Subject: PSD 2002 modifications
Posted by Adam on Thu, 10 Jul 2003 13:24:11 GMT
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Hey guys,I had a bit of an experiment I wanted some comments on... I have owned a lot of PSD 2002's and one thing that has always irked me about them is that rear chamber. It's tiny and it's reflective. I can only imagine how many frequencies are being bounced around in that rear chamber, causing smearing, frequency response spikes and who knows what else.Would there be any positive results from building a damping chamber onto the rear of PSD-2002's to obsorbe and diffuse the rear waves from the compression diaphram? My car horn compression drivers have such a chamber on them and it seems to work pretty well... thoughts?Adam

Subject: Re: PSD 2002 modifications
Posted by Wayne Parham on Thu, 10 Jul 2003 14:50:22 GMT
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I'd fire this question off to the folks at Eminence. You'd be surprised how unassuming they are and how willing they are to discuss matters like these. For example, I asked about ferrofluid treatment of the PSD2002 and they told me that the stuff evaporated but that they had, in fact, done comparitive testing of their drivers with and without ferrofluid.So they may very well have measured a PSD2002 (or an earlier model) with the back cover removed to see how much effect there is. And honestly, I would expect this from them in order to confirm the response with the system having its specific back chamber volume.If you do write to them, I encourage you to tell us what they say.

Subject: Huh?
Posted by mollecon on Thu, 10 Jul 2003 15:06:16 GMT
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Quote:"..I asked about ferrofluid treatment of the PSD2002 and they told me that the stuff evaporated.."Argh! I need to check my old, trusted D28's now...

Subject: Re: PSD 2002 modifications
Posted by Adam on Thu, 10 Jul 2003 15:46:23 GMT

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Thanks dude... I'll shoot them an e-mail now.Adam

Subject: Ferrofluid
Posted by Wayne Parham on Thu, 10 Jul 2003 15:50:04 GMT
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The issue with the PSD2002's is that the areas around the voice coil aren't sealed. Following is the reply made by an Eminence designer when asked specifically about using ferrofluid with their PSD2002 compression driver:"We have experimented with FerroFluid many times and always come to the same conclusions: it is not for us. It has some advantages, but we feel the disadvantages outweigh them. It does help raise the power handling a bit, but not dramatically. The downsides are it is messy, it is expensive, and it evaporates over time turning into a thick sludge. Not a pretty thing."

Subject: Reply from Eminence
Posted by Adam on Thu, 10 Jul 2003 21:37:59 GMT
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"Adam, According to one of our design engineers, in theory, the back volume should change the response, but our experiments have indicated that doubling or tripling this volume made little difference in the response. If you choose to pursue this, we would, of course, be interested in any results confirming or contradicting this...Charlotte"I will probably build a test unit. It's too bad I don't have a concrete way of measuring it.Adam

Subject: Thx Wayne
Posted by mollecon on Thu, 10 Jul 2003 21:57:20 GMT
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I guess it's the lack of sealing that makes it possible for the fluid to evaporate when the unit is driven hard - the D28's aren't build that way! :-)

Subject: rear chamber access
Posted by ToFo on Thu, 10 Jul 2003 23:01:27 GMT
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Adam,I have been wanting to experiment here as well. I assume from looking at the diaphragms (and the sturdy glue around the surround) that the only rear chamber access is to carefully cut off the back cap, leaving enough cylinder to attach the new chamber. If you know, or discover a cleaner and easier method, please ellaborate. (not that it would be bad that way, just pondering the best approach)Thanks,Thomas F.

