

# Owners Manual and Set-up Guide

## Genesis 201 Loudspeaker System

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## 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 model, the Genesis 201 is the penultimate Genesis loudspeaker; the closest you can get to perfect sound reproduction short of the Genesis 1.1.

The G201 loudspeaker system was created for the music lover who knows (almost) no compromise. 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 filmmaker.

However, the G201 is *not* meant to reproduce music at ear-splitting levels. If you are looking just for **LOUD**, this is the wrong loudspeaker for you. A Ferrari and a Mack truck may have the same price and power, but they are very, very different vehicles.

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](http://www.genesisloudspeakers.com). We will put the latest updates, tips and tricks, and support for our owners on our website.

Please write the purchase details of your Genesis 201 System here for future reference.

Mid/Tweeter Panels : 20102057 / 20102058

Woofers Towers : 20102059 / 20102060

Amplifier : 20102061

Bought at: \_\_\_\_\_ Date: \_\_\_\_\_

*absolute fidelity*



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Warranty Statement and Extended Registration Card  
should be placed here

## G201 Set-up Guide

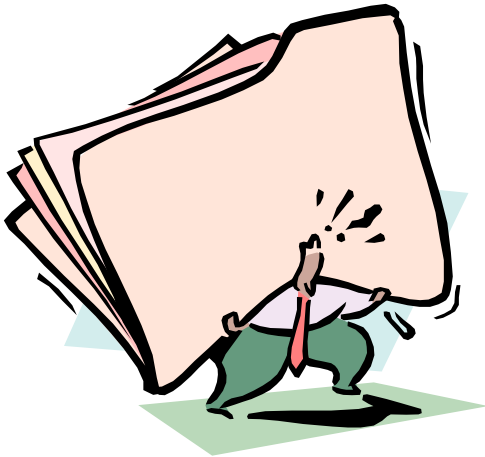
Now that you have your new Genesis 201 loudspeaker system, we realize that you can't wait to hook it up and start playing! However, this is a big, complex system and we want you to set it up correctly and safely. So, please read this quick set up guide (even if your dealer is setting it up for you!) before you proceed.

### Unpacking

The Genesis 201 system will arrive in 5 pieces. There are four wooden crates, two containing the woofer towers, two holding midrange/tweeter panels, and one cardboard amplifier box.

To remove the contents of all the crates, you will need help. The G201 loudspeaker system with crates weigh a total of 1,400 lbs, so we suggest a minimum of three 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.

Each woofer tower weighs over 210 lbs, and each tweeter tower weighs over 140 lbs!



Start with the woofer crates. These are the taller, skinnier crates. Remove the screws from the top piece and open them up. Take the woofer towers out of the shipping crates by setting the crates on their sides and sliding the towers out onto a carpeted surface. Remove the packing material, and set them standing up in your room. Look inside the crates and take out the box containing cables.

