

Owners Manual and Set-up Guide: Genesis Maestro Loudspeaker

Contents

SET-UP GUIDE	3
UNPACKING	3
ROOM PLACEMENT	3
POWER CONNECTIONS	4
SOURCE INPUT CONNECTIONS	4
THE ACOUSTIC PLATFORM	5
CONTROLS	5
TUNING THE SYSTEM	6
ADJUSTING THE BASS GAIN	7
LOW PASS FILTER	7
IMAGING AND SOUNDSTAGE	8
SOUNDSTAGE HEIGHT	10
TUNING INTO THE ROOM	10
THE REFINEMENT STAGE	11
ROOM TREATMENT	13
MASTERING THE REFINEMENTS OF THE SYSTEM	14
THE TECHNOLOGY	15
THE GENESIS RIBBON TWEETER	15
TITANIUM MIDRANGE	15
MID-BASS COUPLERS	16
THE SERVO-BASS ADVANTAGE	16
ALUMINIUM-CONE WOOFERS	17
500 WATT CLASS D SERVO AMPLIFIER	18
THE ACOUSTIC SUSPENSION	18
SPECIFICATIONS	20

A Message from Genesis

Congratulations! You are now the owner of one of the finest loudspeaker systems in the world. Based on technologies developed and evolved over the past four decades, the Genesis Maestro is a small 4-foot tall floor-standing loudspeaker, and yet it delivers some of the dynamics, imaging and soundstage of our largest 7-foot tall 1½ ton reference Genesis 1 product.

The Maestro loudspeaker system was created for the music lover living in smaller environments. It is designed to reproduce music (and film) at live listening levels with virtually no restrictions on dynamic range, frequency response, or imaging capabilities. This is what we mean by *absolute fidelity*™, the ability to reproduce the musical event faithfully, as was intended by the performer, or the film-maker.

Standing 51 inches tall, and only 11 inches (13 ¼" including base) wide, the Maestro is a diminutive giant. By means of an active servo-feedback bass system, in-room response down to 18Hz is achieved, and the full range and impact of a symphony orchestra or a rock band can be reproduced.

With adjustable tweeter, midrange, and bass controls, the Maestro can be tuned into any room. The adjustable acoustic platform suspension system also allows the Maestro to be ideally situated on all types of flooring – from the typical joist-suspended carpet-covered floorboards in the USA, to uneven terracotta tiles in an Italian villa, and flagstones in an English castle.

Please read this Owners Manual and Set-up Guide to get the maximum enjoyment out of your purchase. Also, if you have access to the Internet, please check back at our website often. The address is www.genesisloudspeakers.com. We will put the latest updates, tips and tricks, and support for our owners on our website.

Please write the serial number and purchase details of your Genesis Maestro here for future reference.

Bought at: _____ Date: _____

Set-up Guide

Now that you have your new Genesis Maestro loudspeaker system, we realize that you can't wait to hook it up and start playing! However, please read this set up guide (even if your dealer is setting it up for you!) before you proceed.

Unpacking

Your loudspeakers will come to you in two large shipping cartons and a smaller box containing the acoustic suspension. The Maestro weigh over 160lbs (73kgs) each, so we suggest a **minimum** of two strong people to move the speakers around. We will **not** be held liable for damage (to either the speakers or your backs!) during unpacking and setting up if you ignore this basic advice.

The bottom of the speaker's acoustic suspension will come spiked into the foam. You may want to retract the spikes at each corner of the suspension frame before attempting to remove the foam. It will also be very much easier to move the speaker around with the spikes retracted.

Please collapse and store your packaging material in case you need to ship the speakers later. You **WILL** need all your packaging material to transport your speakers safely.

Room Placement

A good starting position for your Maestro is about 24-inches the way into the room as measured from the front wall (the wall you look at as you are seated listening to the speakers) to the back of the speakers, six feet (~2m) apart, and firing straight ahead with no toe-in. You will want to sit ten to twelve feet (3m – 4m) away from the speakers.

If in a smaller room, you may have to sit closer to the back wall, or sit closer to the speakers, but try to keep at least 18 inches of space behind the speakers. This allows the speaker to "breathe" as there is a rear-firing woofer, a mid-bass coupler and a tweeter.

