Subject: Impeadance of Pi speakers using 1.6khz crossover
Posted by spkrman57 on Fri, 29 Nov 2002 13:07:04 GMT
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Wayne, In a previous discussion we had regarding JBL woofers and SET amps, you mentioned that the impeadance of Pi speakers above 1.6khz was approx 20 ohms (not counting Studio 1 and 2 systems with piezos). If I am using 16 ohm 2226J driver on the bottom end of 4 Pi-pro, (I am currently using basically stock Dynaco ST-70) and using the 8 ohm taps. The reason I ask, is the sound on my ST-70 is not as full-bodied as when I run the same speaker system on SET's my friends have brought over, and we have run the 8 ohm taps, I am wondering if maybe with the ST-70, I should use the 16 ohm taps. The really surprising thing to me, is that the SET's sounded fabulous, while the Dynaco just gets by, specially on the bottom end. I will change this when I get the chance and see what happens. I would like your opinion on this matter in the meantime. I have also found out that when I wanted to show someone what a Altec driver/horn sound like, I have disconnected the JBL driver in my 3677 cabinet and just connected up the crossover to the Altecs, even with the Altecs being 16 ohm, they just blew away the 2418 JBL driver on the high end, and did not need to change any crossover parts. Used 806A on 811B. I do know the 2418 JBl driver is cheap version of 2425 and it shows, all in all, the price is right and I use the JBL horns mainly for my solid waste systems, Altecs love tubes (and in my opinion, tubes love the 2226J model JBL woofers. Regards, Ron

Subject: Re: Impedance of Pi speakers using 1.6khz crossover
Posted by Wayne Parham on Sat, 30 Nov 2002 05:00:59 GMT
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You could certainly try different taps, because the system does exhibit increased impedance from 1.6kHz up.But then again, it is 8-10 ohms through the entire midrange region and only rises as frequencies enter the overtone region, with two small bass resonance peaks below 100Hz.

Subject: Re: Impedance of Pi speakers using 1.6khz crossover
Posted by spkrman57 on Sun, 01 Dec 2002 10:21:36 GMT
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Wayne, The part maybe you looked over when you said the midband is mostly 8 ohms would be with the 2226H, I am using the 2226J (16 ohm version), By the way, I swapped to the 16 ohms taps, swapped out the solid waste preamp and back with the Dynaco PAS. and everything started sounding good again. I will look into a Foreplay preamp instead of the Dynaco for the future. So, recapping this lessons learned for me, the JBL 2226J (16 ohm) with standard 1.6khz crossover(which is around 20 ohms, right Wayne) does do best on the 16 ohm taps. On the Paramours though, use of the 8 ohm tap for the same setup yields best results.By the way, TillE

will be doing some woodwork for me and so he will have either a pair of 811B or 511B horns, and a pair of 806A drivers to put on them. I can't wait for him to put that together!!! Take care all, Ron

Subject: Re: Impedance of Pi speakers using 1.6khz crossover
Posted by Wayne Parham on Sun, 01 Dec 2002 16:40:55 GMT
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You're right that I was thinking of the JBL 2226H when I mentioned 8 ohms impedance through the midrange. That's the part I normally use, so that's what I was thinking about when I made my reply. Since you're running a JBL 2226J, your impedance averages 16 ohms.

Subject: as measured my quasi-4 Pi hf z
Posted by Sam P. on Sun, 01 Dec 2002 17:18:28 GMT
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stays between 9.0 ohms at 1.5kHz. and 7.1 ohms @20kHz. And the z is basically flat across the entire region...drops from the 9.0 ohm/1.5khz. down to 8.2 ohms/3kHz., then SLOWLY decreases to 7.8 ohms/10khz., and 7.5 ohms/15kHz. More or less 8.0 ohms +/- 1 ohm...as flat a load across a wide freq. range as you could reasonably expect, and a TUBE amp would be happy as hell with it, CONNECTED TO THE 8 OHM TAPS... I've often wondered what would happen if you took the wires hooked to an 8 ohm HP xover and hooked them to the 8 ohm taps of the tube amp...THEN take a set of 16 ohm LP xover input leads and hook them to the 16 ohm taps...then at high freqs the amp would have the proper load reflected to the plates, as well as at the lower freqs??? Outside the pass band of the respective xovers, wouldn't they be appearing to the output transformer terminals, and the plates, as a really high z...and not be influencing the plate voltage/current(much!). Personally, rather than force a tube amp to accept a load that varied so much between the LF and HF, I would "throw away" some of the hf efficiency(3dB) by adding a resistor either in series or parallel as needed so its(hf driver) z would match the woofer, then build the appropriate xovers for that desired z with the HF and LF the same. Otherwise, you are GUARANTEED to be causing the TUBE amp to have both "output voltage variations and higher harmonic distortion" in the frequency region being reflected as the wrong z to the output stage. Samarggg, gotta run, wife is cranking up "Violent Femmes" in the other room using the McIntosh MC-240 tube amp and 4 Pi's...sounds like I'm missing out on a party:)

Subject: Re: as measured my quasi-4 Pi hf z
Posted by Wayne Parham on Sun, 01 Dec 2002 19:36:16 GMT
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Some of 'em aren't quite as high as 20 ohms. The 8dB and 10dB versions, for example, present a slightly lower impedance than the 12dB and 14dB versions. And really, even the 14dB unit only presents about 15-17 ohms at its maximum, depending on the driver used. There's a smaller shunt value and higher series value in the 8dB and 10dB assemblies, so their load is even a little closer to the 8-10 ohm range. But I still like to point out that impedance is slightly higher than some might expect due to the compensation circuit.I can't recall which cable assemblies you're running, or if yours are different. But the load impedance is pretty easy to find, it's a simple circuit.