Subject: Are there any good books about audio measurement?
Posted by AdrianG on Thu, 27 Oct 2011 02:23:43 GMT
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Is there a good book out there about this subject that you would recommend for a beginner? I found one online called An Introduction to Video and Audio Measurement, by Peter Hodges. Based on the description it looks decent, but the focus seems to be more on the video side of things.

Subject: Re: Are there any good books about audio measurement?
Posted by Wayne Parham on Sat, 29 Oct 2011 21:19:36 GMT
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Acoustic measurement is not a casual topic. It may appear to be on first glance, and since measurement gear has become increasingly affordable, lots of people are able to make rudimentary response measurements. I think that's a great thing, certainly helps the DIYer move a step closer to perfection. But it also lulls many people into a false sense of security - or more often into an overexaggerated sense of panic - since just about anyone these days can afford measurement gear, point the microphone and manage to get a chart of some sort. The real trick is knowing where and how to setup and what to do to get meaningful data that is useful.

Still, here are a couple of good books to get you started:
Acoustic Measurements, by Leo Beranek
Testing Loudspeakers, by Joseph D'AppolitoBoth these books are somewhat dated, particularly the book by Beranek. There have been new techniques learned since those books were written, largely as a result of the digital age and the ability to easily use new signal types. I wouldn't really say there has been a lot of new discovery though, so the basic concepts they describe still apply.

The most important thing to realize when making measurements is you have to understand the thing you're looking for well enough to know how to test it. There are a lot of issues that can trip you up. You need to understand basic acoustics, or you cannot know what to watch out for. So study acoustics first.

Subject: Re: Are there any good books about audio measurement?
Posted by AdrianG on Tue, 15 Nov 2011 06:02:27 GMT
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Thank you for the advice on both the books and the proper approach to this. I wasn't intending to take the subject lightly, but I appreciate your perspective on how to get started in a productive way. I'm the type of person that likes to have a good book for reference in anything I pursue, so I'll look into getting one of those books when I get a chance.

Subject: Re: Are there any good books about audio measurement?
Posted by Fannie on Thu, 03 Oct 2013 18:06:13 GMT
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Wayne Parham wrote on Sat, 29 October 2011 16:19
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I found a free download of Acoustic Measurements by Leo Beranek. I have not downloaded it yet so I am not sure that it is the complete book.

http://archive.org/details/acousticmeasurem00inbera

Subject: Re: Are there any good books about audio measurement?
Posted by gofar99 on Thu, 03 Oct 2013 22:48:14 GMT
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Hi, I highly second Wayne's thoughts on all the pitfalls of audio measurement. Over the past few years I have discovered that in audio (sound) measurements everything in the entire room and signal chain matters. Additionally how you measure is a huge factor. I use a PC and calibrated microphones but even then they don't give the whole picture. Just envision a very bumpy road and it will give you an idea of what the readouts look like. They can give you some clues to what needs changing, but my experience is that the final verdict is dependent on your ears.

Subject: Re: Are there any good books about audio measurement?
Posted by HearForYourselfAudio on Fri, 26 Feb 2016 01:55:05 GMT

I agree with the previous comments about both the books and the pitfalls of measuring in a listening room. I find that gated measurements are the best way to eliminate room effects. In my impromptu rig, I actually go outside. I take my speaker and place it on the top of a step ladder. The mic is then set a meter away. A 12 ft (3m) ladder gives you reflection free measurements down to roughly 100Hz. That should be good enough for crossover design purposes. Low frequency performance can be made using a ground plane technique, which can then be spliced with the "gated" data. This technique is outlined in the books mentioned.