

Veritas One Assembly Instructions

What You'll Need

At a minimum:

1. Screw Driver
2. Hammer or Mallet
3. Soldering Iron
4. Wire Cutters/Strippers
5. Wood Glue
6. Tape or Glue for the Port

You might also find beneficial:

1. Clamps
2. Electric Drill

Flat Pack Enclosure Assembly

1. Verify all cabinet parts were received. *(See figure 1)*

2. Clear dust from the corners of all panels. Any debris in the joints will prevent a tight, flush surface when gluing up the cabinet. Make sure the magnet holes on the front panels are clear of dust.

3. Assemble the cabinet **WITHOUT** glue to ensure all panels fit together.

We recommend placing the larger side panel on the work surface, then the center brace (figure 2), front and rear panels, top and bottom panels (*figures 3&4*), and finally the opposing side panel. No large gaps should be visible, and joints should be square (*figure 5*). If gaps are visible, ensure panels are in the correct position and joints are tight, even without glue.

NOTE: Due to regional and seasonal humidity differences, some sanding of the joint surfaces may be required to insert braces into appropriate slots. Remember to clean any sanding debris after confirming that the adjustments are sufficient.

4. Disassemble cabinet and place panels on a clean surface, arranged for easy assembly.



FIGURE 1

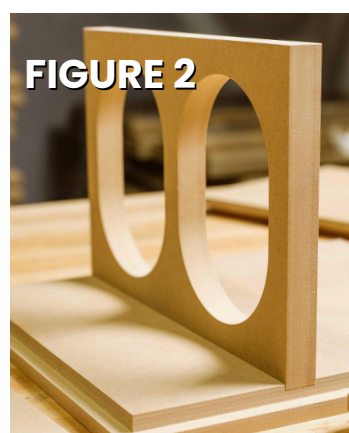


FIGURE 2

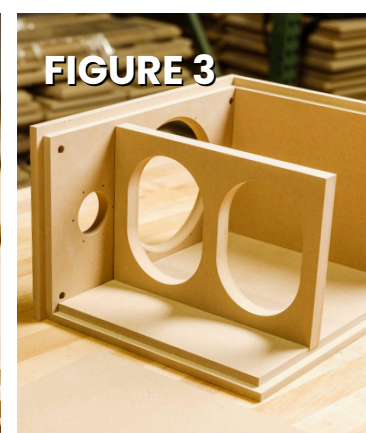


FIGURE 3



FIGURE 4



FIGURE 5

5. (OPTIONAL) Before assembly, drill pilot holes for mounting the crossover board using the board as a template. *(figure 6)*

Use caution not to drill through the panel. The board should be mounted on the bottom panel and pushed as far back as possible. This will make installation of the board easier once your cabinet is fully assembled. Screws can be secured into the MDF cabinets without drilling if desired.

Now is the best time to install magnets into the baffle if using the grill kit. This YouTube video can be used as a guide:

<https://youtu.be/QD4HvV4hPFM>

6. Apply wood glue to mating seams one at a time and assemble using the steps above as a guide *(figure 7)*.

7. After the cabinet is assembled and the glue fully cured, fill any gaps with wood filler or Bondo and sand all surfaces flat.

8. Finish as desired using veneer, vinyl, paint, etc. *(see CSS blog post for ideas)*. *(figure 8)*

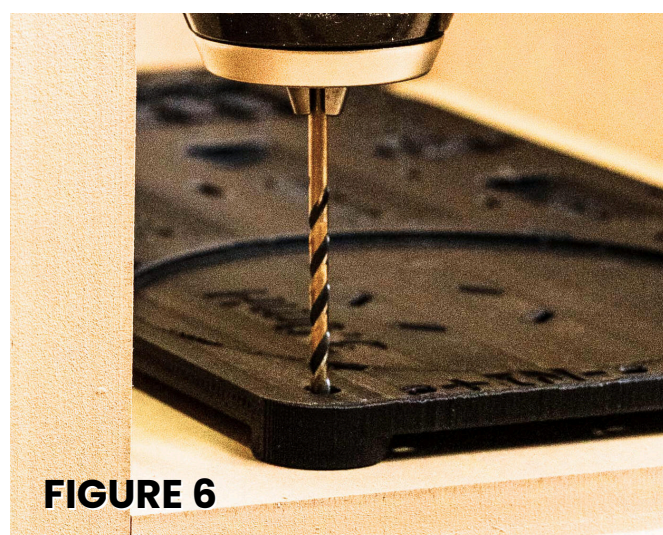


FIGURE 6



FIGURE 7



FIGURE 8

Crossover Assembly

1. Verify all crossover components and boards are present (figure 9).

Woofer: (figure 10 & 11)

