

Ohm Acoustics Corp.  
76 Degraw Street  
Brooklyn, NY 11231  
ohmspeaker.com

## Walsh 4.5000 Upgrade Kit



Recommended Amplifier Power	70-300 watts
Impedance (typical)	6 ohms $\Omega$
Frequency Response	26 - 20,000 Hz
Sensitivity @2.8 Volts	87 dB
Recommended Room Sizes	800-8500 cu. ft.

Thank you for your ongoing support of Ohm Walsh speakers, and congratulations on your new 4.5000 upgrade kit! Your upgraded speakers will have higher treble for more defined, “airy” details on music. Reproduction of voices will sound more natural. The bass will be tighter and tuned lower. They can also play louder.

### **Your kit contains:**

- (2) new Walsh 5000 drivers on new mounting boards
- (2) new grills to fit over the larger 5000 driver
- (2) new input boards, equipped with gold binding posts and internal hookup wires
- (8) longer mounting screws with nuts and washers.
- (2) vent adapters (foam-insulated black plastic rings)

### **Gather the following tools:**

- A nut driver or socket wrench, or
- A pair of pliers if you do not have a nut driver
- A hammer and chisel or wood block
- A bottle of white glue (Elmer’s will work fine)
- A nail gun or a staple gun
- A damp rag or paper towel

### **Assembly:**

1. Disconnect your Walsh 4 speakers from your system.
2. Remove the grills and drivers (four black knobs and one plastic wire connector)
3. Remove the original mounting screws. They should unscrew easily with only your fingers. If not, you may need a nut driver. If you do not have a nut driver, a pair of pliers will suffice.
4. Install the new mounting screws in all four holes. The screw should be fed from the bottom of the hole, with a small washer above and below that hole. Secure the screw with the nut. It need only be finger tight.
5. Set the cabinet on its side on top of a soft surface like a tablecloth or blanket (to protect the finish). You will be able to do the work on the floor, but it will be easier if you can work on an elevated surface like a table.

6. Slide the vent adapter into the vent opening until it sits flush to the bottom of the cabinet.
7. Using a hammer and chisel or wood block, knock out the old input board from the inside. Make sure to get all the pieces when you pull it out of the cabinet; anything loose inside your cabinet may rattle.
8. Run the wire on the back of the new input board from the outside of the cabinet, through the hole where the old input board used to be, all the way up to the top of the cabinet.
9. Apply glue liberally around the perimeter of the back of the input board (the side with the wire coming out of it) and line it up where it will be positioned over the rectangular opening. You will need a good air seal.
10. Fixture the board in place using nails or staples. One in each corner will be enough to hold the board in place while the glue dries. Wipe off excess glue with a damp rag.
11. Set the speakers upright and connect your new Walsh 4.5000 drivers to the end of the wire you ran from the bottom of the cabinet, by means of the plastic wire connector.
12. Install the new drivers by placing the driver board on top of the cabinet. Note that, since the new driver is bigger, the board will not sit recessed into the top of your cabinet like the old ones did. The four new screws you just put in should be accessible through the four holes in the corners of the driver board. Like your Walsh 4's, the Walsh 4.5000 drivers are designed asymmetrically with a left and a right. Make sure that they are facing forward, so that the sticker that reads "aim toward center of room" is on the front left corner of the right speaker and the front right corner of the left speaker.
13. Secure the driver boards to the cabinet by placing a large washer over each screw and tightening them down with the provided wing nuts.
14. Set your new grills on top of your upgraded speakers.
15. Reconnect your upgraded speakers to your system, using your new, gold-plated binding posts.
16. Enjoy the music!

### **Adjustments to fit your room:**

On the back of your 5000 driver, you will find a plate with four switches. These basically function as a four-band equalizer. Moving them up increases the amplitude of the affected frequency area and moving them down decreases the amplitude. However, rather than telling our customers to look at them like they would an equalizer, we gave them the titles — Room Size, Room Position, Perspective and Treble — to help the listener to get the most benefit out of them. Of course, every room is different, so, even once the switches are set in the position that would seem to be correct for your set up, it is still important to experiment until you achieve the balance that sounds the best. Some customers leave all the switches in a straight line and don't bother adjusting or experimenting with any of them; it is important to note that just because the switches form a straight line doesn't mean that the frequency response will sound the flattest in your room. This is because some controls have greater ranges than other controls. We try to not make them have any positions that sound bad.