Start with the speakers six feet apart, and not toed-in. You will want to sit at least 10 feet (3 metres) away from the speakers for proper integration of the drivers. (See diagram on the next page). We will experiment with moving the speakers around, and toeing them in later.

Power Connections

There are two connections you will need to make to the Maestro. First, the power cord for the built-in amplifier will need to be plugged into a power socket. A 6-foot power cord is included with your speakers for this purpose. We do not recommend using an extension cord for the Maestro due to the high power demands of the 500W amplifier. However, if you **MUST** use an extension cord, use an extremely heavy duty one. The amplifier can draw up to 10 amps instantaneously at 115v, hence make sure that the extension cord is adequately rated.

Before you plug the power cord in, please make sure that the voltage selector is set to the proper voltage. Japan and North America will require the 115v setting. Most European countries and other Asian countries will require 230v. The fuse is a 5amp 250v slow blow irregardless of voltage used.

There is an on/off switch for the power amplifier. This switch should always be left on. We recommend that you plug the Maestro into an unswitched outlet, or a switched outlet that can always be left ON.

The built-in amplifier consumes about 10w on standby – about the same as a child’s night-light. Hence, leave the amplifier on unless you will not be using the system for an extended period of time (like a month-long vacation) or a thunderstorm.



Input Connections

Connect the speaker-level output of your power amplifier to the High Level Input binding posts using a high-quality loudspeaker cable.

Use banana plugs or spades and not bare wire. The WBT binding posts used are designed to work finger-tight with spades. Do not use a wrench to tighten.

Make sure that you have the correct polarity connected for both speakers – the plus or positive (red) terminal on the Maestro should be connected to the plus, positive, or red terminal on your power amplifier.

The Acoustic Platform

The Maestro sits on a suspension system designed to allow the loudspeaker to perform at its optimum. It consists of three elements – neoprene vibration-absorbing de-couplers, a tuned skeletal acrylic frame, and stainless steel spikes. The system holds the loudspeaker firmly, and yet isolates it from the floor on which it sits.



Like the suspension of a skyscraper in Tokyo, the suspension allows the speaker to sway at frequencies that do not affect the sound, and yet remain absolutely rigid at higher frequencies.

After you have positioned the speakers, screw down the supplied spikes using the supplied hex key from the top of the

suspension frame to raise the speaker off the floor so that it only rests on the spikes and no part of the frame touches the floor. The suspension frame should be barely off the surface on which the loudspeaker sits.

If on thin carpet, hardwood floors or stone floors, this should be less than 1/16" or 1.5mm. On deep pile carpet, screw the spikes down until the suspension frame is not resting heavily on the carpet.

A set of longer spikes may be ordered if your carpet is really, really deep.

Controls

There are a total of four control knobs in two rows on the back plate of the Maestro loudspeaker.



The lower left knob on the back plate marked "**Tweeter**" is a volume control for the front tweeter. Turning this control clockwise will increase the level of the front tweeter. Use this control if you need a bit more treble or to increase the apparent space of the soundstage. Start with this control at the 12 o'clock position. There is a +/- 1

dB range for this control. The 12 o'clock straight up position is nominal for all controls.

The upper right knob marked “**Midrange**” is used to adjust the level of the midrange. Again, start this at the 12 o’clock position. Turning the control anti-clockwise (or counter-clockwise) will make the midrange sound more laid-back, and turning it clockwise will make the midrange more forward. There is about a +/- 1.5 dB range for this control.



The knob on the middle of the lower row of knobs marked “**Bass Gain**” controls the volume of the built-in bass servo amplifier. Begin with this control at 6 (the 12 o’clock position). Adjusting the gain higher will make the loudspeaker sound “fuller” and more bass-heavy.

The knob on the middle right marked “**Low Pass**” controls how high the woofer will play. At the extreme low of 70Hz, the woofer will play up to 70Hz, and then begin rolling off, or reducing its volume, above this frequency. The recommended beginning position for this control is 92Hz. Adjusting the crossover point up will make the Maestro sound warmer and fuller in the mid-bass.

Tuning the system

Two channel stereo music is the best way to begin your setup procedure. We suggest that multi-channel and video sources be used only after you have setup the system to properly reproduce music. The room in which the Maestro is placed would probably be the greatest influence on the sound of the loudspeaker.

