

ASSEMBLY INSTRUCTIONS



S350 Sealed Active Subwoofer Kit

Designed and manufactured in Australia by: The Loud Speaker Kit (ABN 39 089 764 616).

www.theloudspeakerkit.com

21 Harrogate Street
Leederville, Western Australia 6007

Tel: (08) 9382 8588

Fax (08) 9382 8087

S350 Mk1 V1.2



Instructions for Assembly

S350 Subwoofer

Congratulations on the purchase of your new Subwoofer kit. By following these simple instructions you'll have your new high performance Subwoofer up and running in no time! Visit us on the web at www.theloudspeakerkit.com to get more detailed assembly instructions and step-by-step guides to painting, veneering and lacquering your new speaker.

You'll need a Philips head screwdriver, a 15mm spanner or adjustable wrench and a small tube of PVA woodworking glue to assemble this kit. The glue can be purchased from any hardware store or supermarket. You'll also need a damp cloth and some fine grade sandpaper (optional). A cordless screwdriver may assist in assembly.

Step 1 - Preparation

Lay the contents of the box out and check you have everything you need to complete the kit. Find a suitable work surface and make sure it won't be ruined if you spill some glue. Avoid placing newspapers under the kit whilst constructing it as newsprint may rub off onto your kit, especially when mixed with glue, and mar the finish.

Lay out all the parts and try test fitting the 6 MDF panels together (without any glue) to make sure you understand where everything goes - make particular note of which surfaces will need to be glued to ensure a strong bond. The parts should fit together snugly without having to be forced. If you find that force is required, or that some panels appear slightly longer than others, the MDF may have absorbed moisture and swelled. Lay the panels flat in a dry, warm area for a few hours and they should return to original size. In extreme cases you may need to use a woodworking file to reduce the MDF slightly.

Be careful when pulling the box apart to ensure you don't damage the edges of the panels.

The Front panel has a small rectangular cut-out near the top for the control unit, and a rebated border on one side of the panel (fig 1). The back panel is the same, with a much larger cut-out for the amp module itself. The top panel has the routed channels cut along two edges (fig 2), and the bottom panel is the same with a large round cut-out for the woofer. The two side panels have no cut-outs, just a ridge along the top and bottom edges.

Step 2 – Back and Base Panels

Place the back panel on a level surface, face down, and squeeze a generous amount of glue along the rebated border (as shown in Figure 1).

Take the top panel and squeeze an even amount of glue into the two channels along both sides, and the top edge (Fig 2). Rest this base panel upright on the top rebate of the back panel, with the two channels facing in (Fig 3). The outside edges of these two panels should be aligned.

Step 3 – Side, Base and Front panels

Take one of the side panels and squeeze an even amount of glue along the rails on each end of the panel (fig 4). Place this panel upright on the side-rebate of the back panel, with the corners of the side and base panels locking together (Fig 5). Repeat this for the remaining side panel (Fig 6).

Take the remaining base panel and, as before, squeeze an even amount of glue along the two channels. Place this on the bottom-rebate of the back panel, locking in the two side panels.

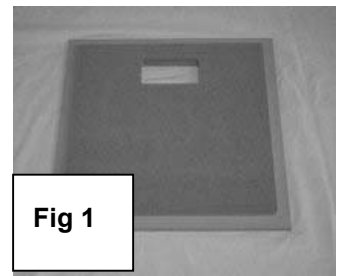


Fig 1



Fig 2

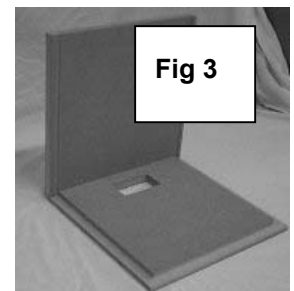


Fig 3



Fig 4

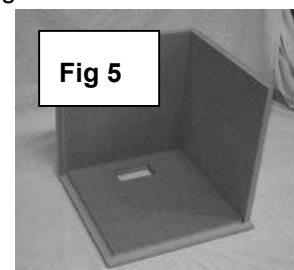


Fig 5

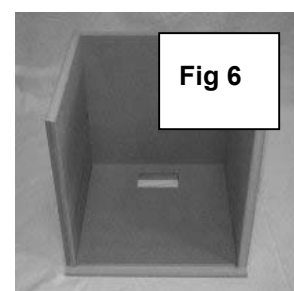


Fig 6

You should now have an open-faced rectangular box (Fig 8).

Wipe off any excess glue around the edges with the damp cloth.

Step 4 – Front panel

Apply a thin layer of glue to the front edge of the box and the front panel, taking care to smooth the glue out evenly. Press the front panel into place ensuring that each corner aligns (Fig 9). Wipe off any excess glue with the damp rag.

