

# *Jaguar/LFM*

*by Audio Concepts, Inc.*



*Sound that Satisfies...*

# *Jaguar/LFM*

## Reference System Owner's Manual

---

### **Contents:**

Guarantee/ Warranty	... 2
Specifications	... 4
Design Philosophy	... 6
Hookup	... 7
Using Your Speakers	... 7
Video Applications	... 8
Avoiding Damage	... 8
Positioning Your Speakers	... 9
Speaker Break-In	... 10
Troubleshooting	... 10
Warranty Registration	... 12

---



### ***Audio Concepts, Inc.***

901 So. 4<sup>th</sup> Street, La Crosse, WI 54601

Phone: (608) 784-4570 Fax: (608) 784-6367

URL: <http://www.audioc.com> Email: [service@audioc.com](mailto:service@audioc.com)

***All Rights Reserved 2003***

Sound that Satisfies ...

*Audio Concepts, Inc.*  
**Our Guarantee and Warranty**

**Satisfaction Guaranteed:**

We're sure you're going to love your new Audio Concepts, Inc. (ACI) products! In the unlikely event that you are not satisfied, please contact us within **30 days** of receipt of your ACI products for a hassle-free return.

Simply follow these procedures:

1. **Return Authorization:** Call us at (608) 784-4570 or email [service@audioc.com](mailto:service@audioc.com), within 30 days of receipt of your ACI products for a return authorization number. Boldly mark the return authorization number on the outside of the box. Include a brief note stating your name, address and daytime telephone number, along with a short description why the products are being returned.
2. **Returning:** We request that you return the ACI products to us in their original packaging and include packaging materials, manuals, etc. Ship by the most economical means (preferably UPS) and insure the products for the invoice purchase price. The customer is responsible for return shipping. *Please note: ACI can not accept C.O.D. returns.*
3. **Credit:** Upon receipt and inspection, we will issue a refund for the invoice purchase price and invoiced UPS Ground service only. Please note this return policy is in effect only if the ACI products are in new condition, in their original packaging, without drilled holes, disassembled or any other modifications.

**Speaker Manufacture's Warranty:**

ACI's Five Year Standard Warranty and One Year Total Assurance Guarantee

For **five years** from receipt, Audio Concepts, Inc. will, at its option, repair or replace factory defective components. This warranty excludes products that have been abused, modified, or disassembled in any way. This warranty does not apply to products, which have been damaged in shipping. Audio Concepts, Inc. liability is limited only to the replacement of defective parts. No other liabilities or obligations are expressed or implied.

For the **first year** of ownership, ACI also provides a unique Total Assurance Guarantee, (TAG). TAG from ACI not only covers everything included in our standard five year warranty, but we will also pay for shipping to ACI and back to your front door. TAG is limited to shipping destinations in the Continental U.S.

The ACI Five Year Standard Warranty and One Year Total Assurance Guarantee are fully transferable from the original owner to a secondary owner provided that the original owner notifies ACI, by phone call or by filling out the on-line form: [www.audioc.com/order/warranty\\_transfer.htm](http://www.audioc.com/order/warranty_transfer.htm)  
 No warranty will be transferred absent this notification.

Simply follow these procedures:

1. **Return Authorization:** Call us at (608) 784-4570 or email [service@audioc.com](mailto:service@audioc.com) for a return authorization number. If the warranty repair is during the first year of ownership, additional instructions will be given to you at that time. Boldly mark the return authorization number on the outside of the box. Include a brief note with your name, address and a daytime telephone number, along with a short description why the products are being returned.
2. **Returning:** Carefully repack defective ACI merchandise in their original packaging. Ship by the most economical means (preferably UPS) and insure the products for their full retail value. The customer is responsible for return shipping (unless the first year TAG applies). Please note: ACI can not accept COD or Freight Collect returns.
3. **Replacement:** Audio Concepts, Inc. will inspect and determine the cause of failure and will pay return shipping on the defective goods replaced or repaired.

