

# INNER SOUND

## *Eros Mk III*

### OWNERS MANUAL

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# SETTING UP YOUR SPEAKERS

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Setting up your new speakers is a three-part process that includes the following:

- Unpacking/positioning
- Electrical connections
- Adjustment of the balance between the woofers and electrostatic loudspeaker (ESL).

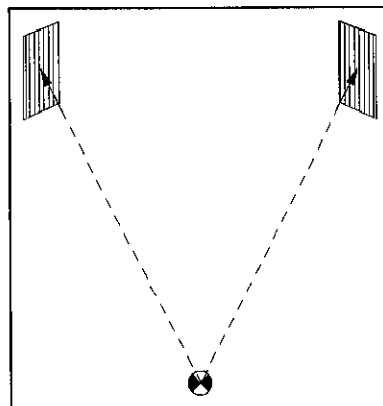
## UNPACKING/POSITIONING

Unpacking and positioning is best done with two people. It is easier to lift the box off the speaker than to lift the speaker out of the box.

Lay the speaker down, open one side, roll the box over, and lift the box off the speaker. Note how the packing foam is fitted as you may want to use it and the box later.

### Positioning tips:

- ✓ All speakers sound best when they are equidistant from you. Because the *Eros'* imaging is so much more precise than conventional speakers, they will reveal errors in equidistant placement more than conventional speakers. The section of this manual called "Advanced Positioning Techniques" will assist you in obtaining the exact positioning needed.
- ✓ Aim InnerSound speakers *directly* at your listening location — do not place them parallel to the wall.
- ✓ The *Eros* is designed to have a hard, reflective wall behind them — this will disperse the high frequencies throughout the room so they sound good when you are out of the sweet-spot. So do not put damping material on the wall behind the speakers unless you only listen at the sweet-spot and do not care about the sound when you are off-axis.
- ✓ The speakers are designed to be positioned close to a wall — any wall, side or rear walls work equally well. You do not have to place them out in the room.
- ✓ Corner placement exaggerates undesirable bass and room resonances — it is usually best to avoid corner placement for all speakers.



Equidistant to speakers

## ***FEET***

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There are two types of feet supplied with your new speakers:

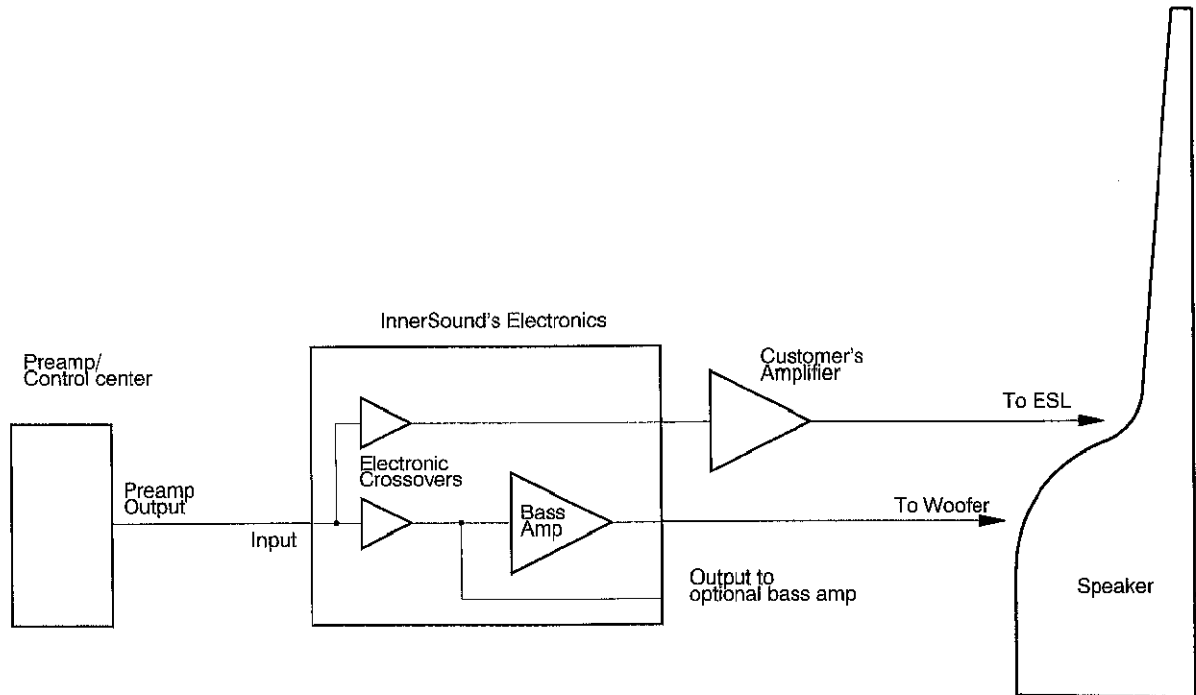
- Smooth feet
- Spikes

The smooth feet are for use on floors, while the spikes are for use on carpet. Speakers are not stable on carpet, so spikes can be used to reach through the carpet and rest firmly on the floor below. You may prefer to install the smooth feet first, even on carpet, so you can easily move the speakers around to find the location you prefer — then install the spikes.

