

O W N E R ' S M A N U A L



PARASOUND

PAL-280 Precision Architectural Loudspeakers

www.parasound.com

Introduction

Congratulations on your purchase of your PAL-280 Precision Architectural Loudspeaker system and thank you for choosing Parasound. The PAL-280s were developed using the finest loudspeaker and crossover components available. Countless hours of computer modeling were spent to insure accurate audio reproduction in a variety of installations where placement compromises must sometimes be made. The PAL-280 Precision Architectural Loudspeakers deliver the high-fidelity audio reproduction you have come to expect from high-end loudspeakers in a cabinet. Please take a few minutes to read these instructions thoroughly to make the installation easier and insure optimum performance.

Unpacking and Inspection

Carefully unpack your PAL-280 loudspeakers locate the enclosed accessories:

<u>Qty</u>	<u>Description</u>
2	PAL-280 baffle and loudspeaker assembly
2	Removable bezels with mounting dogs
2	Metal grilles
6	#8 x 1/2" screws
6	Rubber shoulder washers
2	Foam grille inserts

Be sure to carefully inspect the speakers for any signs of shipping damage. If you believe you notice any, contact your Parasound Dealer immediately.

Precautions

If you have any doubts about your ability to properly install in-wall loudspeakers, you should consider the services of a custom installer. If you plan to install them yourself, always use high quality tools to save time and make the installation go more smoothly.

The PAL-280 Precision Architectural Loudspeakers mount into standard 4 inch (or greater) stud depth walls. Determine the final location of both left and right speakers before cutting any holes since changes to one speaker may affect the other either aesthetically or acoustically. Look for pipes, wiring or any other conflicting material that might be damaged before beginning the installation.

Prewiring

Before you purchase loudspeaker wire, check local building codes to make sure that the wire is rated to comply with applicable local safety codes such as UL or CL-2. Use only stranded wire no thinner than AWG 16. For runs longer than 100 feet, we recommend minimum of AWG 14. When pulling wire, take care not to pull the wire too fast to prevent stretching the wire or scorching the insulation from friction. Leave 2 to 3 feet of excess loudspeaker wire at both ends; it is easier to trim off excess wire than to splice additional wire. When securing the wire inside the walls, be careful not to pierce the insulation with nails or staples.

For best performance and easier troubleshooting, always “home run” wiring when installing multiple speakers rather than connecting from one speaker to the next. When connecting multiple speakers, make sure that the power amplifier is capable of adequately driving the combined impedance of the speakers. If not, you may need additional amplifiers or an impedance protection device that are often built into loudspeaker selection boxes.

Mirror Image Tweeter Assembly

The PAL-280 tweeter assembly is mirror imaged so you can position them for best sonic imaging. Ideally, the listening position should be at one point of an equilateral triangle with the left and right speakers positioned at the other two points. If you need to mount the speakers outside this idealized equilateral triangle, position the tweeters toward the middle. If you need to mount the speakers inside this idealized equilateral triangle, position the tweeters toward the middle.

Installing the PAL-280 Precision Architectural Loudspeakers

1. Confirm that there is at least 1 1/2" of clearance between each edge of the planned cutout and adjacent studs or joints.
2. Fasten the supplied cardboard template to the wall or ceiling with tape or thumbtacks. Check again for equal distance of both speakers from the ceiling or floor.
3. Use a level or the included template's self-leveling feature to so the cutout will be level.
4. Trace around the perimeter of the template.
5. Before making the final cutout, make a small 6-inch square “test cutout” in the center of the penciled outline. Reach inside the test hole to verify that there are no obstructions in the way of your planned cutout.
6. Before cutting the hole, first score the drywall with a razor knife and use a keyhole saw to complete the cut. Remove debris from the edge of the hole.
7. Secure the speaker wire to a stud near the cutout so its weight will not tug on the terminals of the speaker after it is connected. This also keeps the wire from dropping behind the wall before you can connect it.
8. Terminate the speaker wire with 1/4" spade lugs or banana plugs. You can also insert bare wire up to AWG 12 into the holes on the sides of the binding posts.
9. Carefully separate the removable bezel from the baffle and loudspeaker assembly. The bezel can be mounted in the wall and painted if desired while the main part of the loudspeaker is stored away safely until you are ready to mount it. Note: The grilles should be painted separately rather than while mounted in the separate bezel.
10. Insert the PAL-280 bezel into the cutout to make sure it fits easily without forcing.
11. Evenly tighten the mounting screws on the bezel. The mounting “swing-arms” (also known as mounting “dogs”) will automatically swing out 90 degrees. After they swing out, the arms then clamp against the drywall from behind the wall. Avoid using excessive force to prevent deforming the drywall or cracking the speaker's mounting frame.
12. We recommend that you add a “blanket” of sound absorbing material such as ceiling insulation behind the woofer to reduce sound transmission into the adjoining room. Additionally, any sound leakage from behind the molded frame can be blocked with foam weather-stripping directly behind the plastic speaker bezel.
13. Install the main loudspeaker assembly into the bezel.
14. Install the six rubber shoulder washers into the holes in the bezel
15. Use the six supplied #8 x 1/2" screws to fasten the loudspeaker assembly into the bezel.