Please ship any returns to the following address:  
**Audio Concepts, Inc., 901 So. 4<sup>th</sup> Street, La Crosse, WI 54601 (608) 784-4570**

## IMPORTANT NOTICE

All new speakers require a minimum of 60 hours break-in-time before they sound the way they are supposed to. A speaker's performance improves significantly once broken in. It is critical that you have at least 60 hours on your speakers before you evaluate them. Don't worry if your speakers do not sound perfect the first time you play them. This is normal until they are broken in. If you are having difficulty getting enough hours on your speakers and your 30 day return privilege is getting near, call us. We will work with you, break-in is important!

Many of our customers break-in their speakers in by:

- A) Leaving them on at moderate to loud listening levels when they are not home.
- B) Leaving them on at moderate to loud listening levels while they sleep.
- C) Running pink noise through them.

*It is possible to reduce the volume level you hear, while still effectively breaking in the speakers. Place the speakers face-to-face, as close as possible. Reverse the polarity, (reverse + and - inputs), on one of the speakers. Putting the speakers out-of-phase will reduce the amount of perceived sound, but the speakers will be working just as hard. Be sure to restore correct polarity before serious listening!*

These methods are not convenient for everyone and we understand this. But please know that you will ***not know how good the speakers really sound until they are fully broken-in!***

## THANK YOU!

## *The Jaguar / LFM*

Thank you for your order and congratulations on becoming the owner of an Audio Concepts, Inc. (ACI) speaker. These fine speakers will provide you with many years of listening pleasure! With this latest version of the classic Jaguar, we unabashedly pursue perfection and reject all compromise. The premise of the large stand mounted speaker is time honored, and there are many pretenders to the crown. We humbly suggest that they all have met their match in the Jaguar.

The Jaguar is a speaker for the connoisseur who has been disheartened by the failings of others and is now ready to experience the best. Its authoritative transparency rewards the ears with details and musical truths unheard, until now. The Jaguar improves on the many virtues of its predecessors, building upon each and every strength. As your eyes can clearly see, it has been endowed with a shape and design that place it among the most stunningly beautiful speakers ever created.

As if the Jaguar were not formidable enough on its own, we have created the LFM (Low Frequency Module) to augment its capabilities. The powered LFM does not merely extend the low frequency performance of the Jaguar, it actually transforms it into a totally new system. The LFM's high current, fully discrete amplifier and parametric EQ allow it to mate seamlessly with the Jaguar. The result is a system of nearly limitless dynamic ease that fully preserves the midrange and high frequency purity that have made the Jaguar famous. With the LFM, the Jaguar is even more open and unfettered in its rendering of the entire musical sound stage. It is our statement, our flagship.

As in all ACI products, the finest drivers are used with extensively engineered and tested precision crossover networks. The cabinets are built to be extremely inert with extensive internal bracing. The midrange chamber is specially shaped and damped. All design and quality aspects combine to yield absolute state-of-the-art sonics. The use of the finest lacquers and hardwoods results in a cabinet of exceptional beauty and durability.

Please take the time to read this manual. We've tried to provide you with the information you'll need to gain the most enjoyment from your speakers. Should you have questions about the use of your speakers, not answered in the manual, please E-Mail or call.

## *Specifications*

**Frequency response:** 25-20kHz +3db anechoic, 60-15Khz +1.25db (usable in-room bass response extends cleanly to below 20Hz)

**Nominal impedance:** 8 ohms, minimum impedance 6.5 ohms, low reactance. Rising impedance below 100Hz means the driving amplifier will be relieved of high-current demands in the bass range

**Sensitivity:** 87db 1 watt/ 1 meter

**Bass-loading Jaguar:** fourth order, flared rear port

**Recommended RMS Power:** 50 to 300 watts per channel

**Tweeter:** Hand doped 1" soft-dome with ferro-fluid and aperiodic second chamber

**Bass-mid:** 7" cast-frame with ultra-stiff hand treated fiber cones, rubber surround; long throw, low distortion motor system with vented pole piece and impedance stabilization chamber

**Bass:** Dual 10" custom built and designed extreme excursion woofers in a low Q, well damped alignment. This driver array has greater air moving capabilities than most 15" woofers

**AWS System:** The ACI Adaptive Woofer System (AWS) offers the opportunity for an amazing improvement in bass response and overall listening satisfaction. User adjustable response including two bands of parametric EQ allows you to fine-tune the low frequency response of your entire system to your room and your personal taste. You'll hear music and soundtracks with greater clarity, improved impact and more spaciousness. Once you have heard your system fully optimized for all of these variables, you'll wonder how you ever enjoyed your system without this level of personal control.