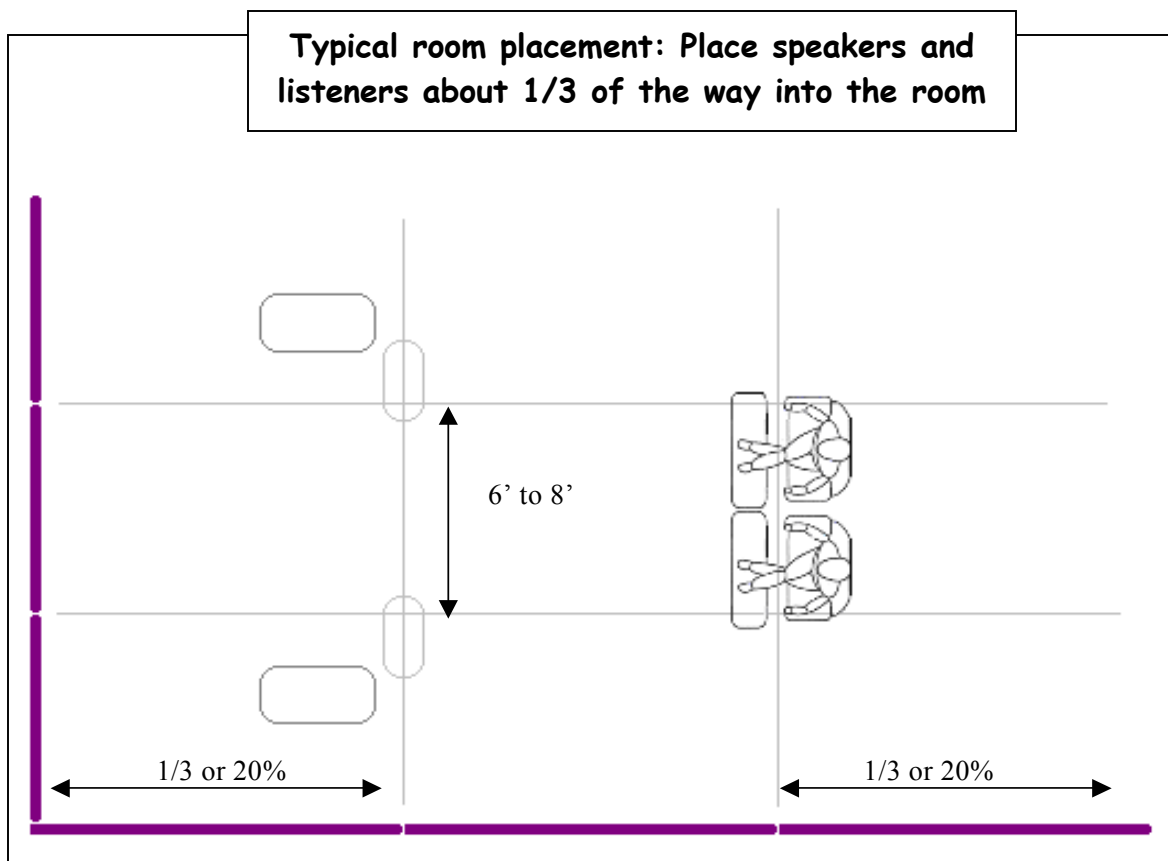
Next, remove the midrange tweeter sections from the shorter, fatter crates. Unscrew only the bottom row of screws. Do not remove any other screws except the ones going along the outside bottom perimeter of the crate.

Lift off the entire top part of the shipping crate and set this aside. You can then tilt the mid/tweeter sections off the crate, and remove the bottom.

Remove the woofer amplifier and remote control from the box. There will be two sets of servo-bass cables and two sets of servo-amp interconnects, and you now have all the pieces that make up the Genesis 201 loudspeaker system.

### Placement of the G201 Loudspeaker System

A good starting position for the midrange/tweeter panels is about one third the way into the room as measured from the rear wall (the wall you look at as you are seated listening to the speakers). You want to sit approximately two-thirds of the way in the room, again as measured from the rear wall. You will not need a huge room, but we recommend that the room be at least 16 feet (5m) wide and 18 feet long. There needs to be a minimum of 10 feet (3m) from the front of the midrange ribbon to the listening position for proper integration of the drivers.



For some rooms, there may not be enough space. In that case, have the speakers 20% of the way into the room, and the listening position can then be 20% from the rear wall. Good results can also be achieved in this way.

Place the row of tweeters on the inside, and position the mid/tweeter panels so that the rows of tweeters are between six to eight feet apart. If the room is particularly large, you can have the

tweeters up to 10 feet apart. Next, position the woofer towers behind, and just to the outside of the mid/tweeter panels.

### Speaker Connections

Use the woofer cables that were found inside the woofer crates to connect the woofer towers to the woofer amplifier. Each end of the cable is clearly marked, AMPLIFIER or SPEAKER. It does not matter which connector is attached to which woofer as long as the channels are correct.

