INSTALLATION GUIDE

Round ***In-Ceiling*** *Loudspeakers*

For 5-1/4", 6-1/2" & 8" Round In-Ceiling

Congratulations! You have purchased a high quality stereo loudspeaker. When matched to comparable electronic equipment, expect years of quality high fidelity sound. We are constantly striving to provide the very best technology has to offer.

The following manual is designed to give you, the installer or owner, basic information as to the speaker's installation and operation. It is beyond the scope of this manual to go into all the details that must be taken into consideration in a sophisticated high fidelity system. When installing the wiring and speakers it is important to adhere to all local codes and regulations. Consulting a professional will help to maximize your system's performance.

If you have any questions regarding this speaker which are not answered by this manual, contact your local dealer for assistance. For the most current information please visit *www.oemsystems.com* .

GENERAL DESCRIPTION

These two-way speakers have specially designed woofers with linear long throw butyl rubber surrounds for long life and superior damping. Dome tweeters are utilized for excellent high frequency dispersion throughout your entire listening environment.

SHIPPING DAMAGE

Each speaker is thoroughly tested before it leaves the factory. However, in shipment, accidents may occur. Please inspect your speakers carefully when you receive them to make sure there is no damage. If there is, please notify your dealer, or supplier immediately for assistance. If you received your speakers by public transportation, report the damage at once to the shipping company.

AMPLIFIER OPERATION

These speakers will perform well with amplifiers from 5 to 125 Watts RMS. However, damage to the speakers can be done by amplifiers of nearly any power rating if the amplifier is overdriven into clipping. "Amplifier clipping" is a phrase used to describe a condition when, because of the volume demand, an amplifier is being asked for more power than it can give. Clipping causes distortion of the audio signal. If you should hear an unusual amount of distortion at high listening levels then consider reducing the volume. DAMAGE DONE TO A SPEAKER BY CLIPPING IS NOT COVERED UNDER THE WARRANTY.

SPEAKER PLACEMENT

Placement of Ceiling Speakers should be carefully considered. Please contact a professional for assistance if you are uncomfortable with the planning or installation process. Ideally, the speakers should be located where they will provide the best possible sound and ease of installation. It is beyond the scope of this publication to discuss all of the various aspects of speaker placement. Here are a couple quick suggestions. For more bass, place the speakers between 18 and 36 inches from an adjacent wall as measured to the center of the hole. Avoid placing the speakers less then 18 inches from an adjacent wall. When placing speakers near a corner, avoid locating them an equal distance from the two adjacent walls.

Some speaker models are supplied with a cardboard "Drywall Locator." If the drywall has not yet been installed, these locators can be used to reserve the ceiling location. The hole is cut when the drywall is installed. Simply unfold the arms and staple each arm to the joists. Use additional staples through the disk to retain it after adjusting its position. The cable should be tied off at the hole after securing it to a nearby joist.

WIRING

To achieve maximum performance from your new speakers we strongly suggest the use of good quality stereo cable. There are many good brands available. We recommend that the cable be at least 16 gauge or larger for runs of over 50 feet and that the cable be double insulated. This is often referred to as "jacketed" speaker cable. "Zip cord," which is single insulated and is often made with clear insulation, should be avoided as it is not as durable. Allow about 2½ feet (0.8m) of free cable at the speaker cut-out

	Overall	Cut-Out (Round x Depth)
PS-601	8-3/8" round	7-3/8" x 2-7/8"
PS-611	8-3/8" round	7-3/8" x 2-7/8"
PS-801	9-3/4" round	8-5/8" x 3-3/8"
SC-520 KE	7-1/2" round	6-1/2" x 2-3/8"
SC-620 KE	8-3/8" round	7-3/8" x 2-7/8"
SC-622 K	8-3/8" round	7-3/8" x 2-7/8"
SC-820 KE	9-3/4" round	8-5/8" x 3-3/8"
SC-822 K	9-3/4" round	8-5/8" x 3-1/2"
AP-601	8-3/8" round	7-3/8" x 2-7/8"
AP-611	8-3/8" round	7-3/8" x 2-7/8"
AP-801	9-3/4" round	8-5/8" x 3-3/8"
SC-502E	7-1/2" round	6-1/2" x 2-3/8"
SC-602E	8-3/8" round	7-3/8" x 2-7/8"
SC-62	8-3/8" round	7-3/8" x 2-7/8"
SC-802E	9-3/4" round	8-5/8" x 2-7/8"

OEM SYSTEMS COMPANY
(775) 355-0405 • (800) 291-0561 FAX
www.oemsystems.com • info@oemsystems.com

and sufficient length at the other end to reach the electronics. Having to add extra cable later can be tedious and time consuming.