**Inputs & Hookup:** Simply connect the LFM to your main amplifiers using the speaker cable of your choice. Two pair of Gold plated binding posts provided for bi-wiring. Specially made Q-10 cables are included to connect the LFM to the Jaguar upper module

**Cabinet:** Variable wall thickness, 1" minimum MDF, extensive internal bracing, 3/4" solid hardwood panels added over MDF cabinet.

**Dimensions:** 43 5/8" tall, 13.1/8" wide, 23" deep

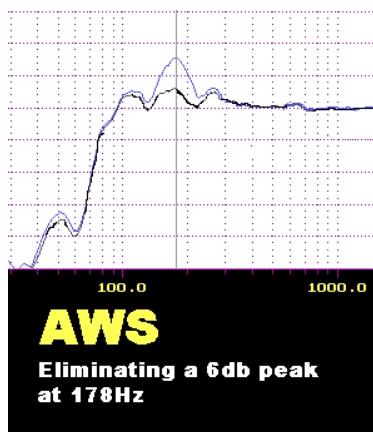
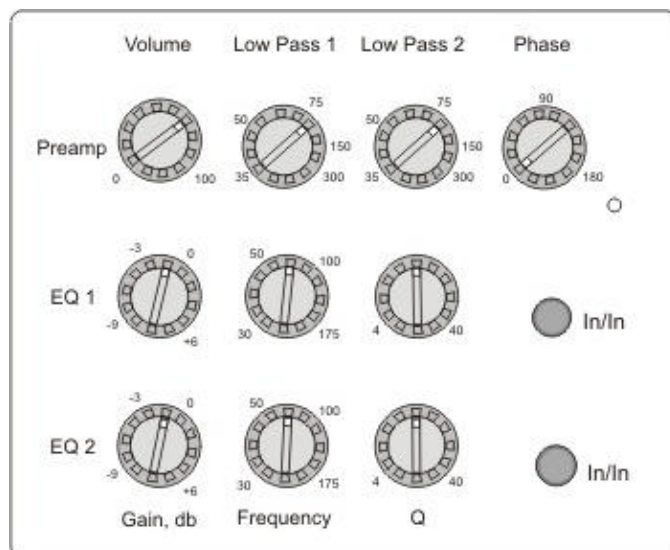
**Weight:** Net, 172 pounds each channel. Jaguar alone = 52 pounds, LFM alone = 120 pounds

**Recommended accessories:** DH Labs cables

## LFM: Quick Setup Guide

Please take the time to read the complete owner's manual. Reading the manual will insure your complete satisfaction. For those of you who **must** get it running **now**:

- The LFM will not sound the best until it has 80-100 hours or more of running time.
- The LFM is powered and a power cord is supplied. A shorter or longer cord may be substituted as long as it is of equal or heavier wire gauge.
- The LFM amplifier draws very little current at idle. It is best to leave it switched on all the time unless you will be away for an extended period.
- The LFM has a ground lift switch on the rear panel. Depending on your household and system wiring, one of the two switch positions will yield the lowest noise level.
- The LFM is shipped with the woofer preamp controls set for flattest anechoic response. The volume control setting is marked with a very small dot on the faceplate. Both lowpass filters should be set at 100Hz, and the phase should be at 0. See diagram.
- Most users will never want to change the lowpass or phase settings. Some users will want to adjust the volume control slightly. For example, placement near walls might result in too much "warmth". In this case, adjust the volume control down slightly. In other systems, you may wish for a bit more "warmth". In this case, adjust the volume control up slightly.



### The AWS System:

Shipping with your LFM is a comprehensive manual on using the parametric functions of the AWS system. A CD with test tones will also be included.

Using the parametric EQ essentially involves four steps:

1. Locate the center frequency of the peak. This is most easily accomplished with an SPL meter and test disc or a computer based test system.\* This can also be done "by ear" using test tones and very experienced listeners will be able to find the offending frequency listening to music.
2. Use the frequency control to center the control on the peak you want to eliminate or reduce
3. Use the Volume control to cut the level of the peak by the desired amount
4. Use the Q control to adjust the width of the desired cut.

