



two way lover's two way

owner's manual

THANK YOU

Each of us involved in the design, manufacture and marketing of Meadowlark Audio products would like to thank you very much for putting your trust in us by purchasing the SHEARWATERS. We are very aware of the vast number of choices you face when deciding upon a speaker system. We congratulate you on your acumen, and sincerely appreciate your business. Our goal is that each customer be happy with our product, speak highly of us to their friends and return to us for future purchases.

We welcome your call at 315-779-8875.

FOR PROPER OPERATION AND SAFETY ALWAYS OBSERVE THESE PRECAUTIONS:

Never expose speakers to moisture or water, sunlight, or high temperatures.

Always be sure that your amplifiers are powered down or disconnected from your speakers before unplugging or plugging in any interconnects.

Be sure to install the supplied spikes when installing on a carpeted floor to insure stability.

Do not over tighten the binding posts. Never use a wrench or pliers to tighten them.

Do not use solvents to clean the speakers. Some 'glass cleaners' contain alcohol which may harm the finish.

Do not use oil, wax or polish on the finish. Wipe exterior with a soft cloth.

Do not over tighten the driver mounting screws. The damping gasket behind each unit is elastic, and will not function properly if it is fully compressed.

There is a limit to the sound output capability of your speakers. Never apply enough power to cause audible distortion. Avoid using a low power solid state amplifier and turning it up; this will result in hard clipping - an amplifier distortion characterized by a ringing sound or excessive treble harshness - and is often fatal to tweeters.

Your speakers are capable of playing at levels that can permanently damage your hearing. Use common sense and avoid playing at high volume.

The SHEARWATERS are designed for residential use only. Never use your system out of doors. The output levels necessary for this application are not achievable by your speakers and will likely cause damage.

SHEARWATER LOUDSPEAKER SYSTEM

Meadowlark Audio is a small company, and each pair of SHEARWATERS is carefully hand built by dedicated people who care intensely about the quality of our product, the success of our enterprise and the happiness of our customers. Do not imagine an assembly line of hourly workers; nearly all the

craftsmanship that makes up your speakers was performed by the hands of the owners of our company. The SHEARWATER is made one pair at a time.

The SHEARWATER is based on over a decade of experience, and more than a year of design, development and listening. We prototyped and reprototyped this design quite a few times until we got it just right.

The SHEARWATER is a phase-aligned first order design. This means that the drivers are staggered back to achieve proper timing - this is the reason for the sloped baffleboard. This arrangement combined with a 6 dB per octave crossover allows the SHEARWATER to reproduce the musical waveform faithfully. This is basic to natural sounding reproduction.

The SHEARWATER'S bass loading is transmission line. A long labyrinth is folded into the enclosure. This means that both bass articulation and extension are superior to more common sealed and ported designs.

Great care has been taken in the design and construction of this speaker to control panel resonances. The cabinets are substantially "deader" than typical speaker systems due to the use of thick materials, the very extensive interior bracing necessary to form the transmission line, and to the use of high tech damping materials. The SHEARWATER incorporates our exclusive 'Double Decoupled' two inch thick baffle. The individual drivers are bedded on a layer of Keldamp proprietary damping material. The baffle is also decoupled from the main enclosure with a layer of Keldamp to impede any transfer of energy to the main enclosure. Normally constructed cabinets tend to ring - muddying the sound and smearing the soundstage. The spectacular soundstaging achieved by this design is due, in part, to the inertness of the enclosures and the attention paid to controlling panel resonances.

The design of the SHEARWATER grille is unique in that the grille cover does not present the soundfield with any edges or surfaces to cause diffraction or reflections. Normal frame type grilles have these undesirable characteristics which tend to diffuse the imaging. The SHEARWATER baffleboard is heavily rounded to reduce soundstage distorting edge diffraction.

All internal wiring is Silver Sonic by D. H. Labs. This elegantly engineered wire consists of oxygen free copper strands which are plated with a mirror finish of silver and jacketed in pure Teflon.

Each crossover component is selected for sonic quality. The tweeter capacitor is a Solen Fast Cap. The woofer section consists of a single heavy gauge air core inductor. All internal connections are point to point, as opposed to circuit board, and all connections are hand soldered.

The entire crossover is mounted outboard in a 'false bottom' under the speaker to reduce microphonics. Capacitors are rather microphonic; their capacitance is easily modulated by the ambient soundfield. Significant, very audible distortions are induced by subjecting crossover capacitors to the intense soundfield within the speaker. Nearly half of the sound energy generated by a speaker is dissipated within the enclosure, which means that it is extremely loud inside the box. So, rather than place our crossover in the loudest place in the room, we place it in the quietest: an acoustically isolated, damped box at the base of the speaker.