**The Room Size** switch (the one on the far left) affects the lowest frequencies your speaker reproduces (up to about 80 Hz). This switch is the most important reason why the 5000 is our most versatile speaker: it can be adjusted to sound good in any size room. The walls, floor and ceiling act as acoustic mirrors and each can double the energy in your room at the lowest frequencies. This effect is known as wall-coupling. If the walls are very close together, the effect can be overwhelming (just as car stereos can often have too much bass since a car is a very small room). On the other hand, if the walls are very far apart, the music may sound a little thin. Set this to the size of your room (you can use the room sizes on the chart for our Walsh Tall product line to give you an idea of what we think is "small" or "large") and adjust to taste from there.

**The Room Position** switch affects the mid-bass. (~60-150 Hz) Here, too, wall-coupling impacts the performance of your speakers. In this case, the distance of the speaker from the wall changes the highest frequency where this coupling starts to take effect. This switch is designed to eliminate heaviness from this effect when it gets into the lower vocal range. This offers the listener more speaker placement possibilities. Of course, the distance from the wall will still influence the imaging, particularly the apparent sonic height. The wall behind the speakers needs to be acoustically reflective or dispersive, and the switch isn't a substitute for that. It is also crucial to have a clear line of sight between the two driver assemblies. Moving the switch down is a little like moving the speaker away from the wall: it will reduce high bass "boominess".

**The Perspective** switch operates mainly in the vocal range (From 130 to 3000 Hz). This is particularly noticeable with female voices. Put on some music with a female singer and sparse accompaniment. When listening from the sweet-sweep, turn the switch up, and she will appear to move forward. Turn the switch down, and she will move back toward the wall. This switch should be adjusted to taste.

Finally, **the Treble**, (operating in the range above 3000Hz). It affects only the overtones on most things. The result is a little more or less "airiness". Also, older listeners, like me, and especially males, have hearing that is probably less sensitive in these frequencies. Turning this switch up can help. By way of contrast, young girls often have very sensitive hearing in this range. For them, or just for listening to very bright sounding recordings (perhaps with lots of crash cymbals, or an old record with a lot of hissing and popping), turning this switch down may make the music seem less strident, and more enjoyable. This switch is also useful in adjusting balance for the impact that your room's decor has on the sound. High carpet, heavy drapes, books, and overstuffed furniture tend to absorb a lot of sound in the treble and make voices sound muted. Turn the switch up to compensate. Similarly, if the room has cement floors, bare drywall, hard chairs, and no curtains on the windows, the voices may be a bit harsh need some attenuation. Turn this switch down.

### **Caution!**

Although your Ohm Walsh 4.5000 has been rated to be used with amplifiers of up to 300 Watts per channel, it is possible to damage your loudspeakers with smaller units. Heavily compressed music such as most kinds of rock, dynamic peaks in classical music, accidentally dropping the tone arm onto the record, or connecting devices into a live signal path can produce an inordinate amount of distorted power (as much as ten times the rated amount!) which is fed directly to the loudspeaker, and could lead to permanent damage.

### **Warning!**

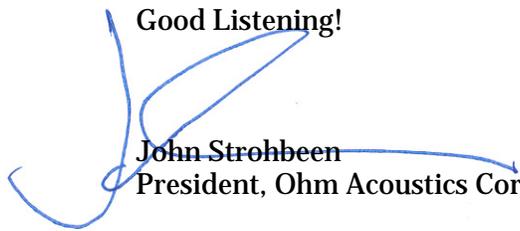
DO NOT remove the perforated metal can that encases the driver. The design of the Ohm Walsh 4.5000 incorporates several critically placed transmission blocks. This acoustically transparent perforated metal can has been permanently bonded to its housing to protect precise alignment and performance by these blocks. Removal or damage of the can will seriously impair performance and void the warranty.

If you have any questions, give us a call!

Toll free: 800-783-1553

Outside the US call: 718-422-1111

Good Listening!

  
John Strohbeen  
President, Ohm Acoustics Corp.