\*Parametric equalization works very well for reducing peaks in the frequency response. In general, parametric EQ is not very effective at filling in gaps caused by room acoustics. In other words, be very careful of using any boost. Boost is likely to be ineffective and potentially damaging to the system.

\*The least expensive means of instrument based measurement will be using a Radio Shack analog SPL meter and a CD recorded with test tones. If you use the Radio Shack meter be sure to use a correction chart to account for the basic inaccuracy of the device.

## ***Design philosophy for the Jaguar / LFM***

Modern speaker design is a combination of science, art and sweat. A successful design such as the Jaguar / LFM requires thousands of hours utilizing computer modeling, several generations of prototypes, precision testing, critical listening and many "fine tunings".

Our design goals for the Jaguar / LFM were to produce a speaker that would set the standard for two-channel, fullrange systems. The system had to be an attractively proportioned and constructed speaker with smooth, uncolored, wide-range response, three-dimensional stereo imaging, good sensitivity, high power handling and dynamics, see through transparency, and the ability to convey the "soul" of music. We are pleased to have achieved and in some areas exceeded our goals by systematically engineering the Jaguar/LFM to optimize performance. Please note the following factors:

### ***Frequency Response:***

For a speaker to be considered "accurate" it must have a smooth frequency response that is free of major dips, peaks, troughs or plateaus. The Jaguar/LFM exhibits exceptionally flat response;  $\pm 3\text{db}$  from 25Hz to 20Khz and better than  $\pm 1.25\text{db}$  from 60Hz to 15kHz!

Of nearly equal importance is the off-axis response of the speaker. This response from 15 to 45 degrees off the axis of the speaker determines the smoothness of the early reflections from the wall surfaces. In video applications the off-axis response characteristics are extremely important for accurate voice and special effects reproduction. In most domestic listening situations this energy is nearly equal to the on-axis response in determining the balance of the system. The off-axis response should show a gradual decrease in output with increased frequency. The Jaguar has an exceptionally well controlled and smooth off-axis dispersion pattern.

Tight quality control procedures are necessary to assure that *your* Jaguar/LFMs sound every bit as good as our lab samples. Incoming shipments of raw parts including cabinet materials, drivers and crossover components are subject to extensive testing to verify that they meet our exacting standards. For example, the industry standard for crossover component tolerance is usually 10%, sometimes as high as 20%. ACI's standard is tighter than .1%!

### ***Dynamic range:***

Dynamic range in a speaker requires;

- Adequate sensitivity so that it may be driven to realistic levels with available amplification. The C-weighted sensitivity for the Jaguar/LFM is 87db.
- An easy load for the amplifier. A speaker can have a high sensitivity number but may present a difficult load for the driving amplifier. The impedance curve of the Jaguar never drops below 6.5 ohms with a steadily rising impedance below 100Hz and is an easy load for any receiver or amplifier.
- Low distortion drive units are necessary to keep the music from becoming edgy or gritty as the volume is turned up. The drive units used in the Jaguar / LFM have very linear suspensions to reduce distortion components to inaudible levels and contribute to the excellent sense of "clarity". The crossover used keeps low frequencies out of the tweeter and protects it from over-exursion at resonance, which would otherwise cause increased distortion. The high-quality, silk-dome tweeter by ScanSpeak of Denmark provides excellent damping, smooth crossover transition, and excellent power handling. The bass-midrange driver, also by ScanSpeak is an exceptional unit capable of not only superb midrange quality, but powerful and clean bass response as well. The twin subwoofers utilized in the LFM are custom designed and manufactured specifically to ACI specifications.

### ***Delayed Resonance Control:***

The ultimate control of delayed resonance required extensive use of Cumulative Spectral Decay analysis coupled with accelerometer testing of the cabinet wall surfaces. This extensive testing allowed us to develop the most cost-effective internal bracing to create the vault like solidity of the Jaguar / LFM. The entire cabinet is formed of an incredibly inert and well-damped medium density fiberboard (MDF) specified at 49.3 pounds per cubic foot density, with solid hardwood panels added over the MDF cabinet. The Jaguar is heavier than many, larger floor-standing speakers. All drive units were designed with effective resonance control in mind.