When you connect the woofer tower outputs pay close attention to the way the connector works. This connector is a 50 amp Neutrik Speakon. It only goes in one way, you cannot put it in wrong. However, you can fail to put it in all the way. Push the plug in, and twist it clockwise until the lock "clicks" in place to keep it there. By looking carefully, it will be obvious to how it works.

At the AMPLIFIER end of the servo-bass cable, you will find a male 1/8" mini-jack. The female end is at the end off a flying lead attached to the chassis of the servo-bass amplifier. These jacks are used for grounding an internal shield within the servo-bass cable. For the time being, leave this grounding **disconnected**.

Next, connect the mid/tweeter panels to your power amplifier using high quality loudspeaker cables (not supplied) to the 5-way binding posts. We recommend using good quality spade connectors for this job.

To get the music signal to the servo-bass amplifier to power the

woofers, there are two ways to connect it to your system.

The first, and preferred way is to drive it using the output of the power amplifier that is driving the midrange/ tweeter panels using the supplied pair of servo-bass interconnects.

These servo-bass interconnects will be supplied with a pair of banana plugs at one end, and an XLR balanced male plug at the amplifier end. The XLR Neutrik connector includes a specially designed internal balancing and attenuation circuit that enables the power amplifier to drive the



balanced input of the servo amplifier. *Do not use any other interconnection for this purpose!* This internal circuit also allows even fully balanced power amplifiers to be connected this way.

Plug the banana plug end of these interconnects into the binding posts of your midrange/tweeter towers (preferred) or the output binding posts of your power amp. Each end of the interconnect has a grounding alligator clip on a flying orange lead. Leave this grounding clip **disconnected** for the time being.

The second way to connect the servo-bass amplifier to your system is to use a pair of interconnects (not supplied) from your preamplifier to the servo-bass amplifier. If you use this method of connection, your power amplifier will be driving the midrange/tweeter towers and the servo-bass amplifier will be driven in parallel by your preamp.

Connect the input of the woofer amplifier to the output of your preamplifier. Choose either balanced or unbalanced for inputs. If your preamplifier has only one set of balanced outputs and one set of unbalanced (RCA) type outputs, choose your first preference of connection for the power amplifier that is driving the midrange tweeter panels of your speaker. Use the remaining set of outputs to feed the woofer amplifier. If your preamplifier has only one set of outputs, you will need a Y-splitter cable so that it can drive the two amplifiers.

As no power amplifier is “straight wire with gain”, we do not recommend this way of driving your servo-bass amplifier. The reason is that phase coherence between the midrange and bass is much harder (but not impossible) to achieve.

### Control Adjustments

Plug the woofer amplifier into a power outlet, and using the remote control, turn it on by pressing the POWER button. If that does not work, press the MODE button and make sure that the led above that button flashes red.

Use the buttons marked “VOL ↑” or “VOL ↓” to adjust the volume to 20 to start with. (Again, if you are not driving the servo-bass amplifier with the output of the power amplifier, this gain will depend on the gain of your power amplifier. A typical value to start at is between 10 and 30.)



The display will flash to identify that the volume function is being adjusted. When you first press one of the volume control buttons, the currently-set volume will flash. The next press will move the volume up or down. Pressing and holding the button will move the volume up or down rapidly.

Next, adjust the phase with the buttons marked “PHS ↑” or “PHS ↓” on the remote control. When you first press the phase up or down button, the display will flash “Ph” and then the current phase setting will be shown. The next press of the button will move the phase up or down.

Set the phase to zero to as an initial setting. (If you are not driving the servo-bass amplifier as recommended using the output of the power amplifier, the phase will depend on the phase shift of your power amplifier. A typical value will be 45 to 60 degrees.)

The high-pass (HI) filter determines how low the woofers will play. Set this initially to 20Hz. Next, adjust the low pass (LO) filter (how high the woofer goes). Set this to 95 using the button marked "low pass" (on the remote control).

You will notice two controls on the back of the midrange tweeter panel. The left hand knob is a volume control for the rear tweeters.