Avoid bundling speaker cables parallel to electrical cables for extended lengths. Though the impedance is low and the likelihood of interference low, this may help reduce hum and RF interference. When securing the cable, use care not to staple or nail the electrical conductors. Doing so could result in a short that might damage the electronics.

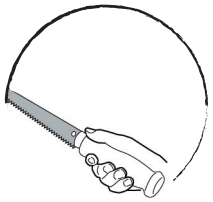
More than two pair of these speakers can be connected to one amplifier. However, we suggest that you consult a professional if you are installing more than two pair.

When connecting your speakers, make sure proper polarity (phasing) is maintained. Simply put, this means being sure the same wire which is hooked to the positive terminal of the amplifier has its other end hooked to the positive terminal of the speaker. It is important to check this on all speakers. If the connections on one of the speakers are reversed, (out of phase) the quality of your bass will be seriously impaired.

INSTALLATION

If the speaker locations have not yet been established then do so now. Assess the ceiling area for possible concealed obstructions such as wiring, plumbing, heating ducts, etc. This is best done through an attic crawl space if available. Absence of a crawl space will require greater study of observable clues and may possibly require the use of inspection holes and inspection tools (camera, mirror, flashlight, etc.). Use a "stud finder" to locate the positions of the joists or rafters. We recommend that the edge of the holes be at least ¾" (19mm) away from joists or rafters whenever possible.

Once the speaker locations are established use the paper template (the outside of the outer cardboard disc) or the plastic protractor provided with your speaker to mark the speaker cut-out. The hole diameters for the various speakers are marked on the protractor.



Using the proper tool, cut the appropriate sized hole in the wall. On drywall, clean cuts can be made with a drywall saw.

If the cable has not yet been run, do so now that you have access to the ceiling's interior. Once the speaker cable has been run, pull the end of the cable out of the ceiling, strip back a section of the jacket as needed, and then expose ½" (13mm) of each conductor.

To aid in speaker performance, a fibrous material, such as fiberglass or polyester fiber, may be placed behind the speaker. This may also help to reduce unwanted sound from being transmitted into adjoining rooms. If the ceiling space has blown or loose insulation, it is important to prevent the insulation from entering the back of the speaker. This can be accomplished by placing a batt of fiberglass insulation, fabric barrier, or bag over the back of the speaker. Alternatively you may use an **Insu-Flate ISF-147,** which is an acoustically transparent fabric cover specifically designed for this application. Placing a rigid enclosure over the speakers can be done but the enclosure should be large enough not to degrade the performance of the speaker. Rigid enclosures of less than 0.75 cuft (21 liters) should be stuffed with acoustic insulation such as fiberglass.

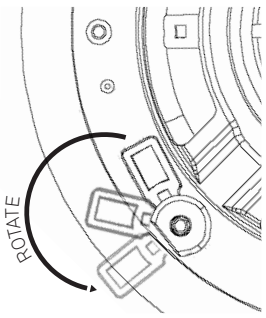
Remove the grilles from the speakers using the supplied tool by hooking the grille near its edge. As the drawing below shows, the speakers utilize Toggle Clamps which, after tightening, hold the speakers in place. Ensure that the toggle clamps are rotated into their "home" position. This way, they will clear the edge of the cut-out.

Verify that the speaker fits properly into the cut-out. If the hole should have been cut a little too large the flange on the frame should cover this. Remove the speaker from the hole.

Connect the wire conductors to the terminals on the back of the speaker by depressing each spring terminal, inserting the wire into the hole, and releasing the terminal. Use care to observe the proper polarity (+ & -). Speakers wired out of phase will exhibit an apparent loss of bass response.

Note: **Single-Point speakers** have both the left and right channel connections on the same speaker. Ensure that both channels are connected and in phase. An out of phase connection to a single-point speaker will be immediately obvious when signal is applied since there will be little if any bass output. If disconnecting one of the inputs increases the bass output then the inputs are out of phase.

Insert the speaker into the hole and tighten the installation screws. As you start to turn each screw the toggle clamps will rotate outward to engage the ceiling material as shown. CAUTION: DO NOT OVER-TIGHTEN THE CLAMPS. Too much torque may damage the toggle, causing the speaker not to seat securely. A snug fit is all that is necessary to assure proper performance.



If the speaker frames are to be painted, either before or after installation, use the paint-mask (the inner cardboard disc) to cover the speaker driver(s) to prevent damage. DO NOT PAINT THE GRILLE AND FRAME ASSEMBLY TOGETHER. The grille should be painted separately. Use thin coats and thin the paint as necessary to avoid clogging the perforations with excessive paint.

If your speaker includes a pivoting tweeter aiming it toward the listening area will raise the amplitude of the highest frequencies (>12kHz), adding brilliance. USE CARE TO AVOID DAMAGING THE DOME OF THE TWEETER WHEN AIMING!