Subject: Pictures
Posted by Adrian Mack on Thu, 22 Apr 2004 11:45:30 GMT
View Forum Message <> Reply to Message

Sorry that its a crap quality :P You get the idea anyway, for any of those that remember me building these! I was finishing up the bits and pieces today, so I can honestly say the ONLY thing left to do is the finishing :d oh... and casters :p I show only 1 of the towers in the photos, both towers are at the same stage though. I still need to figure out a way to secure the midrange horn while keeping it removable.

Subject: Re: Pictures
Posted by GrantMarshall on Thu, 22 Apr 2004 12:36:07 GMT
View Forum Message <> Reply to Message

Looks great Adrian. How do you find the soundstage and when comparing are you using the 2 way Pi speaker as a reference?I've been playing with this idea the last few nights and am thinking of putting the midrange in a seperate cabinet on top of the corner horn (Pi 7 model) instead of the middle. 2 cabinets would keep size down and the top box shouldn't be too heavy. I have the high frequency right at the top of the current box which would keep the drivers physically close.Wayne was mentioning you did the math for the 6 inch driver. What dimensions did you end up with? Your midrange looks squarer than Waynes plan. Did you change the dispersion as well?Thanks in advance.Grant.

Subject: Re: Pictures
Posted by Adrian Mack on Thu, 22 Apr 2004 13:28:47 GMT
View Forum Message <> Reply to Message

Hi GrantThanks for your comments! Actually, I havn't built any of the Pi Speaker models, so I can't compare to that. I started planning this project about a year ago and was deciding between one of the 4 Pi bass reflex models, or going ahead with my own 3-way design employing a midrange horn. I choose to go with a midrange horn for all the common reasons. Anyhow, the driver I used is the Eminence Alpha 6. I did a number of different conical prototypes and also a tractrix prototype. The horn I did is conical, 28.7cm long, 1083cm^2 mouth, 50cm^2 throat, 3L rear chamber. No extra front chamber volume. Dispersion is 60 by 40 deg. It's within +/- 2.5db from 300Hz to 2KHz. Getting the size very small but still covering the bandwidth required with high efficiency was the goal. > I've been playing with this idea the last few nights and am > thinking of putting the midrange in a seperate cabinet on top of > the corner horn (Pi 7 model) instead of the middle. 2 cabinets > would keep size down and the top box shouldn't be too heavy. I > have the high frequency right at the top of the current box which > would keep the drivers physically close. So that would put the HF horn in the middle, yes? I suppose that could be done, if the HF horn is

at ear level. Usually the HF horn would be on top, MF horn in middle and LF horn on bottom though, it generally would sound better that way (LF and MF combine with less interferance, and less spread out in time). Picture of final midrange horn.Adrian

---

Subject: Re: Pictures
Posted by Wayne Parham on Thu, 22 Apr 2004 14:45:38 GMT
View Forum Message <> Reply to Message

Those are really great looking speakers, Adrian! Just super!For mounting the midhorn, you might use a wood brace made of 2x4 wood stock. Cut it with a beveled edge so that the horn sides are flush with the bracket. This way, the horn can be attached with screws and removed from the front if needed.

Subject: Re: Pictures
Posted by ToFo on Thu, 22 Apr 2004 20:33:47 GMT
View Forum Message <> Reply to Message

Hello Adrian,Yowzers, I hope your neighbors... er, neighborhood aproves of your taste in music :)Very nice indeed!Thomas

---

Subject: yummy! *salivates*
Posted by Mike.e on Fri, 23 Apr 2004 01:14:05 GMT
View Forum Message <> Reply to Message

Finally!your new cheap-ass cam is better than ur old one thats for sure HAHADo the batteries lastlong? no digi cams ever last long.my new kodak even uses them in no time,+ u cant transfer the pics if the batteries die even tho USB shud power it :Pul be so pleased when its finally completed :-)then u can start ur 18" horn ;-)im abit worried about constructing mine-as i actualy have NOWHERE To put it,other than in the car.So it would have to live in the CAR HAHAHACheers!Mike.e

---

Subject: Re: yummy! *salivates*
Posted by Adrian Mack on Fri, 23 Apr 2004 01:33:04 GMT
View Forum Message <> Reply to Message