- 3mH Inductor (x2)
- 0.22 μ F Capacitor (x2)
- 6.2 μ F Capacitor (x2)
- 2 Ω Resistor (x2)

Tweeter: (figure 12 & 13)

- 0.2mH Inductor (x4)
- 6 Ω Resistor (x2)
- 8 Ω Resistor (x2)
- 10 Ω Resistor (x2)
- 5.6 μ F Capacitor (x2)
- 8.2 μ F Capacitor (x2)

2. Place each component in its designated location on the crossover boards using the provided wiring diagram and board layout as a guide.

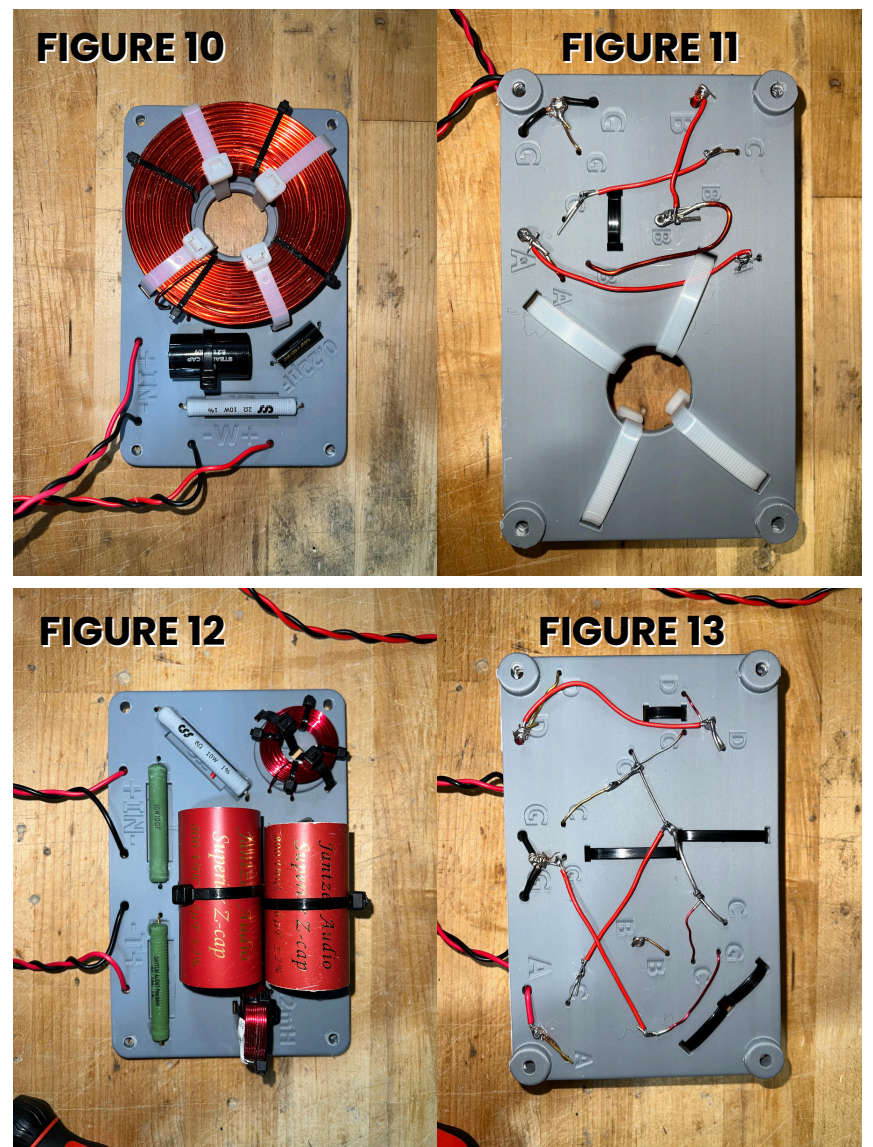
Orientation does not matter as long as component leads can reach their designated through-holes.

3. Insert all component leads through the board and secure components in place with the supplied zip ties before soldering.

4. Cut 3 lengths of the white wire, long enough to reach from:

1. The binding posts on the rear panel to the crossover board (15")
2. The woofer terminals to the crossover board (17")
3. The tweeter terminals to the crossover board (21")
4. Remove 4" of the outer white insulation from each end of each wire.

