
Subject: Interesting discussion on Audiogon , Wayne, your thought?

Posted by [Lmasino](#) on Tue, 16 Jul 2002 11:10:25 GMT

[View Forum Message](#) <> [Reply to Message](#)

What happens when you put 20 Hz. into a speaker that rolls off at 40 Hz. is simply this: the cone moves a lot, there is some second, 4th, etc. harmonic reproduced, your amp works hard and may have reduced headroom if this coincides with a peak. MOST speaker systems do NOT have significant output below 40 Hz. Period. In order to produce bass below 40 Hz. you need a few things that most speakers can not and do not have. That is in specific enough surface area & excursion to move the required air, which also requires a LARGE cabinet size. It is true that you *can* make a small speaker that will have output that low, but it will NOT be able to have normal levels of sensitivity or output, or else it will have output below 40 Hz. that is WAY down from the midrange level. So, in practice, most speaker systems are not able to do much below 40 Hz. In practice, sorry to report, most have difficulty making it all the way to 40 Hz. 20 Hz is usually out of the question. There are some exceptions in this regard, but they are rather few and far between. Many that advertise output in this region do not produce much usable bass unless they are set up in a particular manner or room position/volume. With the advent of the latest crop of high power handling/long linear excursion woofers we can expect to see much better bass response and lower F3 points in commercial speakers in the near future... but the price for this is the need for POWER on the amp end (and in the case of sealed cabinets, EQ AND POWER). To a great extent, this reality is the basis for the existence of a market for what we call "subwoofers." _ _ -bearBear 07-14-02Bear, there is only one full range speaker that I know of that can effectively go down below 40hz... K-horns. You don't need subwoofers when using K-horns. These full range speakers can easily handle organ notes down to 32hz. Around this point you no longer hear sound, you feel it in your chest. If speakers can handle frequencies below 40hz, you will be able to tell the difference in pitch between each frequency. This can not be done with speakers rated above 40hz. Some have raved about LaScalas' deep base that can go down to 45hz. I have both pairs of the above speakers in my system. Trust me when I say that the K-horns can run rings around the LaScalas... even though they both use exactly the same 15 inch bass driver. What makes the difference is the folded horns inside the cabinets. You can not fight the laws of physics. Larger horns will create a deeper bass than smaller horns. It is possible to have two smaller 12 inch woofers develop bass notes down into the 20s with the proper horn cabinet (much below the range of the K-horn). This is the principle of the soon to be released Klipsch Jubilee (home version). Because of their high efficiency, K-horns only need 100 clean watts to produce 120db of earth shattering 32hz sound. Expensive high wattage amps are not needed to produce deep clean bass.Redwoodgarden 07-16-02