## ***Hookup***

Your Jaguars have gold plated binding posts, which allow you to utilize spade lugs, banana jacks, pins, or bare wire. It is important that the positive and negative leads do not touch. If you use bare leads, be sure to twist them tightly and insert through holes in such a manner that they do not fray or short out against each other. Good connections are important, so make sure any ends are tightly crimped and preferably soldered to the wire ends. Speaker wires should be kept as short as possible, (long wires add excessive resistance). Used with the LFM, Bi-wiring is recommended. To bi-wire, remove the jumpers and use one set of cables directly to the upper posts on the Jaguar. The other set of cables coming from your amplifier attaches to the input on the LFM. A custom Q10 jumper is installed between the output on the LFM and the lower set of posts on the Jaguars. If you don't bi-wire, leave the gold plated copper jumper installed between the upper and lower posts. We recommend the use of quality cable. ACI recommends DH Labs cables, a high-grade audio cable.

Make sure you hook up the speakers in the correct polarity. The red (positive) terminal on your amp should hook up to the red binding post, and the black (negative) terminal should be connected to the black binding post. Keep this the same for both speakers in a stereo pair. A way to check the correct polarity is to play music with a lot of bass. The correct hookup will yield the greatest amount of bass.

## ***Speaker Grills***

Your Jaguar / LFM are supplied with cloth covered grills, which enhance the appearance of your speakers and provide some protection for the drive units. The inside edges of the grills are shaped to reduce unwanted high-frequency reflections. We recommend leaving the grills in place except for critical listening when you may want to remove the grills for the very best sound.

## ***Using Your Speakers***

If the rest of your system does not work properly or is not correctly connected, you will not get the best performance from your system. To eliminate problems we recommend the following:

- 1) Use the finest associated components you can afford. All CDs, DVD and Laserdisc players, HiFi VHS tape player, turntables, cartridges, pre-amps, amplifiers, (receivers) have impact on the sound of your system. Poor speaker wires or interconnects can flaw the sound of an otherwise good system. Your Jaguars are accurate speakers and let more detail through. You will hear more of the beauty of the music, but flaws in your system and or source material may also be more obvious. Any good audio system is made up of matched components. You wouldn't use bargain recap tires on a new Porsche, and you shouldn't use inferior components with a high quality speaker. Your Jaguar / LFM are state-of-the-art speakers. Keep this in mind when selecting the rest of your system. Your Jaguars will work in systems with as little as 20 watts per channel. But for optimum sound we recommend high-quality amplification of 50-300 watts per channel. Even higher power may be used provided the speakers or amplifier are not over-driven.
- 2) Know your source material. People often blame their audio gear for poor recordings. A great number of popular recordings are of inferior sound quality. Unfortunately this applies to records, tapes, DVDs and CDs. Frequently poor recordings are rolled off in the low bass, and harsh and constricted in the mids and highs. Good stereo image is rare. Some recordings are still done on monitor speakers that are grossly inaccurate. This doesn't mean you can't enjoy these recordings, but you should try a few of the better recordings from labels such as Opus3, Proprius, Reference Recordings, Telarc, Audioquest, DMP, Chesky, Dorian, Analog Productions, etc. just to see how terrific your system can be with well recorded music.
- 3) Work at getting the best placement of your speakers in their environment. It is not unusual to be able to get a 25 to 50 percent improvement in sound by careful placement of speakers and furniture. It may not

be practical to go all out, but the more you can “tune” your room, the better your system will sound. Refer to the section on placement and room treatment.

### ***Specific Applications Including Video and Use with Subwoofers***

Besides being excellent speakers for musical reproduction, the Jaguar / LFM are suitable for the highest quality video applications. With their excellent dynamic range, accuracy and controlled vertical dispersion the Jaguars perform well as main speakers in home theaters. An ultimate system could include five Jaguars for left-center-right and rears. This system would be equally suited to the finest in video sound or musical playback. Alternately, the Jaguar/LFM system can be used as left-right speakers with one of ACI's fine centers like the Veritas and other ACI models used for the side/rear channels.