Important: make sure that the pre-cut hole on the rear panel for the amplifier module is aligned closest to the top of the speaker (fig 9)

Step 5 - Clamping

It is not necessary to clamp the S350 although sometimes a small ridge may be left on the top panel if it is not. If you have access to wood clamps (at least 460mm long), use 2 of these to clamp the top and bottom panels together as this will be the area with the most tendency to spring apart. You can also clamp the front and back panels together although this is not usually required. Before clamping, make sure each edge is carefully aligned - a little care here will ensure the best result. The front and rear panels are deliberately designed with a little play to ensure that they can be accurately aligned to give an overall flat top to the kit.

Once you have clamped the box, ensure you wipe off any excess glue that has been squeezed out. Leave the box to dry, at least 2 hours in warm weather, overnight is usually best, then remove the clamps. To obtain a smooth finish, lightly sand the edges of the panels with a fine grade sandpaper, about 180 grit works best. If you plan to paint the box, a little extra effort now to remove all traces of glue and rough edges will be well worth it.

If you want to finish the speakers in one of the optional finishes shown on our web site now is the time to do this.

Step 6 – Attach the feet

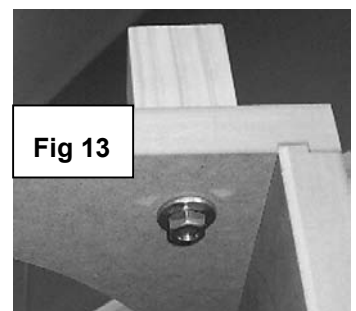
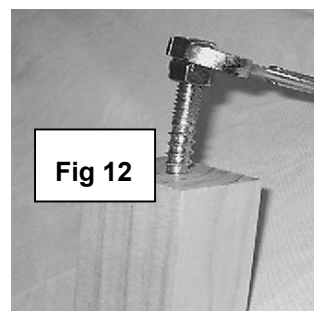
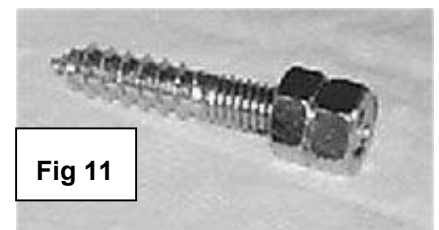
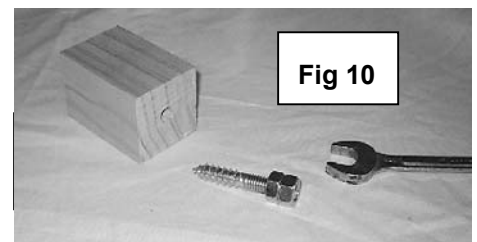
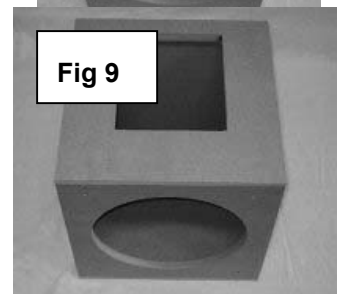
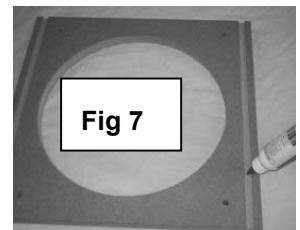
Take one of the threaded furniture fasteners and thread two of the nuts onto the threaded end. Tighten the first nut you threaded back onto the second nut using a 15mm spanner or adjustable wrench (fig 10, 11). The second nut (the one closest to the end) is now used to drive the furniture fastener into the 8mm hole drilled in the end of the first square wooden leg.

Use the spanner to seat the self tapper end of the furniture fastener into the leg, being careful to drive it in at right angles (fig 12). It should be seated so that approximately 5mm of self tapping thread is still showing, this will allow enough length on the thread end to reach through the subwoofer box.

Once you have done this, remove both nuts by loosening the top nut first (a second spanner may assist if it is stuck) and then repeat for the other three legs so that all four legs have around 35mm of threaded end sticking out.

Mount the legs to the base of the S350 through the 4 holes in the base panel and fasten them using the 4 washers and nuts provided as shown in Fig 13 (front panel was not fitted for the purposes of the photography).

Note – if during subwoofer operation any air is heard leaking through the bolt holes it may be necessary to use a small amount of silicon or similar to seal these holes completely.



Step 7 - Wiring & Assembly

Start by attaching the control unit to the front panel. Uncoil the wiring loom with the white connector, and put it through the cut-out so that it rests inside the box. Screw down the control unit using 4 of the smaller screws supplied. Carefully tighten the screws until they begin to bind, ensuring you don't over-tighten them (fig 14).

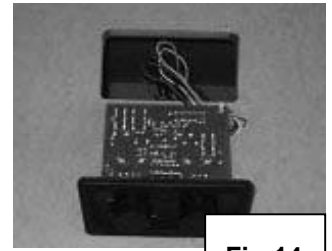


Fig 14

The amplifier module is fully self-contained, it simply needs to be connected to the woofer and control unit, and everything screwed into place. Do NOT connect the amplifier to the 240V mains power until it is fully wired and the box completely assembled. Start by connecting the control unit loom; the white plugs lock together, and the clip keeps them in place. Use the 10 remaining 25mm screws supplied to attach the amplifier to the rear panel (Fig 15). Turn the S350 on its side and pass the wires from the amplifier through the woofer cut-out. Stuff the box with the Dacron wool stuffing supplied, ensuring it is spread evenly around the sides and top of the box. The exact placement of the Dacron inside the box is not critical.

