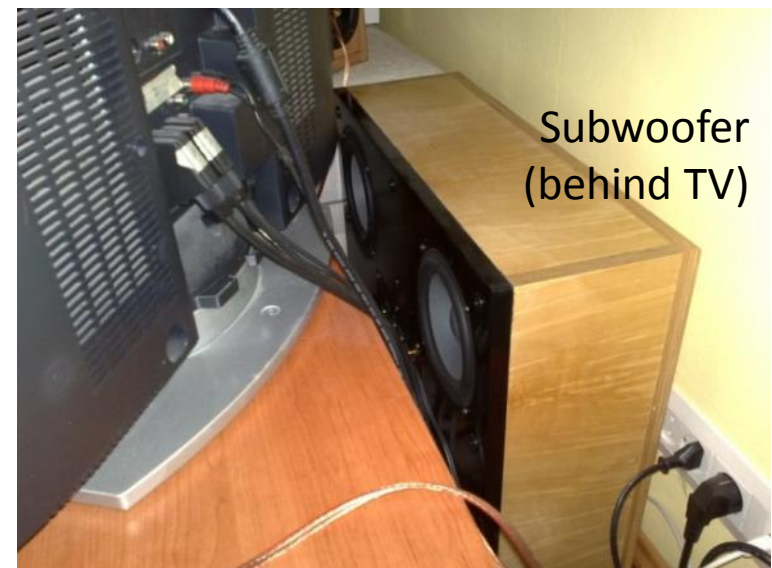
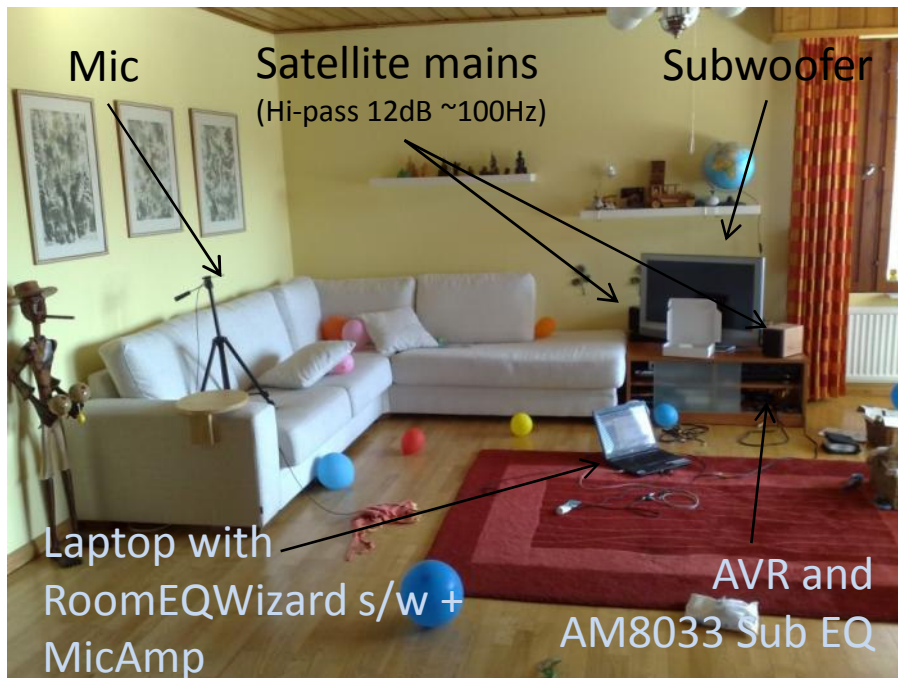


## Measurements: Anti-Mode 8033 subwoofer EQ and my living room - May2009

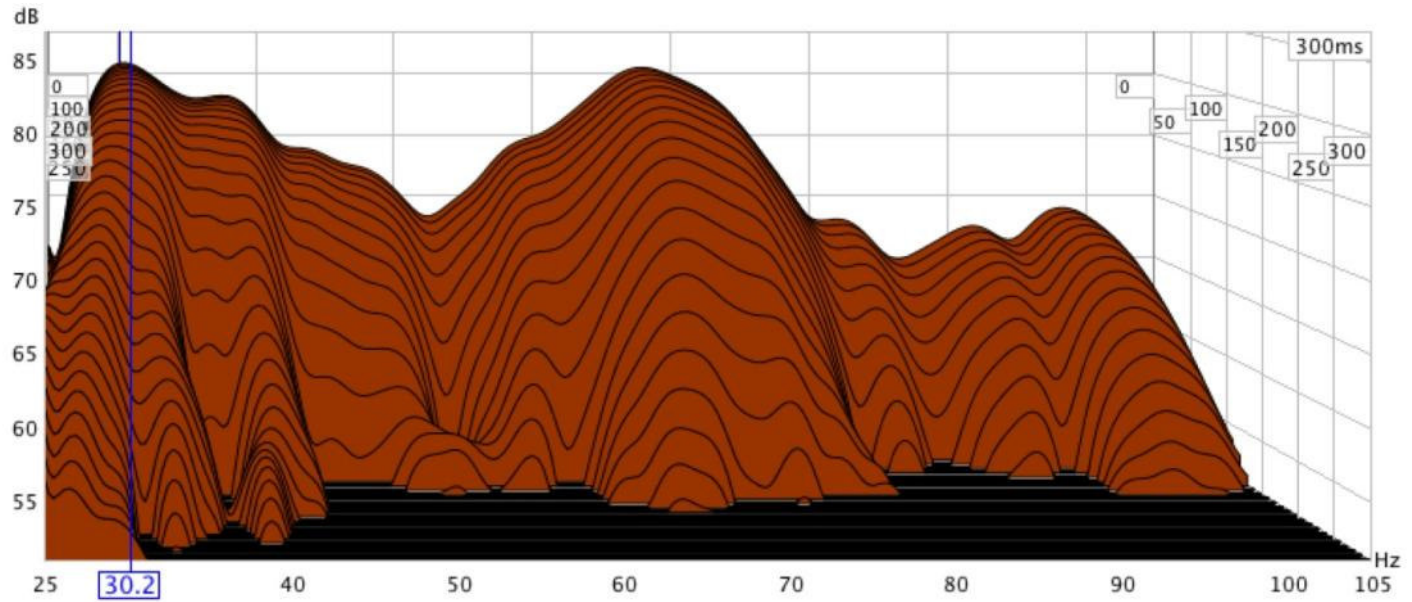
### The setup: My living room.

- Microphone on ear position
- During calibration sub's low-pass "open" = 180Hz
- The room is relatively big (50m<sup>2</sup>) and has relatively soft walls (wood and Cyproc panels). Which should give relatively small problems with room modes.
- On the other hand listening triangle is anything else but perfect as you can see, and subwoofer is hidden behind TV. (This is my "second" sound system which I only use occasionally for TV & with relatively low SPL.)
- AVR is very old and very basic without any fancy features .

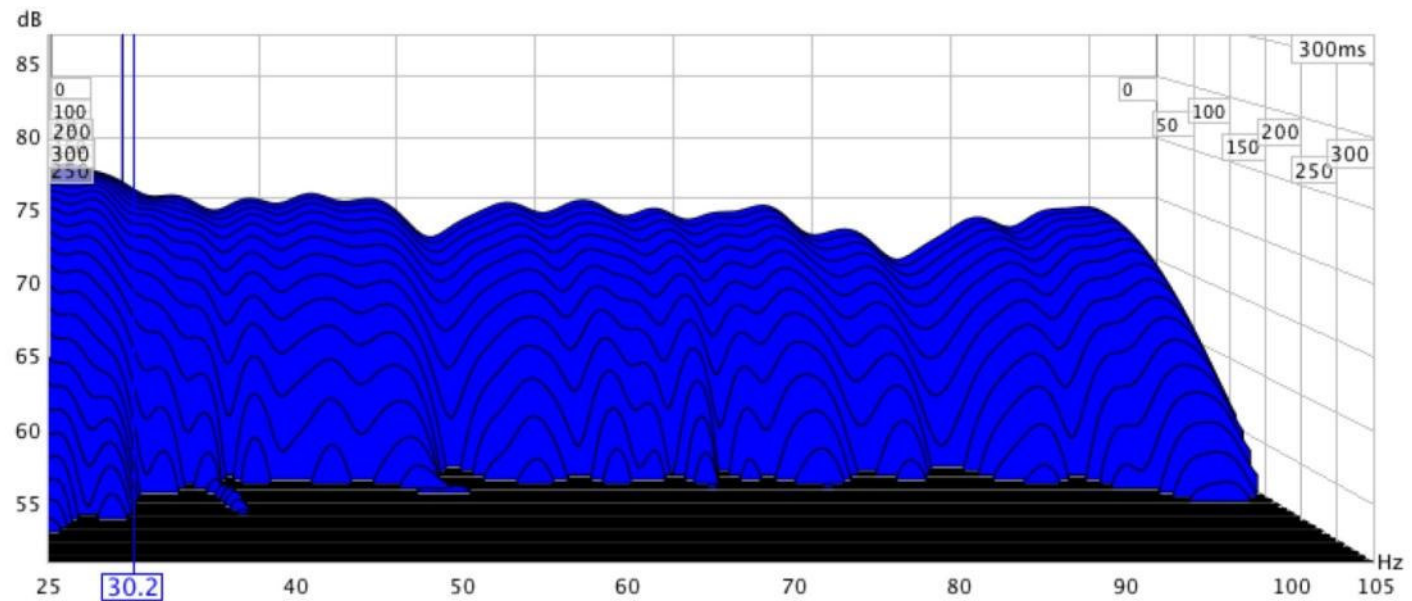


# Measurements: Anti-Mode 8033 subwoofer EQ and my living room - May2009

Uncorrected  
room response  
(measured AVR subwoofer  
signal, X-over approx 100Hz)



Room response  
corrected by  
AM-8033  
Subwoofer EQ  
(measured AVR  
subwoofer signal, X-over  
approx 100Hz)



## Measurements: Anti-Mode 8033 subwoofer EQ and my living room - May2009

Additional notes:

First I had some trouble getting optimum result because I used too low subwoofer volume for calibration. Well, my sub is small and I did not dare too much initially. Correction was there but not as good as in final result, after I had turned it up a bit more.

My small subwoofer produces only down to approx. 25Hz, and only with relatively low SPL. But it also has the advantage that it is almost invisible and no cables dangling around. Enough for my purpose – this system is not intended for concentrated music listening.

Since calibration is really simple (just press button and wait) I also tried AM8033s "Multipoint Calibration" a bit. It extended my "acceptable" listening area to several meters, though correction efficiency was slightly less optimal. Since I usually sit in same place when watching TV, and Single-Point calibration brought no notable degradation when changing my seating position (or moving my head) a few tens of cm, single-point calibration works definitely best for me.

Just to doublecheck, I made similar measurement also including the mains speakers, to see how the AM8033 blends in. To put it short: It has no negative impact whatsoever, response nowhere gets worse than before and the AM8033 smoothly decreases correction effect towards AVRs X-over. Which is as expected: "relative" signal correction.

In this trial I could also see why correction above 100Hz makes little sense: Narrow dips ("combing") in these frequencies higher than about 100Hz did become clearly position-dependent in my room: I got notable changes of these narrow frequency response dips above 100Hz already for few cm difference of microphone position. Then it makes no sense to equalise such locally unpredictable room response >100Hz anymore. It is not relevant anyhow – AM8033 equalises only the subwoofer signal path, and my AVR cuts off around 100Hz.

What came really well visibly in this measurement: AM8033 correction not only gives huge improvements in frequency response, but also time domain is greatly improved. (Compare the waterfall graphs decay.)

Naturally the crossover and subwoofer volume still must be tuned correctly with respect to mains volume (with or without AM8033). So after calibration, subwoofer volume needed to be lifted by few dBs since disturbing room modes are now greatly reduced. Now ALL bass frequencies can be heard and distinguished.

About DSP delay: According to the manufacturer the Antimode filters' delay is just few ms (resp. 90cm distance) which is very small value. In practise, it is not audible by my ears and brain, I tried very hard. Most AVRs nowadays allow to compensate up to several 100ms, but for the AM8033 it is not really needed.

⇒ **The effective "Sound Upgrade" is huge. Even with my very basic sound system I can now enjoy clear, dry bass in my living room without any other drawback. Less than 300 Euros investment, and no renovations or moving of equipment needed.**

⇒ I can sure recommend the AM8033, it is **excellent value for money!**

Jörg Linke, UPGRADE-SOUND, 29-May-2009.