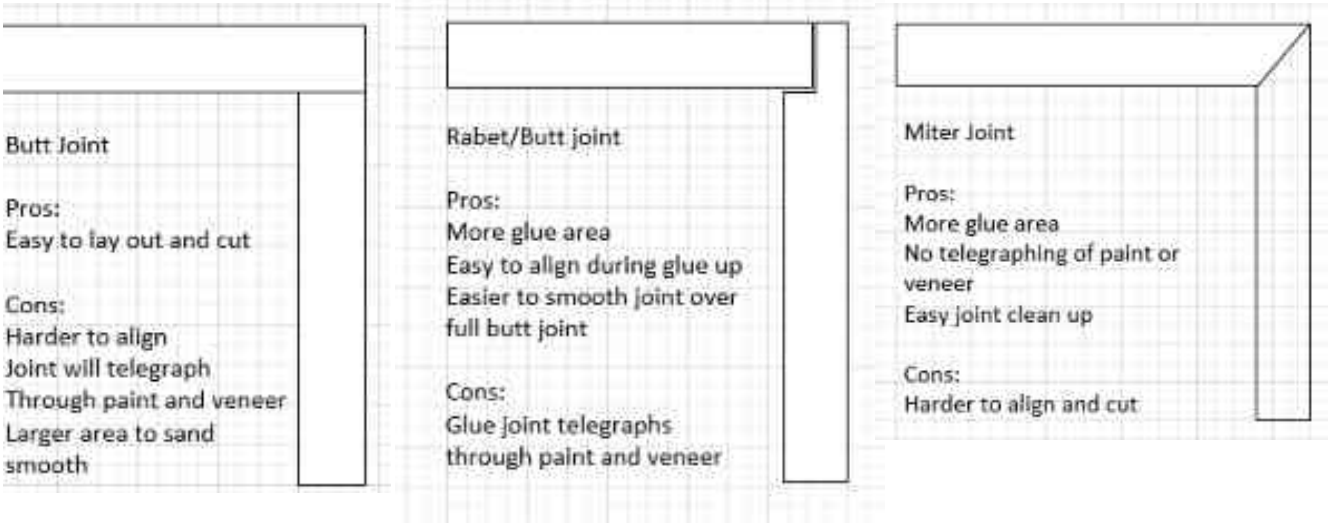
General Kit Assembly

The kit has 3 assembly stages. You can complete 1 or 2 in any order, but I have made notes about considerations to make in the stages.

1 - Build the cabinet from the plans.

The plans don't show the joint detail, just the outside dimensions. The butt joint is the easiest to cut. You can easily change to a rabbeted or mitered joint depending on your woodworking experience. Ensure that you account for any changes in panel dimensions when switching to a different joint method.



Driver Holes

The dimensions for the holes in the CAD drawing are the actual diameters of the drivers. If you cut the holes to those dimensions, the drivers will be very tight.

It is best to cut your driver holes slightly larger.
This allows room for paint or other finish materials
and makes it easier to remove the drivers later.

Usually, adding 1/64" to the hole size is enough.
Try a few practice cuts on scrap ¾" MDF material before your final cuts.

If someone else is making the cabinet for you,
remind them of this and give them one of each driver.
This way, they can test-fit their cuts.

You can download the separate guide for assembling a flat pack if you purchased it.

Considerations

Before planning any bracing, port, or terminal locations,
think about where you will place the crossover board.

The easiest place for the board is on the back of the cabinet, behind the woofer.

Check if your chosen spot interferes with bracing, the port tube, or the terminal locations.

You may need to move the board to the side or bottom of the cabinet.

This is especially important for smaller bookshelf kits, where the internal space is limited.

---

2 - Assemble the Crossovers

A PCB and circuit diagram are included.

There is a separate photo guide showing the parts layout on the PCB.

Hopefully, you know how to solder.
If not, I assumed you asked me to do it when you placed the order.

Only the inductors need to be secured with cable ties.
The other parts are light and will stay secure with just solder.