Since we do not live in anechoic chambers, at Genesis, we do not design our loudspeakers to work perfectly in a perfectly damped room. The amount of hard/soft and absorbent/reflecting surfaces will affect the sound of the speakers tremendously.

A room with solid concrete or brick walls, floors and ceiling will have much more bass than if the walls were made of plasterboard, with a suspended floor and false ceiling. An over-stuffed leather sofa will absorb different frequencies to different extents from a light fabric-covered armchair. So, you may even find that you will want to re-tune your system when you change the furnishings in the room.

We suggest that you start your tuning with a single vocal with simple instrumental accompaniment because the sound of the human voice is more easily recognizable than many instruments and is the least complex sound to deal with. A male voice, or a low female voice is the easiest to start working with.

Adjusting the Bass Gain

Leave the low pass filter alone for the moment, as it should remain set at approximately 92 Hz. This control will be addressed later.

Turn the gain control of the woofer amplifier up or down until the voice sounds correct. Whatever controls you use, turn them up and down only a little at a time. It is easy to turn it up or down too much. However, the 12 o'clock position is only the starting point. Different room construction and size will greatly influence the setting of the bass gain.

If your room has “lossy” walls instead of solid brick or concrete walls, you may find that the bass settings may need to be higher. If you have a sealed room with no bass loss, the bass gain may be set as low as 2 or 3.

Concentrate on the mid-bass regions (as opposed to the very low bass in your recording) to achieve a natural blend. The voice and the music accompaniment should sound as if it were cut from one cloth, not separate.

If the voice sounds “thin” or does not have enough “chest” to its sound, turn the woofers amplifier’s gain up till it does. If you find that turning the volume up creates too much low bass and makes the speakers sound boomy, you will then need to work on the low pass filter.

Low Pass filter

This control will lower the upper-frequency cut-off point of the woofer. It does not affect the lower-frequency cut-off point of the mid-bass couplers.

Turning the low pass filter up to a higher number will extend the upper bass regions at the crossover point between the woofers and the mid-bass couplers without affecting the low bass level. Some rooms may require you to set the low pass filter up to 130Hz, while others will require you to lower it down to 80Hz.

Do not be afraid to increase this control to give the sound more body or to make the balance “warmer”. There is a balance between the setting of the bass gain control and the low-pass control. The trick is to find this balance.

A general rule of the thumb is to turn the low-pass filter as far clockwise of the 12 o'clock mark as the bass gain control is anti-clockwise of the 12 o'clock mark. For example, if the bass gain is at 10 o'clock, the low-pass should be at 2 o'clock. If the bass gain is at 1 o'clock, the low pass should be at 11 o'clock.

Next, set the woofers using more than just a voice. Select some music that you know to have good deep bass. Set the gain on the woofers for a natural and powerful bass sound. Use a symphonic piece of music if you can, or use a natural bass instrument for your guide. Try to make it sound real. You may have to return to the vocal to make sure you have not gone too far in one direction or the other.

At this point, if there is not enough mid bass, turn the low pass number to a higher position or, alternately, position the main speakers closer together in order to achieve better mid bass coupling between the main speakers. If it sounds too “fat” turn the low pass control down or adjust the volume.

Small rooms have more bass gain, hence the smaller the room, the higher the low-pass frequency to use, and the lower the bass gain level. The larger the room, the lower the low-pass frequency to use, and the higher the bass gain. The two knobs are turned in opposite directions – what you want to achieve is balance.

Imaging and Soundstage

If your vocal selection is a well-recorded audiophile CD or LP, the performer should appear to come from behind the loudspeakers and be at the appropriate height and size for a person. If it is not, there are several remedies that will address this.

If the vocal appears to be larger than life, you should first check the system volume. Is it a volume that would be appropriate for someone actually singing in your room? If there is too much volume the artist will appear too big and the opposite is true for too little volume.

If the volume is set correctly and the image is still too big, place the speakers closer together and listen again. Place the speakers

no less than 5 feet apart. If the image is still too big, toe the speakers in by a slight amount.

Conversely, if the image is too small, move the speakers apart. The speakers should be no more than nine feet apart. Repeat this process till you have it right. If the voice is too low in height, turn the midrange control up (turning the knob clockwise) and the image of the voice will move upward slightly. However, this will also at the same time make the speakers sound more forward.