Turning this control clockwise will increase the level of the rear tweeters. 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 twelve o'clock position.

The control on the right side is a three-position switch used to adjust the midrange. Start at position two. Position one will sound fuller in the lower midrange while position three will sound leaner and have more upper midrange.

The less obvious effect of the midrange control is to make the soundstage sound more forward, and change the perceived height and position of the performance. Relative to position two, you can raise the soundstage by moving to position three (it's like moving your seat forwards in the concert hall!!!)



Position two gives you a soundstage perspective of about the middle of the concert hall. Position three is more like the orchestra seats, and position one may be more like the balcony seats.

While it is relatively easy to put the Genesis 201 loudspeaker system into your room and system and get nice music, it is not as easy to integrate the loudspeakers into your room, and get great music out of it. The time you will take to do this properly will be well worth it for the long-term enjoyment you will derive.

### **Servo-bass Amplifier Protection**

The servo-bass amplifier has numerous protection circuits built in. If you over-drive the amplifier, it will shut itself off and display a blinking “-” on the LED display. If that happens, turn down the volume of your system, use the remote control to turn it off and wait a moment before turning it back on.

Should your woofer amplifier unexpectedly turn off and you are unable to turn it back on, you may have overheated the amplifier. It will take up to thirty minutes for the amplifier to cool down sufficiently for it to be turned back on. Be patient.

One more thing – the G201 servo-bass amplifier is a Class AB amplifier. It contains four 500W power modules and a 3000W power supply. However, it is not able to deliver this power continuously.

Class AB amplifiers (including the power supply) are only about 20% efficient. This means that to get 100W of audio, you will need 500W of incoming power. Hence, we rate the servo-bass amplifier at 1,600W. At 120V, 66 amps will be needed to deliver the full rated power.

Hence, you may find that a very loud bass drum thwack will cause your lights to dim, the circuits to trip, or the servo-bass amplifier to shut down if you do not supply enough power to the bass amp.

### **Ground Control**

If you get a horrendous hum when you first turn on your servo-bass amplifier, you have a ground problem.

One reason could be that the servo-bass amplifier is not properly grounded. If the servo-bass interconnect is used, make sure that the servo-bass amplifier is properly grounded. Then, try attaching

the black alligator clip at the XLR end of the interconnect to the chassis of the servo-bass amplifier. A convenient attachment point is the bright locking tab on the XLR at the amplifier end.

If this does not work, take disconnect the clip, and then try connecting the black alligator clip at the other end to the **chassis** of your power amplifier.

Do NOT attach the ground tab to the negative loudspeaker terminal if you are not sure if you have a fully balanced floating output on your power amplifier. You could destroy your power amplifier, or your woofer tower if you do.

If you are using the preamplifier to drive the servo-bass amplifier, you may have a ground loop. In this case, if your hifi system is grounded at the preamplifier, you may have to lift the ground on the servo-bass amplifier.

## **Tuning the system**

Music is the best way to begin to fine-tune your setup. 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.

### **Begin with the bass level**

Leave the low pass filter alone, for the moment, as it should remain set at approximately 95 Hz, This control will be addressed later. Turn the volume 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 volume up till it does. If you find that turning the volume up creates too much low bass, you may want to experiment with increasing or decreasing the low pass filter control.

This control will raise or 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 that you set the low-pass filter to 100Hz. 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. Using the volume control on the servo amplifier’s remote control, set 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.

If, at this point, it does not have 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. At this point it is suggested to use the low pass filter control until you get to the refinement stage.

### **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, toe the woofer towers in a slight amount or place them closer together and re-listen. Repeat this process till you have it right. If the voice is too low in height, turn the midrange control to the next highest position and the image of the voice will move upward slightly.

If you have the speakers only 20% away from the front wall, and you are not getting enough front to back depth (the singer not appearing behind the speaker enough) pull the midrange tweeter panels 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. If you get the speakers much beyond 1/3 of the way into the room, it is unlikely that pulling them further away is reasonable.