For improved bass extension and “room shaking” response, high quality powered subwoofers may be added to your system. Low quality powered subwoofers may add some bass *quantity* but the *quality* will be lacking. Many low quality subs will actually go no lower in frequency than your Jaguars. Instead, they will overlap the same bass frequencies causing response irregularities. With a poor subwoofer, the system will sound like it has more bass. However, it will be muddy and lacking in clarity and impact. A high quality powered subwoofer such as the ACI Maestro will add power and reach.

### ***Avoiding Damage***

ACI speakers are designed for the purpose of accurate reproduction of music in the home. We do our best to make our speakers rugged and reliable. However, ANY speaker or system may be damaged under certain conditions:

- Excessive power, particularly at certain frequencies or for prolonged periods of time***
- Excessive distortion often caused by under-powered amplifiers or receivers***
- Defective amplification***
- Excessive subsonic energy***

Our systems are tested at high volume levels with a variety of amplifiers and receivers before a design is approved. With many years of testing, we know it is virtually impossible to damage a component without the system first giving audible warning in the form of distortion. We also know that true factory defects are extremely rare, less than one in 10,000 drivers. Here are some considerations to keep in mind to avoid damaging your drivers:

- Even though a system may be rated for 300 watts or more, it is possible to damage it with a low power receiver. When an amplifier runs out of power, it “clips”. This clipping produces large amounts of distortion, which sends excessive energy particularly to the midrange and tweeter. This clipping distortion accounts for more than 75% of all tweeter failures. How do you know if the amplifier is clipping? Volume knob placement does NOT indicate much. Some receivers reach full output well before 12:00 on the dial. Use of the loudness button, bass boost and treble boost can all drive the receiver and then the speaker into distortion at fairly low levels.
- Many of today's recordings including CDs and DVDs contain extremely powerful low bass. This low bass can easily drive woofers into over-excursion or cause the amplifier to run out of power and clip, causing tweeter or midrange damage.

### ***You can protect your speakers by following a couple of very simple guidelines:***

- Distortion is a warning sign that should not be ignored, if it sounds at all distorted or strained, turn it down.
- Be careful not to over-boost frequencies with tone controls or equalizers. IF you must boost certain frequencies keep the boost level low and monitor the system carefully.
- Beware of the "party damage epidemic". Speakers are more often damaged during parties. All those bodies soak up sound, requiring more output to sound as loud, bass and treble controls are sometimes cranked up and nobody is listening for distortion.

-Watch out for energy put out by the amplifier in the range below 20Hz, which is not music. Examples include record warps, DC current and subsonic noise in the recording. These signals can take up a lot of amplifier power which means the amplifier runs out of steam very early. These signals can also overload a speaker even though you can't hear them. If you have ever watched a cone "flap" you know just what we mean. Unusually powerful low organ or synthesizer notes may cause an otherwise excellent woofer to bottom out at relatively low input levels.

-Keep an eye out for excessive cone movement that is not producing music. Find the source of the problem and eliminate it, play at low levels, or use a subsonic filter (usually in your pre-amp) which will filter out energy below 20Hz. However, use of a subsonic filter may take away from the naturalness of bass sounds. We don't recommend it for extremely critical listening.

*In more than 25 years of daily evaluation of all types of speakers on everything from 10 to 1000 watts with all kinds of music, we have rarely damaged a driver without first hearing audible distortion. If it sounds bad, turn it down and you will never damage a speaker.*

### ***Placing the Speakers in Your Room***

The proper placement of speakers in your room will easily improve the sound. Because everyone's rooms and tastes are different, it is impossible to specify a "correct" placement in this manual. Reading the following information may help you determine the best placement in your room.

It helps to visualize sound waves as behaving very much like water waves. The sound we hear is made up of two types of waves. Direct sound waves come right from the speaker and are not changed in any way. Reflected waves come to us after bouncing (diffracting) off the walls, ceiling, floor, furniture or the speaker enclosure itself. If you want to see how much these reflected waves affect the sound, move your speakers outside and hear the difference.