Both types of feet screw into steel inserts on the bottom of the speaker and can be adjusted by rotating them in or out to get the speaker level and stable. Note that the speaker is designed so that when the bottom is level, the front of the speaker will tilt back slightly.

Lock nuts are provided to insure the feet or spikes won't shift position or rattle. Put them on the threaded shaft of the foot or spike before screwing it into the bottom of the speaker. Once you have the feet or spikes adjusted to your satisfaction, gently tighten the nut against the bottom of the speaker to lock the foot or spike into position.

## ELECTRICAL CONNECTIONS



The block diagram above shows how to connect the electronics to the speakers. The Eros is bi-amplified, which means that two amplifiers are required, one to drive the woofers and another to drive the electrostatic elements. So that you do not have to buy an extra amplifier, InnerSound supplies a very high quality, 600 watt/channel bass amplifier in the same chassis as the electronic crossover — which is why the unit is called a “Crossover/amplifier.”

Connect your preamplifier outputs to the Crossover/amplifier inputs using either balanced or single-ended interconnects. Connect the “High Pass” outputs on the back of the Crossover/amplifier to the amplifier that will drive the electrostatic section of the Eros speakers.

The “Low Pass” outputs are not used when using the built-in bass amplifier. They are only used if you want to use a different amplifier than the built-in bass amplifier. To use them, connect an interconnect from the “Low Pass” outputs to the bass amplifier of your choice and leave the front panel amplifier switch on the Crossover/amplifier in the “off” position.

Connect speaker cables from the speaker binding posts on the back of the Crossover/amplifier to the “Bass” binding posts on the rear of each speaker. Connect another set of speaker cables from the amplifier that you will use to drive the electrostatic panels to the “ESL” binding posts on the rear of the speakers.

Be certain that you have the phasing correct by connecting the cables the same way on each speaker and amplifier.

## COMMENTS ON CABLES

Surprisingly, some expensive interconnects are poorly designed in that they lack shielding. Avoid these as they often cause buzzing sounds in electronics. Properly shielded interconnects will have an outer covering made of fine braided wire that forms a metal shield around the wire(s) inside the shield. This is known as *coaxial* wire. Always use shielded interconnects.

Some speaker cable has very high capacitance and can cause high-quality, wide-bandwidth amplifiers to oscillate at very high frequencies. You cannot hear this oscillation as it is supersonic, but it will cause the amplifier to operate at full-power and can overheat and damage both the amplifier and the speakers. If you notice that one or both channels of any amplifier is running much hotter than normal, suspect a supersonic oscillation.

One brand of cable is notorious for causing this problem and that is Goertz (Alpha core) cable. It is built as two thin ribbons sandwiched together, one on top of the other. Do not use this brand of cable on wide-bandwidth solid state amplifiers (these are amplifiers that are capable of linear high frequency response to 100 KHz or beyond). You may use it on tube amplifiers because they have much more limited bandwidth and cannot reproduce the high frequencies where the oscillation occurs.

Speaker cables exert most of their influence on the sound of speakers by interacting with passive, high-level crossovers present in most speaker systems to change the frequency response of the speaker. Because *EROS* speakers do not have passive crossovers, cables will have little if any effect. The only basic requirement for the woofer cables is that they be large — at least 12 gauge, so that the amplifiers will not be isolated from their drivers by excessive impedance.

Electrostatic speakers will operate best with cables that have extremely low inductance, moderately low capacitance, and moderately high impedance. Innersound manufactures cables that are ideal for this purpose, but most other cables will be satisfactory as long as their inductance is very low (excessive inductance will adversely affect the high frequency response of the speakers).

Each speaker has an internal **POWER SUPPLY** to energize the electrostatic panels. This is why each speaker must be plugged into the mains. You may use the supplied 10-foot power cord, or the any special power cord you prefer. Note that since the power supply is not involved in any audio circuits, there is no reason to believe that using a special cord or power conditioner would have any affect on the sound.

