Subject: Connecting Multiple Speakers to One Amp Channel
Posted by granch on Thu, 01 Nov 2007 04:06:43 GMT
View Forum Message <> Reply to Message

Consider the frequent situation of driving multiple speakers from one amp channel. Assume a typical amp with high power and low internal output impedance. How best to connect the speakers. For simplicity lets assume 4 speakers each of 8 ohm nominal impedance. There are 4 possible ways to connect them so they all receive equal power from the amp. 1. all in series, total impedance 4x8=32 ohms. 2. Series parallel: two pairs in parallel hooked in series. 4 +4= 8 ohms. 3, two in series (16 ohms) in parallel with the other two in series. total impedance 8 ohms. 4. All 4 speakers in parallel, impedance 2 ohms. Theoretically, these 4 ways should sound different because the load each speaker sees looking back to the source is different in each case. They should differ in inverse order: #4 being best, #1 being worst. In case 4, each speaker sees the amp in parallel with all the other speakers. Since the amp is practically a constant voltage source, the speakers should not affect each other, In case 1, every speaker sees the other three in series with the amp as a source, so that the effect of each speaker can influence all the otyhers and the damping effect of the amp is ineffective on any of them. The other two cases are in between in their mutual interfering (impedance-wise). SO the question is Does This REALLY Affect The Sound (other things being equal)? It should, but does it? I never see this mentioned. e.g. by the array speaker people. Since they are usually talking about baby amps with no feedback, their amps should have relatively high internal impedances. Effect should be different, but similar. How about it you experts?-Dick