

THIEL

Model

HigherPlane™

Coherent

Source®

in-ceiling

loudspeaker

system

OWNER INFORMATION

Congratulations on your purchase of the THIEL HigherPlane™ in-ceiling loudspeaker. This fine product is the result of a dedicated effort to provide very accurate and realistic sound reproduction from a versatile, easy-to-place loudspeaker. We have used very high quality components and taken great care in the HigherPlane's construction. Properly installed and used with good associated equipment, the HigherPlane will provide you with a great deal of sonic enjoyment for many years.



Jim Thiel, Product Design/CEO, THIEL Audio



SPEAKER PLACEMENT

The HigherPlane is designed for in-ceiling placement. Because of its wide dispersion and coaxial/coplanar driver mounting, the HigherPlane offers excellent results for a variety of ceiling locations and listener positions. For optimum performance, the HigherPlane should not be placed within two feet of the room's walls.

CONNECTING THE SPEAKERS

The HigherPlane's input terminals are located on the bottom of the speaker cabinet. The HigherPlane uses 5-way binding posts that accept several types of wire connections. European CE regulations do not permit dual banana plug type loudspeaker connections, but single banana plugs can be used. Regardless of the type of wire termination, *make sure that all connections are tight*. The input terminals are designed to be easily tightened by hand or a 1/2 inch nut driver can be used.

It is essential for proper performance that both speakers in a stereo system be wired in the same polarity. The speaker's input terminals are color coded to facilitate this. The wire connected to the red ringed input terminal of each speaker should connect to the respective positive (+) output terminals of the amplifier; the wire connected to the black ringed input terminals should be connected to the respective negative (-) output terminals of the amplifier.

The speakers should be connected to the amplifier with high quality cable to ensure minimal loss of power and proper control by the amplifier. If the speakers are being connected to a vacuum tube amplifier with various impedance taps, the 4 ohm tap will usually give the best results.

ASSOCIATED EQUIPMENT

The HigherPlane is a very high quality sound reproducer and will benefit from use with high quality associated equipment. Since it is extremely accurate, it will reveal sources of distortion generated elsewhere in the system. For example, distortion resulting from poor recordings or inferior electronics will be reproduced accurately.

BREAK-IN

The HigherPlane, like most speakers, requires a period of playing before they perform optimally. The time depends on how loudly the speakers are played; more time is required if played softly, less if played loudly. At least 50 hours at moderately loud levels are required before the speaker is performing near optimum.

POWER REQUIREMENTS

It is important to have enough power to play at the level you desire without distortion. If high sound levels are desired, the HigherPlane's are designed to be used with amplifiers rated up to 200 watts per channel (into 8 ohms). If you play the speakers more loudly than the volume the amplifier can cleanly produce, the amplifier will produce overload (clipping) distortion. The sound will become compressed, strained, and in extreme cases, obviously distorted. This distortion is actually non-musical *additional energy* and since it is concentrated in the high frequency region where the speaker is least able to handle it, tweeters can be damaged in extreme cases.

Keep in mind that sound *quality* is usually much more important than sound *quantity*. There can be large differences in the sonic performance of two amplifiers of equal power, and this is more important than large differences in power. Most everyone will be happier with a 100 watt amplifier of high sonic quality than a 200 watt amplifier of mediocre sonic quality. For this reason, we feel there is no substitute for listening in making your amplifier decision.

The question "how much power do I need?" does not have the simple answer most people expect because it is not determined only by the loudspeaker's efficiency, but also by the volume desired and the size of the room. If all three factors are average, about 100 watts per channel is required. Each factor can raise or lower this amount by about three times.

1) Usually, people who "don't like music loud" can decrease their power to about one-half. Also, people who like music loud should increase their power by 2 times or more. Most people fall within a normal range.

2) A speaker with a low efficiency of 84 dB/W-m will require twice the power of an average 87 dB/W-m speaker and one with a high rating of 90 dB/W-m will require only half the power of an average speaker. The HigherPlane is of above average efficiency (89 dB) and therefore requires less than an average amount of power for average volume levels.

3) A small room will need less power for a given loudness level than a large room. A very small room of 1000 cu ft (11' x 11' with an 8' ceiling) will require about half the power of an average size room. A large room of 6000 cu ft (20' x 30' with a 10' ceiling) will require twice the average power. If the listening room is connected to another room by a large open area, the required power will increase, but not by the amount of the combined room volume. If the room has a "dropped" ceiling with light panels, the ceiling will be almost transparent acoustically and the space above the ceiling should be added. If the panels are heavy they will act as a more normal ceiling.

With all this in mind, a person who doesn't like to play music very loudly and has a small room can get quality sound with the HigherPlane with as little as 30 watts whereas a person who sometimes likes to play loudly and has a large room may need 200 watts or more.

