Subject: vintage 8" fullrange speakers
Posted by Adrian Mack on Sat, 03 Jan 2004 02:51:23 GMT
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Just for fun, I decided to play around with a pair of vintage 8" Rola fullrangers, its got whizzer cone for the HF. I'm not sure how many years old, but I'd assume 20-30years after being pulled from an old turntable. They're in good condition. They have those ribbed cardboard surrounds that old speakers have :P Having no t/s parameters, I just did an on axis at 1 meter FR plot of them outdoors. 1/10th octave smoothing. Check out the crappy response :PWell, thats it. This post is not useful to anyone but I thought I'd do it anyway :PAdrian

Subject: Re: vintage 8" fullrange speakers
Posted by hurdy_gurdyman on Sat, 03 Jan 2004 03:48:23 GMT
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Did you use any kind of baffle with them for measurements? Without a baffle I'd expect them to measure bad. I have a pair of Rola woofers that came in a pair of Zenith Allegro speakers. They have large AlNiCo magnets on them and have a very respectable sound and do well up to around 5 kz or so. Great bass down to around 30Hz when used in a TQWP.Dave

Subject: Re: vintage 8" fullrange speakers
Posted by Adrian Mack on Sat, 03 Jan 2004 04:01:50 GMT
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Sure did, and to my suprise, it did not make much difference. I also tried mounting it in a various amount of sealed enclosures, but could not lift the low end at all, and still very bumpy response. They are old though, so I guess thats what I should expect.

Subject: 8 inch FRs: Give them a chance!
Posted by AstroSonic on Sat, 03 Jan 2004 18:15:27 GMT
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Adrian,Don't give up on these! That response curve is not that bad. Check out the response curves for other full range drivers on the Melhuish single driver website. The overall response trend is actually pretty smooth - draw a line through the middle of the peaks and valleys. Much of the rising trend below where the wavelength is less than the cone diameter is due to cancellation from the backwave. Higher in frequency, the rising response trend is largely due to the driver

itself. The lack of the 2-3 kHz 'voice range' peak that plagues many full range drivers is a real plus.If breakin does not resolve the rising trend (it often improves this considerably), try correcting for it with simple 6db/oct compensation (parallel cap & resistor, or a series inductor). If you are unable to get T/S parameters for them, just try them out in a TQWT. Fs is evidently about 50 Hz - not bad for a paper surround 8-inch. If these have not been used for a long time they will likely need to be broken in - not so much for the surround/Fs but for the cone itself. Old paper cone drivers often need around 100 hours or more of breakin. Very likely, they currently sound thin and even a little shrill. Don't give up without breaking them in.You may also want to consider modifications such as coating the cone with damar, damping & reinforcing the basket and the $0.98 tweak. First, give them time to breakin. Then give them some serious listening time. If you like what you hear, but the sound still has some problems, consider modifications that adddress those problems. It looks like there are a few radial cracks in the paper accordian edge surround. These should be repaired if you seriously want to use these drivers. These may not be the last word in full range drivers, but they may provide you with a good introduction to that approach. With a little work, I suspect that you will be surprised at how good these sound.Give them a chance!Good luck,Bob

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Subject: Re: 8 inch FRs: Give them a chance!
Posted by Adrian Mack on Sun, 04 Jan 2004 04:58:45 GMT
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Hi Bob,Thats right, I havn't used them in a long time. In fact I've never used them myself, I've just had them. The previous owner would have used 'em though, but that was a few years back. I ripped it out of an old turntable or something that was being thrown away. The graph shows about 30db difference between 300Hz and 16KHz or so, thats pretty big really. I'll give it a shot and seeing if breaking in tames it down, but I have a feeling it won't do much for something like this. I'll try it though. 6db/oct correction sounds pretty good, the response curve looks like it rises at about this rate. It'll reduce the sensitivity of the driver quite a lot though, although I'm not certain what its sensitivity is at the moment. The things that looks like cracks in the picture arn't actually cracks :P Its just a section where the surround is rather "thin", and since the picture was taken outdoors, the sunlight made it show up in the photo. Theres not really any cracks in the surround, except a couple of lines runing across from cone to gasket, very minor though. The surrounds are really soft though, feels like wet paper! hahah. Anyway, I'll give them a good break in and see what happens. Then I'll try out the 6db/oct correction. Adrian

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Subject: Re: 8 inch FRs: Give them a chance!
Posted by AstroSonic on Sun, 04 Jan 2004 22:50:27 GMT
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Adrian,The range from around 200 Hz to 1.5 kHz will come up close in level to the range above about 1.5 kHz when the driver is mounted in an enclosure or on a sufficiently large OB. That

rising response up to 1-1.5 kHz is largely due to backwave cancellation. As another example, an old Philips brochure I have shows the 8-inch AD 9710 (a well known full range driver) with a 6db/oct slope in response up to 1 kHz (for a total rise of about 17 db from 100 Hz to 1 kHz), and the AD 7066, a once popular 7-inch woofer, with a 6 db/oct rising response up to about 1.5 kHz (for a total rise of about 22 db from 200 Hz to 1.5 kHz). Your drivers are typical in this respect. Even really good drivers behave this way.The response trends above 1-1.5 kHz is what you will have to deal with. Looks like the range from 1.5 kHz to about 6 kHz is fairly level. Then there is a broad rise centered on about 13 kHz. The latter could be partly resolved by some toe-in. I am unfamiliar with your frequency response measurement setup, so cannot say how much of the ragged response might be measurement artifacts. However, full range drivers often do measure pretty ragged due to their less than perfect implementation of progressive cone decoupling with rising frequency. None the less, they usually sound a lot better than their response curves suggest. If after breakin, they do sound ragged, try some damar. Damar tends to smooth out the sound without loosing extension or detail (unless you put on too much). Frame stiffness and reflections off the frame may also be issues.Mount the drivers in some boxes for breakin so that the backwave cancellation is prevented and they are listenable. No need to overdrive them during the breakin process. When not listening to them, place them face to face and wire out of phase to minimize their loudness. Listen for a while at the start and write down your impressions. Do periodic listening checks. You will know when they are broken in. IME, cone breakin proceeds fairly gradually for hours, then proceeds at a more rapid rate for a few to several hours, then becomes more gradual. Get them past the rapid-change phase before making any decisions. Maybe run another response measurement after they are past the rapid-change phase. The surround and spider will also breakin to some extent, lowering Fs, Qms and Qts. A change in the bass is often audible, the degree depending on the amount of change in Fs. Let us know how this turns out.Good luck,Bob

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Subject: Re: vintage 8" fullrange speakers
Posted by akhilesh on Tue, 06 Jan 2004 16:47:43 GMT
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Doesn't look too bad. If you can measure the T/S parameters, it seems like a bass reflex box would be good for this one. It looks like they may need a box tuned to about 50-60Hz HZ. You should get decent bass down to 50 HZ with this. Why don't you try building a cheap box with a vent and seeing how it sounds? Start with a cheap box, about 1 or tw cubic feet. If it's two cubic feet, make the vent as a 3 inch diamter circle, with no need for a vent tube or anything. USe 3/4" MDF or birch ply. See how it sounds. Let us know!thanx-akhilesh

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