If you have the speakers 20% of the way into the room, and you are not getting enough front to back depth (the singer not appearing behind the speaker enough) pull the speakers away from the front wall a little bit at a time. If you do not have them pulled far enough away, you may not have enough front to back depth. However, slightly more than 1/3 of the way into the room is about as far as you want to go. Pulling them half-way into the middle of the room is unlikely to help (and probably incur the wrath of your spouse).

Find the best compromise for your room, your tastes and your space requirements. If you are not getting proper focus on the voice, you may angle the left and right speaker up to about 15 to 20 degrees (toe-in) towards your listening position until you have a properly defined center image.

If the speakers are too far apart you will lose the side image and if they are too close together you will have too small a center stage. If the speakers are far apart and toed-in significantly, you will find that you will only have a small sweet spot in which to sit and enjoy your music. When these speakers are properly set up, you will have a sweet spot wide enough for you and your partner. When you sway side to side while enjoying the music, the image and tonality of the system should not waver.

The spikes on the acoustic suspension give you an additional control over the height of the soundstage. Tilting the front of the loudspeaker up and down will affect the height of the soundstage depending on the furnishings and wall coverings in your listening room. In some rooms with hard walls, tilting the front of the speaker up will lower the soundstage. In other rooms, it will raise the soundstage. Experiment!

When properly set up very little sound should appear to come directly from the speaker, instead, the sound stage should extend

far beyond the left and right edge of the loudspeakers and they should have tremendous front to back depth. When the recording is close miked (when the instrument or performer is very close to the recording microphone) the music may appear to come directly from the loudspeaker. This is normal. Typically, however, the sound should appear to be detached from the loudspeakers.

A simple rule of thumb to follow is that focus will be achieved by placing the speakers closer together or farther apart, and front to back depth can be adjusted by the distance from the rear wall. Further, as the system “breaks in”, the depth and width of the soundstage will increase and so will the “smoothness” of the sound.

Soundstage Height

A unique feature of the acoustic suspension is the ability to alter the height and shape of the soundstage. In most “live” rooms, if the soundstage is deemed to be too low, increase the height of the spikes at the BACK of the loudspeaker. If the height of the soundstage is too high, increase the height at the FRONT of the speaker.

Do not extend the spikes all the way to the end. They should only be screwed far enough down so that no part of the acoustic suspension touches the floor, or rests heavily on the carpet. Keep the part of the spikes protruding from the bottom of the suspension frame as short as possible.

Tuning into the room

There are no absolute rules concerning the speaker/room coupling, so do not be afraid to experiment with speaker placement for best results. Positioning the speakers within the room will significantly affect the quality of the bass.

This is because of standing waves caused by bass modes in the room. Hence, you should experiment with **asymmetric** positioning in the room. Do not have your speakers the same distance from the side and front walls – try putting them closer to the left or the right wall. If the speakers are equidistance from side and front wall, you may find strange suck-outs at some frequencies.

In some problematic rooms a resonance may develop at one or two frequencies that is unnatural to the music. By moving the

speakers closer to the front/side wall or farther from the front/side wall, the resonance may be reduced at the listener's position.

The amount of hard and soft surfaces in your room will also affect the tonal balance of your loudspeakers. For example, with lots of very hard surfaces such as marble or granite floors, large picture windows, and concrete walls, you may find that the room is very bright and you will have to turn the tweeter control down significantly.

On the other hand, large sofas and arm-chairs tend to absorb frequencies in the lower mid-range and mid-bass. When your room is full of furniture, you may find that you have to turn down the tweeter, midrange, and bass gain.

Ultimately, an enjoyable and musical system is all about balance. You have a number of controls at hand with which to adjust the bass response, the low-pass filter frequency and woofer volume. You can also move the speakers closer together for better speaker-to-speaker mid-bass coupling, or further apart for less.

You can tilt the tonality of the speaker towards bright or dry with the tweeter control, and forward or laid-back with the midrange control.

The Refinement stage

After following the rough setup guide above, you may not be completely satisfied with the results. We share with you here some of our observations in setting up these loudspeakers.

One rule of thumb you should always keep in mind. Make one change at a time! Do not, for instance, change position of the speakers and make an adjustment to the tweeter, midrange, and bass all at once. Make each of these changes separately and note the difference - by listening - with each adjustment, then make the next change.