5. On the backside of the board, solder the leads together that share common letters (e.g., A to A, or B to B to B, etc.) using the supplied red hookup wire as necessary. Ensure that no bare wires are accidentally touching (figures 11 & 13).



NOTE: Crossing bare wires from non-matching letters can degrade sound quality and damage the drivers or amplifier. To make a connection across another wire, prevent issues, and ensure you use the red insulated hookup wire supplied in your kit.

NOTE: Inductors have an insulating coating. Do **NOT** solder directly to the red or orange colored portions of the inductor wire, or you will cause an open circuit. Solder to the pre-tinned leads (silver portion) to ensure proper connection.

6. Insert the red wire through the T+ hole on the front of the tweeter board and solder to the appropriate letter on the rear (*figure 14*).

Insert the black wire through the T- hole on the front of the SmartNode board and solder to the appropriate letter on the rear.

7. Insert the red wire through the W+ hole on the front woofer board and solder to the appropriate letter on the rear. Insert the black wire through the W- hole on the Smart Node board and solder to the appropriate letter.

8. Insert the red wire through the IN+ hole on the front of the Smart Node boards and solder to the appropriate letter on the rear. Insert the black wire through the IN- hole on the front of the Smart Node boards, then solder it to the appropriate letter on the rear (*figure 15*).

9. Identify the red quick-disconnect and black quick-disconnect that match the designated wires. Each will receive a quick connect. Strip small amounts of insulation from the matching colored wire. Insert the insulated connection cover. Trim exposed copper wire as needed. Twist the same color wires together and crimp the connector to the exposed portion of the wire (*figure 16*). Solder can be used on the crimped portion of the wire to provide a more secure connection.

NOTE: Your kit includes multiple sizes of quick-connect female terminals for driver and binding post connections. The black connections are for the negative terminals, and the red connections are for the positive terminals. Check all quick connects and match them to their appropriate locations before crimping to any wires. The larger terminal on the driver is positive. (*figure 17*)

- Black Small - Negative Woofer & Negative Tweeter
- Black Large - Negative Binding Post
- Red Large - Positive Tweeter & Positive Binding Post
- Red Medium - Positive Woofer & Positive Tweeter

NOTE: Crimp connectors may need to be slightly opened to accommodate multiple wires. Ensure a tight mechanical connection before crimping. Do **NOT** solder these connections. (*figure 18*)