Subject: Re: rear chamber access
Posted by Adam on Thu, 10 Jul 2003 23:54:20 GMT
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I haven't messed with it much yet, but it occurs to me that a soldering iron with a melting tip would be good approach. Not as difficult to handle, probably give you a cleaner edge or as clean and if you happened to make contact with the diaphram by accident, you wouldn't do any damage as long as you didn't hold it there for a long time... Whereas with a cutting blade or whatever, you're screwed!!Just a thought.Adam

Subject: and a good thought at that.
Posted by ToFo on Fri, 11 Jul 2003 01:53:38 GMT
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Yeah, that sounds good to me. I have a couple extra 'phrams so...Thanks,Thomas

Subject: Measurements
Posted by Wayne Parham on Fri, 11 Jul 2003 03:11:09 GMT
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You might try Speaker Workshop a shot. You can download it free and it works with your PC soundcard. It even has an online support forum, so you might want to give it a go.

Subject: Re: and a good thought at that.
Posted by Adam on Fri, 11 Jul 2003 03:38:13 GMT
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You wanna sell 'em? I need two.Adam

Subject: Re: Measurements
Posted by Adam on Fri, 11 Jul 2003 03:38:46 GMT
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Thanks dude. I downloaded the program, I'll take a boo at it tomorrow... Dunno what kinda mic I'll have access to for my computer, tho.Adam

Subject: Sorry, but I'm going to hang on to them...
Posted by ToFo on Fri, 11 Jul 2003 03:55:41 GMT
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...and maybe even mod them with the hot knife.Thomas F.

Subject: Re: Mic for Measurements
Posted by wunhuanglo on Fri, 11 Jul 2003 08:07:58 GMT
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Check out the TruRTA web site. They have a list of mics and amp combos available at places like Guitar Center that will work well for $60-$100.

Subject: Re: Sorry, but I'm going to hang on to them...
Posted by Adam on Fri, 11 Jul 2003 13:55:59 GMT
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Damn you.:DAdam

Subject: Re: Mic for Measurements
Posted by Chris R on Sat, 12 Jul 2003 14:34:44 GMT
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Can't find TruRTA in google. Do you have a URL?Thx, Chris

Subject: Re: Mic for Measurements - SORRY!
Posted by wunhuanglo on Sun, 13 Jul 2003 00:41:03 GMT
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Behringer ECM8000 Omnidirectional Measurement MicrophoneThis microphone is generally available at music stores for around $40.00. It is an electret condenser type and requires phantom power (+15 to +48 VDC) from the preamp in order to operate. You will need a mic preamp that supplies phantom power in order to use the mic with your computer sound system. Based on the frequency response curve provided with the microphone the response appears to be within plus-or-minus 1 dB from 20 to 20 kHz.Behringer UB802 Microphone MixerThe UB802 has two microphone input channels with switchable 48 VDC phantom power as required by the ECM8000 microphone above. This unit is generally available for about $69 in music stores.Behringer MX602 Microphone MixerThe MX602 has two microphone input channels with switchable 48 VDC phantom power as required by the ECM8000 microphone above. This older mixer is still generally available for about $69 in music stores. (compare to the UB802 above)Behringer SHARK DSP110

music stores. It provides the phantom powering required by the EMC8000 microphone (above). This unit is much more than just a preamp as it includes a number of digital processing functions. Even with all the extra functions this is still one of the least expensive mic preamps available. The DSP110 is also available from the above Internet sources. The biggest problem you might have with this unit is turning off all the special features!Rolls MP13 Mini Mic PreampThis is a very basic single channel preamp that can supply 36 VDC of phantom power to professional grade balanced microphones such as the ECM8000 above. It has both balanced and unbalanced input as well as balanced and unbalanced outputs. A single control varies the gain from 6 dB to 50 dB. A push button switch turns the phantom power on and off. It typically costs about $89 in music storesAudio Buddy, Dual Mic Preamp The Audio Buddy is a two-channel mic preamp that costs about $85.00. It provides phantom power but the voltage is not specified and may be only 9 VDC. This may or may not be adequate to power the EMC8000 mic as the mic specifies a range from 15 to 48 VDC. We mention this preamp here only because so few inexpensive products are available. Here are links to some Internet sources for the above items:Lentines Music: http://www.lentines.com 8th Street Music: http://www.8thstreet.com Musicians Friend:

http://www.musiciansfriend.com