Find the best compromise for your room, your tastes and your space requirements. 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. We recommend you begin with six to seven feet apart as measured from tweeter to tweeter. If you are not getting proper focus on the voice, you may angle the midrange panels about 5 to 10 degrees towards your seating position until you have a properly defined center image.

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.

### **Phase Control**

We suggested in the beginning of this manual to set the phase to zero degrees. Now that you have roughed the system in, you may want to experiment with different phase angles.

Using the remote control you can adjust the woofer's phase angle up and down in five-degree increments.

The changes are subtle and they usually affect the imaging and soundstage. Listen carefully to the positioning (in acoustic space) of the orchestral players as you change the phase control. You may notice small shifts in their apparent relationship to the other members of the orchestra. Do not expect them to actually move. Expect minute changes in the soundstage, the apparent width of the stage, your ability to distinguish individual players etc. If you reach a phase shift of ninety degrees you have probably gone too far (zero is okay).

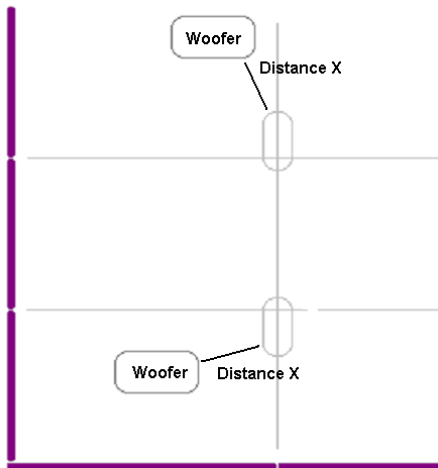
The other change to listen for is coherence and timing. Adjust the phase will subtly change the relationship between the bass and the midrange. When you get the phase perfectly correct, you will find that the timing between the vocalist and the double bass “snaps” in place, and your foot will start to tap, and you will sway to the music. This is basically what we term “PRAT” – or pace, rhythm and timing.

### **Further adjustments**

With the woofer towers positioned in the recommended placement behind and outside the midrange tweeter panels, low bass in the room should not be a problem. Should you have too much bass, simply turn the volume down on the remote control. Too little, and the opposite will apply.

In some problematic rooms a resonance may develop at one or two frequencies that is unnatural to the music. By moving the woofer towers closer to the rear wall or farther from the rear wall, the resonance may be reduced at the listener's position. There are no absolute rules concerning problematic rooms, so do not be afraid to experiment with best woofer placement.

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 coupling), and also move the woofer towers closer together, or further apart, or even move them closer to a corner of the room for more bass.



One trick that we have found to always work is NOT to have the woofer towers placed symmetrically in the listening room. When you have the woofers equidistance to the walls, there will be wall-loading which will increase the volume of some frequencies in the bass and mid-bass.

Place the left and right woofer towers equidistance from the midrange towers. However, have one woofer tower further to the side of one midrange tower, and have the other woofer tower further to the back of the other midrange tower. Distance X on the diagram should be no more than a quarter wavelength of the crossover frequency – approximately 36 inches or 0.9m.

It may look strange, but the principle here is to position the midrange/tweeter towers for the best imaging and soundstage, and the woofer towers for the smoothest and best bass and ambience retrieval.

## **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.

### **Make One Change At A Time**

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 amplifier all at once. Make each of these changes separately and note the difference - by listening - with each adjustment, then make the next change.

Each adjustment, in positioning, and in control adjustment will result in a subtle sonic change. Even when you are moving the midrange/tweeter panels further apart, or closer together, move one panel, listen, and then move the other panel. You may also find an asymmetric placement in-room more accurate and pleasing.

### **Defining the Soundstage**

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 stretched soundstage between the two speakers, and creates problems with focus. The key problem is a lack of soundstage information beyond the left and right sides of 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 though: if you move the speakers too far from the front wall you may lose the focus of the image.