A common problem we find with many set-ups is a tendency to separate the speakers too far from each other and toe them in too much. This gives an unnaturally wide soundstage between the two speakers, and creates problems beyond the unnatural width of the

center stage. It also results in a very narrow sweet spot that is really only suitable for one person with his head clamped still.

The key problem is a lack of soundstage information beyond the left and right sides of the speakers, and also a loss of focus between the speakers.

If you find that the sound is not spacious enough or you are not getting enough front to back depth, pull the speaker away from the front wall. This is typically preferable to separating the two speakers too far and will almost always give you better depth and soundstage information. A word of caution, however, if you move the speakers too far from the front wall you may lose center focus.

Yet another problem is a lack of mid bass energy. In order for the appropriate amount of mid bass energy to be present, the speakers should be close enough together to achieve proper "coupling" of the mid-bass couplers. Coupling is desirable in the lower frequencies from the mid-bass on down. This simply means that the left and right speakers "work together" as opposed to working separately.

If you find there isn't enough deep bass, your first remedy is the volume control on the woofer amplifier. This has several limitations. First, turned up too high, you may get some distortion on very low frequencies or you may overdrive the amplifier.

Secondly, you may make the mid bass produced by the top of the woofer out of proportion with the mid bass produced by the bottom of the mid-bass coupler. This would tend to sound "boomy" in the mid bass regions.

Another good rule of thumb is to first set the volume control of the woofer for proper midbass rather than low bass. The theory is that if the midbass is correct, then the low bass should be very close to correct. If the midbass is proper and the low bass is still not right, here are some other suggestions.

A good balance between proper low bass extension and a deep and spacious soundstage needs to be established to optimize your speaker's performance.

In order to achieve what the speaker is capable of we suggest you focus your efforts on a proper balance of soundstage elements that includes information beyond the left and right sides of the speakers,

front to back depth well behind the speaker, excellent focus of instruments and voices with proper vertical information and mid bass fill.

A Genesis loudspeaker system correctly set up, can and should provide a soundstage that “melts the walls of your room” and with pinpoint focus. The speakers disappear completely on a recording that has such quality.

Room Treatment

No room is perfect. To optimize your sonic presentation it may be helpful add some minimal acoustic treatment to your room. Here are some guidelines:

1. **Front walls.** This loudspeaker is a dipole and therefore there is sound coming from both the front and the back of the speaker. How the front wall is treated or not treated is important. Generally speaking, the Genesis loudspeakers prefer a live front wall to a dead front wall.

By these terms we mean the amount of reflection of sound. A typical wall of glass or, brick, cement or drywall material is a reflective surface. A heavily curtained or sound absorbent wall would be considered a "dead wall" or a non-reflective wall. A normal thin curtain across a window causes only a small amount of absorption. Hence, a curtained glass window would just be about perfect.

2. **Sidewalls.** Because the speaker is a dipole it is less sensitive to the sidewalls. However, as a rule of thumb, it is a good idea to keep the speaker as far away from the sidewalls as is practical. With this in mind, it may be helpful to add some damping material or diffuser panels to the point of first reflection. This is a point on the sidewalls between the listener and the loudspeaker. It is where the sound from the loudspeaker first hits the sidewall, then bounces to the listener. This reflection is undesirable because it is slightly delayed from the original sound and “smears” pinpoint imaging. This point on the sidewall can be easily determined with the help of a second person and a mirror.

Sitting in your listening position have an assistant hold a mirror up on the sidewall. Move the mirror until you can see

the tweeter. This is the point of first reflection. A diffuser (see your dealer), an absorptive material or even a piece of furniture (a rack of CDs or LPs is ideal) can help break up this point of first reflection.

3. **Rear wall.** In many cases it will be unnecessary to do anything with the wall behind your listening position unless you are sitting very close to the rear wall. You may want to experiment with diffusers or absorbers behind you for best sound. Absorption behind the listener is usually beneficial.

Mastering the Refinements of the system

Fine tuning an audio system is an art that will take time and patience. It can be one of the more rewarding learning experiences you will have in the pursuit of music and its enjoyment.

Keep at it and remember to enjoy your music as you work on perfecting your set-up. Use as wide a range of music and performances as you can get a hold of in your set-up. The better your set-up, the better *badly-recorded* music will sound. If your system only sounds great on a very small number of “reference recordings”, then you will be restricted to enjoying a narrow range of music.