The other components will be held in place before soldering by bending over the leads on the
Back side of the circuit board

It's best to mount the parts with the values “up” so they are easy to read.

This helps you verify that the circuit is correct later.

Resistors

It is advisable not to glue resistors to the board, as they tend to get warm during use.

Many experienced designers lift the resistors slightly for better air circulation.
This is easier with circuit board mounting, more difficult with point-to-point wiring.

You can now solder the leads together, following the circuit diagram.

Use a pencil-type soldering iron. I like the chisel tip.
Never use the old “gun” type, as they don’t get hot enough.

Set your iron to around 700°-750F (370°C).
Make sure to heat the joint first, then add the solder.

Do not add solder to the iron.
This ensures a strong, clean solder joint.

Double-check your circuit against your finished assembly.

It’s easier to desolder any mistakes now, before trimming extra leads.

Testing

Next, test the crossovers with the drivers attached.
This confirms that:

- the drivers are working
- parts are soldered correctly
- the crossover is sending the right frequencies to each driver

Play music at low levels.
Use alligator clips for testing.

Test the tweeter and woofer separately to spot mistakes.
It’s much easier to fix issues now, before mounting the crossover inside the cabinet and installing the drivers.

---

3 - Putting It All Together

Attach the recommended length of hookup wires to the crossover.

Larger than 16 gauge is not needed.
You can solder or use push-on connectors (recommended).

If using push-ons, make sure they fit snugly so they do not come off later inside the cabinet
You are welcome to solder most of the connections, but the circuit board uses the green Phoenix connectors to clamp the wire down.

Temporarily mount the crossover inside the cabinet where you chose earlier.
Run the wires to their respective driver holes.
Using color-coded wiring helps avoid mistakes:

- Red/black for tweeter
- Blue/black for woofer
- Yellow/black for midrange
- Green/black for input terminals

The color goes to the positive (+) terminal or driver.
The black goes to the negative (-) terminal or driver.

Terminals - The terminal cup will be the easiest to wire. Just run the wire out the back through its mounting hole, trim the wires to a workable length, and solder or use push-ons to the corresponding terminals. Be sure to double-check plus and minus connections. Again, color coding is great for this.

Once the hookup wires are routed through their proper holes, affix the crossover board. Securing it with screws is highly recommended over gluing, as gluing makes it nearly impossible to remove the crossover later for maintenance or testing.

If using a terminal cup, secure it to the back of the cabinet using its mounting screws.

Installing binding posts is slightly more detailed:
1. Solder your input wires to the provided solder ring tabs.
2. Insert the terminal posts through the back of the cabinet (by standard convention, red/positive goes on the right).
3. Use the first nut to tighten the post securely to the cabinet.
4. Slip the ring tab onto its corresponding post, then use the second nut to tighten the ring terminal against the post. Ensure the terminals do not rotate or short against each other while tightening.

Damping – Install the recommended damping material inside the cabinet (bonded Dacron sheets are most common and easiest to use). Cut sheets to fit through the woofer cutout and layer them from back to front. If using loose fill, weigh it beforehand to ensure equal amounts in both cabinets. (see separate graphic)

Reposition the driver hookup wires through their respective holes if they shifted during damping placement.

Connect the tweeter first and save the woofer for last. If a wire or screw drops through the tweeter hole, it is much easier to retrieve through the larger woofer cutout.

Trim the wires to an appropriate working length—long enough for easy connection, but short enough to avoid tangling inside the cabinet. Push-on connectors are recommended for driver connections because they simplify removal if you need internal access later. Ensure connectors fit snugly so they do not detach during operation.

Next, connect the woofer using the same procedure as the tweeter.

Finally, secure the drivers with mounting screws into pre-drilled pilot holes. While a power screwdriver speeds up installation, use a manual screwdriver to hand-tighten the final turns. Over-tightening with power tools can warp the frame or cause the bit to slip and damage a driver surround.

If you plan to experiment with damping material or tweeter padding resistors, use only two mounting screws per driver temporarily while testing.