EZ Set EQ

Calibration Guide

JBL.com/Specialty-Audio/

Overview

Loudspeakers and room interaction inevitably introduce unwanted coloration to the sound during playback – colorations which are sometimes either difficult or impossible to remove with traditional electronics or room treatments. The free EZ Set EQ app provides easy-to-use room equalization for optimized sound quality for all MA series AV Receivers. The calibration collects room acoustics data for each speaker group in under 2 minutes and can be done by anyone, using an iOS or Android mobile device.

Room Correction using the EZ Set EQ app should be performed after system setup is completed. The system setup is considered complete after the initial system configuration is performed and the system is fully functional.

For more information on the set-up and operation of this product, refer to the product page on the jbl.com website. Should further assistance be required feel free to contact customer support at the numbers below.

Inside the US and Canada:	+1 888.691.4171
Outside the US and Canada:	+44 1707 668 012

Download the EZ Set EQ app:

GET IT ON Google Play

Download on the App Store

Download the JBL Premium Audio wi-fi setup app (not applicable to MA310):

GET IT ON Google Play

Download on the App Store

Getting Started

HOW DOES EZ SET EQ ROOM CORRECTION WORK?

Using a microphone to analyze the audio system and room, EZ Set EQ builds an acoustic model of the listening environment. The built-in microphone of an iOS device can be used for the calibration. For Android users, JBL recommends using a third-party microphone for the best results since every Android device has different a microphone/frequency response.

Recommended calibrated microphone for Android users: Dayton Audio iMM-6C USB-C

EZ Set EQ primarily addresses room interactions in the low frequency bands, that way it has minimal effect on overall loudspeaker voicing. The low frequency response can be adjusted according to the loudspeaker's natural low frequency extension to avoid boosting lower than the speaker can handle, and by the size of the room.

EZ Set EQ does not affect delay or level adjustment; so, we recommend making the necessary adjustments manually prior to using the room EQ app.

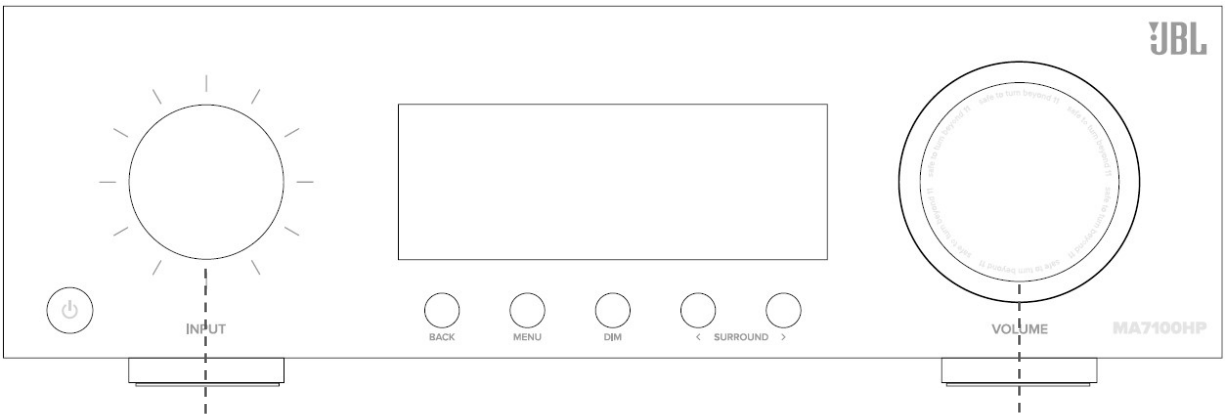
Connectivity between the mobile device and the AVR:

Bluetooth	**Network Audio**
MA310	MA510
	MA710
	MA7100HP
	MA9100HP

BLUETOOTH OPERATION

Connecting your phone or tablet:

- Select the Bluetooth input on the AVR for Bluetooth pairing of a source device. Push and Hold the Input knob to initiate Pairing Mode.
- To pair your Bluetooth source device, open the Bluetooth settings on your source device and scan for **MA310/MA510/MA710 ######** from the list. Each product has a unique ID.



1. Rotate Input Carousel
2. Push to Select "Bluetooth"
3. Push and Hold to activate Pairing Mode
4. Open the Bluetooth settings on your phone/tablet. Scan for **MA310/MA510/MA710 ######** and select from the list. Each product has a unique ID.