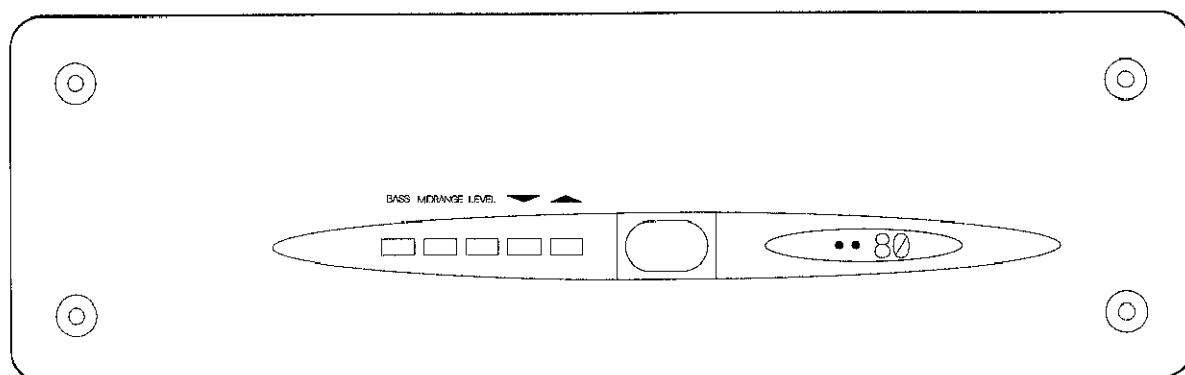
The power supplies consume very little power, so there is no need to turn them off. If you turn your system on with a master switch, you may also use it to switch the speakers' power supply. The speakers charge up and work normally within about two seconds of turn-on.

## COMMENTS ON AMPLIFIER POWER

What good does it do to have a wonderfully designed amplifier if it is usually overloaded and full of distortion? Power is the most important amplifier specification. While most of the power is required in the bass (which is why InnerSound supplies a 600 watt/channel amplifier), the electrostatic element requires a surprisingly large power amplifier at high frequencies because the impedance drops to 2 ohms. Therefore it is best to drive it with at least a 60 watt/channel tube amplifier or a 200 watt/channel solid state amplifier.

Low-power amplifiers will work, but they will cause distortion if you play them loudly on dynamic material. They may not sound obviously distorted, but they may sound "strained", "harsh", lack detail and dynamics, or have other audible flaws. InnerSound strongly recommends very powerful amplifiers.

## **ELECTRONIC CONTROLS**



The Eros Crossover/amplifier has much greater adjustability than any conventional speaker. With it, you can best match the speakers to your room and personal preferences. Such a powerful tool can also be misadjusted and make the speakers sound awful, so please read the following information carefully:

There is a master switch on the back panel that turns on the crossover section of the Crossover/amplifier. It is designed to be left on continually. The large switch on the front panel controls only the bass amplifier. As this amplifier is highly efficient, uses very little electricity, and runs cool, there is no reason to turn it off. Therefore, it is recommended that it be left on continually. But you may switch it on and off if you feel this is necessary.

### **Level**

This controls the overall level of the sound. It controls both channels simultaneously and has 100, 1 dB steps. It is a volume control and you can use the crossover/amp as a preamp if you only have a single source. But normally, you will be using a preamplifier, and the level control is designed so that you can obtain the optimum sensitivity of your preamplifier's volume control. You should set the Crossover/amp level so that you use most, or all of your preamplifier's volume control when playing music at the loudest level. This way, you will have the most sensitivity and linearity from your preamp's control.

The crossover/amp's level control is the finest available and better than those available on most preamps. So you may find it best to turn your preamp up about to a loud position, then use the crossover/amp's level control to adjust the volume of your system. Not only does it work well, the digital readout makes it easy to see where you are and it can be remote controlled.

Adjust this control to "90" on the digital readout when you are starting the unit for the first time. You can adjust it more precisely later. Most systems will use the range from 80 (10 dB below unity gain) to 90 (unity gain). "Passive" preamps may benefit from turning the level control up to "99" so that you have more output level available. Feel free to use whatever value best fits your system.

If you have a single source such as a CD player, you can connect it directly to the crossover/amp without using a preamp. Use the level control on the crossover/amp to adjust the volume.

### **Up/down Arrows**

These controls increase or decrease the level of the three functions to their left (BASS, MIDRANGE, and LEVEL). The digital readout shows the value you have selected.

### **Midrange**

This is an extremely critical control. Adjust it so that the speaker's midrange is full and rich, but perfectly clear. If the speaker sounds too "thin", you need to increase this control. If the speaker sounds less than perfectly clear ("muddy"), then you have the midrange set too high — reduce it. This control is so important that often only one or two dB will be all the adjustment needed.

There is no "right" or "correct" position for this control since its level depends on the sensitivity and power of your amplifiers. Turn it up to around "85" as a starting point and then adjust it further based on listening to a wide variety of music over an extended period of time.

