Owners Manual and Set-up Guide: Genesis 5.2 Loudspeaker

Contents

A Message from Genesis

Congratulations! You are now the owner of one of the finest loudspeaker systems in the world! Based on the technologies developed for our flagship Genesis 1.1, the G5.2 is a smallish 4-ft tall floor-standing loudspeaker, and yet it delivers some of the imaging and soundspace of our largest 7-foot tall products.

The G5.2 loudspeaker system was created for the music lover living in the metro-environment. 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 44 inches tall, and only 11 inches wide, the Genesis 5.2 is a diminutive giant. By means of an active servo bass, response down to 20Hz is achieved, and the full range and impact of a symphony orchestra or a rock band can be reproduced.

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 5.2 here for future reference.

Bought at: _____ Date: _____

A Quick Start Set-up Guide

Now that you have your new Genesis 5.2 loudspeaker system, we realize that you can't wait to hook it up and start playing! However, please read this quick set up guide (even if your dealer is setting it up for you!) before you proceed.

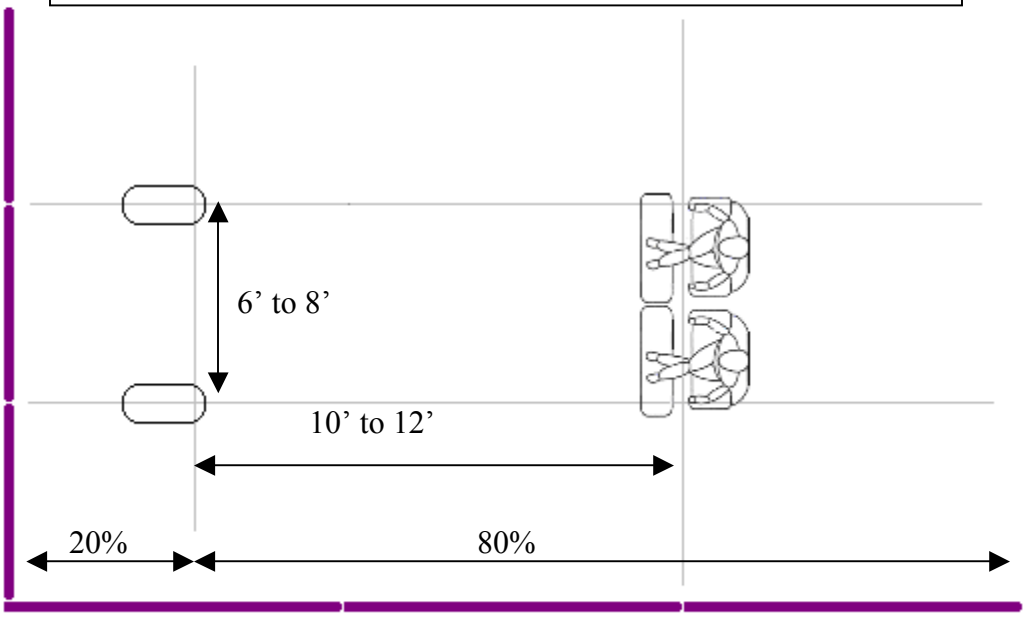
Unpacking

Your loudspeakers will come to you in two large shipping cartons. The G5.2s weigh over 140lbs (63.5kgs) 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.

Room Placement

A good starting position for your G5.2 is about 20% the way into the room as measured from the front wall (the wall you look at as you are seated listening to the speakers), six feet apart, and firing straight ahead with no toe-in. You will want to sit ten to twelve feet away from the speakers.

Typical room placement: Place speakers about 20% of the way into the room and 10 to 12 feet from the listeners



Set-up Guide

Positioning

A good starting position for the G5.2 is about 20% of the way into the room as measured from the front wall (the wall you look at as you are seated listening to the speakers). Start with the speakers six feet apart, and not toed-in. You will want to sit 10 to 12 feet away from the speakers (if you have the space). 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 G5.2. First, the power cord for the built-in amplifier will need to be plugged into a power socket. A 10-foot power cord is included with your speakers for this purpose. We do not recommend using an extension cord for the G5.2 due to the high power demands of the 500W amplifier. However, if you MUST use an extension cord, use an extremely heavy duty one.

Before you plug the power cord in, please make sure that the voltage selector is set to the proper voltage. Taiwan, Japan and North America will require the 115v setting. Most European countries and other Asian countries will require 230v. We recommend that you plug the G5.2 into an unswitched outlet, or a switched outlet that will always be left ON.