Haha, yeah its a lot better. But notice how some of those pictures look bad still - thats because they were at the end of the camera. It holds 26 pictures in high resolution mode. The first 15 pictures I take look really good, and the next 5 or so start looking crap, and the final 5 at the end turns out shit :P All the ones I posted I took near the end of the camera :P (except the one of the JBL 2225 cone, it was near the start - thats why its so much clearer!). I notice it too when I take the pics, the ones near the end take longer - the little 'beep' takes longer to sound meaning its stuffing up the pictures :PIt uses only a single AAA battery and it runs forever. It's THE MOST battery efficient camera I've had! I've taken at least a hundred pics now and I'm still on the same battery. Years ago I had a pencam, even worse than my old Jamcam (thats a warning not to buy a camera where the name of the brand has the word 'cam' in it, it represents crap-quality, haha). The pencam was pretty battery efficient if I remember, it used two AAA batteries. The Jamcam used a 9V, and ate it up within minutes :P Some poorer-brand 9V batteries would die INSTANTLY! I mean, you COULDNT even take a single shot! Alkaline batteries were pretty much a must-have. The new mini-digital camera has a single AAA battery only. It's actually called a "Dicam" - yeah yeah, I know, its got 'cam' in it! Well thats why the pictures near the end of the camera look like shit but the first ones dont :P Maybe it represents quality. 'cam' means overall, something is weird or wrong with it. Pencam starts with P and is further down the alphabet than the J in Jamcam, thats why the Pencam was a lot worse. The D in Dicam is nearer to the start of the alphabet, so it represents better quality, but its got 'cam' in it still so theres something weird with it, on mine it was the first pictures looking better than the last :P Well thats my proven theory anyway, hahaa.

Subject: Re: yummy! *salivates*
Posted by Mike.e on Fri, 23 Apr 2004 02:23:34 GMT
View Forum Message <> Reply to Message

well mines a kodak cs6200C is near the beginning of alphabet;-)

Subject: Re: yummy! *salivates*
Posted by Adrian Mack on Fri, 23 Apr 2004 02:40:03 GMT
View Forum Message <> Reply to Message

but the theory only holds true if the make of the camera has 'cam' in it. 'cam' in 'camera' doesnt count :PpenCAMjamCAMdiCAM:-)

Subject: It's the Lens, Not the Megs
Posted by GarMan on Fri, 23 Apr 2004 12:44:26 GMT

Adrian, your resolution is fine. I blew up your photo 400% on the screen and hardly saw any pixles. The photos are fuzzy because of the lens. Everybody's so obsessed with how many MBytes and Mega-Pixels a camera has, but gives no thought about the cheap plastic lens in front of the camera.It goes for film photography too. I've seem guys drop several grand for the top-of-line Nikon F5 or Canon 1n, only to shoot through a $150 lens. Kind of like playing a Walkman through a set of JML Utopias.A couple of things to help you get cleaner photos are:- Don't shoot handheld. Use a tripod or rest the camera on a solid surface.- Only zoom in if you absolutely have to. Those cheap zoom lens are at its worst at maximum zoom.Gar.

Subject: Re: Pictures
Posted by wasteh202 on Fri, 23 Apr 2004 14:37:38 GMT

Very nice !I realize that you designed these speakers on your own. But, I am curious as to what you think the specs might be... especially the senstivity.

Subject: Re: Pictures
Posted by Adrian Mack on Sat, 24 Apr 2004 05:26:57 GMT

Starting at the 15" 2225H driver, it is 97db 1w/1m in its bass reflex box. The midrange horn is about ~104.5db 1w/1m. The compresion driver HF horn is something like 109db or 110db 1w/1m, after top octave HF compensation, it is padded to 100db 1w/1m or so. The midrange horn is also going to be padded down to 100db 1w/1m - a passive crossover is used so I have to pad both subsystems. Crossover point is going to be about 1.8KHz or 2KHz. Crossover between 15" 2225 and midrange horn is active at 300Hz, so it doesn't matter than the sensitivity of the 15" is a little bit lower, the gains are set and matched at the amplifier. Lower F3 is 70Hz and it reaches to 16KHz on the top end. If the 2225 is replaced with a 2235 and the tuning altered a little bit, the low end F3 could easily reach 30Hz or 35Hz, but I didn't use that driver. I'm using an Eminence Alpha 6 driver on the midrange horn and it works well, I optimized the midrange horn for this driver. The HF horns I used are JBL 2370's, although there's many different horns that could be used here, just like the compression driver. I used the P.Audio PA-D45 compression drivers, but theres a whole range that will work.

Subject: Quality
Posted by Mike.e on Sun, 25 Apr 2004 06:20:29 GMT

exactly,theres not a realistic measurement for quality and distortion for cameras.i noticed that my old DOLPHIN 2mp camera,i had to take pictures at MAXImum resolution then downsize them,or else they were a little distortedmy kodak 2mp,i dont need toCheers!