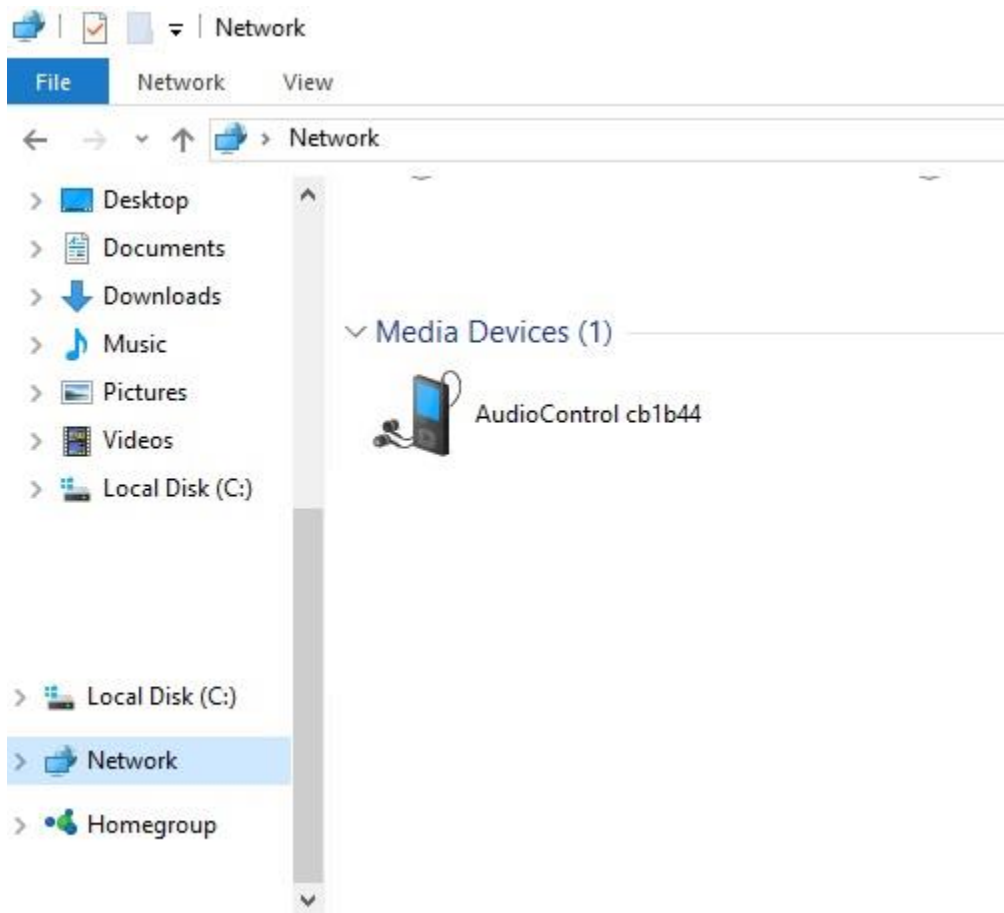


INITIAL SETUP

- Make sure your AVR 7/9 or M9 is connected to the same network as your computer. It doesn't matter if the computer is connected via hardwire or wifi, as long as its 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:



- It is good to note that you will not be able to access the amplifier this way. It's just a good test to confirm that the amplifier is on the network and the computer sees it.

- After you've confirmed that the amplifier is on the network and your computer sees it, you want to confirm the speaker configuration is correct in the amplifier. This configuration will dictate what Dirac will test for.
- You can check the configuration by going to the setup menu, select "speaker types"

Front Left/Right	Small
Center	Small
Surr. Left/Right	Small
Surr. Back L/R	2 Small
Height 1	None
Height 2	None
Subwoofer	Present-1
Crossover Freq	80 Hz
Dolby Speaker Crossover	--

Speaker Types & Subwoofer Setup.