FIGURE 14



FIGURE 15

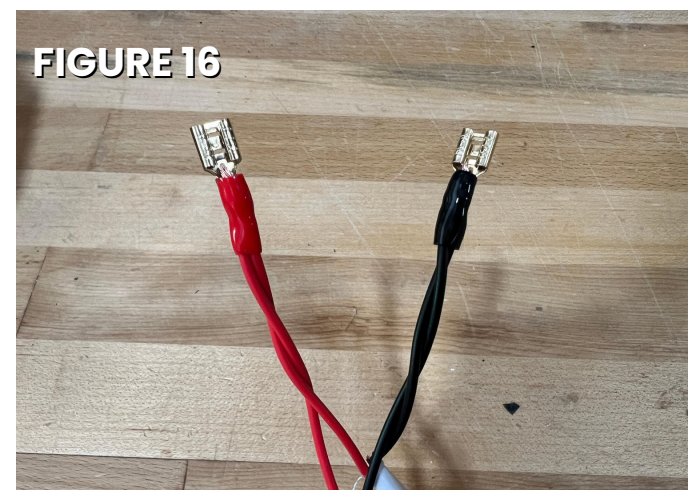


FIGURE 16

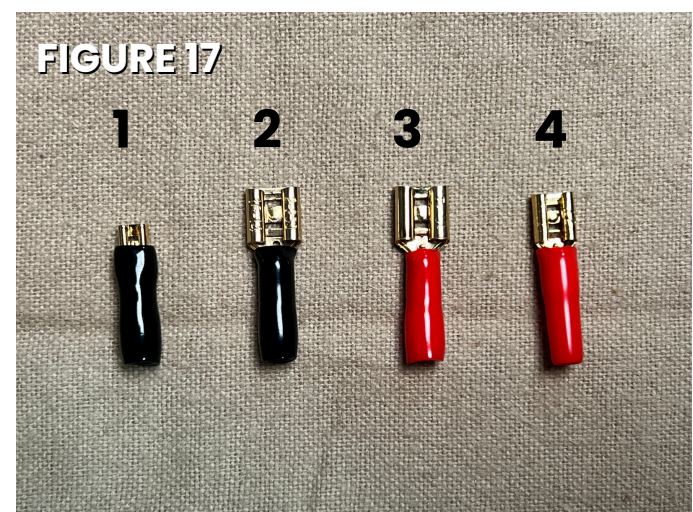


FIGURE 17

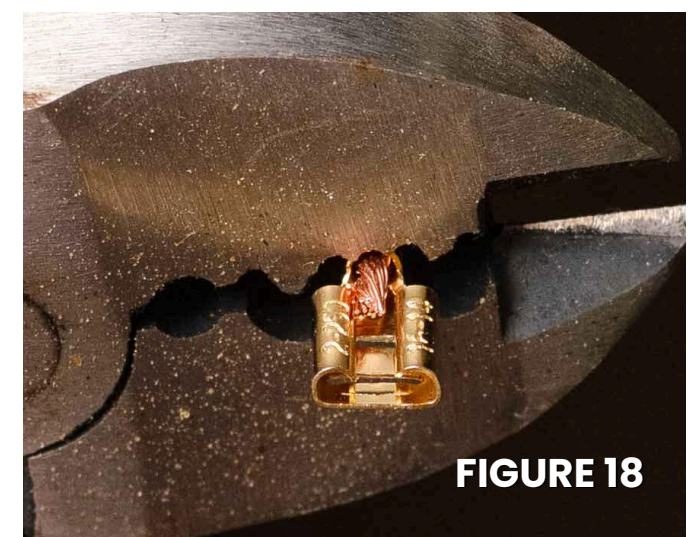


FIGURE 18

10. Pull the tweeter wire (marked "T" in step 3) through the tweeter hole and slide the quick connects onto the tweeter terminals – large to large and small to small (*figure 19*). Give the wires a light tug to check the grip. If they slide off easily, close the opening a little on the quick connects with a pair of pliers and repeat until a snug fit is achieved. Then install the tweeter in the proper place using the included screws.

11. Repeat step 8 for the woofer (*figure 20*).

Final Assembly

CAUTION: It is recommended to test your speaker after final assembly by starting at a very low volume and listening to each driver by placing your ear close to it. You should hear highs coming from the tweeter and lows from the woofer. You should hear no crackling or static. If everything sounds normal, proceed to turn up the volume and enjoy.

1. Binding Posts

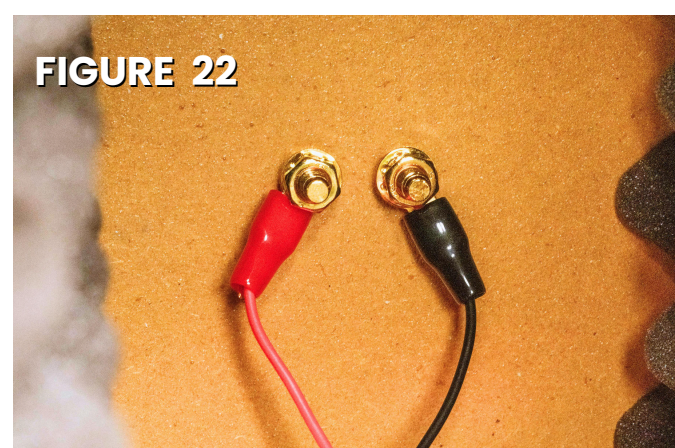
Unscrew the nuts, remove the washers, and remove the terminal rings. Unscrew the thumbscrew with colored stripes on the opposite end of the binding post and remove it.

Insert the long-threaded end of the binding posts into the holes on the rear panel and tap them in with a hammer (*figure 21*), making sure to orient the through-wire openings up and down for easy accessibility.

Reinstall the nuts, lock-washers, and terminal ring in the following order: nut, lock-washer, terminal ring, lock-washer, nut. Tighten with a small socket or wrench to ensure they do not rattle loose (*figure 22*).

Reinstall the thumbscrews on the outside of the box.

NOTE: It is recommended to install binding posts after you have applied the finish to your cabinet. They are difficult to remove once installed and might not fit snugly if reinstalled. If you want to test your speakers before the final finish is applied, it is recommended to run jumper wires from the positive and negative input wires on the crossover out of the port, and to place painter's tape over the binding post holes



2. Port(s)

- Adjust the port for an overall length of 9 inches.
- Glue or tape the extension in place (*figure 23*). If using tape, use a single wrap of thin tape so it doesn't snag during insertion in the precut hole. Insert the port into the opening and screw it into place. Drilling pilot holes is recommended, but not necessary.