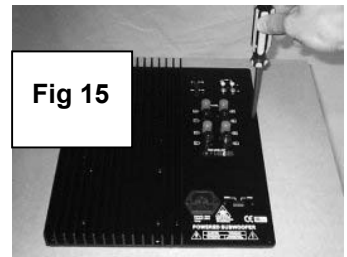
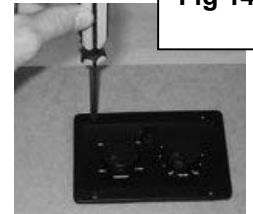


Fig 15

The DVC woofer has two voice coils which are to be wired in parallel; the two positive (red marked) binding posts on opposite sides of the woofer are wired together, and so are the negative posts, then connected as one set to the amplifier (Fig 16).

Note that the amplifier has red and black wires connected to two sets of figure-8 speaker wire. The red wire is connected to both of the striped speaker wires (positive), and the black wire is connected to both of the un-striped wires (negative). Take one set of figure-8 speaker wire and connect it to one of the terminals on the side of the woofer. The striped (positive) wire connects to the red post, and the negative wire connects to the black post. Simply push down on the posts and place the bare wires through so that they are clamped in when the posts are released (Fig 17).

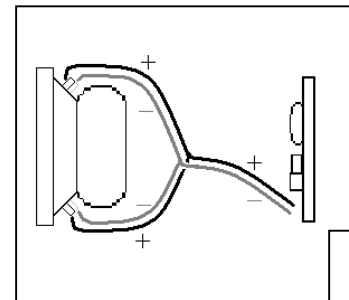


Fig 16

Repeat this for the other set of fig-8 speaker wire, connecting it to the remaining posts on the opposite side of the woofer .

CAUTION: The polarity of the voice coils **MUST** be the same, otherwise your subwoofer will be damaged and this will not be covered by warranty. Make sure that the wires are not twisted or connected in reverse from one set of connections to the other.

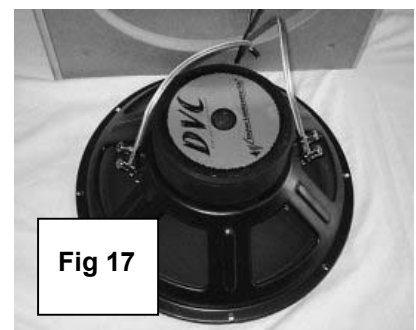


Fig 17

Place the foam lining supplied in the DVC woofer box around the hole to ensure a seal between the rim of the woofer and the MDF cabinet. Line up the woofer with its mounting holes and screw it into place using the 8 larger screws.

Take care not to over-tighten the screws or you may damage the woofer surrounds, they should be tightened until they just start to bind into the MDF and no more.

Step 7 - Connecting the Subwoofer

Connect the subwoofer to the sub out of your home theatre receiver. You can use either the Left or the Right RCA input, or both **it does not matter if you use only one input!** Most owners connect only one input, as this is the 5.1 surround standard. Set the phase dial to

zero initially (see amplifier instructions), set the crossover to about 40-50Hz and the volume to about the 10 O'Clock position initially. Like all true Hi-Fi speakers, the DVC woofer in your new kit will take some time to break in so don't play it too loudly at first. After about 8 hours you should notice the bass improves and you can gradually increase the volume.

Tip - the secret to a successful subwoofer installation is to experiment with the location of the subwoofer in your room and to set the level correctly. You should set the volume as low as possible and the crossover as low as possible. The sub should be felt and not heard. The most common mistake is to set the sub too loud where it overpowers the rest of the system. If you can hear the subwoofer "booming" it is probably set too high.

Make sure you visit us on the web at www.theloudspeakerkit.com for more information, tips and ideas.



Parts List:

- 25mm MDF Box (6 pieces)
- 370mm Dayton DVC Subwoofer Driver
- 350W Amplifier Module & control unit, with connecting wires & 14 screws
- Acoustic "Dacron" Fibre
- Large Woofer Screws (8)
- 4 wooden 45mmx45mm feet
- 4 threaded furniture fasteners
- 4 3/8" nuts and washers

SPECIFICATIONS:

Woofer Size:	370mm
Frequency Response:	20Hz -160Hz
Power Output:	350W RMS
Impedance:	4 Ohms
Shielded for AV Use:	No
Woofer Cone:	Kevlar/Paper
Crossover:	Variable 40 - 160Hz
Standby Power:	>5 Watts
Phase Control:	0 - 180 degrees
High Level Inputs:	Yes
Low Level Inputs:	Yes
Voltage:	250VAC
Suitable Applications:	High Quality Home Theatre & Audio