Subject: esafono
Posted by stee on Sun, 10 Jul 2005 15:00:20 GMT
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ESAFONO a brand new idea about audio loudspeakers HOW TO CREATE COMPLEMENTARY AUDIO DEVICES(that text is traslate by a software from http://www.audiocostruzioni.com/a_d/diffusori/esafono-stefano/esafono.htm)Diffuser two ways particular Who has built it Stee Particular characteristics A very particular patented system Stee has had a really interesting idea, that could have really of the good results..... not you the time to be able to listen to the result to judge it Good morning I propose you a novelty audiofila: THE COMPLEMENTARY COUPLE we take two identical loudspeakers... reversing the polarity of the magnet on the first loudspeaker connecting it to the second in antiparallel or antiseries, we will get an answer of the cones in coherent phase, with the advantage to demolish the strength inverse elettromotrice that inevitably, for reaction, it produces him in the single spools result: smaller distorsion TO DO IT: a loudspeaker that easily gets off him take I have chosen the CIARE CW171 in symmetrical configuration to understand better you look at a page of the catalog www.ciare.it it deals with getting off the fondello with three brugoles, then to get off the nucleus, simply rotating him/it, it is screwed. the tablets to the neodimio must be capsized (there is no gap width) on the central ring (polar expansion) the tuttosi is reassembled it will connect to his complementary with the sign + to the place of the - (to mark it with a pencil) non cares better if in parallel or in series the spools stir in phase as the cones IPOTETIC THEORY:The Strength back-emf lives magnetic opposite however it produces a strength back-emf (phenomenon a neglected pò, is the reaction of the trasduttore) that it is confused of 180° in comparison to the complementar they escape, it deals with the principle of the double denied very exploited in the tools that I mend (differential transformer) the best linearity and the consequent demolition of the emphasis it is due esclusivamnete from the fact that these two EMFs are absolutely symmetrical (unlike the push-pull where the cones are inverted) don't I have ever made measures I have idea that deals with a 6-7% of linaerity in more THE DIFFUSER: made the complementary couple, we will connect her/it in series (cars are component) 8ohm instead the tweeter CIARE HT320 (home) dimensions: height 90 (more 5cm of footsies industrial antivibranti in rubber conica=95) width 25 depth 34 litraggio: 50 lts (2xVas tot) reflex diameter 80 varying length mod. Monacor 45° installed to the base birch tree multistrato 25mm the mask that surrounds the loudspeakers is 5mm MDFs painted distance among the centers 15cm height earth Tweeter 76cm classical filter 2,8 KHzes 12dB/oct (you see the photo of the sketch) vaschetta pin bi-wiring RESULT: the sound of the Esafono is very similar to the systems isobarik (you see project CIARE TOWER 4 Streets) with the advantage to be more suggestive to the tall volumes of listening and to clearly cost less
http://www.audiocostruzioni.com/a_d/diffusori/esafono-stefano/esafono.htm

Subject: Push-pull woofers
Posted by Wayne Parham on Sun, 10 Jul 2005 23:01:35 GMT
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Some call this configuration push-pull, and you're right, it reduces harmonic distortion by

counteracting flux modulation. Drive units are used in complementary pairs, cancelling any asymmetries in an individual drive unit in the summed output. Essentially you have a strong motor and a weak motor on each half cycle. On each contiguous half cycle, the strong one and the weak one flip.Shorting rings in the motor structure correct for this too. It appears to me that the shorting ring works best at higher frequencies and the push-pull arrangment works best at low frequencies. At high frequencies, the distance between push-pull configured drivers is too great, and pneumatic coupling is reduced. Wavelength related issues come into play. At low frequencies, the ability of the induced EMF to counter the magnetic asymmetry is reduced unless the shorting ring is very large. And to make the shorting ring large requires more magnet and more magnetic return circuit material to be used, so the size grows out of hand. It's an issue of diminishing returns. So I think push-pull is best for subwoofers and shorting rings are better for midbass and midrange.

Subject: Re: Push-Push woofers
Posted by stee on Mon, 11 Jul 2005 16:54:21 GMT
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That original (Push-pull) configuaration was create to balancing the asymmetry of "cedevolezza" between two direction of cone.Now this method (named Push-push) have another object to balance: the engine.The engine of transducers is in any case unbalanced,there is really a system called tandem dual coils of Velodyne, but is different because works like a B class amplifier.

Subject: Re: Push-Push woofers
Posted by Wayne Parham on Mon, 11 Jul 2005 22:52:06 GMT
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Velodyne uses dual voice coils to improve symmetry electro-magnetically, sort of like the way the shorting ring does. They also use a servo feedback loop.The push-pull method is used to make pneumatic symmetry by using two drivers as conjugates. In one direction, the magnet attracts the voice coil and in the other, it repels. With two push-pull mounted drivers, on each half-cycle, one will be a little stronger and the other, a little weaker. Together, the force is the same.The concept of inverting the magnet and the voice coil polarity is interesting. It would appear that you're trying to do the same thing - The idea being to cancel harmonic distortion using a conjugate pair. Sounds like a very good idea to me.

Subject: Re: Push-Push woofers
Posted by stee on Sun, 16 Oct 2005 20:04:30 GMT
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helloI have make some measure with Clio System between classic and reverse configuration:the results confirm a big difference in linearity for third of octave and also in phase rotation!Try to beleve.