This control can be *very* useful when you encounter poor source material (very common if you use your system for video). You can temporarily alter your "normal" midrange setting to make thin sounding material more rich and full. Conversely, if the source lacks high frequencies and clarity, you can turn the midrange down to improve detail and highs. After you have finished listening to the poor source material, you can then easily return to your normal setting using the digital readout. Because these settings can be done by remote control, you can easily get good sound from most any source material without even leaving your listening chair.

### **Bass**

The bass adjustment allows you to trim the deep bass of the speaker to match the room acoustics. It is a well-known fact that rooms affect the bass performance of speakers tremendously. Even if a speaker has perfectly flat bass response in one room, it will not be flat in another. Also, it is sometimes desirable to alter the bass response to fit your taste.

This control varies the bass response below 100 Hz over a 12 dB range. Start with the bass control at "6". Add or subtract bass to your taste after you have obtained a reasonable setting for the midrange.

### **Indicator Lights**

There are two small blue lights next to the digital readout. These show the status of the bass amplifiers. If an amplifier should fail, its light will go out. The lights will also be out if the power switch is off.

If a light is off, it may be that a power supply fuse has blown due to some kind of overload condition. However, this usually means something is wrong and the cause of the problem should be corrected before replacing the fuse. Contact your dealer or the factory for assistance.

### **Loss of Power**

If the unit loses power or it turned off by the rear panel switch, the on-board micro-processor will have to "reboot" just like a small computer (which it is). All the settings will go to their "fail-safe" modes, which means all levels will be at zero. You will have to install your preferred levels for Bass, Midrange, and Level before you will hear any music. So it is a good idea to write them down where they are handy for the rare occasion when you might need them.

## **ESL/WOOFER PHASING**

The ESL and woofer leave the factory in-phase with each other *when the ESL is driven by a non-inverting amplifier*. Most amplifiers are non-inverting (a positive input signal produces a positive output signal, not a negative one). As long as you connect the positive (red) terminal of the ESL to the positive (also probably red) terminal on your amplifier, and the red terminals on the bass amplifier to the red terminals on the woofer, the ESL and woofer will be in-phase.

If you have an inverting amplifier, the drivers will be out-of-phase when connected as described above. Out-of-phase drivers have a very subtle, adverse effect on the sound.

You can test the phasing if you wish. To do so, first be certain that the channels are in-phase, and the speakers are exactly equidistant from your listening location — you can't expect to hear subtle phase differences if there are gross ones that overwhelm it. Then reverse the leads to either the ESLs or woofers (but not both), and listen carefully. Probably you will have to reverse the leads several times to hear any difference. If you do hear a difference, choose the phase that sounds the best to you.

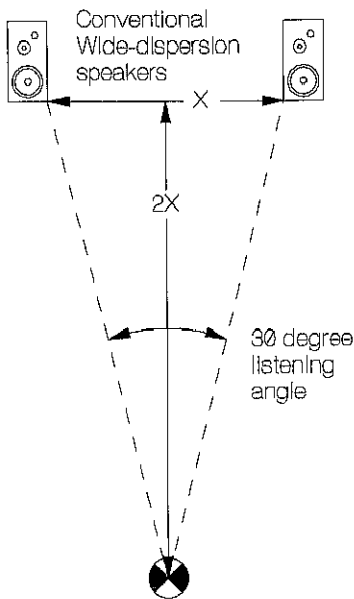


## ADVANCED POSITIONING TECHNIQUES

This section is to help you position InnerSound speakers so they produce incredibly precise images — far more precise than any other type of speaker. To do this, the speakers must be placed exactly equidistant from you so that the sound from each speaker arrives at your ears at *exactly* the same time. Also, each speaker needs to be aimed at your preferred listening location. This “sweet spot” or “focus” is where the sound will be best, although it will be satisfactory anywhere in the room.

The following suggestions can help you achieve precise positioning. Although not essential, an assistant will be very helpful during this process.

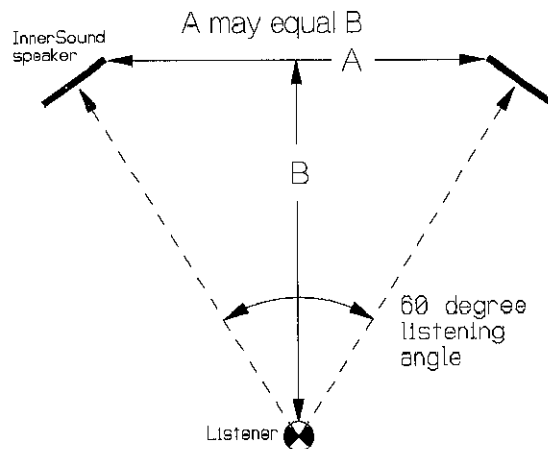
Place the speakers about where you want them and connect the speaker cables. The exact speaker position and geometry are critical and can be disturbed by connecting the cables. So connect the cables now — before you finalize speaker position.