GRILLE

The HigherPlane's grille is magnetically attached to the cabinet and can be removed by gently prying the grille forward.

PAINTING THE FRONT PANEL

The HigherPlane is shipped with an off-white finish. The speaker can be painted any desired color. To paint the speaker, first remove the grille and insert the included painting mask to protect the driver. For the tightest seal, you can slightly loosen the driver screws to tuck the rim of the mask between the white rubber woofer surround and the plastic rim of the cabinet's driver opening. Also, peel the cloth scrim from the back of the grille before painting its front surface. After the paint is dry, reinstall the grille's scrim and the grille onto the cabinet.



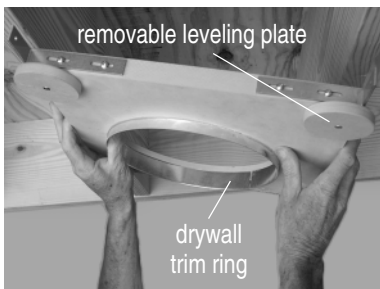
SERVICE

If your speaker system requires service, contact your authorized THIEL dealer. If you need to contact THIEL, service information and technical support is available at (859) 254-9427, Monday-Friday, 8:30 a.m. - 5:00 p.m. Eastern Time, or via e-mail at service@thielaudio.com.

INSTALLATION INSTRUCTIONS

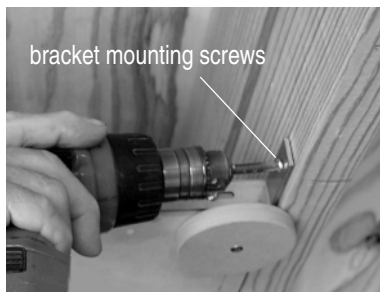
For proper sonic performance, it is important that the HigherPlane be mounted securely to prevent unwanted vibration, therefore mounting only to the ceiling material, like drywall, is not recommended. The HigherPlane is designed to fit into ceilings by using a preconstruction bracket so that the speaker is ultimately secured to the framing structure. Four types of preconstruction brackets are available from THIEL: 2x framing/16" o.c. (14.5" clearance between joists); 2x framing/24" o.c. (22.5" clearance); 4x truss framing/16" o.c. (12.5" clearance); 4x truss framing/24" o.c. (20.5" clearance). Ceiling installation instructions for standard 2x framing/16" o.c. is shown below.

The HigherPlane can be centered between the ceiling joists, or oriented with a right or left offset. Install the 4 provided angle brackets on the preconstruction bracket to fit the orientation desired. The long portion of the angle bracket with the two adjustment slot screws mounts along the edge of the preconstruction bracket, with the short side of the bracket mounting against the ceiling's framing. (See image in Step 3 below.)



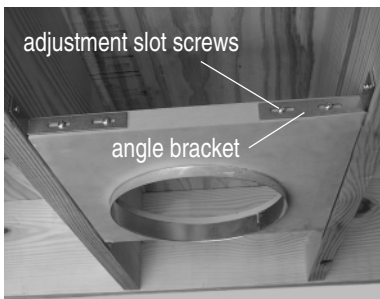
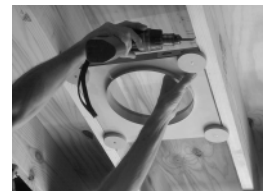
Step One

Place the HigherPlane preconstruction bracket between the ceiling joists in the desired orientation. Position the bracket with the metal drywall trim ring facing down so that the four removable leveling plates are in contact with the bottom edge of the joists.



Step Two

Make adjustments for non-uniform joist spacing by loosening the adjustment slot screws on the side edge of the preconstruction bracket. Press the preconstruction bracket firmly against the bottom edge of the joists and secure the bracket with the four provided mounting screws through the angle brackets and into the side of the joists.



Step Three

Tighten the adjustment slot screws on the side edge of the preconstruction bracket. Remove the four leveling plates. The ceiling is now ready for sheet rock installation, leaving the proper opening for the speaker installation.