There is an on/off switch for the power amplifier. This switch should always be left on. The built-in amplifier has an auto-sensing circuit that will automatically put the amplifier on stand-by when there is no music being played for around 10 minutes. It will immediately switch the amplifier on if there is music sensed.

Source Input Connections

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

you have the correct polarity connected for both speakers – the plus or positive (red) terminal on the G5.2 should be connected to the plus, positive, or red terminal on your power amplifier.

The Bass Input selector switch should be in the up position – pointing to the inputs being used. This is the recommended hook-up, both sonically and for convenience.

Nevertheless, you may wish to connect the bass section of the G5.2 directly to your preamplifier instead. You may wish to do this if you know that your power amplifier may be deficient in the bass, or does not have a response flat down to 20Hz. Also, check for the phase correctness of your power amplifier. If your power amplifier inverts phase, you will need to invert the high-level inputs when you connect the bass section of the G5.2 directly to the preamp.

If you do this, use a good quality balanced interconnect cable to connect the balanced output of your preamplifier to the Preamp level input XLR connector on the back plate of the G5.2. Using this connection, switch the Bass Input Selector to the down position. This will bypass the high-level input from the servo amp, and take the bass input for the built-in servo bass amplifier directly from the preamp.

If your preamplifier does not have a balanced output, you may elect to use a single-ended to balanced pass-through converter. High quality ones may be obtainable from Balanced Audio Technology, Cardas, or your favourite supplier. Reasonably good ones can also be obtained from Radio Shack.

If you are planning to use long runs (over 10 feet) of interconnects to connect the line-level inputs of your G5.2 to your preamplifier, and your preamplifier does not have balanced outputs, we recommend that you use an active (or passive) signal-balancing device (such as from Rane Corporation) to convert the single-ended output from your preamplifier to a truly balanced signal. Such a signal will give you the benefit of maximum noise rejection and maximum signal fidelity over longer runs.

Controls

The knob on the upper middle marked "**Bass Gain**" controls the volume of the built-in bass servo amplifier. Begin with this control at position 7. The knob on the upper right marked "**Low Pass**"controls how high the woofer will play. At the extreme low of 71Hz, the woofer will play up to 71Hz, and then begin rolling off, or reducing its volume, above this frequency. The recommended beginning position for this control is 90Hz.

The lower left knob 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 two o'clock position. There is about a one dB range for this control.

The lower right knob marked "**Midrange**"is used to adjust the level of the midrange. Start at the 12 o'clock position. Turning the control anti-clockwise (or counter-clockwise) will make the midrange sound leaner, and turning it clockwise will make the midrange sound fullller. There is about a one and a half dB range for this control.

Tuning the system

Music is the best way to begin your setup procedure. We suggest that video sources be used only after you have setup the system to properly reproduce music.

We suggest that you start with a single vocal with 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.

Adjusting Bass Gain

Leave the low pass filter alone for the moment, as it should remain set at approximately 90 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.

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, you will then need to work on the low pass filter.

Low Pass filter

This control will lower the frequency cutoff point of the woofer. Turning the low pass filter up to a higher number will extend the upper bass regions without affecting the low bass level. Some rooms may require you to set the low pass filter up to 130Hz. Do not be afraid to increase this control to give the sound more body.

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.

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.

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 for a standing 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 them closer together and re-listen. Place the speakers no less than 5 feet apart. If the image is still too big, toe the speakers in a slight amount.

Conversely, if the image is too small, move the speakers apart. The speakers should be no more than eight 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.

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.

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 soundspace will increase and so will the "smoothness" of the sound.

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. You should also experiment with asymmetric positioning in the room. Do not have your speakers the same distance from the side 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 a suck-out at 100Hz to 300Hz.

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.

Ultimately, it 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 coupling), or further apart.

Home Theater and Multi-Channel Music

While the Genesis 5.2 was designed with the audiophile in mind, its performance and features make it ideal for Home Theater as well. The G5.2 is truly a full frequency loudspeaker that satisfies the requirement for Dolby Digital™ and DTS™ cinema reproduction. However the combination of the low frequency capability and a unique set of controls and connections on the G5.2 provide Home Theater users benefits beyond other loudspeakers on the market.

In essence, the G5.2 has a servo-controlled subwoofer already included in each speaker. This capability allows the G5.2 to provide the ability to reproduce the low frequency effects (LFE) signal available on all modern movie decoders. An additional benefit of using this feature is that the LFE will come from two, or more, locations in your room versus using a single subwoofer for LFE. Utilizing this capability dramatically reduces room bass mode and

bass node problems. This results in smoother bass integration in the room, and a huge system impact capability.