Sound waves come in different lengths; the lower the note, the longer the wave. Extreme low frequencies such as the lowest organ pedal notes are over 60 feet long! A problem with bass notes is the phenomenon we call standing waves. In effect, the waves more or less "pile up". This creates big peaks and dips in the bass response. If you put a certain frequency through the speakers, you can usually walk around the room and find places where it is very loud, and places where you perceive virtually nothing.

The construction of your listening room also has a major effect on bass reproduction. Sheet rock and wood frame construction "leak" low bass notes much more than block or concrete construction. Rooms with solid construction "hold" the bass in, providing deeper and more powerful bass response in the room.

Just as the room affects the bass response, so it affects the mid-treble sound of the system. In the mid-treble range, the sound waves are shorter and have peaks and dips. Most of the affects (peaks and dips), occur from enclosure edges, furniture, walls, or the floor. The Jaguar / LFMs exhibit the deepest image when placed away from walls and furniture. The shorter wavelengths of the mids and highs are more easily absorbed than the longer wavelengths of low frequencies. This is why a bare room sounds so harsh compared to a room with a lot of stuffed furniture, carpets, drapes, etc.

### **An *ideal* setup for sound would be achieved if you could:**

- Choose a room with width, height and length dimensions that are not multiples of each other. (A cube would be the worst!) Good numbers might be something like, height = 8 feet, width = 15 feet, and length = 26 feet.
- Choose a room that has an irregular shape, non-parallel walls cut down on standing waves.
- Begin with the "rule of thirds". 1) Place the speakers 1/3 of the way into the room from the wall behind them. 2) The left speaker will be 1/3 of the way into the room from the left wall. 3) The right speaker will be 1/3 of the way into the room from the right wall. 4) The listening position will be 1/3 of the way forward from the rear wall. Of course this is only possible in some rooms, but it give you a place to start for the best sound.

- Place the speakers so that the woofer cones are at irregular distances to the floor, walls and ceiling. This can be difficult. Use a tape to measure the distance from the center of the woofer to the room boundaries. Move the woofers around till you have cut down on the number of related distances. (You don't want distances like 12 and 24", but more like 12 and 22").
- Use the distance from the woofer to the boundaries to increase or decrease bass output. Sticking the speaker in the corner or close to walls will give more bass output than putting the speaker out into the room. You can use this to get the best balance between bass output and upper range output.
- Use absorbent materials to help smooth upper-range response and improve transient response and clarity. Why? Let's take the sound of a bell for example. First you will hear the direct sound from the speaker. But some of that sound bounces from wall-to-wall, ceiling-to-floor, off furniture, etc. before it reaches your ears milliseconds later. Because the time difference is short, you don't hear an echo, but the sound of the bell is stretched out from something like a "ding" to a "ddiii-nngg". It appears that some of the best speaker engineers have begun to realize this and are addressing the problem in their latest designs. This is why we are now seeing very directional designs. This controlled directionality increases the amount of direct sound in proportion to reflected sound.
- Place speakers as far as possible from other furniture and room boundaries. Keeping the mids and tweeters away from the floor is particularly important.
- Use padded furniture and drapery when possible to cut down on reflections. Furniture has the added bonus of helping to break up standing wave patterns in the bass.
- Use symmetrical placement of the speakers in the room. Of course the distance between the speakers is also important. In general, the further back your listening position, the farther apart should be your speakers.
- In most rooms, you will want the Jaguars between six and nine feet apart. Experiment! Too much distance will smear the image and it will seem like there is a hole in the middle. Too small a distance will compress the image. Experiment with facing the speakers straight into the room or toed in *slightly* toward the listener.

### ***Left – Right Speaker Placement***

Your Jaguars are constructed in mirror-imaged pairs. Best stereo imaging and smoothest response is usually attained with the speakers placed so the tweeters are mounted to the outside. However, depending on your room setup and system, your Jaguars may sound better with the tweeters mounted to the inside. Try the Jaguars both ways to determine which placement provides the best response in your application.

### ***Speaker Break-In \*\*\*\*Important!!!***

Allow at least 60-100 hours of playing time before your new Jaguar/LFMs will sound their best. The adhesives and materials used in manufacturing must stretch and flex properly before a speaker will sound its best. After break-in the bass will be tighter and go lower, imaging and transparency will improve and the midrange and highs will sound smoother and more natural.