All drivers are burned in for several days. Each pair of SHEARWATERS is individually tested and

auditioned by the designer.

BREAK-IN

Your SHEARWATERS will take about 200 to 300 hours of playing to begin to sound proper. At first the bass will sound thin and the treble a bit crisp. With proper break in the bass will fill out, and the treble will smooth out considerably. This is typical of very high quality drivers.

ELECTRONICS

The impedance of the bass system is 8 ohms. Because there are no capacitors in the circuit the system is a much easier load to drive than most other 8 ohm systems. Owing to the excellent sensitivity of the system, amps with lower power ratings should perform extremely well.

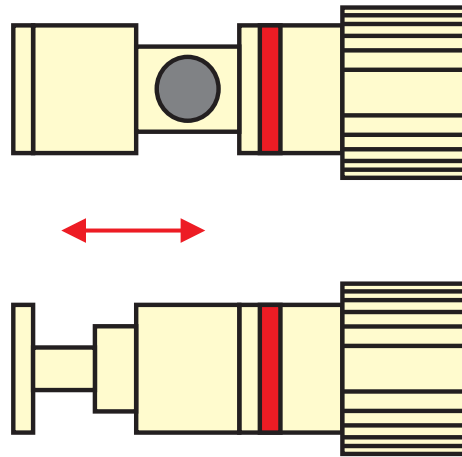
The SHEARWATER was designed to be compatible with tube (empty state) amps, and we heartily recommend their use.

The SHEARWATER is a transmission line which, like ported designs, is susceptible to infrasonics because the woofers are not acoustically loaded below 30 Hz. So, if you are using a turntable, watch for excessive woofer excursion resulting from low frequency turntable rumble. If this is the case you will need to use a subsonic filter. This is not a consideration with Compact Disc. Please note: any speaker system can be overdriven - avoid applying enough power to cause audible distortion. Your warranty does not cover abuse caused by overdriving or clipping.

CABLE & CONNECTIONS

Use high quality speaker cable. Keep the length of the cable as short as possible, using identical lengths for left and right channels. Lengths longer than 20' are not recommended, and will require special attention from your dealer. The binding posts on the back of the units will accept banana plugs, pin and spade connectors, or bare wire. Note that there is a sleeve on the posts that slides forward to allow standard spades or back to accept heavy gauge raw wire. The SHEARWATER should be biwired for optimal performance. Carefully observe polarity.

The SHEARWATERS are internally wired with D.H. Labs Silver Sonic T-14, and you can count on excellent performance from this product at a sane price.



**SLIDE SLEEVE
ON BINDING POST
TO USE EITHER
HEAVY WIRE
OR STANDARD
SPADES.**

SPIKES

If you are installing the SHEARWATERS on a carpeted area, be sure to screw in the four hardened steel spikes. They are designed to penetrate the carpet and securely ground the speakers to the floor. Some adjustment will be necessary to take out any wobble.