LFE Input

The Low Frequency Effects (LFE) input allows the G5.2 to be used in addition to, or in place of, a separate sub-woofer. The LFE input ***blends*** the low frequency effects signal from the home theatre processor into the woofer section of the speakers.

The LFE input bypasses the internal crossover, and hence uses the home theatre processor's crossover. Since the G5.2 is able to play down to 20Hz, the bass section can also be used as your Home Theater System's LFE sub-woofer if you do not have one – even if you are using different speakers for your home theatre system!

On the home theatre processor, set the speakers to "LARGE" and sub-woofer to "YES" even if you do not have a separate sub-woofer. Then, take the sub-woofer line-level output from the processor, and plug it into the "LFE IN" connector on the G5.2.

If your processor does not have a balanced output, you may elect to use a RCA-to-XLR pass-through converter. High quality ones may be obtainable from Balanced Audio Technology, Cardas, or your favourite supplier. Reasonably good ones can also be obtained from Radio Shack.

If you are planning to use long runs (more than 10 feet) of interconnects to connect the line-level LFE inputs of your G5.2 to your processor, we suggest that you use a true single-ended to balanced converter – such as the Balance Buddy from Rane Corporation – that you attach directly to the processor LFE output. A long run of balanced interconnect can then be used.

For runs of interconnect less than 10 feet (3 metres), a single-ended interconnect can be used, with a female-RCA to XLR converter that is attached to the G5.2 LFE input.

LFE Gain

The G5.2 has a knob that controls LFE GAIN separately from the BASS GAIN. This allows you to have the G5.2's plugged ***both*** into your audiophile stereo system as well as your home theatre system at the same time without conflicts. The usual way to control the level of the LFE output is to set the LFE gain to 6 – the twelve o'clock

position – and then use the home theatre processors level control to dial in the level. However, having the LFE gain control allows you to tune the LFE if your two systems have completely different gain structure.

LFE Output

Along with the LFE input, the G5.2 has a unique capability of LFE output. This is a true powered balanced output, and hence, can convert a single-ended input signal into a true balanced output. This buffered output can be used to daisy-chain the LFE signal to other LFE inputs including other G5.2 speakers and separate subwoofers.

Thus, it is possible to channel the LFE signal from your home theatre processor to one speaker, and then from that speaker to another, and to another, and to another!

Distributing the bass is also helpful for reproduction of multi-channel music because you get incredible articulation and detail in the bass all around the room.

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. This gives an unnaturally wide soundstage between the two speakers, and creates problems beyond the unnatural width of the center stage. 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 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 midrange driver and 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 drivers "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 overheat 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 is wall to wall and with pinpoint focus, the speakers disappearing completely on a recording containing such information.

Room Treatment

No room is perfect. To optimize your sonic presentation it may be helpful to treat 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 proofed 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.

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. 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 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. However, 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.

One of the best pieces of advice we can offer is that you take advantage of the ear's ability to identify similarities 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. Keep at it and remember to enjoy your music as you work on perfecting 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 G5.2 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 G5.2 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 G5.2 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 G5.2 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 G5.2 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 the system 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. However, the Chief Scientist of Genesis, Arnie Nudell, first introduced the servo system in the legendary Infinity Servo Statik One in 1968(!) – so we know how to design and build servo systems.

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 5.2 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 G5.2 features three 8-inch aluminium cone 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 G5.2.

Unlike the mid-bass couplers, midrange and the tweeters, which operate in dipole, the three woofers in the G5.2 operate in phase as an omni-pole. All three woofers work in phase to control the air mass of the listening room. This means that the surface area of the three 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 over come 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 5.2, 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 Genesis 5.2. 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.

Specifications

- Dimensions: H 44” x W 11” x D 22”
- Weight: 140 lbs (63kg) per side
- Frequency Response: 20Hz to 36kHz, +/- 3dB
- Controls: Low-pass, gain
Rear Tweeter (+/- 1 dB)
Midrange (+/- 1.5 dB)
- Inputs: Speaker Level
Line Level (Balanced)
LFE Line Level (Balanced)
- Outputs: LFE Buffered Daisy Chain (Balanced)
- Nominal Impedance: 4 ohms (speakers)
- Sensitivity: 90 dB 1 watt 1 meter
- Power Rating: 500 watts each
- Finish: Rosewood, Bird’s Eye Maple, High Gloss Black, High Gloss Silver