Begin by adjusting the listening angle. How wide should the listening angle (“sound stage”) be? Conventional speakers can only fill a listening-angle about 30° wide — their distance from each other can only be about half their distance from you. If wider, they will produce the well-known fault where there is a “hole-in-the-middle” of the sound image.

Because InnerSound speakers are phase-coherent and have a dipole dispersion pattern, they can be placed much further apart than most speakers and still completely fill the sound-stage. We encourage you to take advantage of this fact and place them very widely so you can enjoy a huge sound stage.

The picture shows the speakers and the listener forming an equilateral triangle. This produces a nice wide sound stage — *but this is not a requirement*. Place the speakers at any width you like.



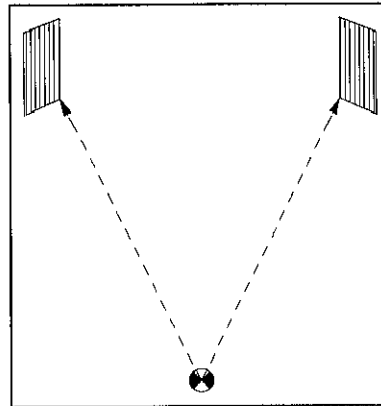
InnerSound speakers are deliberately made to be directional so that the sound quality is the most realistic possible. It is three-dimensional and has a "holographic" quality.

Wide-dispersion speakers send most of their sound away from you into the room where it reflects off room surfaces before reaching you. You are actually listening to the room more than the speakers. Because these reflections travel varying distances before they reach you, they are delayed by varying amounts. When the speaker produces a transient sound (and music is mostly transient in nature), you hear the sound from many directions and at slightly different times. This "smears" the transient and produces "muddy" sound and a poor image.

InnerSound speakers direct the sound directly to you instead of throughout the room. You hear the *speaker* instead of the *room*. This is why InnerSound speakers sound more clear than even very good conventional speakers.

Sound clarity and image quality is a function of timing and distance. So to get the best performance, you will need to get your speakers precisely positioned. This requires that you have both speakers an equal distance from you and that they are pointed directly at you. To avoid reflections from the wall behind you, it is best that your listening chair be well-away from the wall or that the wall has an absorbent surface in the area directly behind your head.

This may seem like extra effort that is unique to InnerSound speakers, but this is not true. *All* speakers perform best when they are accurately positioned. Because wide-dispersion speakers confuse the sound from the speakers with the sound from the room, they are incapable of producing high-quality images. Therefore errors in positioning are not as obvious as with InnerSound speakers.

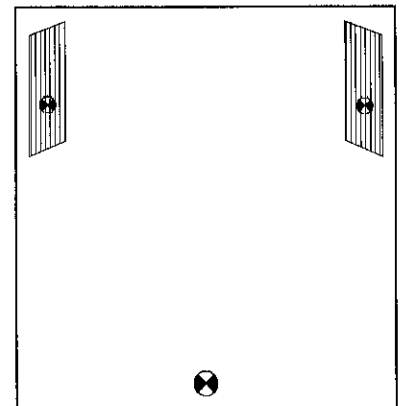


Equidistant inner corners

Position the base of each speaker equidistant from your ideal listening location. You can use a tape-measure, string, or thread to gauge the distance from your chair to each speaker. Use the center of the back or seat of your chair as one reference point and the inner edge of each speaker as the other. You can have an assistant at your chair hold one end of the tape or string while you check the

distance to each speaker. If you don't have an assistant, you can use a pin to hold the end of the string by sticking the pin in the center or back of your chair and tying the string or thread to it. *The anchor point must be solid and stable* to get accurate measurements!

Next, adjust each speaker so it is pointed directly at your chair. Although you can do this by obtaining identical measurements to both lower corners of each speaker, an easier and more precise way to do this is to observe the reflection of a flashlight in the ESL diaphragms. Hold the flashlight just above your head while you search for its reflection.

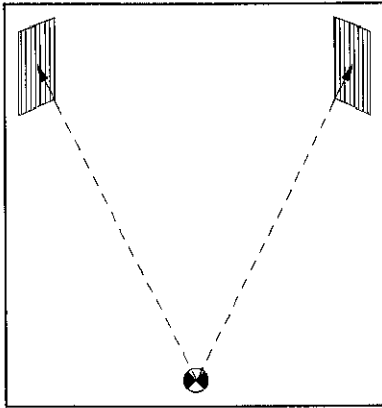


Center your reflection

The reflection is much easier to see if the ambient light in the room is low. It can be hard to see if there is bright light behind the panel.