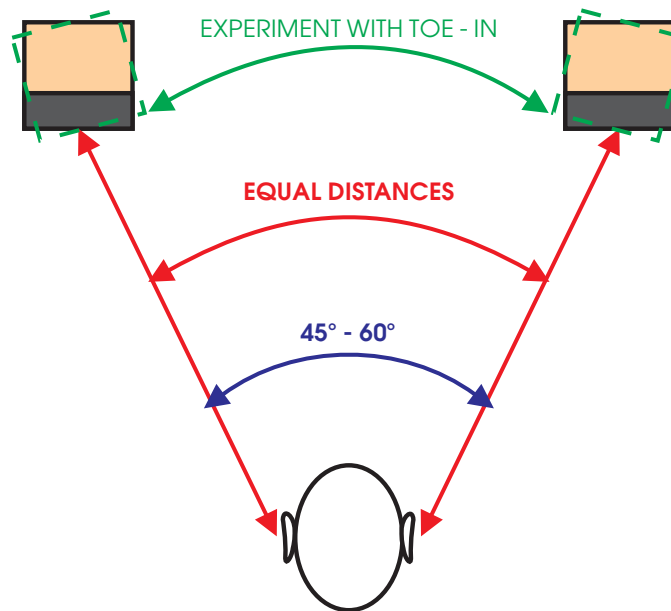
PLACEMENT

As with virtually all high performance speaker systems, there will be one seat in which the soundstage "locks in." To maximize image focus and soundstage resolution, this seat should be as far as possible from large sound reflecting surfaces, particularly side walls, but also back walls. Reflections are interpreted differently by your mind depending upon how closely in time they follow the original sonic event. Reflections that arrive at greater than 3 milliseconds after a sonic event can readily be sorted out and perceived as echos. However, those reflections which arrive within 3 mS of the original event are integrated into a single perception; your mind is unable to recognize part of what it is processing as a reflection, and the result is a single, distorted perception. This means that if there is a significant near reflection you will not perceive the signal that was emitted by your speakers, but a smeared, unpredictably altered version of it. Typically this smearing and scrambling of information will take its toll on the most delicate aspect of stereo reproduction - soundstaging - by obliterated the tiny clues your mind needs for perceiving height, depth and ambience. A delay of 3 mS translates into about 3' - so if the path of the reflection is 3' or less than the direct path, you've got problems. A wall right behind your head is a bad thing. Cocktail tables are often overlooked as a source of near reflections. If your floor is a hard surface, a soft rug between your seat and the front of the speakers is strongly suggested to lessen the amplitude of the reflection. Close side walls should be damped or diffused as much as possible to reduce reflections.

You may wish to use a tape measure and some masking tape to lay out the geometry of your listening area. Measure to make sure that the layout is symmetrical. An imaginary "center line" will extend

from the center of your seat, forward in the direction you will be listening. The distance the speakers lie from this center line should be the same. The distance between your head and each speaker must be the same. Try not to listen closer than 7' from the speakers. The angle between the speakers from the listener's perspective is typically between 45 and 60 degrees. Large angles can be expected to cause a "hole in the middle" effect - as center images spread and become diffuse.

Toe-in is also an important aspect of placement. Start with a small amount of toe-in and listen for center image focus. There will typically be some trade off between center image focus and soundstage width - ultimately this is a matter of personal preference.



Care must be taken to place the SHEARWATERS for best bass performance. Because of the bass extension achieved by this design, the probability of exciting room modes is quite high. Because the wavelength of, for example, a 35 Hz bass note is about 32 feet, your room can easily become involved in the creation of standing waves that result in both 'hot' and dead spots at these lower frequencies. Even though your speaker's bass response is extremely linear, you are confronted with the fact that your room's acoustic behavior will dominate in the bass. This means that there will be some combinations of speaker and listening position placements that will result in exaggerated, lean or uneven bass, so you may need to experiment with placement to arrive at the best result. Often small changes in placement will have noticeable results, and usually the process of listening and adjusting will extend over a few sessions. Generally, placement of the SHEARWATERS close to the rear wall may result in excessive bass reinforcement and should be avoided.

CARE

The lacquer finish on the baffleboard is susceptible to scratching. Use a soft cloth, dampen it with Windex for cleaning fingerprints. Please note that some cleaners contain alcohol and should not be used. The wood is coated with a clear lacquer and, like the baffleboard, should not be treated with wax

or furniture polish of any kind.

GRILLES

The grille cloths, while sonically superb, require care to install and remove. To install: start by placing the section of the hem with the clasp into the horizontal gap that divides the baffleboard so that the hem is hooked on the inner corners at each side of the gap. Then hook the third corner, then stretch slightly to hook the remaining corner. Smooth the grille into place - you can trade length for width somewhat by tugging. To tuck in the hem use the edge of a Compact Disc, a rolling action works particularly well. To remove: Slip one finger behind the hem at the side, then lift the tension line out of the track, and over a corner. DO NOT stretch the tension line any more than necessary. Removal and replacement of the grilles is somewhat difficult, so you will want to decide to either leave them on or off. The SHEARWATER sounds better with the grilles off, but the difference is very small, so your preference regarding appearance, and need for protecting the drivers will probably be the deciding factors.

WARRANTY

Meadowlark Audio loudspeakers are made a few pair at a time, by hand. Special attention is given to each pair's fit, finish and performance. Naturally, because they are handmade there will be minor imperfections. Your speakers are warranted against defects in materials and workmanship for five years following purchase if you mail your completed registration form within 15 days of purchase. Speakers which have not been registered will be warranted for a period of one year from the date of manufacture. This warranty applies to the original purchaser only, and is not transferable.

Damage resulting from overdriving, amplifier clipping or other abuse are excluded. Neglect, accident, tampering, act of nature and normal wear and tear are excluded. Any modification will immediately void this warranty. Meadowlark Audio retains the sole authority to determine whether any failure is warranted.

To obtain warranty service, take the unit to the nearest authorized Meadowlark Audio dealer. If there is no dealer near you, contact us directly. DO NOT return any unit without first receiving a return authorization. You will be responsible for the costs of shipping.

The foregoing warranty is the only warranty, express or implied given by Meadowlark Audio. There is no warranty of merchantability or fitness for a particular purpose. Meadowlark Audio hereby disclaims any express or implied warranties other than those stated herein.

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