Rotate to Control Volume

Push to Mute/Unmute

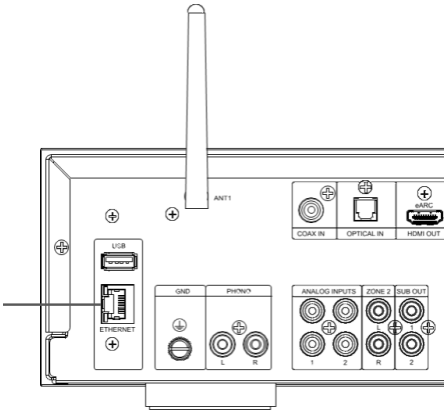
- The AVR can recall 7 device pairings. If 7 are in memory already, the oldest will be replaced.
- Because portable devices often have a volume slider. Upon pairing, there is a default volume setting in the amplifier to prevent excessive volume output being selected accidentally. The default is 20.

NETWORK CONNECTION (Does not apply to MA310)

For a Wired Connection

Connect the Ethernet port on the back of the AVR to any of the open ports on your network router using a CAT-5e or higher cable.

Ethernet Socket
Connect this to your home network using a Cat 5e or Cat 6 cable

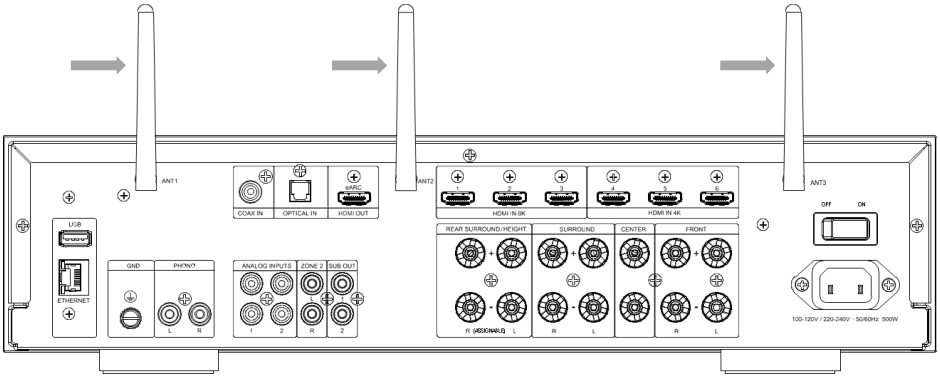


For a Wi-Fi Connection:

To make a Wi-Fi connection, download the JBL PREMIUM AUDIO app to your smartphone or tablet. Links are on the front page of this manual.

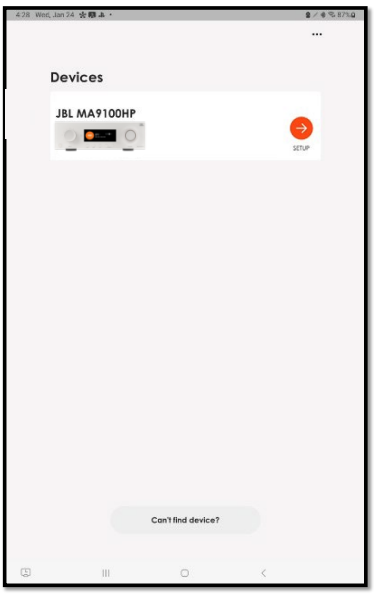
Connect the supplied external antennas for Bluetooth/Wireless connectivity to connectors on the rear panel.

1. Place the external antennas for Bluetooth/wireless connectivity evenly over the screw terminal of rear.
2. Turn clockwise until the antenna is fully connected.
3. Rotate the antenna upwards for best reception.



Power on the AVR and open the app to discover it after the AVR is Ready. Select it and follow the prompts to connect it to your Wi-Fi network.

Alternatively, you can connect the JBL AVR to your Wi-Fi network using Apple AirPlay speaker setup in the Wi-Fi settings of your Apple device.



Speaker Positions

GETTING THE SPEAKERS PROPERLY INSTALLED:

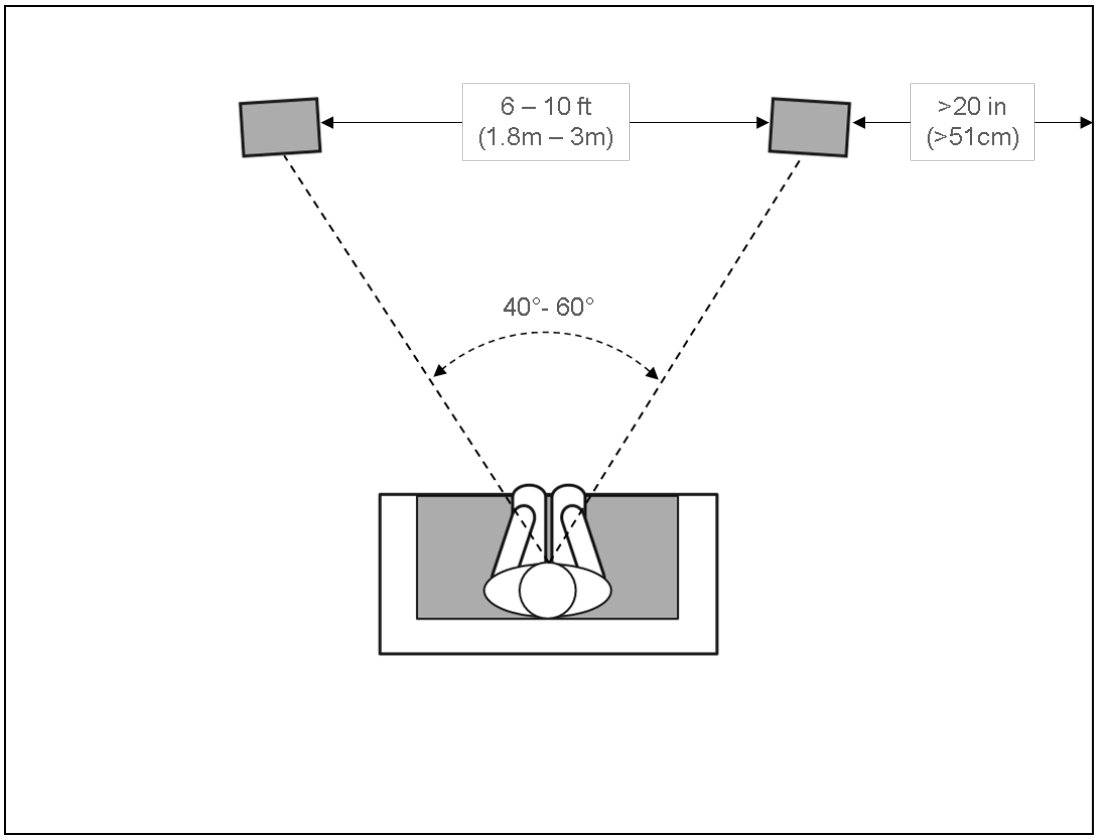
Use the Dolby Atmos Installation Guide for a general guide for the locations of speakers. Here are a few tips to get you started:

- Locate the front left and right loudspeakers no further than +/- 30° off center axis of the primary listening position.
- Free standing loudspeakers should be placed on a solid platform, free of wobble, as it will offer better definition and detail. Adjust spikes etc. to ensure stability.
- In-wall and in-ceiling loudspeakers should be installed properly secured with suitable fixings to avoid resonance and vibration. Where possible, adjust drive unit angles and crossover trim switches as required for best sound.

Speaker Placement

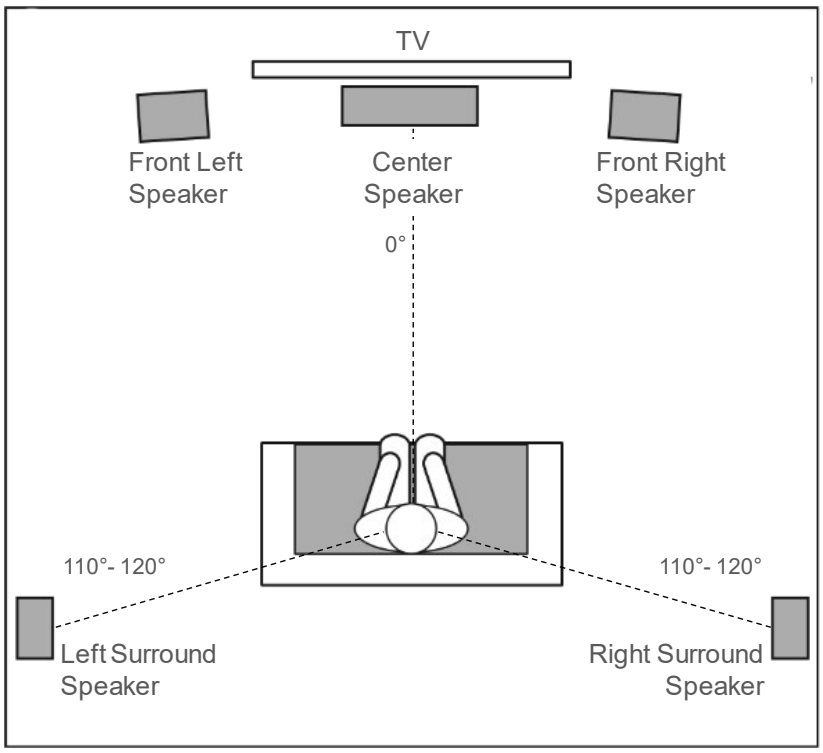
LEFT AND RIGHT CHANNELS

For the best results, place the speakers 6 – 10 feet (1.8m – 3m) apart. Angling the speakers toward the listening position improves imaging. The speakers will produce the most accurate soundstage when the angle between the listener and the speakers is between 40 and 60 degrees.



5.1-CHANNEL SYSTEM

When using surround-channel speakers in a 5.1-channel system, place them slightly behind the listening position, facing each other. Ideally, they should be 5-6 feet (1.5m-1.8m) above the floor. An alternate location would be on a wall behind the listening position, facing forward. The surround speakers should not call attention to themselves while they're playing. Experiment with their placement until you hear a diffuse, ambient sound accompanying the sounds that you hear from the front left, front right, and center speakers.



SUBWOOFER PLACEMENT AND POSITIONING IN-ROOM

The goal of proper subwoofer placement is to achieve a smooth, extended bass response. We strongly recommend that you experiment with placement before choosing a final location for your subwoofer.

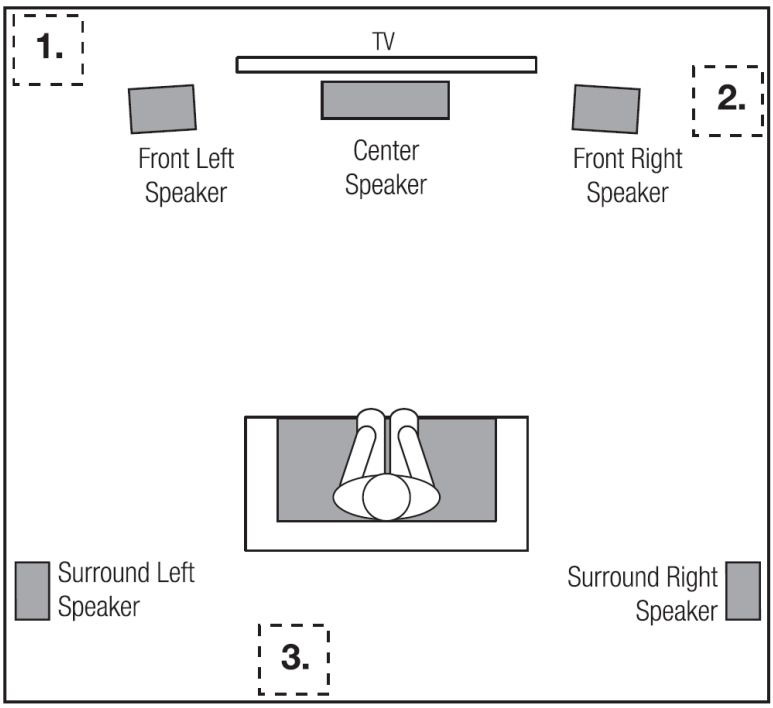
- Place next to a wall to increase the amount of deep bass.
- Placing in a corner (**1**) for even more deep bass.

Note: Placing in a corner (**1**) also activates room modes which can make the bass response less smooth.

- Placing the subwoofer along the same plane as the left and right speakers (**2**) produces the best acoustic integration with the main speakers.
- Placing the subwoofer close to the listening position (**3**) helps remove poor bass response caused by room variations.

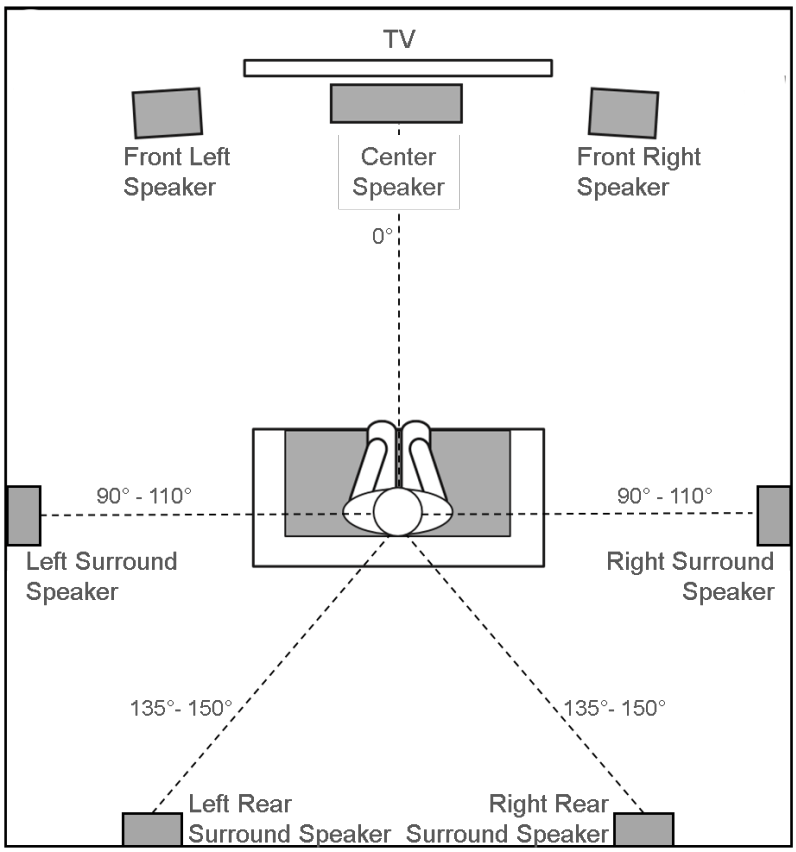
The best way to determine the location for the subwoofer is by temporarily placing it in the listening position and playing music with strong bass and midbass content. Then listen while moving around to the various available positions for the subwoofer in the room. Putting your ears where the subwoofer would be placed is best. The best subwoofer location is the one where you perceive the best bass performance and midbass blend, due to acoustic reciprocity. Place the subwoofer in that location.

While it is true that in general our ears do not hear directional sounds at the low frequencies where subwoofers operate, when installing a subwoofer within the limited confines of a room, the reflections, standing waves, and absorptions generated within the room will strongly influence the performance of any subwoofer system. As a result, the specific location of the subwoofer in the room does become important to the amount and quality of bass that is produced.



7.1-CHANNEL SYSTEM

When you use these speakers as surround-channel speakers in a 7.1-channel system, place the side surround side speakers directly to the sides of the listening position. Ideally, they should be 5-6 feet (1.5m-1.8m) above the floor.



Calibrating the system with EZ Set EQ

The EZ Set EQ app will automatically try to establish a connection with the AVR.

If the auto-connect fails:

MA310

Confirm the mobile device has successfully paired via Bluetooth to the AVR via and that Bluetooth is selected as the input source.

MA510, MA710, MA7100HP, MA9100HP

Confirm that the mobile device and the AVR are connected to the same network. Check that the IP address of the AVR is on the same subnet in network settings. You can confirm this by navigating to Menu > Setup > Network Status > Status.

USUNG SUBWOOFERS

If your system includes active subwoofers, you may need to set the subwoofer output level/gain control set to a higher or lower value.

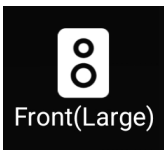
EZ Set EQ does not calibrate the subwoofer separate from the main loudspeakers. The system is calibrated full-range with the subwoofer output active to capture the “system” acoustic data to blend the subwoofer more effectively for each channel. In this way, the system takes a snapshot of the combined performance of the loudspeaker and subwoofer system integration.

You may ask - “What if I want to listen to traditional 2-channel Stereo without a subwoofer?”

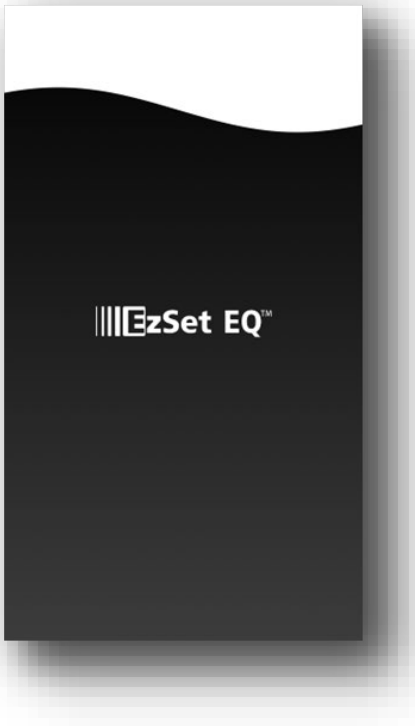
EZ Set EQ allows correction of the Front Left and Right loudspeakers both with and without a subwoofer. In this case, you will take two measurements of the Front Left and Right loudspeakers, labelled as Front (Small) and Front (Large). The system will automatically select the Front (Large) calibration any time you change the surround mode to Stereo 2.0 for optimized full-range 2-channel performance without a subwoofer.

Full-range calibration with subwoofer and the chosen crossover

Full-range calibration without subwoofer



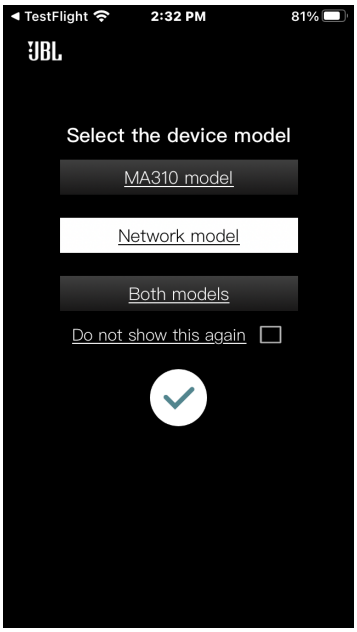
Step 1 – Launch the App



(App loading screen shown above*)

Select the model of AVR

Tap the white “check” icon to load the Room EQ home page

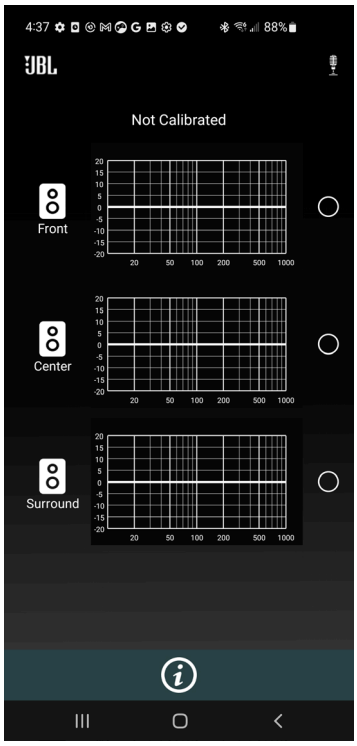


MA7100HP, MA9100HP

Step 2- Select the speaker group to calibrate

The EQ Home page displays the Room EQ curves of all the channels in the current layout.

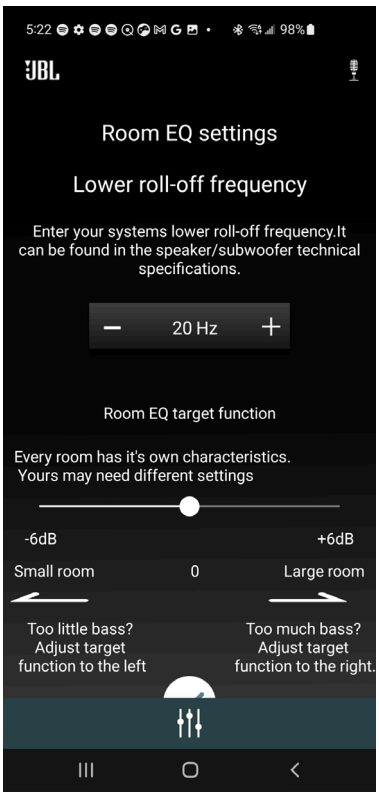
Click on the graph of speaker group you want to set up.



Step 3 – Enter Room EQ settings

Enter the lower natural roll-off frequency of your loudspeakers. This can be found in the loudspeakers' technical specifications.

The natural roll-off frequency ensures the system only corrects issues caused by the room during room measurement.



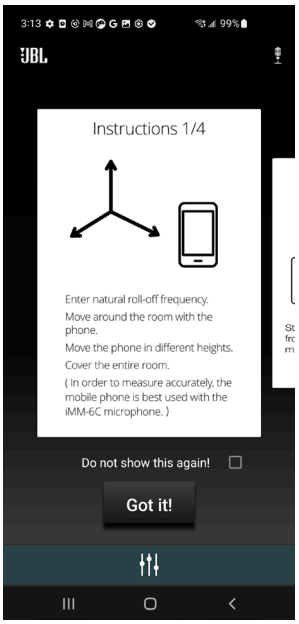
Step 4 – Read instructions for best results

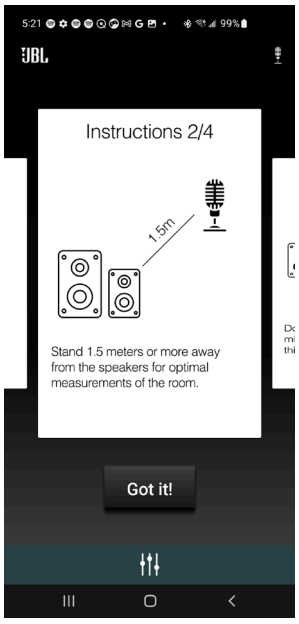
The first instruction is to move around the entire listening area, with the phone in different angles and heights, as it is important to get an understanding of all listening locations.

The next instruction page can be seen by swiping the shown instruction to the left. This allows you to go through the instructions multiple times if needed.

The second instruction is to make sure the mobile device is always at least 1.5 meters away from the speaker. This is important to create a more accurate understanding of the room acoustics.

The instructions can be skipped, and the process can proceed by pressing 'Got It!'

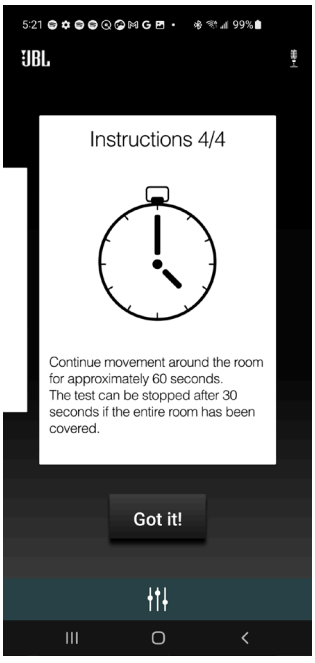




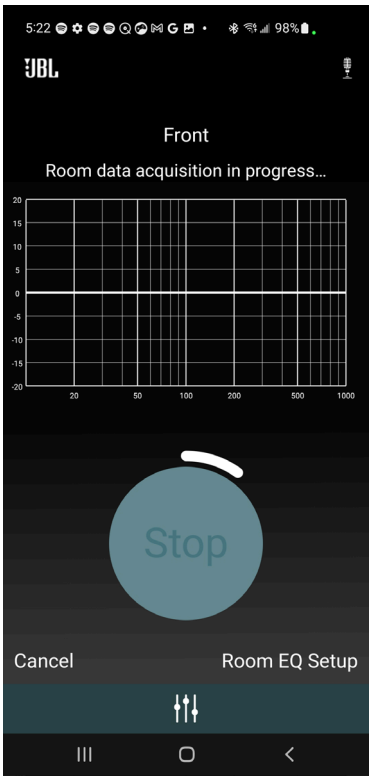
The third instruction is to make sure that there are no obstructions between the phone and the speaker. This is important to create a more accurate understanding of the room acoustics.

Lastly, the process can take up to 60 seconds. If you are calibrating for a small room, 30 seconds will be enough.

A button will present itself after 30 seconds allowing you to stop the measuring if finished.