Get your reflection in both speakers centered from side-to-side while sitting in your listening chair. To avoid altering the previous measurement, pivot the speakers on their inner corners — the one you used as the reference point.

When your reflection is centered side-to-side in both speakers, check to see that it is at the same height in both speakers. It doesn't have to be centered from top to bottom, but the reflection of your ears should be at least a foot from the bottom edge of the ESL. If not, the feet of the speaker can be screwed in or out to adjust the vertical angle of the speaker.



Equidistant to reflections

The speakers should now be correctly positioned, but it is a good idea to double-check by measuring from your chair to your reflection in each speaker's electrostatic cell. How precise should you be? The wavelength of a 10 KHz tone is about one inch. An error of  $\frac{1}{2}$ " will place this frequency a full  $180^\circ$  out-of-phase — just like you had reversed the wires to one speaker! So ideally, the speakers should be within a quarter wave — for 10 KHz, this would be a quarter inch of being equidistant from you.

**NOTE: If your speakers do not sound balanced (left to right), the most likely reason is that they are not equidistant from you. An error of one just inch will ruin left/right balance.**

## **CLEANING / MAINTENANCE**

The speakers do not require any maintenance. You may dust them as you would any fine furniture. The finish does not require furniture polish/wax. *Never spray any substance into the electrostatic cells*, as the electrostatic diaphragms could be damaged. If the electrostatic cells are extremely dusty, you may gently wipe them with a damp sponge or vacuum them as described below.

You may clean the cells with a vacuum cleaner fitted with a soft brush. When cleaning, be gentle, and avoid sticking the brush's bristles through the holes in the speaker and into the diaphragm.

Before cleaning, unplug the speakers and let the speakers sit for an hour so most of the high voltage charge will dissipate.

## **TROUBLESHOOTING**

The speakers are rugged and reliable, and problems are rare. This section is included to just make it easy to correct problems if they arise.

**HISSING, FRYING, or POPPING SOUNDS** — are caused by foreign material such as an insect or dirt getting trapped inside the ESL. It is *normal* for an ESL to occasionally do this, particularly when the humidity is high. Usually the noise will just disappear after several minutes or hours. If you wish, you may vacuum the speaker, or just blow on the noisy area, but this is not necessary. Note that the foreign material will always be on the rear of the electrostatic panel, not the front.

**ELECTROSTATIC AMPLIFIER FUSE-BLOWING** — may be of two types. The first is where the amplifier blows fuses on loud music. The other is when it blows fuses the moment you turn it on. This will not occur in amplifiers that have a turn-on delay circuit, and is rare in modern amplifiers.

Blowing fuses at turn-on is due to the fact that most amplifiers require a couple of seconds to stabilize their power supplied when turned on. When connected to an ESL, they may blow fuses only during this unstable period. To be sure, you first must check to be sure that it is just a simple turn-on instability problem and not a short-circuit or other amplifier problem.

To test, disconnect one of the speaker wires from each channel. Then turn on the amplifier — it should not blow fuses with the speakers disconnected. If it does, the amplifier is defective.

If it works properly, *leave the amplifier on* while you reconnect the speaker wires (being careful not to short the amplifier terminals with the loose wires). It should NOT blow fuses, and it should play music properly. If so, probably you can solve the problem by increasing the size of the fuses up to the manufacturer's maximum allowed value. If despite larger fuses the problem persists, then you will have to connect the amplifier to the speakers through a delay relay (a delay of between 2 and 5 seconds is adequate). External, electronic delay relays are available from electronic parts houses, and your dealer probably can help install it. The amplifier manufacturer may be helpful as well.

When playing music loudly through an ESL, even high quality amplifiers may blow fuses. If this occurs, consult the owner's manual, your dealer, or the manufacturer to find the largest fuse that is safe to use with your amplifier. Replacing the stock one with a larger one (within the safe range specified by the manufacturer) will often solve this problem. If it doesn't, you will need a more powerful amplifier.

**AMPLIFIER OVER-HEATING** — should never occur. ESLs are "wattless" speakers. This means they don't dissipate your amplifier's power as heat like magnetic speakers do. Therefore, the amplifier should run cool — only a bit warmer than if it were just idling. If either channel of the amplifier runs hot, something is wrong. That "something" usually is supersonic oscillation caused by high-capacitance speaker cables or a defective component elsewhere in your system. DC offset in the output stages of the amplifier can also be a problem. This is *not* a speaker problem — it means there is a problem with the cables or in the electronics. Try changing cables. If that doesn't work, you will need to service the amplifier or other offending component.

**TUBE AMPLIFIER OUTPUT IMPEDANCE** — should be set as low as possible. As a minimum requirement, you must use the amplifier's 4Ω connection. If a lower one is available, use it. If your amplifier doesn't have a 4Ω (or lower) connection, it probably will not be suitable for driving electrostatic loads as it will tend to roll-off the high frequencies.