One of the best pieces of advice we can offer is that you take advantage of the ear's ability to identify similarities and differences in sound. This ability is useful in fine tuning your system because if every recording you listen to has a similarity of sound (too much or too little of a certain frequency for instance) then you can be fairly certain that you have yet to perfect your set-up.

If you have any questions, feel free to contact us at Genesis. Our website is the first place that you can look to for more information, but you are welcome to either send us an email, or just give us a call!

The Technology

The Genesis Ribbon Tweeter

Reviewers in the Audiophile press have often remarked that the Genesis circular ribbon tweeter is the world's best. It is a one inch circular planar ribbon design crafted from an extremely thin membrane of Kapton with a photo-etched aluminium "voice coil" that is a mere 0.0005 inch thick. The entire radiating structure has less mass than the air in front of it! That is why it will reproduce accurately frequencies beyond 36k Hz.

The result of this design is a driver that has a rapid and uniform response to high frequencies, and has the speed of the best ribbon/electrostatic designs without the high distortion and poor dispersion that is typically associated with them.

The Maestro use two of these tweeters per channel. One front-firing, and the other wired to the crossover out of phase to the front tweeter and firing to the rear, creating a dipole. Dipoles radiate the same sound from both front and rear out of phase in "push/pull" fashion. Thus, the sound waves from the front and back of the speakers cancel out as they radiate from the sides of the speakers; which means that there is minimum radiation of sound to the sidewalls of the room.

The net result is that the Maestro generate far fewer detail-robbing room reflections from the sidewalls than other types of loudspeakers. With fewer spurious reflections to confuse your hearing, the program source emerges more clearly. Imaging is deeper, yet more focused.

Titanium Midrange

We sometimes say that the midrange is a window into the mind of a composer or a singer. And indeed, the midrange is where the "magic" is in a well-recorded musical event.

The Maestro uses a Genesis-designed proprietary 4.5inch titanium coned midrange to cover this critical frequency spectrum. Machined out of one of the lightest and stiffest materials known, this low mass cone driver is one of the best midrange transducers ever made with nearly instantaneous transient response, enabling the Maestro to sound lifelike and effortless.

The driver is housed in an enclosure that is open to the back. Thus, the midrange operates as a dipole too.

Mid-Bass Couplers

In order to create a “sound bridge” between the midrange and the bass section, the Maestro incorporates two 6.5inch metal cone mid-bass couplers. One front and one rear firing, again working as a dipole.

Made of aluminum, this metal cone is extremely light and stiff. The driver is hence capable of handling the huge dynamic range demands of live music while maintaining extremely low coloration and excellent transient response.

The Servo-bass Advantage

Very few loudspeakers use servo drive, either because most designers think that it is too difficult to design, too expensive, or because of the extraordinary demands a servo system makes on the amplifier and the transducer.

The concept of the Genesis servo bass system is an easy one to understand: It employs, an accelerometer as a sensor, to constantly monitor the movement of the woofer cone and instantaneously compares it to the input signal. This comparison circuit identifies any deviation from the input and instantaneously applies a corrective signal to compensate, thus practically eliminating the inherent distortion of the woofer!

As an example, when you have a high-impact, low-bass signal that starts and stops suddenly (for example a tympani), the inertia of the woofer cone makes it slow to start moving, and then after it is moving, the momentum of the cone makes it continue moving even after the signal has stopped.

The sonic result is overhang, bloat, lack of tautness and definition, and a blurring of dynamic impact. With the servo system, the circuit senses that the woofer is not moving as fast as it should, and it instantaneously applies much more current to make it move faster.

When the signal stops, it detects that the woofer will continue to move when it shouldn't and applies a counter-signal to stop the woofer faster and more effectively than an open loop woofer could possibly respond.

Thus, the servo-drive reduces distortion and improves transient response by making the woofer seem massless. Typical non-servo woofer systems have distortion levels that exceed 10% at even moderate levels. The Genesis servo bass system reduces this distortion to below one percent at almost any output level. It also drives the woofer to constant acceleration, which makes its frequency response totally flat!!

The servo system is a more proactive approach to controlling a loudspeaker than high-damping factor and high current in the normal amplifier. However, this also means that the woofer, the cables attaching the woofer to the amplifier, and the power amplifier has to be designed as an integrated system. Thus, the Genesis 5 is designed with a built-in 500W servo amplifier for the bass section.