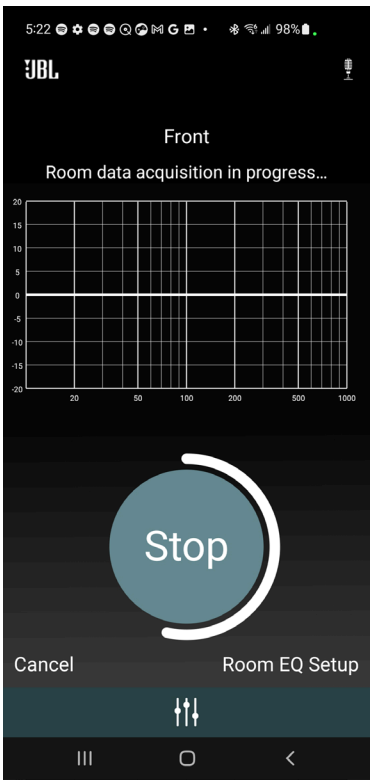
Step 5 – Measurement



After having read the instructions, press 'Begin' when ready.

The 60 seconds is illustrated by a bar wrapping the button.

After 30 seconds (when the bar has wrapped half the circle) the button will be active, and 'Stop' will be white.



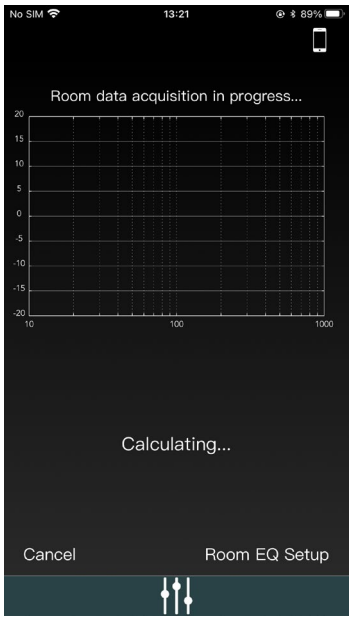
30 seconds has passed. The button is now active, and the measurement can be stopped.

When 60 seconds have passed, the app will go to the next screen automatically.

Step 6 - Calculate

The app will need 10 seconds to generate the curve. The graph will illustrate a curve that is moving, indicating that the graph is being generated.

Once the curve has been generated, a red EQ curve of the room is shown. Press 'Calibrate' to continue.



By pressing 'Calibrate' a green optimized curve appears which shows the improved low frequency response of the speakers.

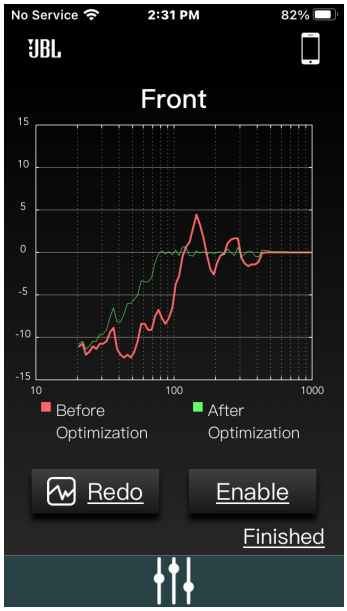
The red curve represents before optimization, and the green is the optimized.

By pressing 'Enable' the green curve is activated, and the audio experience is improved.

By pressing 'Disable' the green curve is deactivated.

By pushing 'Redo' you will be sent back to the INSTRUCTIONS to restart the measurement for that speaker group.

Click “Finished” to save your progress and go back to the Home screen.



After the calibration, you can enable/disable the Room EQ while playing music from the Home screen.

If you would like to redo the calibration, click on the speaker group once more, and select Redo.

This process can be completed for each speaker group for the current layout

Step 7 – Listening

At this stage you should take the time to critically evaluate the system performance. Listen to multiple movie and music tracks. You may find that slight changes in speaker levels may improve on your overall result. These adjustments can be made within the AV Receiver's menu (Setup > Speaker Setup).

If you find the surround content slightly muted or overbearing, adjust the levels for those speakers accordingly. Similarly, if the sound would benefit from additional or reduced subwoofer output, adjust accordingly. The tip here is to start with small adjustments of 0.5 to 1dB to dial in the system to your liking.

Enjoy!