Pre-Drilled Hole for Infrared Receivers

The PAL-280 has a 1/2" hole in the bezel to accommodate an infrared receiver such as the Xantech Video Link model 490. The hole can be accessed by removing the rubber bushing from the rear of the bezel. If you plan to hide an infrared receiver behind the loudspeaker grille, be sure to pre-wire a three conductor control wire along with the speaker wire.

Removing the Loudspeaker Assembly from the Bezel

Gently push the lower portion of the pivoting midrange and tweeter assembly until it is at its full 15-degree downward position. This allows access for your fingers to reach inside the baffle and loudspeaker assembly and pull it away from the bezel.

Adjusting the Pivoting Midrange and Tweeter Assembly

The PAL-280 employs a pivoting midrange and tweeter assembly. You can adjust this assembly so the midrange and tweeter are pointing toward the listening position regardless of how the PAL is mounted in the wall. Gently push upper or lower portion of the pivoting midrange and tweeter assembly to aim it at the desired position.

Fine Tuning the Frequency Response of Your Loudspeakers

Three Position Treble Adjustment

High



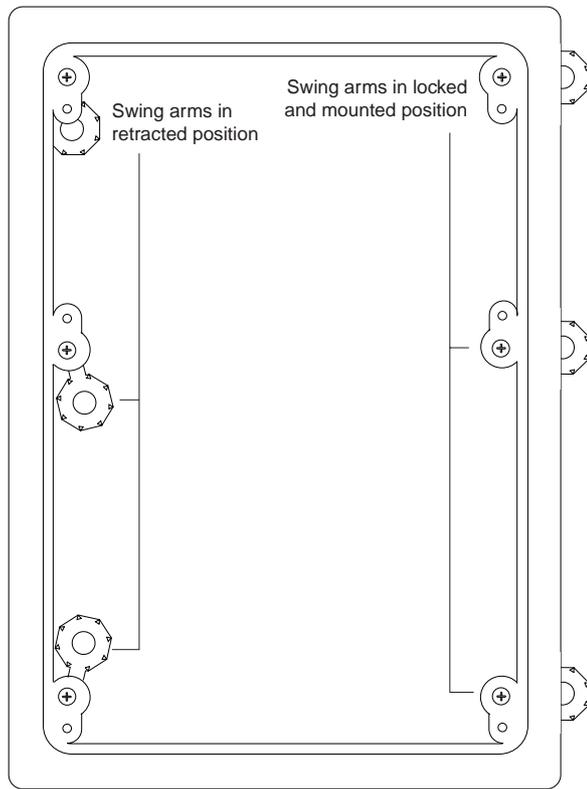
The PAL-280 treble adjustment switch allows you to adjust the tweeter level from 0 dB (flat) to -3 dB or + 3 dB. If you are mounting the speaker in a “live” room with many reflective surfaces, you may want to attenuate the treble response and tame sibilance. If you are mounting the speaker in a room with many absorptive surfaces, you may want to boost the treble response.

