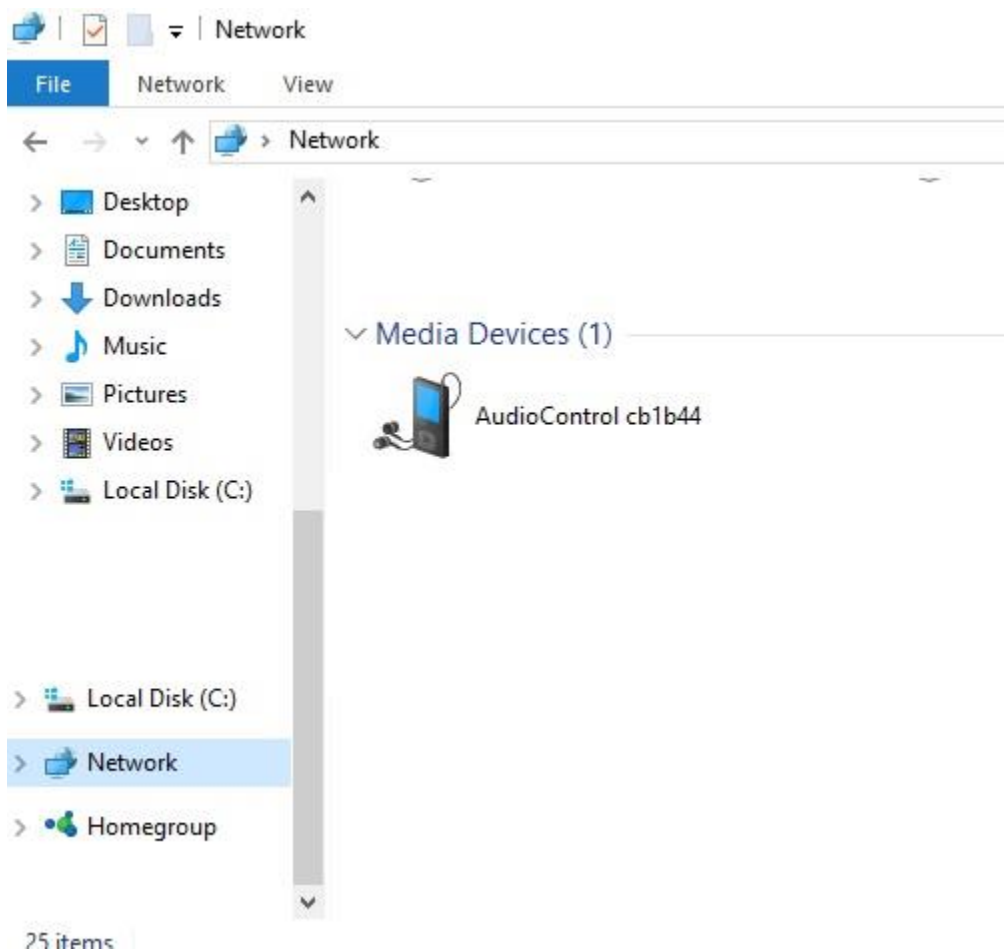


# Initial Setup

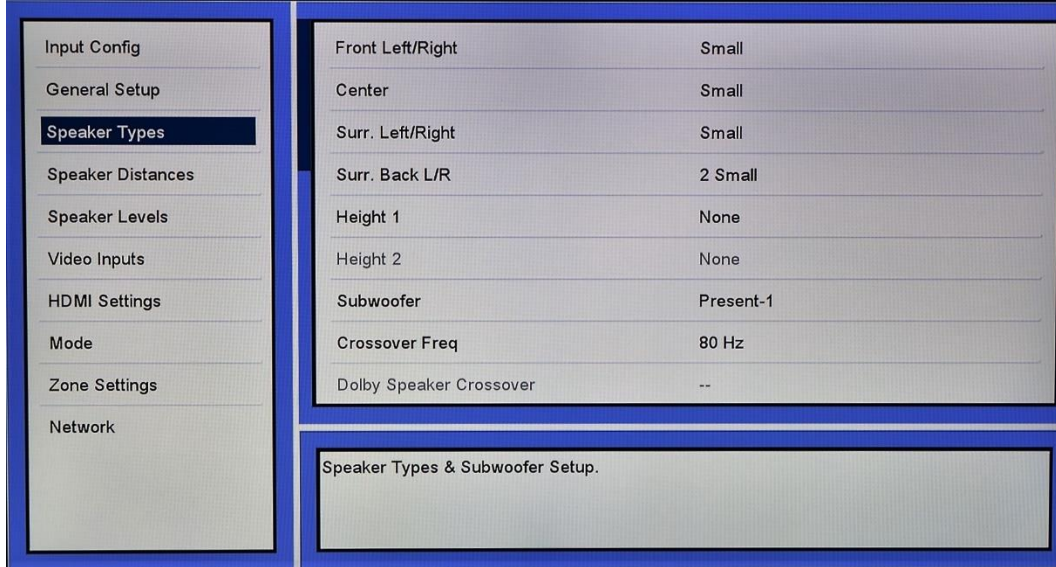
- Make sure the AVR 7/9 or M5/9 is connected to the same network as your computer. It doesn't matter if the computer is connected via hardware or wifi, as long as it is on the same network.
- If your network is DHCP, the amplifier will automatically get the IP address from your network. If your computer has a static IP address, or if you plan on giving the amplifier a static IP address, you may want to just run the network in DHCP while you run Dirac. It makes troubleshooting network issues a lot easier.
- If you are running a PC, make sure network discovery is enabled on the computer. The amplifier will show up as a media device in the computer's network listing. Should look something like this:



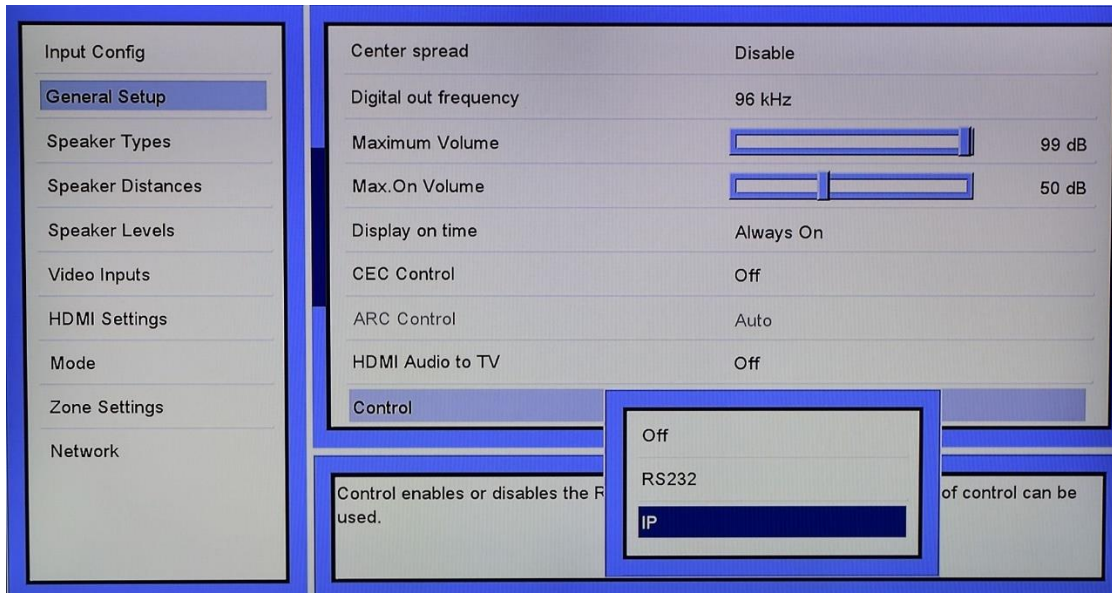
Double clicking on the device will show you the IP address. This is a good way to find the IP address if you do not have a display connected to the processor, or the display is not in the same room. It's also good to note that you cannot access the AVR or Maestro this way, it's just a good way to confirm it is on the network.

You will next want to confirm the speaker configuration on the processor is correct for your install. Dirac reads the speaker configuration off the processor, and then displays that configuration for the calibration.

To check the speaker configuration, simply go to "Speaker Types" within the OSD.



- You also want to make sure that the **CONTROL** setting is set to **IP**. Even if you will ultimately use RS-232 for control, the CONTROL setting needs to be set to IP in order for Dirac to see the AVR or Maestro. Using the AudioControl remote: Select AMP > MENU > GENERAL SETUP > scroll down to CONTROL > select IP.



If you haven't already, install **Dirac Live** on your computer. You can find the download for the latest version of Dirac on the Concert AVR and Maestro product pages.

## RUNNING THE TESTS

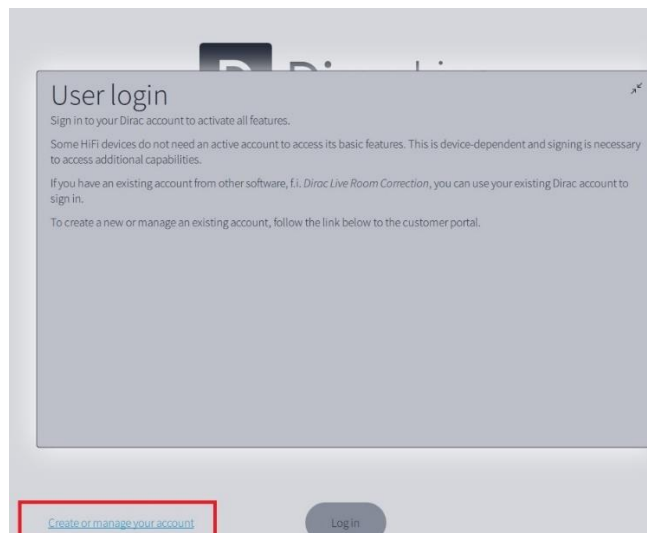
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- The first step should be connecting the microphone to your computer. The calibration microphone is included with the amplifier. It looks like this:

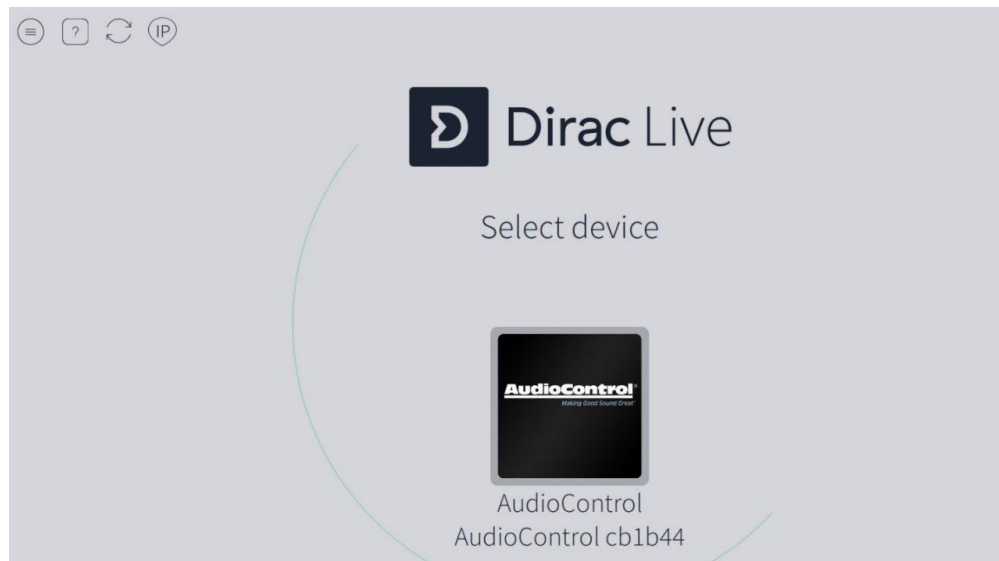


### Launch Dirac Live 2.0

It will want you to create profile and log in. We strongly recommend creating a Dirac profile. Dirac has tied loading projects with log in information. Meaning, if you created a project when logged in, if you try to attempt to load the project without logging in, it will not let you. Dirac also advises that not logging in, certain functionality of the program may not be available.



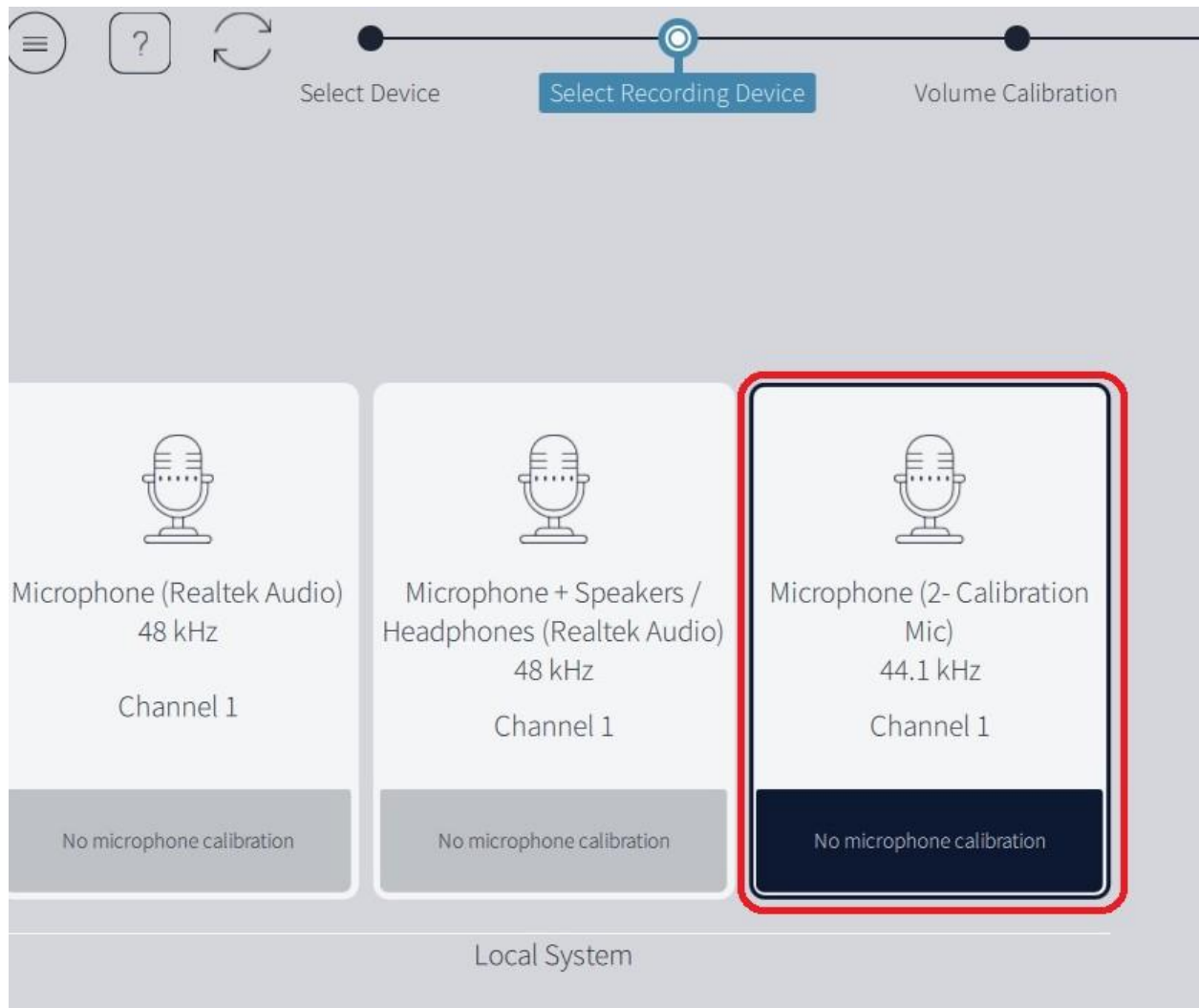
After you have logged in, you can then proceed with the calibration. Dirac Live should immediately find the AVR/Maestro on the network. Select the unit.



If it doesn't show up, make sure the AVR/Maestro is set to IP control. If set to RS-232, it will not connect. It will throw a proxy error.

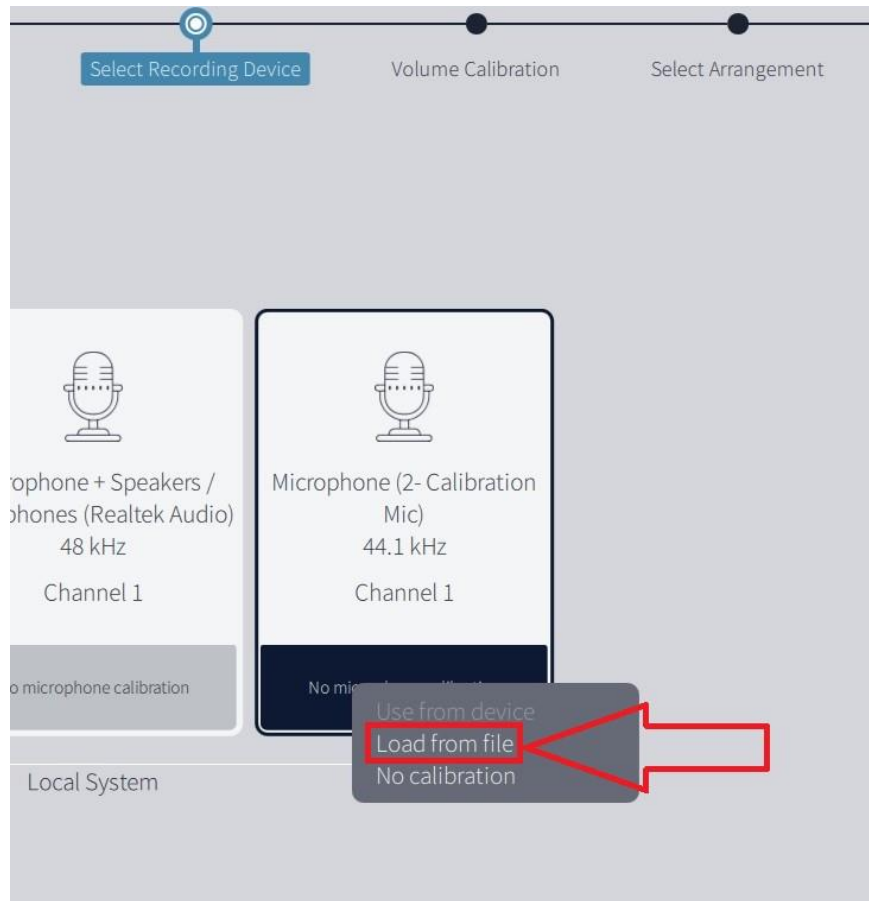
# SELECT RECORDING DEVICE

You will then be asked to select a recording device. This will be the calibration microphone that came with the AudioControl processor. Best practice is to plug the microphone into the computer BEFORE launching Dirac Live. It should appear in the software like this:



Next step is to load the calibration file for the mic. If you don't load the file, you can still run Dirac, but the final EQ curve will be off, and ultimately will not sound its best. Dirac 2.0 doesn't provide the mic calibration file with the install, you will need to download it from the product page.

After you have downloaded the file to your computer, click on the "no microphone calibration" section and a menu will pop up for you to select the calibration file.



Once it is loaded, it will then show you a graphic showing the frequency plot of the microphone. Pretty cool.



# VOLUME CALIBRATION

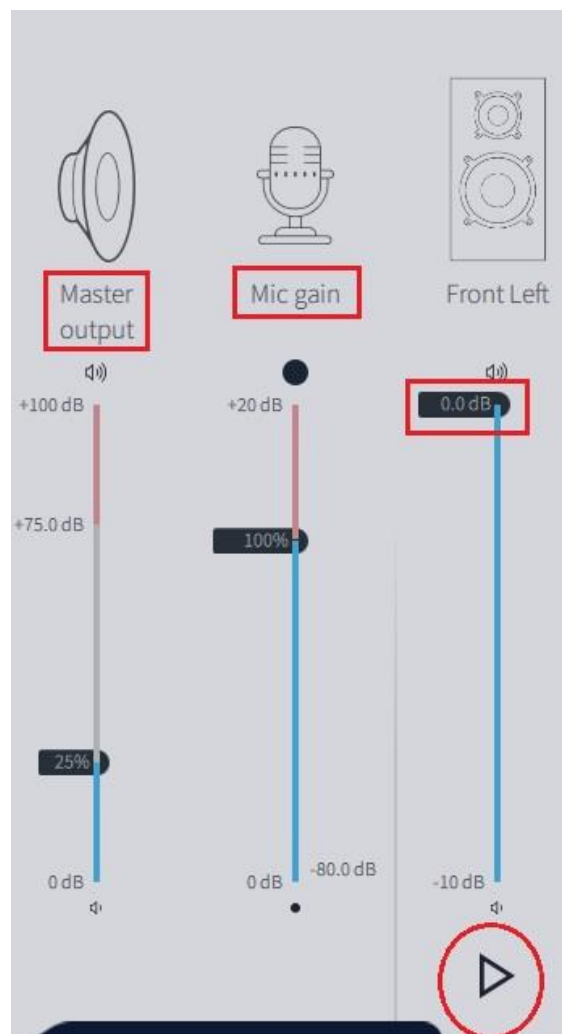
This is arguably the most important part of the calibration. Setting all channels levels in the green will ensure the rest of the calibration will run smoothly. Setting the levels is specifically for the Dirac Calibration. You are NOT setting the final levels for the room. These level settings are JUST for the test.

You have 3 main controls you be adjusting.

**MASTER OUTPUT** - This is the overall output of the processor. You can think of this as the big knob on the front panel of the AVR/Maestro.

**MIC GAIN** - This is the sensitivity control of the microphone. If you are getting a very high noise floor, turning down this control will help.

**CHANNEL VOLUME** - Individual volume control for each channel. You will use this for fine tuning. For example, if all channels are measuring approximately in the same range, but the height channels are still a bit too low. You can use this control to boost or cut individual channels to get them in line with all the other channels.



Each channel has a black bar showing the dB value. Adjust the bar to bring the gain up or down on any channel. At the bottom of each channel, there is the play button that will start the test tone for that channel.



When playing the test tone, the channel will show the level. The goal is to get the signal in the green zone. If any of the channels read above or below the green zone, Dirac may throw an error when it records the passes during the "measure" section. If the above test tones read in the "red", the signal may clip, if it reads below the green, Dirac may have trouble discerning the test tone and it will need you readjust levels and run the pass again.

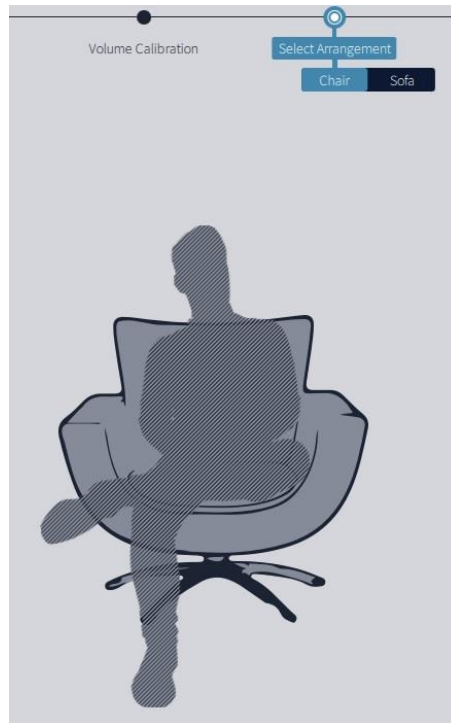
Once all channels are measuring in the green, it's on to Selecting the Listening Arrangement.



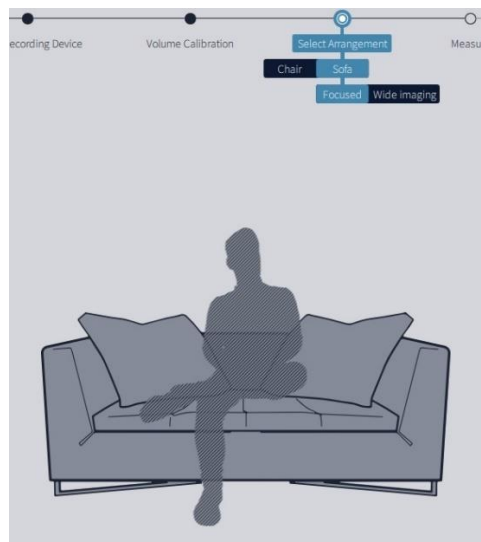
# SELECT ARRANGEMENT

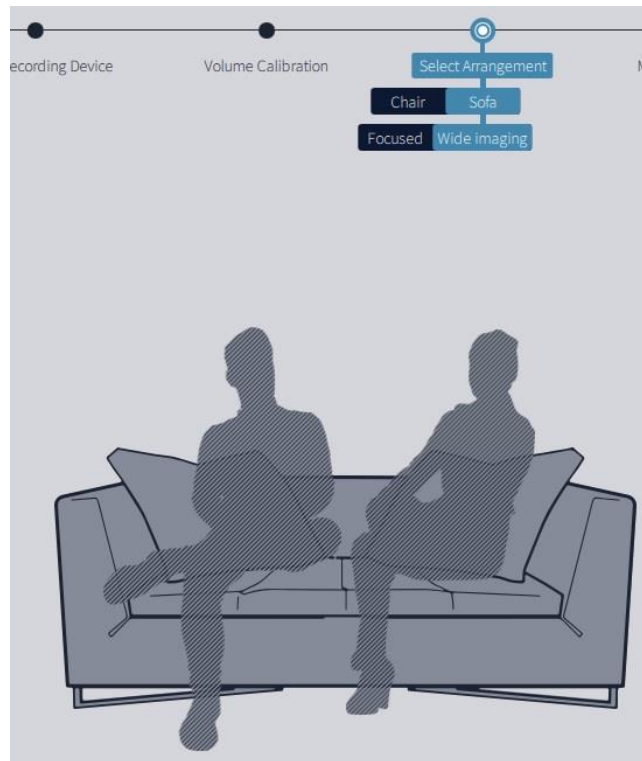
In this section, we select the kind of listening environment we are calibrating for. Choosing the arrangement dictates how many measuring points there will be. The three options are:

## CHAIR



## SOFA-FOCUSED





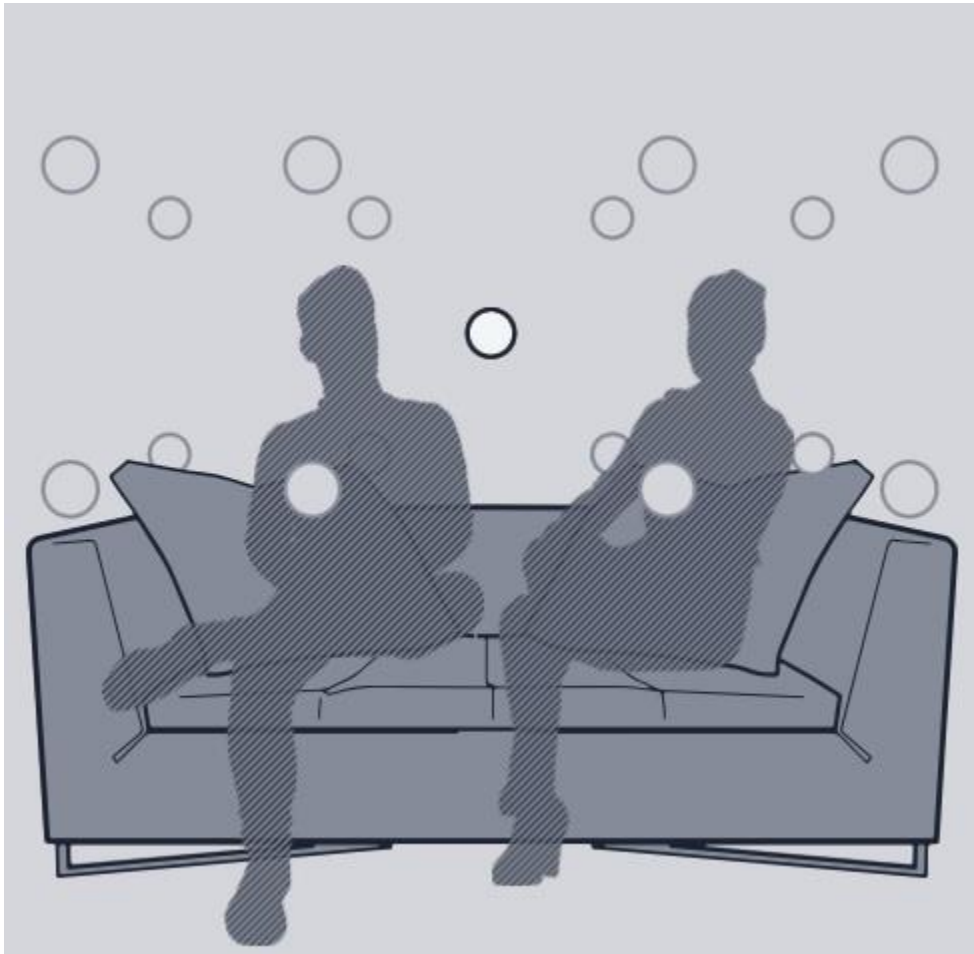
### **SOFA WIDE IMAGING**

You can think of it as small, medium or large room. For example, if you are calibrating for a dedicated theater, you will be choosing the "Sofa-Wide Image".

After you have selected your arrangement, on to capturing the measurements!

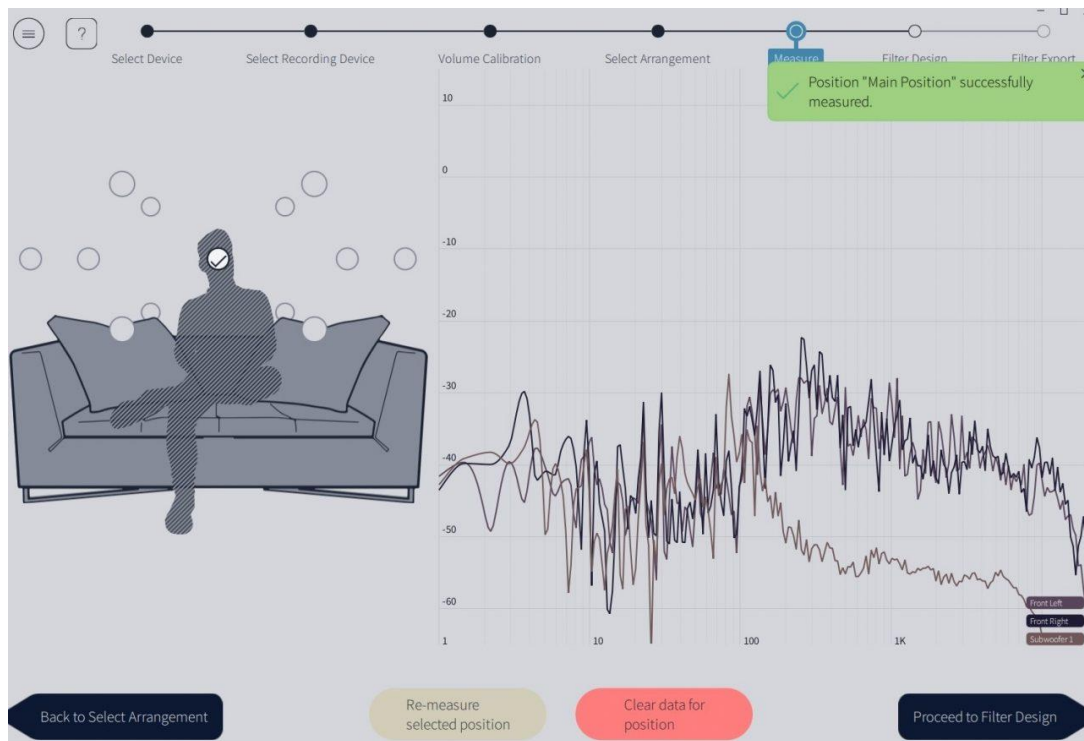
# MEASURE

We begin with placing the calibration mic in the "sweet spot" position. All mic positions after this will be referencing this position. The "sweet spot" is where the listener will be sitting the most. Center of the couch, middle row of a dedicated theater, etc...set at head listening height.

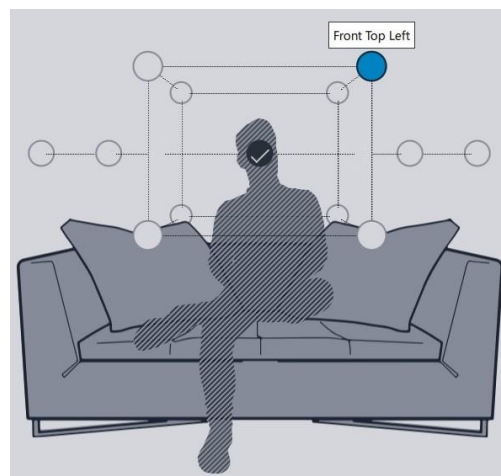


Once the mic is set in its position, click on "measure selected position" button at the bottom right of the screen.

Once the recorded pass is finished, it will then show the frequency response of that position to the right of the listening area.



You can then select which position to measure next by clicking on any of the white circles positioned around the shadow figure.



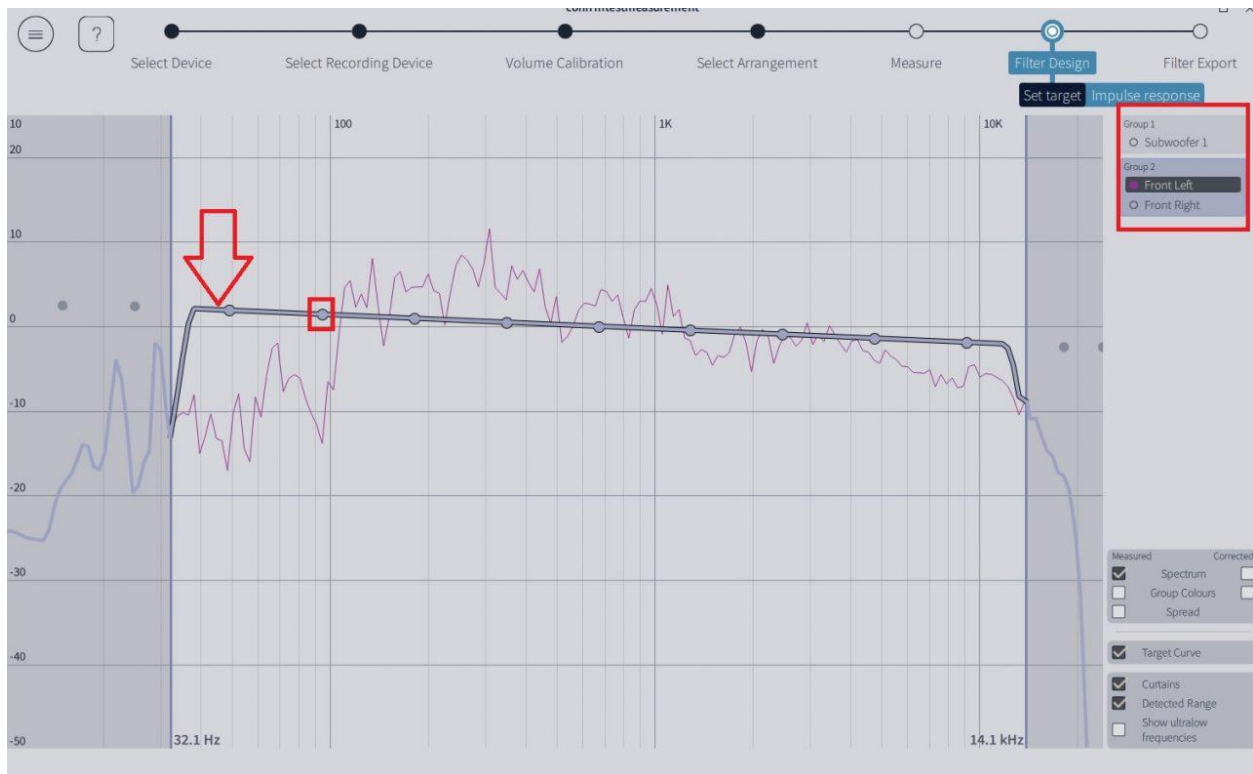
After recording all passes, it's on to Filter Design.

# FILTER DESIGN

The Filter Design section is where you will be able to review the frequency response for each channel and how it relates to the rest of the system.

The top right section of the window allows you to view different channels.

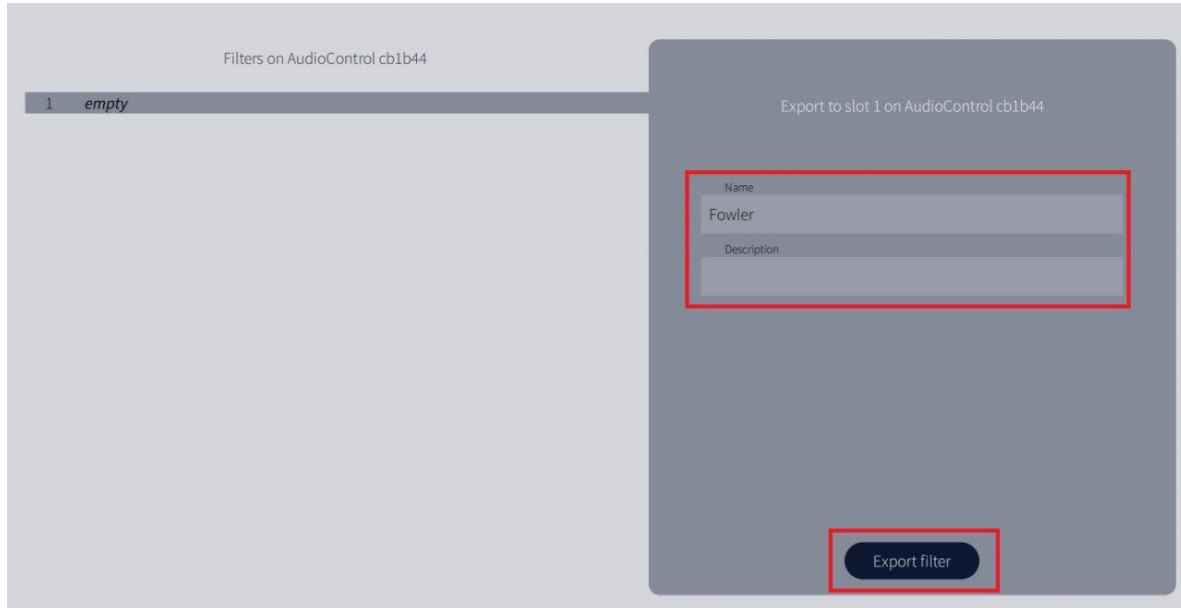
The gray line in the middle is the "target curve" that Dirac will calibrate to. The points along that line are user adjustable. We recommend first trying the default curve. It sounds great. After applying that curve and listening to the results, you can always go back and adjust the curve and reload onto the device.



Once you are satisfied with the curve, click on "proceed to filter export" for Dirac to create the curve

# FILTER EXPORT

By selecting "proceed to filter export" that triggers Dirac to create the curve. Once you see the screen below, Dirac is ready to take that curve and put it on the processor.



On the left there will be a slot labeled "empty". The AudioControl processor has one slot to put the EQ curve on. On the right hand of the screen, you can give the curve a name. Dirac auto fills the name thru some sort of random word generator. There will be a different name every time you get to this screen. Name the curve, and then click on "export filter".

This will take a few minutes. Dirac exports the curve thru the local network. Once it is finished, it will give a brief message saying it is done and then it will bring you back to the same filter export screen as if you didn't export the curve. There is no "Finished!" or "Success!" message. It can be a little confusing.

You are finished! Save the project and close Dirac. All that is left to do is turn to turn on the EQ curve via the AudioControl via the "audio" button.



- **\*\*\*\*\*SPECIAL NOTE\*\*\*\*\*** You will notice that there will be a volume difference between Dirac engaged, and not engaged. When Dirac is engaged, the volume will be lower. This is normal. This is due the increased energy requirement from the amplifier to conform to the applied Dirac EQ curve.
- **\*\*\*SPECIAL SPECIAL NOTE\*\*\*** You will need to manually engage Dirac for each input/source you plan on using. To turn on Dirac you will just need to press the “Audio” button on the HTR-2 remote that came with the AVR/M9. When engaged, the front display of the AVR/M9 will read “Room EQ On/OFF”