- You also want to make sure that the control type within the amplifier is set to IP. Even if you will ultimately use RS232 for control, the amplifier needs to be set to IP control in order for Dirac to see the amplifier

Control enables or disables the RS232 control. If control is disabled, RS232 control can be used.

Control

- Off
- RS232
- 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's and Maestro M9 product pages.

-

RUNNING THE TESTS

- The first step should be connecting the microphone to your computer. The calibration microphone and the USB adapter should be included with the amplifier.
- We recently updated the type of microphone we ship with our Home theater products, so depending upon when you purchased the unit, it will have one of two types of microphones shown below.



-

- Make sure you connect the microphone to your computer BEFORE launching Dirac. You want to make sure your computer recognizes it as a valid audio source before you launch Dirac.
- Once you launch Dirac Live It will immediately start looking for an amplifier on the network:

AudioControl®

Dirac Live

Scanning for devices...

- System Config
- Mic config
- Output & Levels

System configuration

Initialising...

Test signal playback device

Rescan

Initialising...

- The AVR7/9 or M9 should be located within about 60 seconds. If it is not, the amplifier is either not on the same network or there is something in the network blocking communication. Dirac Live will quit after about 2 minutes of searching.

AudioControl®

Dirac Live

- System Config ✓
- Mic config
- Output & Levels

Recording device

Microphone

Recording channel

1

Microphone calibration file: AudioControl_AVRMicCal.txt

Load file

Clear

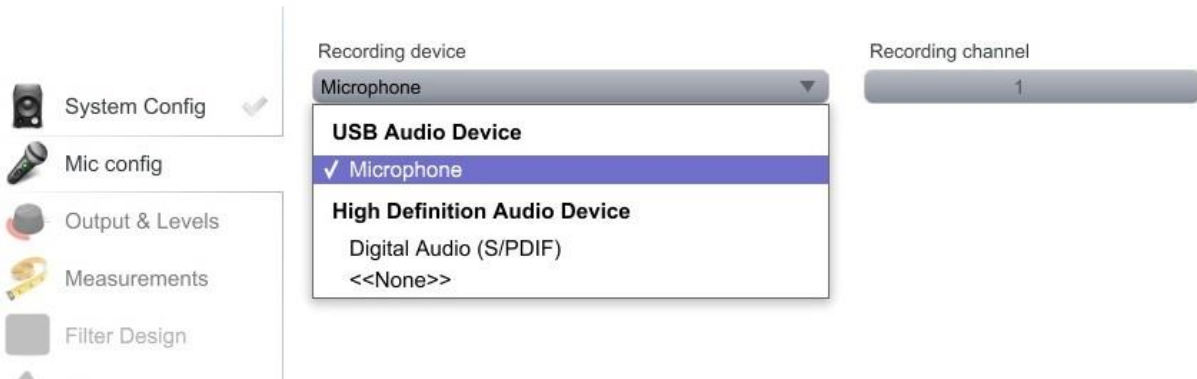
*******SPECIAL NOTE***** Only one computer running Dirac will be able to see the amplifier at one time. If you try to run Dirac on a different computer while another computer is connected, Dirac will not be able to find the amplifier.**

After it finds the amplifier, you will proceed to the Mic page

SPECIAL NOTE – DEPENDING UPON WHICH MICROPHONE YOU HAVE, IT WILL DETERMINE WHICH MICROPHONE CALIBRATION FILE YOU WILL NEED TO CHOOSE.

IF YOU HAVE THE SMALL ROUND STYLE MICROPHONE WITH THE SEPARATE USB DONGLE, YOU WILL WANT THE TEXT FILE LABELED “AUDIOCONTROL_AVRMicCal”. IF YOU HAVE THE NEWER ALL-IN-ONE CALIBRATION MICROPHONE, YOU WILL WANT TO SELECT “AUDIOCONTROL_AVRMicCal2”.

First, you need to select the microphone from the “recording device” drop down menu. It should look something like this:

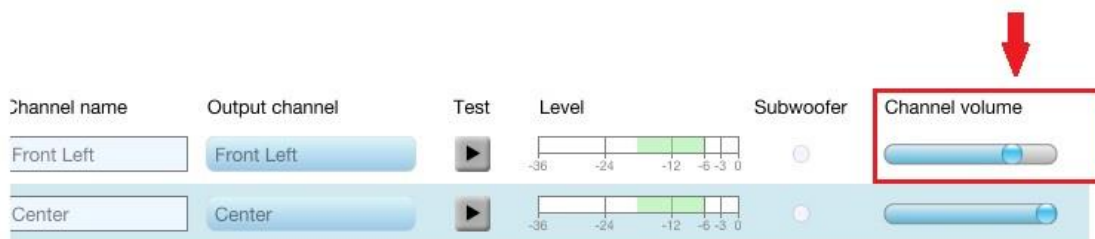


- After you have selected the microphone, you will need to load the microphone calibration file. It comes with the download of Dirac. Click on "load file" and it should bring you right to the file. After loading, it should look like this

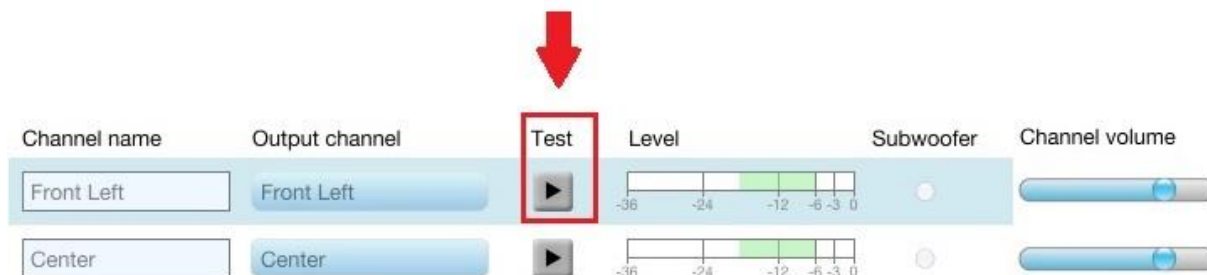


MIC CALIBRATION

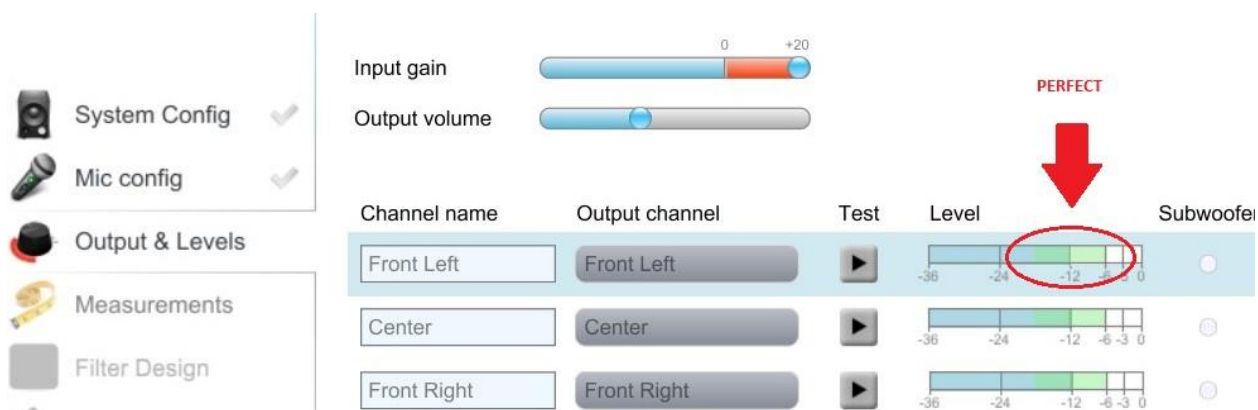
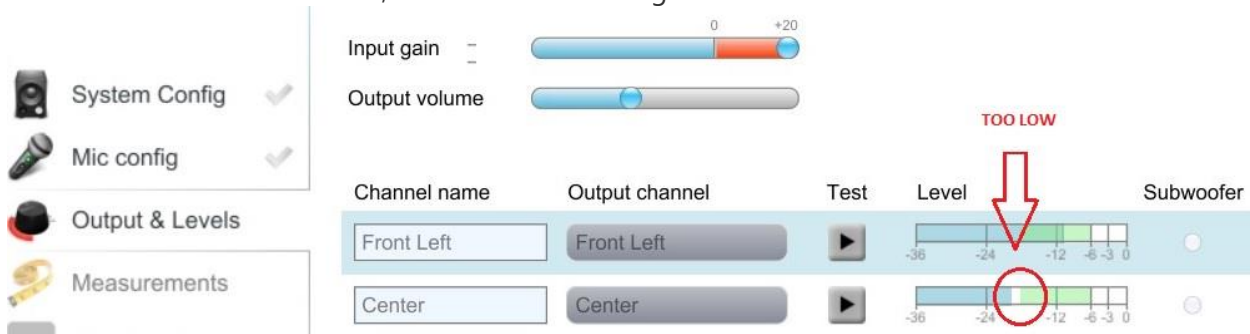
- Now it is time to calibrate levels. If you are using the same amplification for ALL channels, it should go smoothly. If you have 2 or 3 different amplifiers for your speakers, you may have to do some adjusting to get all channels in the green. Dirac has a certain way to adjust the levels, which is detailed on the right side of the screen in the Help column. Making adjustments via the steps below should make the process go quicker.
- ******SPECIAL NOTE**** During level calibration, it is strongly recommended to NOT adjust the input gain. The input gain adjusts the sensitivity of the microphone which could ultimately just make things more difficult for you. You should be able to get all channels calibrated in the green zone without having to adjust the input gain.*******
- First, back the channel volume off by a about 50 to 75%. We do this in order to give ourselves some headroom for fine tuning.



-
- Press the test button to start running the test tone thru the speaker channel.



- Take note of where the level is, it needs to be in the green.



- If you are just using the AVR for amplification, there is a good chance that all levels are relatively close in level. If this is the case, you can use the output volume to set all levels globally to get to the -12 sweet spot in the green zone.

- If you are using multiple amps, chances are the levels will be different. In this case, you can use the output volume to get the levels into the green, or close to the green.
- Then, use the channel volume to get to the -12 green sweet spot.
- After you have gotten all channels hovering around -12, it is now time to take measurements.

MEASUREMENTS

- *****SPECIAL NOTE***** The listening area must be quiet. No background noise, no tv or radio on in the other room, no traffic outside, etc...**
- The system will take 9 measurements from each speaker. When you proceed to the measurement section, you will be able to choose between three different listening areas.



-
- For this walk thru, we will choose sofa. Be sure to toggle between all three views to get a good sense of where the mic should be placed.



-
- First position – this is the most important. The mic must be placed in the primary listening position. All other measurements flow from this first test
- To start the first recording pass, just press the start button to the right of the screen:



-
- Follow the prompts at this point. It will tell you to run the test, then move the mic, then run another test, then move the mic etc.. the number of times you have to do this is defined by the number of speakers you have. It takes some time especially if you have a full 7.1.4 system.
- If you get an error – where there is a red spike in the recorded test sound wave, you will need to rerun the test for that position again. The red means the volume exceeded the testing threshold. You can make a very slight adjustment to the mic position or you can go back to the previous level setting page and reduce that particular channels volume.
- During the measurement, if you get a system dialog test error message, you should be able to just re-run the test for that particular channel. If you get one of these errors, typically it means there was a hiccup in the processing.