Two Position Mid-Bass Contour Adjustment

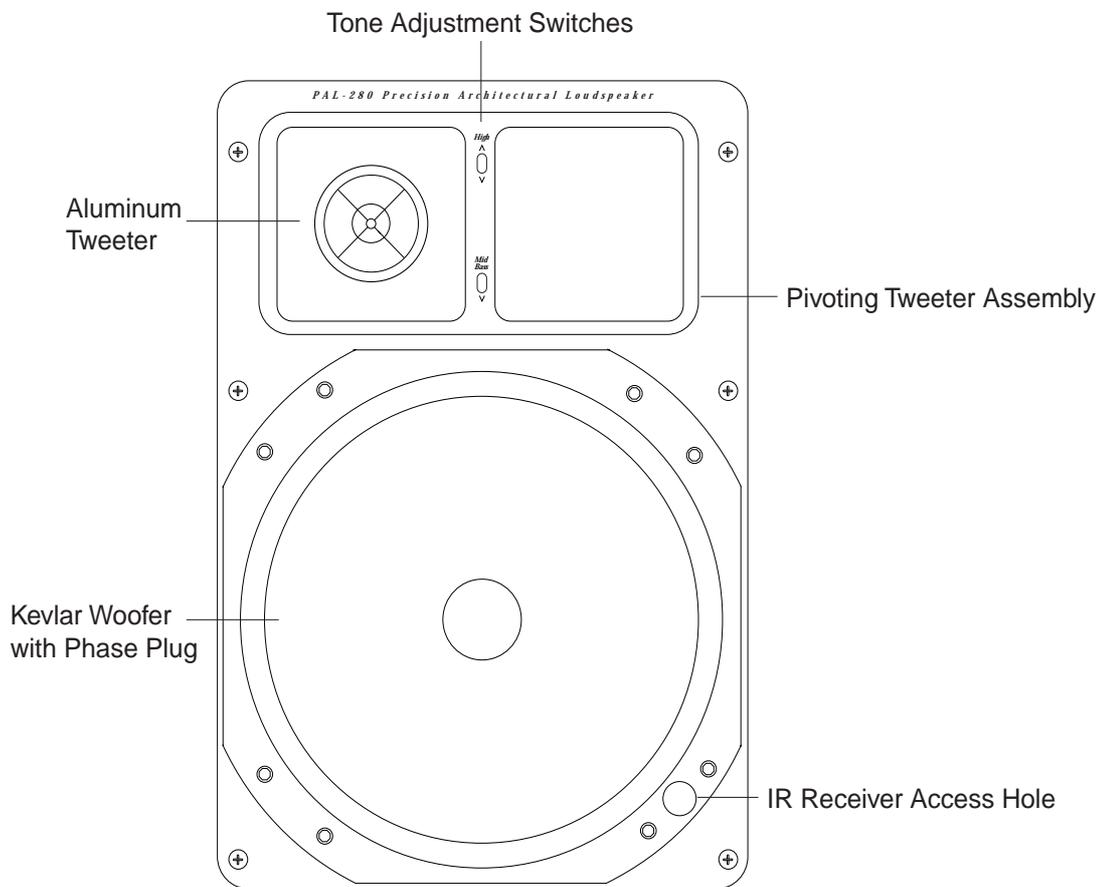
*Mid
Bass*



The PAL-280 mid-bass adjustment switch allows you to attenuate the mid-bass response from 0 dB (flat) to -3 dB. If you mounted the PAL-280 near a corner of a wall, you may notice additional boominess of the bass response. You can attenuate the mid-bass response by setting the Mid Bass switch to the -3 dB position.



PAL-280 Removable Bezel



PAL-280 Baffle and Driver Assembly

PAL-280 Precision Architectural Loudspeaker Specifications

Frequency Response	40 Hz-22 kHz +/- 2 dB
Nominal Impedance	6 Ohms
Minimum Impedance	4 Ohms
Sensitivity 1 Watt/1Meter	89 dB
RMS Power Range	10-100 Watts
Woofers Size	8"
Cone Material	Kevlar
Surround Material	Polyurethane
Tweeter Size	1 " Aluminum Dome
Tweeter Assembly	Pivoting Chamber for Lower Crossover Point
Crossover Frequency	2.4 kHz
Crossover Slope	12 dB per octave
Dimensions	
Hole Cut-Out	8 5/8" x 12 3/4"
Outer Edge of Frame	10" x 14"
Optional Accessories	
Rough-In Kit	NC/K-8M



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*Parasound Products, Inc. 950 Battery Street, San Francisco, CA 94111
415-397-7100 / FAX 415-397-0144 www.parasound.com*