Step Four

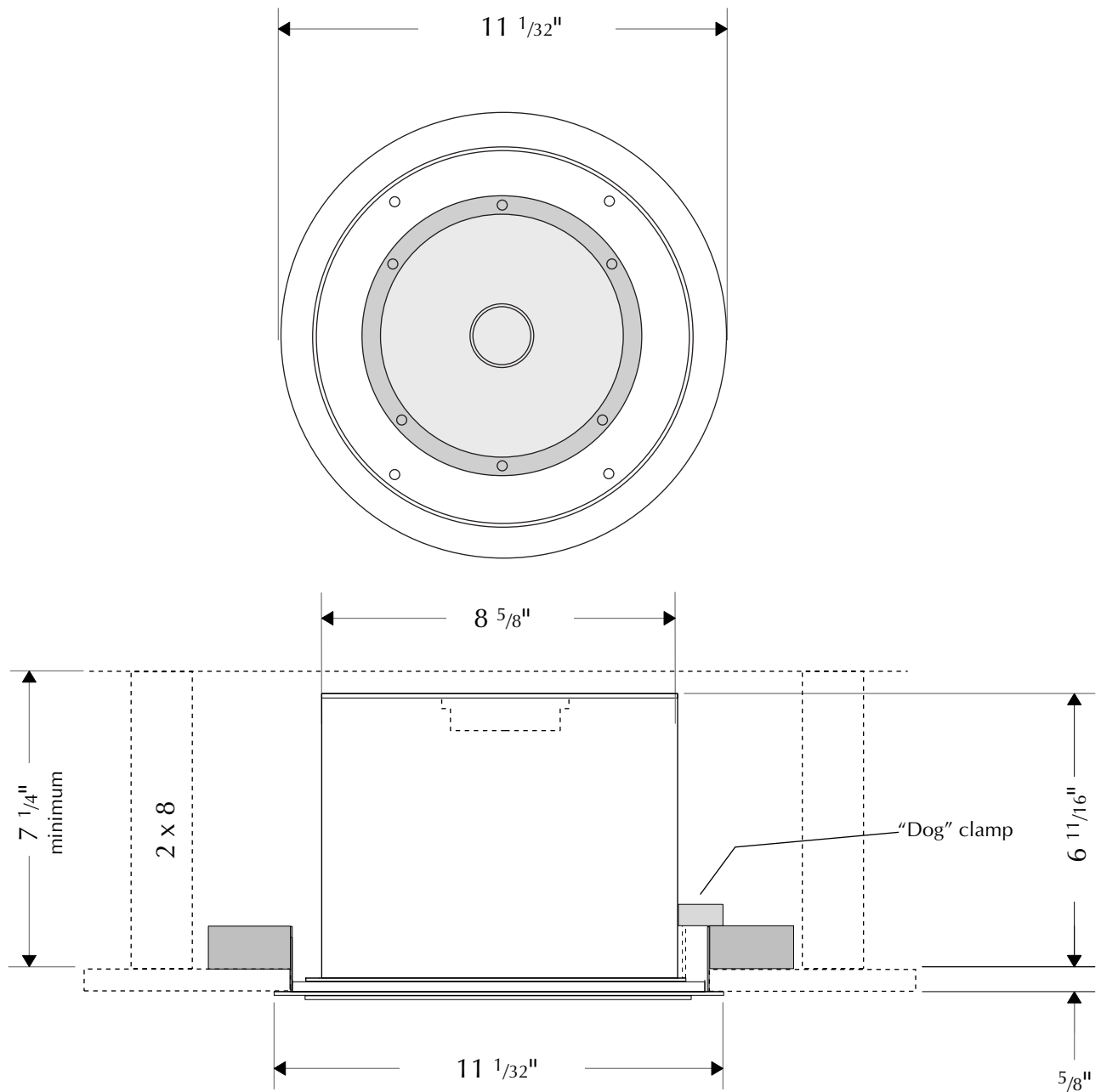
Connect the speaker cables to the HigherPlane's 5-way binding posts. Place the speaker up through the opening and press flush against the drywall. Secure the HigherPlane by tightening the four speaker mounting screws (closest to the outside edge of the speaker) which will tighten the four "Dog" clamps against the preconstruction bracket. *Before installing the HigherPlane, make sure to extend the "Dog" clamps to the end of the mounting screws to insure that the clamps are above the bracket prior to tightening.*

Visit our web site at www.thielaudio.com to view more detailed architectural drawings for HigherPlane preconstruction installation. From our "Products" page, click on "HigherPlane," then on "Installing the HigherPlane." Drawings are also included in the preconstruction bracket kit.

THIEL HIGHERPLANE SPECIFICATIONS

Amplitude Response	75 Hz-20 kHz ± 3 dB
Phase Response	Minimum $\pm 10^\circ$
Sensitivity	89 dB@2.8 V-1m
Impedance	4 ohms (3 ohms minimum)
Recommended Power	30-200 watts
Size	11" diameter x 7.75" deep"
Weight	10 pounds

HIGHERPLANE CABINET DIMENSIONS



LIMITED 10 YEAR WARRANTY

THIEL warrants every THIEL HigherPlane system against defects in materials and workmanship to the original owner for a period of ten years from the date of purchase. THIEL will, at no charge, replace any defective part and make any repairs necessary to ensure its proper performance when the defective unit is returned to us postpaid.

This warranty does not cover damage due to accident or abuse and is void if the unit has been tampered with.

This warranty is automatic and no registration is required. This warranty gives you specific legal rights. You may also have other rights which are particular to your state.

The following information is for your records.

Serial Numbers _____

Purchase Date _____

Purchased From _____

You can also register your warranty online at www.thielaudio.com/wreg.cfm



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