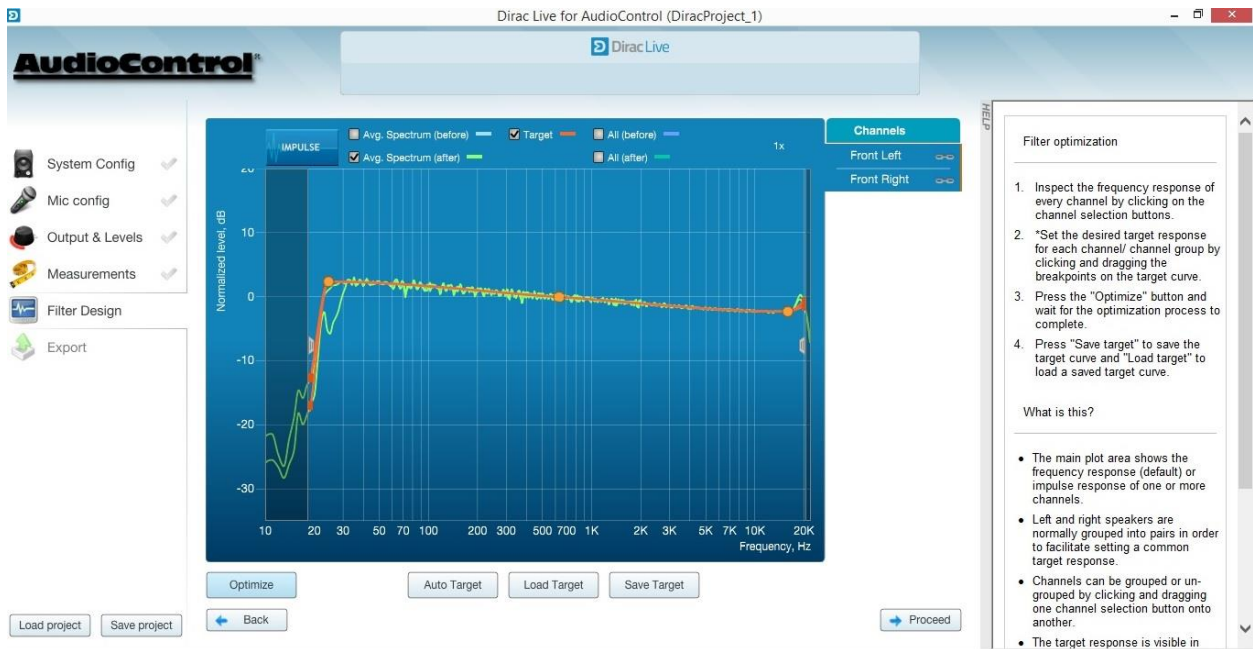
- After all 9 mic positions have been run. **SAVE YOUR SESSION.** This cannot be stressed enough. You will be able to name the file something specific. After you save the file, you could actually come back at a later date if need be and finish the calibration. If you don't save, you run the risk of losing the session and having to capture all the measurements again.
- On to the next section.

FILTER DESIGN

- This section shows a detailed illustration of the frequency response with the target curve overlaid. This target curve really sounds good. If you choose, you can certainly manipulate this whichever way you want – We highly recommend you try this curve first. You can always save this curve and come back to it later if you want to adjust the curve to your liking.



- The "Target" is the orange line. Which is to say, it is the desired EQ parameters of the target curve.
- To save the curve, you want to "Save Target". This will generate a text file that is saved to your computer. This will enable you, if need be, to come back to this screen at a later day and "Load Target" so you could potentially load this curve to another M9 or AVR.
- After you have settled on a curve, it is time to Optimize!
- Depending on how many channels you are processing, it could take up to 5 minutes or so to do all of them. When it is done, the finished graph should look something like this:



-
- We are almost done! Click “proceed” to get to the Export screen.
- It is now time to load the optimization onto the amplifier.
- You simply need to drag and drop the Dirac project onto the channels below.





- You're done!!
- You will be able to toggle between having the Dirac EQ engaged, and no EQ. You simply need to press the Audio button on your HTR-2 remote that came with the amplifier.
- *******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"