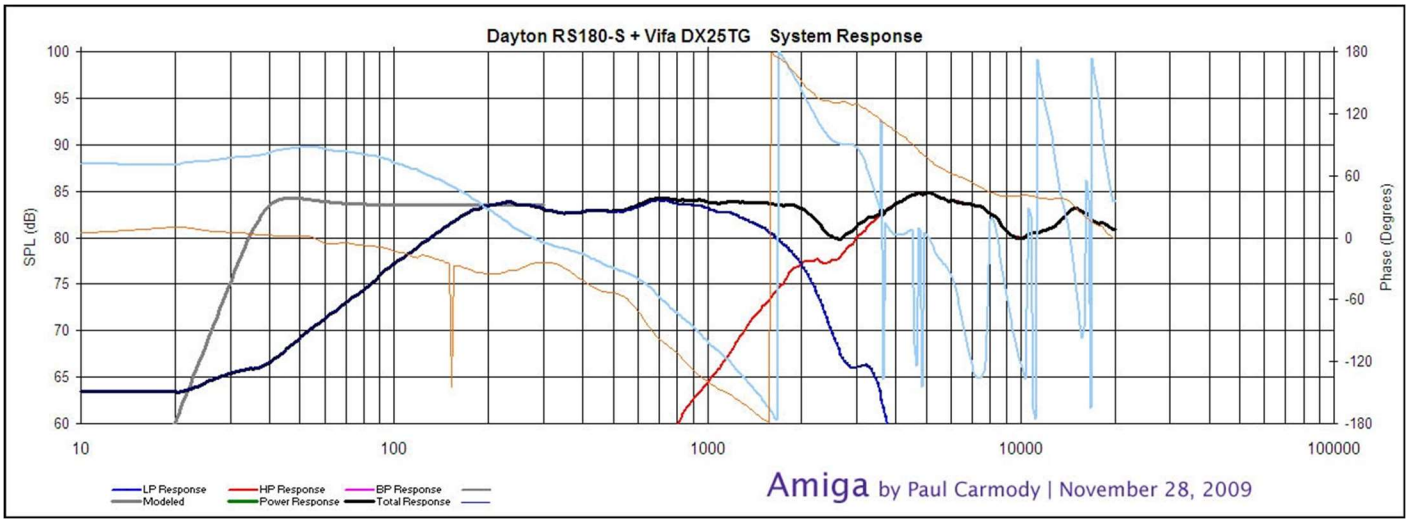
26) Set the Peerless DX25TG59-04 1" Fabric Dome Tweeter into its opening. Use 5 x **#8 x 3/4" Pan Head Deep Thread Black Screws** (**U**) to secure the tweeter (a power drill is not recommended).

27) Connect the wires labeled "Woofer" to the **Dayton Audio RS180S-8 7" Reference Woofer** (**A**). Be sure to observe polarity while making this connection (red wire to +, black wire to -).

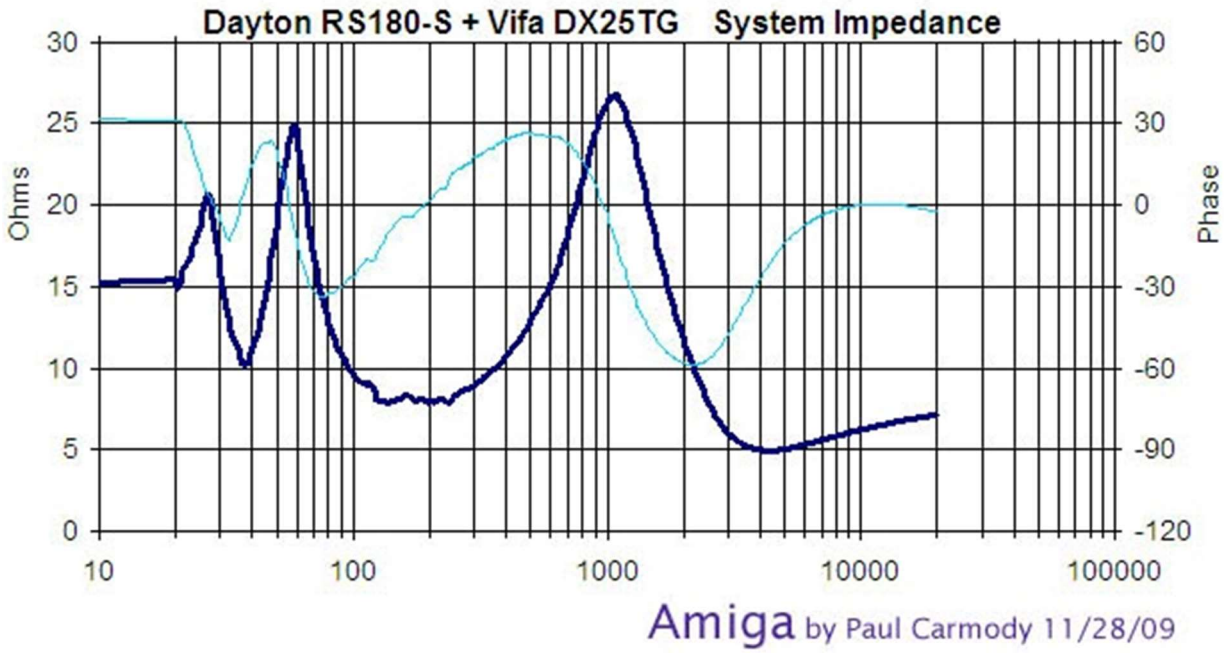
28) Set the Dayton Audio RS180S-8 7" Reference Woofer into its opening. Use 6 x **#8 x 3/4" Pan Head Deep Thread Black Screws** (**U**) to secure the woofer (a power drill is not recommended).

You are now ready to enjoy your finished Amiga tower speaker pair.

Amiga Tower Speaker On-Axis Frequency Response:



Final Impedance:



Crossover Schematic: