by Phil Jones

7001 LOUDSPEAKER



OWNER'S MANUAL

AAD 7001 Owner's Manual

Thank you for choosing the 7001 loudspeaker system. This is our most advanced high performance loudspeaker ever to come out of the AAD stable, a true thoroughbred based on the design philosophy of Phil Jones, a loudspeaker that produces a corresponding acoustic output to exactly the electrical signal it is fed: no more, no less.

As this speaker is so revealing, any changes with equipment associated in the signal path will result in considerable audible differences in the speaker. Any character of the speaker will be from the recording of the music you are listening to. The 7001 will only perform at its best with the purist audio signal possible. Small power amplifiers are out of the equation.

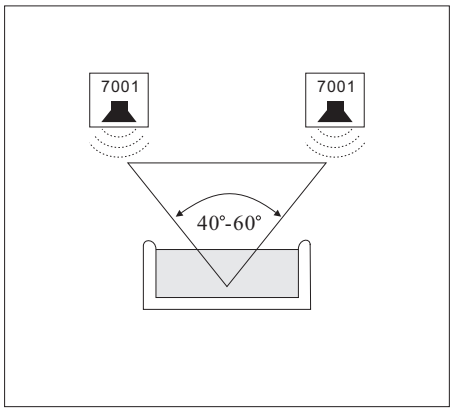
Stands

To assemble stands please read the separate instruction manual on stand assembly. If you have difficulty in assembling stands, contact your dealer who will be able to assemble these for you.

Make sure that the speakers are bolted firmly on the stand. The dedicated ST-7001 stand is designed to give 7001 maximum performance.

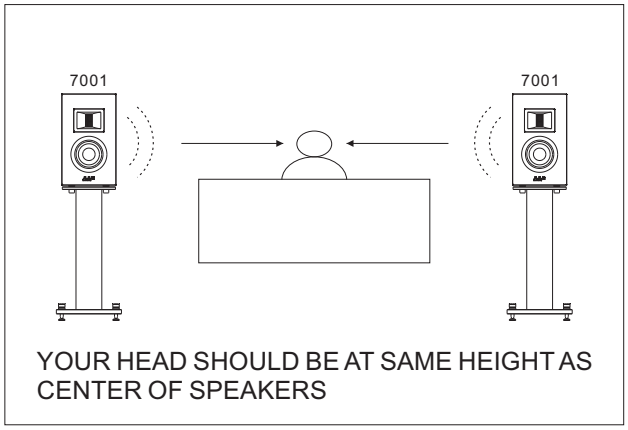
Speaker Placement

This is the first step in obtaining the most realistic sound possible. The 7001 frequency response goes well beyond any other similar size high-performance monitor speaker. The ultra wide dispersion of high frequencies is so superior that even at 20KHz (The upper limit of human hearing), this speaker can still deliver almost its full energy at 90 degrees of axis. No other speaker we know of is capable of achieving this feat.



Ideally speakers should be out at same distance from rear wall. Left and right speaker should also have the same distance off side walls from each other.

Your listening position should be at the apex of a triangle 40-60 degree angle.



The 7001 speaker stand offers the best performance with the speaker. The optimum height of a listener's head should be the same as the speaker baffle center.

WIRING UP YOUR SPEAKERS

Speakers and electronics terminals have corresponding (+) and (-) terminals. It is important to connect both speakers identically: (+) on the speaker to (+) on the amplifier and (-) on the speaker to (-) on the amplifier. The hole in the center of each speaker terminal is intended for use with banana-type connectors. We recommend that you use this type of connection to avoid any potential of connections being shorted out on the back panel.

For maximum transfer of energy from amplifier to the speaker, you should use as short a run of speaker cable as possible. Try to use the best quality cable available. It is difficult to say what brand or model cable offers the best performance since the overall result is also dependent on source of electronic you are using along with your particular room set up.



SINGLE WIRING

For single-wire connection, leave the shorting bars in place and connect only a single set of speaker wires (two conductors). The positive conductor connects to the upper positive terminal and the negative conductor to the lower negative terminal.



BI-WIRING

The bi-wire connection method requires one amplifier and two sets of speaker wires. By removing the shorting bars, connections may be made to the individual network sections using four conductors, one for each of the four terminals. Depending on what cable you are using this method of wiring can improve the resolution of your audio system.

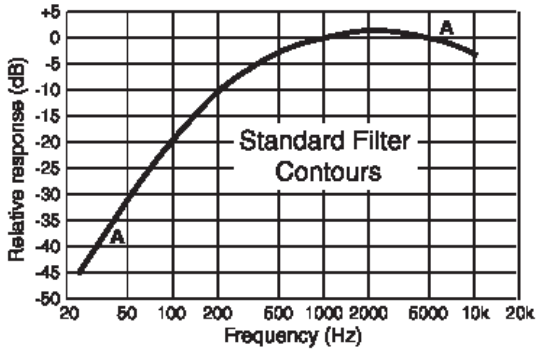
How to get the most out of your 7001s

No matter how good all your audio components are, their performance will only reach whatever condition the room they dictate.

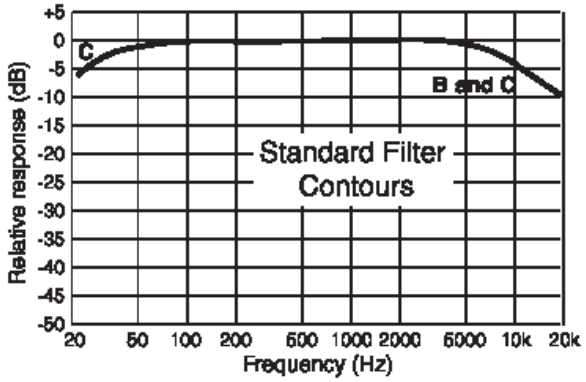
Apart from the qualities of room acoustics, one of the major contributors to audio degradation is room noise which will not only affect dynamic range of your system but also resolution.

How do you measure noise?

This can be done with a Sound Pressure Level (SPL) meter. (Low cost ones are available from Radio Shack.) Typically the noise floor in a domestic environment is around 35-40dB (A Weighting) and 50-55dB (C Weighting) The difference between A and C weighting is that A weighting is full frequency noise and therefore this will be a lot higher reading than C weighting which is bandwidth limited.



The A-curve is a wide band-pass filter centered at 2.5 kHz, with ~20 dB attenuation at 100 Hz, and ~10 dB attenuation at 20 kHz, therefore it tends to heavily roll-off the low end, with a more modest effect on high frequencies



The C-curve is "flat", but with limited bandwidth, with -3 dB corners of 31.5 Hz and 8 kHz, respectively.

Dynamic Range

Many recordings boast a dynamic range of 100dB or more but this is meaningless if you are using your playback system in a typical room. If you are playing a speaker with a high sensitivity of say 90db/watt/meter, the SPL will be at least 6dB down at a typical listening distance from the speaker (about 8-10 feet), reduced to 84dB. If you are using 100watts into this speaker and that it has virtually no power compression ,the output will reach peaks of 104dB. Dynamic range is the sound level from the lowest to the highest. Since a typical room has noise level at 55dB(C), total dynamic range will be 49dB, about that of a low cost cassette player in the 1970s.

Reducing the noise floor by isolating external noise from the room by a factor of 10dB will give you the equivalent of having a 1000 watt amplifier instead of 100 watts. You could always go for a 1000 watt amp but then you probably wont care for noise after that since you may end up deaf instead!!

One of the secrets of great sound is to start with a room that has a low noise floor. As a result you will enjoy music at lower sound levels because your dynamic range has increased, and your electronics and speakers will be running with far lower distortion levels. (Amplifiers and speakers tend to play with lower distortion at lower power levels).

Room Acoustics

Rooms tend to have parallel walls and dimensions corresponding to certain frequencies from the music program. These frequencies tend to be at the lower range of the audio spectrum and can enhance or diminish those notes being played. To the listener it can make the bass tones sound boomy or ill defined. Some audiophiles tend to be concerned about the transient response of different types of bass loading. Ideally sealed box alignment would have the most perfect response but all this is again meaningless when the speaker is situated in a real life situation of a typical listening room. Any kind of speaker loading is lightening fast when compared to the acoustics of a room.

As a rule of thumb rooms that have ratios of dimensions to the following numbers will tend to have a more linear spread of room modes therefore be more neutral sounding.

1 : 1.14 : 1.39

1 : 1.28 : 1.54

1 : 1.6 : 2.33

Reverberation Decay of listening rooms (Rt60)

In simple terms, reflectivity is the apparent "liveliness" of a room. Professionals prefer the term *reverb time or Rt-60.* Rt-60 defined, is the amount of time (in seconds) it takes for a pulsed tone to decay to a level 60dB below the original intensity. A live room has a great deal of reflectivity, and hence a long Rt-60. A dead room has little reflectivity and a short Rt-60. An ideal room needs some reflections. The upper frequencies should have an Rt60 of about 0.5 seconds whereas the low mid and bass frequencies can be over 1 second. High frequency reflections are easily controlled by absorptive materials and furnishings such as sofas, carpets and heavy curtains. It is much harder to control low frequencies due to the much longer wavelengths. Some degree of control can be achieved by using "bass traps″ in room corners. World class recording studios spend thousands of dollars in one studio control room to keep bass frequencies tamed. So in a domestic environment it is almost impossible to get perfect acoustics in a listening room.

There are ways of measuring Rt60 of a room with computer analyzers but the simplest and most intuitive way is to use the "hand clap" approach. If you clap you hands once you will be able to hear the sound of the clap reflection back, this is reverberation of the room. If the room has a lot of hard surfaces such as wood, stone or glass, then the sonic reflections of the hand clap will be more intense. The more intense the reflections are, the more they will interfere with the sound emanating from the speakers. This will deteriorate the sound quality. A typical environment with bad acoustics such as a railway station can reduce sound quality so much as to make the dialogue of an announcer almost unintelligible.

Sound bounces or reflects off all solid surfaces, so that when the sound source such as a loudspeaker stops producing sound, the reflections continue for a period of time until the energy is absorbed. Or to put it another way, the room functions as an energy store, returning the acoustic energy to the air at some point after the initial event.

Rigidity and Mass

Rigidity and mass both play significant roles in determining how a given space will react to sound within. They have a strong relation to the low frequencies - both qualitatively and quantitatively. Low frequencies can be tremendously powerful, capable of flexing walls, ceilings and occasionally, floors. Flexure of this type is termed diaphragmatic action.

To illustrate this concept, think of the room as a small box. If the box is made of cardboard, the walls vibrate easily. The same box made of concrete would exhibit little movement. Diaphragmatic action dissipates low frequencies, robbing the bass of both impact and extension.
Therefore, the more rigid/massive walls, floor and ceilings are in your listening room, the less diaphragmatic action and the tighter, more defined and powerful the bass will be.

Comb filtering

This is another form of unwanted reflection. This condition is created when a speaker is placed near a reflective surface (wall, floor, furniture etc.). The result is image smear and/or frequency response anomalies. The comb filter effect occurs when the direct sound and the reflected sounds arrive at the listeners' ears out of phase, thus canceling each other. This problem can be avoided by placing your speakers well away from reflective surfaces, or by treating nearby problem areas with absorptive and/or diffusive materials. For best results keep the 7001 speakers at least 3 feet away from side walls.

The Listening Position

For best results the listening position should be about 1/3 of the length of the room from the back wall and should be equidistant from the side walls. It may be necessary to have some form of acoustic control in the proximity of the listening position. For example if you have a wood floor, it may be beneficial to have a thick rug placed in front between you and the speakers. This can control some of the unwanted reflections from the floor causing interference on the mid and high frequencies. Experimentation with moving your listening position may be necessary to find the best location.

Playing your 7001 speakers

Running In

Like a new pair of shoes, high-performance speakers need a break in time. Out of the box your 7001s will not be optimum. They will need a period of time for the sound to mature to a full bodied, smooth, sweet sound. The speaker's acoustic tuning is based on a fully run in unit. It would not make sense for the speaker to sound its best out of the box and then go downhill from there.
In fact the 7001s will not only improve over a short break in time but will continue to improve on a daily basis and this will go on and on for as long as you own these speakers. There is simply nothing to fail or wear out in them. Given care they deserve, these speakers will last a lifetime.

Amplifier Power

We recommend that you use an amplifier with power rating at least a 100watt RMS or ideally 300watts plus per channel. These 7001s have a vast dynamic range and using a large power amplifier to power them will allow them to reach their full potential.

Amplifiers with up to 1000 watts RMS output can produce lifelike dynamics on transients without stress or strain.

Headroom is not audible but a lack of it certainly is.

Each time you run your system you may need about 15minutes of initial playing before the sound starts to take on a dimension of breathtaking clarity.

The 7001s will even reveal how your amplifier sounds whether it is just turned on cold or been running warm for a while.

Speakers Cables, Interconnects & Power Cords

Due to their revealing nature, the 7001 speakers will discriminate between speaker cables and interconnects with ease. It will bring a new palette of colors to what you have ever heard before to your recordings. So even changing between cables will bring changes to you sound. You should experiment to what is sounding to your idea of transparency.

Program Material

The 7001 is neutral when it comes to producing sound. It is not slanted to any side of the audio spectrum. It will therefore reveal more about the recordings and the process of how they were recorded more than the producer and artist who created them know.

SPECIFICATIONS

System Type: 2 way loudspeaker 5 inch cone woofer, horn loaded ribbon tweeter.

Bass Loading: 6.5 inch critically tuned passive radiator.

Crossover: 12dB/Octave at 3 KHz

Low-Frequency Transducer: Cast magnesium alloy frame, High Flux Neodymium-Iron-Boron magnet system, High Excursion 2-inch Copper Clad aluminum voice coil. Aluminum cone, Butyl-Rubber surround.

High Frequency Transducer: Neodymium magnet system. Horn loaded Aluminum ribbon

Cabinet: 1.5 inch thick MDF side panels with lead damping.0.5 inch Aluminum front and back panels

Frequency Response: 25Hz-50KHz +/- 3dB (dependant upon room acoustics).

Impedance: 8 Ohms Nominal.

Recommended Amplifier Power: 100 watts minimum 1000 watts maximum.

General Care

When cleaning the 7001 speakers, use clean, lint free and slightly damped soft cloth to remove surface dust from cabinets. Use a very clean and dry soft cloth to carefully remove dust from drivers. Make sure there are no abrasive particles in the cloth, or they may leave scratch marks on cabinets or cause damage on drivers.

Never use any solutions with chemical ingredient to clean the speakers.

Warranty Information

The 7001 speakers come with warranty period of 3 years, starting from the date of purchase. This warranty is provided to original owner, and covers defect in materials or workmanship that occurs in normal use. This warranty excludes damage that results from abuse, mis-use, accidents, shipping, or repairs or modifications by anyone other than authorized AAP by Phil Jones representatives. The warranty is void if serial number has been removed.

Should you need service on your speakers, please bring it to the dealer whom you purchased from along with sales slip.

If this is not possible, call or write to:

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