**AMPLIFIER INSTABILITY** — can be a problem if the amplifier was designed to only drive resistive loads, not capacitive loads like electrostatic speakers. Oscillation may be noticed as a harsh quality in the high frequencies and/or amplifier overheating. If this happens, try a different amplifier. Be sure you are not using high capacitance speaker cables. If a different amplifier solves the problem, then your amplifier may need service. If different speaker cables solve the problem, then retire the problem-causing ones.

**MOMENTARY AMPLIFIER SHUT-DOWN** — is caused by inappropriate activation of an amplifier's protection circuitry. You may experience this problem when playing music loudly and the amplifier completely shuts down for several seconds, then returns to normal operation — only to trip off again a few moments later. It will repeat the cycle as long as you try to play music loudly.

The problem here is that the amplifier is not designed to drive low impedance loads. Although the amplifier may not seem to be harmed when it shuts down in this way, repeated activation may eventually lead to failure of the output transistors. You should switch to a different amplifier.

**BUZZING NOISES** — are caused either by "ground loops" or unshielded interconnects. Ground loops grounding problems with your equipment — most commonly your preamp. It is not a failing of any part of your system, it is simply an interaction. The problem usually is caused by having one or more components grounded to the mains circuit. Lifting the ground (by using a 3 pin to 2 pin adaptor on the power cable) often will stop the buzz. Also, it is good practice to have all components plugged into the same outlet strip.

Surprisingly, some expensive interconnecting cables have no shielding. If lifting the mains ground doesn't stop the buzz, change interconnects. Be sure the test interconnect has a metal shield around a central conductor ("coaxial cable"). For testing at least, use an inexpensive cable because you can be sure they are properly designed and shielded.

**CROSSOVER/AMPLIFIER PROBLEMS** — If one woofer fails to work, check the indicator lights on the front panel of the Crossover/amplifier. If both lights are on, then check the speaker fuses on the back of the unit. The fuse holder is the rectangular unit between the speaker binding posts.

To open the fuse holder, press down on the top of the little box and it will pop open slightly, showing you that it is actually a small drawer that will slide open. Open it fully and inspect the fuse. If it appears blackened, or if the wire inside is broken, replace it. Some fuses are ceramic and you cannot see inside. If so, you will either need to measure the fuse with an ohm meter or substitute a new fuse to see if that solves the problem. A pair of spare 8 amp fuses were supplied with the crossover/amp.

It is almost impossible to blow an 8 amp fuse while playing music. So a blown fuse suggests that the problem was caused by shorting out the speaker cables while the amplifier is on. It is hard to avoid touching the cables together when changing them, so make it easy on yourself (and the amplifier) by turning off the amplifier and waiting for the lights to fade out before changing speaker cables.

If an indicator light is out, then that amplifier module may have failed. There are power supply fuses inside the amplifier, but these will usually blow only if a failure has occurred in the amplifier. So do not open the top and replace a blown fuse as it will almost surely just blow again. Instead, return the unit to your dealer or contact the factory for inspection and repair.

## REMOTE CONTROL

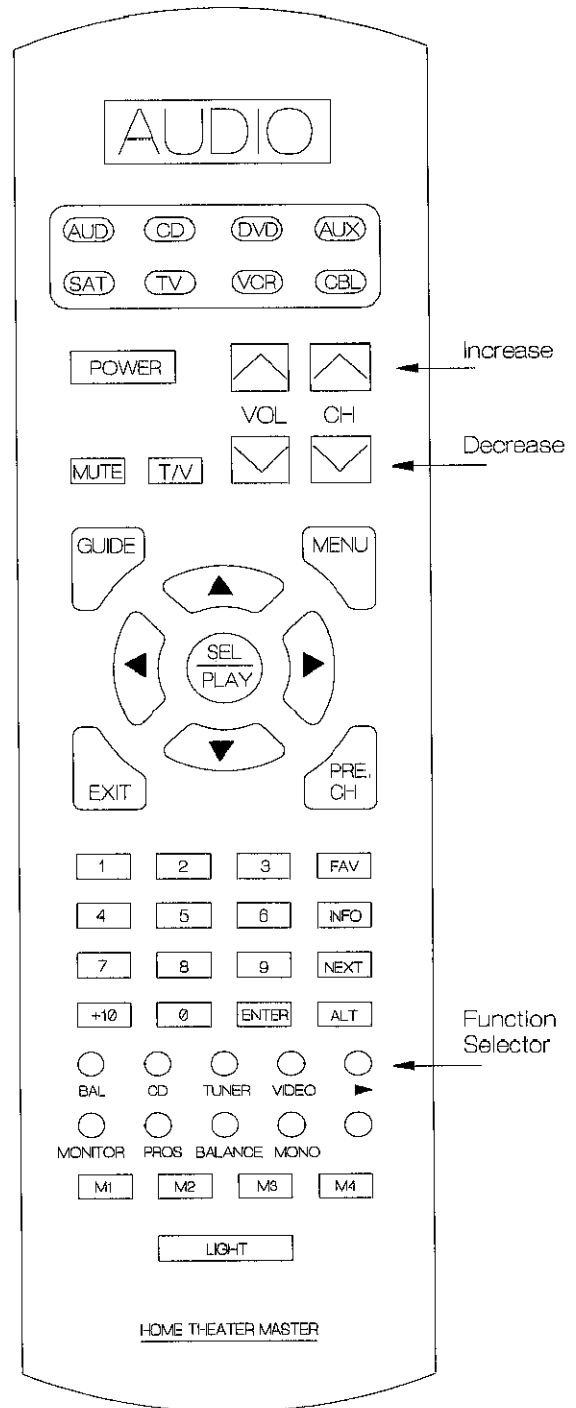
The Crossover/amplifier can be operated by the remote control transmitter that comes with Inner-Sound's *Remote Control Preamplifier*. If you do not have InnerSound's preamplifier, this unit is available as an option.