A problem with the soundstage could also be caused by the recording. Try another recording if you cannot achieve what you are trying to do.

### **Appropriate Mid-bass/Low-bass Balance**

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 ribbon driver. 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.

Push the woofer towers back towards the rear wall. This will increase the coupling of the woofers to the room. Do this procedure in small increments (approximately three inches at a time) and return often to the recordings you have used to adjust the front to back depth and soundstage properties of your system. It is easy, yet unproductive, to go too far in one direction (and if you move the woofer towers too far from the rear wall you may lose low bass extension).

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 midrange ribbon. This would tend to sound bloated or thick in the mid bass regions.

Another good rule of thumb is to first set the volume control of the woofer towers 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 new 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.

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.

During the design stage of Genesis loudspeakers, we rely on hundreds and hundreds of hours of critical listening. There are changes we can make to the crossover that we can measure, but can hardly hear the difference. And there are changes that we can easily hear the difference, but cannot measure. It is an artform as much as a science! Setting up the audio system is the same.

If you have any questions, feel free to contact us at Genesis. Our website is the first place that you should 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 201 loudspeaker comprises four “towers”: two midrange/tweeter panels and two bass towers. Each tower is 6 feet tall (183cm), and the cabinet is made of a vibration damping and resonance-control acrylic composite sandwich material.

The rationale for the four-tower system separating the woofers from the midrange/tweeters is to allow the placement of the midrange/tweeter panels to optimize soundstage, and the placement of the woofer towers to optimize in-room bass response.

## Design Philosophy

Nothing has changed in theoretical acoustics since Lord Rayleigh’s original book on acoustics published in 1877. There are still only two proper ways for a transducer to propagate sound in a room: a point source and a line source. Anything else, or everything in between, is a compromise.



John William Strutt Lord Rayleigh (1842 – 1919)

In order for all frequencies of sound from the loudspeaker to reach the listener at exactly the same time, a coherent wave front is important - not just “time-alignment” of drivers. The ideal is either an infinitely small pulsating point or a pulsating line with a size on the order of the room dimension.

Obviously, a line-source is much easier to mechanize than the ideal point source. The line-source (if large enough), can approximate the ideal, and in doing so, provide sufficient radiating area for dynamically and spatially realistic sound reproduction.

The Genesis 201 is a line-source that is 4 feet long (nearly the half the room’s entire height). A line source has no vertical dispersion at any frequency. Hence there is no sound bouncing from either the floor or the ceiling. No deleterious interference from these surfaces is created (as in virtually all other kinds of speakers).

Another advantage of the line source is that the vertical spectral content of music is virtually the same throughout the length of the line source. Hence, the seating height does not matter with this speaker; unlike point source speakers where it is important for the ears to be aligned in relationship with the tweeter.

The Genesis 201 is also a dipole radiator. The midrange and tweeter drivers are mounted on a rigid acrylic composite panel with no enclosure. This has two advantages: firstly, it eliminates any enclosure or boxy colorations caused by cabinet vibrations or resonance.

Secondly, the dipole creates a cardioid pattern (like a figure-eight), which has its maximum output at the listening position and behind the speaker itself, and minimum output to the sides in the plane of the loudspeakers. This very effectively eliminates the bounce from the sidewalls.

Hence, in conjunction with the line source, the G201 has no first reflection from the floor, ceiling or sidewalls. The net result is that there are far fewer detail-robbing room reflections from the room 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.

This results in a loudspeaker system that is virtually room-independent. Also, because there are no phase and frequency distorting reflections created, one can be transported into the audience of the actual concert hall where the music was recorded.

### **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 accurately reproduce frequencies to 36 kHz.

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 G201 uses twelve of these tweeters configured as a vertical line source. Because the output is distributed over many drivers, each works at very low-stress. This dramatically lowers the distortions in the high frequencies.

The G201 also use three rear-firing tweeters per channel wired to the crossover out of phase to the front tweeters creating a dipole.