Aluminium-cone Woofers

The transducer used in a servo system must be strong enough to withstand the high current approach of the servo, and yet delicate and light enough to react extremely quickly. The Maestro features four 8-inch aluminium cone long-throw woofers per channel.

While the servo system is able to ensure that the driver works linearly as a perfect piston, it is unable to correct for distortion caused by cone wobble, bending, and break-up. Hence, the drivers were designed to minimize these non-linear distortions, allowing the servo system to most effectively eliminate the linear distortions.

The woofers are a uniquely designed metal cone driver made for the Genesis servo system. Made of a cone of solid aluminium, the suspension and voice-coil have been maximized for long distortion-free excursion so as to increase dynamic range. Our aluminium cones are a magnitude stiffer than any plastic or paper cone on the market, and virtually eliminate the problems caused by cone bending and break-up.

The lowest break-up mode (where there can be any chance of distortion at all) is at 6,000Hz – far above the 16Hz to 120Hz frequency range at which these drivers operate. Therefore, the driver is a perfect piston within the frequencies used. Thus, low cone break-up distortion is inherent in the driver designed for the Maestro.

Unlike the mid-bass couplers, midrange and the tweeters, which operate in dipole, the four woofers in the Maestro operate in phase

as an omni-pole to control the air mass of the listening room. This means that the surface area of the four cones and the loudspeaker enclosure all work in unison to produce bass output that descends evenly to below your hearing limits.

500 watt Class D Servo Amplifier

While the advantages of metal cones include extreme stiffness resulting in very low distortion and break-up, one problem is that of greater mass. To overcome this, Genesis had to build an amplification system of great wattage, and high damping factor. The servo system also places extraordinary demands on the amplifier because the system uses enormous amounts of current to make the woofer follow the input signal. Combined with the metal cones, this means that the amplifier used must deliver extraordinarily large amounts of clean power.

In the Genesis Maestro, the built-in amplifier was specifically designed and tuned for low frequencies in order to produce “floorshakingly musical” bass to power the servo woofers.

One side benefit of this powered woofer system is that almost any sized amplifier can be used to drive the Maestro. No longer must one choose between having an amplifier with enough power to drive the woofers, and a smaller amplifier having better spatial and tonal characters. Nevertheless, we generally recommend 60 watts as a minimum.

The Acoustic Suspension

The suspension for the speaker comprises three elements:

- 1) The neoprene vibration absorbers are tuned to isolate and decouple the loudspeaker cabinet for optimal bass response no matter what surface the loudspeaker sits on.

If the loudspeakers sound extremely hard and relenting, AND you have them on extremely hard floors (solid granite, etc), a set of softer vibration absorbers may be substituted (please contact us if you need these). If a very resonant floor (such as if the speakers were to be used on a wooden stage), the softer absorbers may also be used for further decoupling to ensure that floor-borne vibrations are not transmitted up into the loudspeaker.

- 2) The skeletal frame acts as a tuned absorber. Made of a high molecular weight cast acrylic, no two parts of the frame will resonate at the same frequencies. This ensures that all midrange frequencies are “dumped” below the base of the cabinet so that floor-borne vibrations do not affect the imaging and soundstage of the loudspeaker.
- 3) The spikes rigidly couple the suspension system to the floor. If you have hardwood floors and do not want to make holes in the wood, use the copper pennies supplied (instead of expensive “spike cups”) under the spike.

A pin-point suspension system is designed to pass *all* frequencies. Using a spike cup under the spike will defeat this system. A copper penny gets deformed – the spike making an indentation where it meets the penny, and a little “nipple” on the other side. This still performs the same function as a pin-point suspension system, but at the same time protects your hardwood floor.

Specifications

- Dimensions: H 50 ½" x W 13 ½" x D 23 ½"
- Weight: 160 lbs (73kg) per side
- Frequency Response: 18Hz to 40kHz, +/- 3dB
- Controls: Low-pass, Bass gain
Rear Tweeter (+/- 1 dB)
Midrange (+/- 1.5 dB)
- Inputs: Speaker Level 5-way binding posts
- Nominal Impedance: 4 ohms (speakers)
- Sensitivity: 90 dB 1 watt 1 meter
- Power Rating: 500 watts each
- Finish: High Gloss Ebony or
High Gloss Rosewood