The remote normally comes pre-programmed for correct operation. But if the batteries have been out of it for a long time, or if a different programming code has been selected, it may be necessary to reinstall the original program codes. To do so, simply enter the code #148 in the usual manner as described on the back of the remote and in the instruction booklet that comes with the remote.

Operation is very easy. First be sure that the word "AUDIO" appears in the window. If necessary, press the left-most button marked "AUD" in the top row to select AUDIO.

As shown on the drawing at the right, press the "Function Selector" button to sequence through the three functions (Bass, Midrange, Level). When the appropriate indicator light is on, press the "Channel UP or DOWN" buttons to increase or decrease the level. Do not press the "Volume UP or DOWN" buttons as these control the preamplifier volume — use the Channel buttons instead.

This *Home Theater Master* is a very sophisticated, computer-controlled transmitter, into which you can put the IR codes from *all* your remotes and eliminate the pile of remotes that you now have to dig through every time you want to operate something. So don't waste it. Use it to control all your components from one unit. This is a truly amazing unit and you will be richly rewarded by reading its booklet and taking the time to program it.



## **SPECIFICATIONS**

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Speaker dimensions	15" x 18" x 68" (31 x 450 x 1700 mm)	Amplifier dimensions	17" wide x 15" deep x 5.5" tall (432 x 381 x 140 mm)
Speaker net weight	75 pounds (34 KG)	Amplifier net weight	42 pounds (19 KG)
Speaker shipping weight	95 pounds (43 KG)	Amplifier shipping weight	47 pounds (21.3 KG)
ESL size	13½" x 42"	Amplifier power	600 watts RMS/Channel 4Ω
ESL power handling	No practical limit	Input impedance	47KΩ
ESL impedance	112Ω @ 500 Hz falling to 2Ω @ 20 KHz	Output impedance	0.1Ω
Bass power handling	600 watts, momentary	Slew rate	50 v/μs
Bass driver	10"	Distortion	<0.05% @ rated power
Woofer impedance	4Ω	Frequency Response	10 - 80 KHz, ±0.1 dB
Bass design	Transmission line		
Sensitivity	98 dB/2.83 volts/meter		
Frequency response	24 Hz to 27 KHz ±2 dB		

## **WARRANTY**

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Eros loudspeakers are warranted by Innersound Inc. to be free from defects in material and workmanship for a period of five (5) years from the date of purchase. Electrostatic panels are guaranteed for as long as you own them. During this period, InnerSound Inc. will, at its option and without charges, either repair any part or assembly of parts that is found to be defective in material or workmanship, or replace the product with a product of comparable quality, subject to the following limitations and exclusions:

This warranty shall not apply to any product which has been subject to misuse, abuse, negligence, or accident.

The warranties herein are expressly in lieu of all other expressed warranties including the payment of consequential or incidental damages for the breach of any warranty.

Some states do not allow (a) limitations on how long an implied warranty lasts or (b) the exclusion or limitation of incidental or consequential damages so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

To obtain performance of the warranty obligations, contact the InnerSound factory by calling (770) 838-1400. A dated proof-of-purchase may be required. The purchaser must prepay all shipping/delivery costs to the repair facility.

Innersound Inc.

Phone (770) 838-1400

FAX (770) 838-0111

Website: [www.innersound.net](http://www.innersound.net)

E-mail: [support@innersound.net](mailto:support@innersound.net)