

Owner's Guide

Larsen 8



LARSEN
Ortho Acoustic Speakers

Thank you for choosing your new Larsen loudspeakers. We are reassured that your choice will give you hours and hours of authentic musical experience. High Fidelity!

Larsen 8, a very potent 2.5-way loudspeaker system based on fundamental understanding of Stig Carlsson's Ortho Acoustic principles paired some of the best loudspeaker drivers on the market. By virtue of its high-quality drivers, their unique placement and angles, flanked by absorbers, the Larsen 8 creates a rich three-dimensional sound stage, the ability for you to hear the smallest details and a life like ambiance.

Preferred placement

Flush against the wall

Larsen loudspeakers should, different from most all other speakers, be placed flush against the wall of your listening room. This because the wall in combination with integrated damping panels is an integrated part of the design of the speaker. The design makes the speaker throughout its complete frequency range radiate the sound energy distributed as a half sphere.

Other speakers placed with a distance to the back wall will exhibit what is called a "baffle step" at a certain frequency determined by the width of the speakers baffle. At this "baffle step" the radiation from the loudspeaker changes from half sphere to omnidirectional with the consequence of a 3-6 dB drop in sound pressure level for frequencies below "the step". This step, however, partially compensated for in the crossover, is nothing that exists in real life acoustics. Here within is one of the secrets to the life like authentic sound of the Larsen speakers.

In an equilateral triangle

Larsen 8 should have a fairly symmetrical placement of the speakers in respect to room boundaries. This because an unsymmetrical placement with for example one speaker much closer to a side wall could result in corner loading and additional reflections from that wall and this can give an unbalanced sound stage. A good start is an equilateral triangle with the speakers in two points and the listening spot in the third.

The drivers of a Larsen speaker is tilted inwards and upwards to create the wider area of listening possibilities with the correct distributed acoustical energy throughout the frequency range. For this reason the ceiling should be acoustically reflective and not have sound absorbing panels.

The preferred placement of the speakers in a rectangular room is on the longer wall away from the room corners, minimizing side wall reflections. If your room is wide enough (typically minimum 4 meters) an alternative is to place the speakers on the short wall if you can place your listening position close enough and then have the advantage/trade off of having more corner loading and side reflections vs. having

your listening position further away from the back wall and the acoustical problems that will arise from that. A desired minimum distance to the side wall is 50 cm.

It is absolutely essential to place the Larsen 8 flush or very close to the back wall. If you would be tempted to place them further out in the room to control the bass response in the room in the lower frequencies that arises from the room size resonance nodes you will compromise the speakers function/design of radiating the sound in the half sphere.

The loudspeaker has no compensation for baffle step drop in the cross over circuit and the output of the speaker will drop in the range from the deep bass that you potentially corrected all the way up to 500 Hz.

The speaker will then sound bright, harsh and lack body in the sound reproduction.



Connecting Larsen 8

For correct phase: + (red) on the speaker to + on the amplifier loudspeaker connection.

Larsen 8 are prepared for bi-wiring connection to the amp.

Loudspeakers are a mechanical system, mechanical devices. Please allow for some initial "burn in time". Stiffness of driver suspension etc. will settle at its designed performance after some hours of just playing music and your new Larsen speakers will then achieve their optimum performance.

Don't overload your Larsen speakers. Overload can be excessive power from a big amplifier, but it could also be distortion from a too small amplifier. If you have questions regarding this, please consult your dealer.

Drivers damaged by overload are not covered by the warranty.

The Larsens offer a unique sound that to my ears is unusually true to actual music, and they are unusual, too, in their ease of effective placement in the room. ... You will have not heard anything else much like the sound—except of course in live music.

*Robert E. Greene /
The Absolute Sound*

Over the last several years, at CES and the old Newport Show, I have been extremely impressed by Larsen speakers I've heard, often listing them among the best sounding rooms in my show reports... I think these are a wonderful speaker and could happily live with them

*Steve Lefkowitz /
Positive Feedback*

Larsen 8 – how does it work?

So if the Larsen loudspeaker provide half-space directivity already in the bass and no baffle step how is the 2 ½-way idea implemented and what does it do?

In the Larsen 8 (as well as the Larsen 9) the main drivers are located at the top of the speaker and diagonally mounted directed upwards and inwards the same way as in the Larsen 6. Located at the floor on the side of the loudspeaker there is a second driver identical to the main one. There is no need to design the crossover for this driver to match the non-existing baffle step from a specific baffle width/frequency. Instead, the crossover point is set around 300 Hz. The reason for this frequency is to minimize the loudspeakers (all loudspeakers) problem with the reflex from the floor in between the loud-speaker and the listener. If it would be only to address compression and distortion it would probably be fine with a 100 Hz or so crossover frequency. In a traditional loudspeaker the extra woofer would add the missing 6 dB of SPL by both drivers playing the same sound (in that frequency range) twice as loud together. In the Larsen 8 the drivers instead share the workload, both drivers playing half the SPL each. The benefits are lower distortion (half the cone movement for same loudspeaker SPL), more uniform bass in the room due to double the points of radiation of sound, better coupling to the air while radiating bass sound due to twice the cone area, suppression of reflex from the floor. All together creating the signature natural sounding rich, deep bass found in the Larsen 8.

The two bass drivers working together below 300 Hz gives a rich, deep and precise bass with very low distortion all the way down to 22 Hz. The low distortion and wide but controlled energy dispersion in the high frequencies makes the Larsen 8 loudspeaker sound true to the musical performance in a larger listening area in the room compared to traditional loudspeakers. The two upwards facing ambience tweeters, helps reproduce ambience and depth to the sound stage for recordings where this is actually present. The two 7-inch drivers together with their mirror images in the wall due to the close proximity equals a driver piston area, (SD), larger than a 12-inch driver, hence the effortless deep low frequency performance. There is not a need for a separate subwoofer to reproduce everything on your records.

We thank you for your purchase of a Larsen product and your confidence in our strive to put life like music reproduction into the living area of a normal home. We hope this guide has given you all the information you need. Otherwise, consult your dealer or send us a mail on contact@larsenhifi.se.

Larsen HiFi AB was established in 1995 and is specialized in ortho acoustic loud speakers. The company, that is based in Sweden, are distributing its products world wide through a network of distributors and dealers.

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