### ***Troubleshooting***

Occasionally we get a call from someone who feels there is a problem with their ACI speaker. At least a couple of times a year we will get a call or E-Mail that goes something like this: "*Speaker not working properly, can't get enough sound even with the volume turned way up.*" The problem may be different from this, but with this little information to go on it is almost impossible to trouble shoot the problem "long distance".

***The following checklist may help:***

- 1) Are all system hookups properly connected, no partially shorted wires, or reversed connections, etc?
- 2) Did you try the rest of your system with other speakers to determine if the problem exists with the speakers?
- 3) Please be realistic in your expectations. Even a state-of-the-art speaker like the Jaguar can't beat the laws of physics. For instance, a Jaguar will not play as loudly as a huge, PA type speaker will.

IF for any reason you aren't satisfied with the sound you're getting from your speakers we want to know about it. Make sure the speakers have had adequate break-in time. Before you call, write or email please try to narrow down the problem and eliminate other factors. If you contact us we will need to know:

- The size of your room
- Where you have the speakers placed
- What other equipment is in your system
- Have you tried other speakers (which ones, and did they eliminate the problem)
- Any other specific symptoms or information you can provide

Our Customers are #1 with us, and we want you to be completely happy with your ACI speakers!

<b><i>The Company</i></b>
---------------------------

Audio Concepts, Inc. (ACI), has been satisfying discerning music lovers since 1977. Our goal has and always will be to provide exceptional product and service to music enthusiasts around the world. Audio Concepts speakers are an expression of dedication to our customers and their desire for accurate musical reproduction. We believe you must audition speakers in your own home and in your own system. Please see the warranty statement for details.

After listening, please fill out and return the warranty registration. This warranty registration is important. It allows us to reach you in the event of future upgrades. The comments you make on the warranty help us to continually improve our products and customer service. Thank you!

Specifications and design are subject to change without notice due to our continuous research and development program.

***Audio Concepts, Inc.***

901 South 4<sup>th</sup> Street, La Crosse, WI 54601  
Phone: (608) 784-4570 Fax: (608) 784-6367  
URL: [www.audioc.com](http://www.audioc.com) E-Mail: [service@audioc.com](mailto:service@audioc.com)

***All rights reserved Audio Concepts, Inc. 2003 11/03***

## Warranty Registration, Please Return

**ACI div. Audio Concepts, Inc.**

901 S. 4th Street, La Crosse, WI 54601

[service@audioc.com](mailto:service@audioc.com) (608) 784-4570

Congratulations on becoming an ACI speaker owner. Completing this registration enables us to contact you regarding future upgrades. Your information helps us provide the best possible products and service. If you need additional room please continue on the back. You may also register your product electronically on our web site. <http://www.audioc.com>

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Main reasons you purchased from ACI: \_\_\_\_\_

Where did you first hear about ACI: \_\_\_\_\_

System(s) purchased: \_\_\_\_\_

Date received: \_\_\_\_\_ Invoice Number: \_\_\_\_\_

Condition received in: \_\_\_\_\_

Comments or suggestions regarding our staff or service: \_\_\_\_\_

Other audio equipment used: \_\_\_\_\_

Do you have a home-theater system? \_\_\_\_\_

Do you plan to purchase other speakers within the next two years? \_\_\_\_\_ If so, what types of speakers are you interested in purchasing, (Tower speakers, satellite speakers, subwoofers, wall speakers, outdoor speakers, home-theater speakers, etc.)

\_\_\_\_\_

***All speakers require at least 60-80 hours of playing time to sound their best. After your speakers have had time to break-in and you've done some serious listening please tell us:***

Features you like most about your ACI speakers: \_\_\_\_\_

\_\_\_\_\_

Areas of performance or appearance you'd like to change: \_\_\_\_\_

\_\_\_\_\_

Other comments or suggestions: \_\_\_\_\_

Will you recommend us to others? \_\_\_\_\_ (Over 1/2 of our customers were recommended to us by testimonials on computer data bases or referrals from someone they know. We put the money we save on advertising into the highest quality products at the lowest possible cost to you.) We would appreciate being able to use your comments in future advertising. Please sign here to allow us that privilege.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

***Thank you for taking the time to complete and return this registration!***