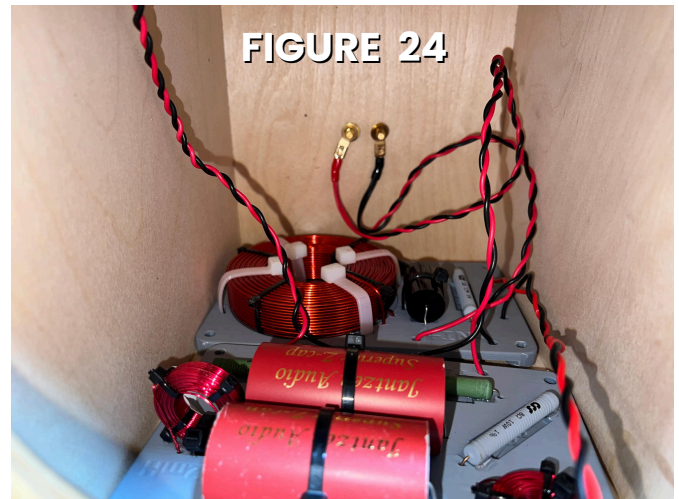
FIGURE 23



3. Crossover Boards

- Mount SmartNode crossover boards inside the cabinet, against the bottom panel, pushed as far back as possible. For the superior boards, place the larger inductor toward the back of the cabinet.
- Attach the red input wire to the binding post terminal with the red ring. Attach the black input wire to the binding post terminal with the black ring (*figure 24*).

FIGURE 24



4. Foam

- For each cabinet, cut one 24" x 10.5" foam sheet into three equal sections approximately 8" x 10.5".
- Take one of the 8" x 10.5" sections, rotate 90°, and cut each in half to create two pieces approximately 5.25" x 8". (*figure 25*)

FIGURE 25



1. Install foam with the ridges facing inward:

- Place two 8" x 10.5" pieces on the cabinet sides
- Place one 5.25" x 8" piece against the rear panel
- Place the remaining 5.25" x 8" piece over top the crossover boards (*figure 26*)

FIGURE 26



5. Drivers

- Pull the tweeter and woofer wires from the crossover board through the appropriate driver holes in the front of the cabinet. Connect the wires to the appropriate driver, then install the drivers in the cabinet using the provided screws (*figure 27*).

FIGURE 27



CAUTION: It is recommended to test your speaker after final assembly by starting at a very low volume and listening to each driver by placing your ear close to it. You should hear highs coming from the tweeter and lows from the woofer. You should hear no crackling or static. If everything sounds normal, proceed to turn up the volume and enjoy.

Troubleshooting

1. No Sound From the Whole Speaker - No sound from one or both speakers typically means you have a problem on the amp input side of the crossover. Check that your input wires are properly connected to the crossover (including the ground wires returning to the negative connection) and to the binding post side. Ensure the input wires and binding posts are not shorted by stray wires or other metal, creating a conductive path between the negative and positive.
2. No Sound From One Driver - No sound from a single driver most typically results from a bad connection in the crossover. Review all connections to make sure only similar letters are on the same connection points. Ensure inductors are properly connected to tinned/bare wire, not over the insulation. Ensure there are no loose connections anywhere.
3. Crackling Sound – Crackling sounds are usually the result of a loose connection. Check to make sure you have secure connections on all driver and binding post wiring. Ensure crossover wiring has a solid connection, and solder welds are tight. You should see no movement in the joint itself. Check crossover wiring for any bare wires that are inadvertently touching where they shouldn't. If the source cannot be identified, contact us.
4. Amp Shuts Down – An amp shutting down is likely caused by a straight short to ground, meaning your amp is seeing minimal or no resistive load. The most likely cause is wiring touching where it shouldn't be. Check crossover wiring for any bare wires that are inadvertently touching where they shouldn't. Ensure that binding post terminals are not inadvertently touching. An amp shutting down is likely a straight short to ground, meaning it's seeing no resistive load. If the source cannot be identified, contact us.
5. Lack of Bass – There are a few things that can cause a lack of bass. Check to make sure all your connections have the same polarity on both the inside and the outside of the binding post. Inverting the polarity of one speaker will cause bass cancellation. Ensure there is free airflow around the port openings and that they are not blocked by stuffing material. Ensure the woofer is connected to the woofer W +/- section of the SmartNode board and not the tweeter T +/- section. Ensure the port is adjusted to the correct length. If the source cannot be identified, contact us.