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Subject: Help with testing frequency response  
Posted by [jw67](#) on Tue, 16 Jul 2019 20:25:20 GMT

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Hi,

I need some help. I have built pi4 speakers with flanking subs-I am very happy with them, a great sound but I feel I may have over damped them. I would like to test them to see if that's the case. I have bought a Behringer ECM8000 condenser measurement microphone but I'm a little unsure of the best way to go about measuring frequency response. A lot of the information on the net assumes a certain level of knowledge which I don't possess.

Can someone please point me in the right direction, equipment required, best software, etc. I was under the impression that I needed a microphone and a laptop and some software -I was also told this by a not very knowledgeable web sales person on the phone. But I keep coming across phantom power and audio interface?? I'm not sure whether this is required if you have a laptop. Do you have to connect the laptop to the stereo?

Any help welcomed.

Thanks.

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Subject: Re: Help with testing frequency response  
Posted by [Wayne Parham](#) on Tue, 16 Jul 2019 22:28:52 GMT  
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You'll need a sound card that supports that microphone and some measurement software. I doubt your laptop can connect that microphone, so you'll probably want to buy a USB device that acts like a sound card having analog-to-digital and digital-to-analog converters and amplifiers built-in. Several have microphone inputs like you need that provide the right connector and 48v "phantom power" for that microphone. Your microphone manufacturer makes such a device, for example, the UMC404HD. They actually make a lot more than just that device, but it's a simple stereo unit that I've worked with.

As for software, there is a lot of shareware and freeware out there that you can get started with. I personally run WTPPro and LMS, and neither is free. So I can't personally recommend any of the freeware/shareware products from personal experience. But I can say that there are a lot of passionate individuals and small teams that have written software for acoustic measurement, so there's a lot out there to choose from.

Start by buying a USB sound card. Then do some searches for acoustic measurement software that you can download and try. Once you get started, report back and we'll help keep you moving forward.

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Subject: Re: Help with testing frequency response  
Posted by [jw67](#) on Wed, 17 Jul 2019 15:16:10 GMT  
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Thanks Wayne, you're a star. I have ordered the sound card and do as instructed and will report back in due course.

Thanks again.

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Subject: Re: Help with testing frequency response  
Posted by [positron](#) on Tue, 02 Jun 2020 04:04:36 GMT  
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JW, I often use really well recorded selections to check response, naturalness, dynamics, damping etc. Here are just a few selections I have found that might help you and others.

The first is a percussion recording. I found it extremely natural, amazingly good.

<https://www.youtube.com/watch?v=B7lab-AC3Dw>

Higest C piano note.

<https://www.youtube.com/watch?v=WmQer6N10aM>

Lowest A piano note.

<https://www.youtube.com/watch?v=HEjn2qZuPU0>

Hope this helps.

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