### **48inch midrange ribbon**

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. This is why the G201 loudspeaker system uses a 48inch-long ribbon per channel as a dipolar line-source to reproduce these critical frequencies.

The midrange ribbon used in the G201 is manufactured to Genesis’ specifications. The ribbon itself is made of a very thin layer of aluminium laminated to a substrate of mylar that is 0.001inch thick. The ribbon is then suspended in the magnetic field created by over 24 feet of barium ferrite magnets.

This results in a perfect line-source ribbon generating a continuous and perfectly coupled wave front. The benefit of this to the listener is a wide and even horizontal dispersion yielding a large and highly stable sweet spot.

As a line-source dipole, the midrange ribbon has a vertical dispersion pattern identical to that of the line array of tweeters. Thus further insulating the listener from the room’s negative effects, and enhancing the sense of spaciousness and depth.

### **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 history of the Genesis servo-system started from the first introduced in the legendary Infinity Servo Statik One in 1968(!) – so we know how to design and build servo systems. The technology has been constantly updated and refined over the past almost 40 years!

The concept of our 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 continuously compares it to the input signal. This comparison circuit instantly identifies any deviation from the input and applies a corrective signal to compensate for any deviation, resulting in the virtual elimination of 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 has started moving, the momentum of the cone makes it continue to move after the signal has stopped. The sonic result is softness, overhang, and bloat in the bass. This results in a perceived 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 predicts that the woofer will continue to move when it shouldn't be moving 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. The system also drives the woofer to constant acceleration, which makes the frequency response of the woofer anechoically flat to the lowest frequencies.

### **The Woofer Tower**

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 G201 features a total of four front- and four rear-firing 8-inch woofers per channel – a total of sixteen woofers in the system.

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.

The woofers are a uniquely designed metal cone driver made for the Genesis servo system. Made with a cone of solid aluminium, the suspension and voicecoil have been maximized for long distortion-free excursion so as to increase dynamic range. Our aluminium cones are a magnitude stiffer than any plastic 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 that these drivers operate at. Therefore, the driver is a perfect piston within the frequencies used. Thus, extremely low cone break-up distortion is inherent in the driver that is designed for the Genesis 201.

Unlike the midrange and the tweeters, the front and rear woofers operate in phase as a bipolar arrangement in which all sixteen operate in unison to control the air mass of the entire room. This means that the surface area of the eight cones and the large enclosure all work together in unison to produce bass output that descends evenly to below your hearing limits.

### **1600 watt Servo Amplifier/Crossover**

One problem, however, of metal cones, 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 201, the amplifier was designed as a holistic system of integrated connecting cables, woofers, and custom tailored EQ network and remote controlled crossover circuitry. The proprietary four-channel 400 watt per channel switching amplifier is specifically designed and tuned specifically 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 mid/tweeter section of the Genesis 201. No longer must one choose between having an amplifier with enough power to drive the woofers, and a smaller

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*absolute fidelity*



amplifier having better spatial and tonal characters. Nevertheless, we do recommend no less than 100 watts as a minimum for the mid/tweeter sections.



**Specifications**

- Dimensions:
  - Mid/Tweeter Panel: H 72" x W 13.5" x D 9.75"
  - Woofers Tower: H 72" x W 11" x D 22"
  - Amplifier: H 10" x W 12" x D 19"
- Weight: 650 lbs (295kg) per side  
70 lbs (32kg) amplifier
- Frequency Response: 16Hz to 36kHz, +/- 2dB
- Controls (on amplifier): Phase, gain,  
low-pass, high-pass
- Controls (on speaker): Rear Tweeters (+/- 1 dB)  
Midrange (+/- 0.75 dB)
- Input Impedance: 4 ohms (nominal)  
33K ohms (amplifier)
- Sensitivity: 91 dB 1 watt 1 meter
- Amplifier Power Rating: 4 channels @400 watts each
- Amplifier Inputs: 1pair XLR (balanced)  
1pair RCA (single ended)
- Finish: Acrylic composite sandwich