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Subject: Field coil speaker replacement advice...

Posted by [Neo](#) on Tue, 04 Nov 2003 13:12:46 GMT

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I'm restoring an old 1950's I think floor standing Philco radio. It's got a field-coil speaker and the voice coil is rubbing. The field-coil seems good, so I thought I'd keep that, but replace the 12" speaker. The VC resistance measures about 5 ohms. For those of you unfamiliar with a field-coil speaker, the power supply choke is used for the speaker magnet - there is no permanent speaker magnet. Any thoughts? Would an 8 ohm Eminence 12" work. I thought I'd try my Theater Pi 4's tonight to see if they work. Thanks, Tom

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Subject: Re: Field coil speaker replacement advice...

Posted by [AstroSonic](#) on Tue, 04 Nov 2003 15:55:10 GMT

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Tom, Some of the field coil speakers had metal or phenolic spiders that were screw mounted and allowed for voice coil (re)centering. If you end up having to replace the driver, consider checking Ebay for vintage extended range 12-inch drivers (some with field coils) from open back consoles. Be sure to match the VC impedance (nominal 8 ohm would work fine). If you go with another field coil driver, be sure to end up with a similar inductance and dcr because, as you noted, the field coil is also the power supply choke. If you buy new, you will need to find an extended range driver with a Qts in the 1.0 to 1.4 range and an Fs in the 50 to 60 Hz range. Relatively high efficiency (mid 90s) would also be desirable. Out of curiosity, what output tube(s) are used and is it PP or SE? Nice project. Regards, AstroSonic

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Subject: Thanks for the info...

Posted by [Neo](#) on Tue, 04 Nov 2003 16:11:34 GMT

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The output tubes are 41's in PP, but the OPT is center tapped 'off' center. There is no phase splitter. The bottom tube's grid is feed off a screen of the top tube. They only use 175v on the plates. Strange, but it sounds good. I had no idea there might be good used field-coil speakers. I think I'll try to find a permanent magnet one though. I'm not really trying to keep it too original. I do love the looks of it and the vintage sound. Thanks for the speaker specs. Tom

Subject: Re: Field coil speaker replacement advice...  
Posted by [Wayne Parham](#) on Wed, 05 Nov 2003 04:02:59 GMT  
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I love those old tube radios, so please don't consider them to be "off topic." Maybe they are, but I sure do like 'em. Check out my collection of tube radios. Also, watch the site called "www.AudioRoundTable.com" in the next month or two, because there will be a tube radio forum there, which will be a great place to discuss things just like this. It is very much like this website, having several discussion forums, one of which is for vintage radios. So please post pics of your radio there when you can. About repairing your radio - You can easily swap out the speaker, but I'd prefer not to do so. I suggest one of a couple of things: Either look for parts on eBay or have the speaker reconed. You may be able to find something that will work - A lot will depend on the voice coil size. So check on eBay and also measure the physical dimensions of the voice coil and call David Miller at Speakerworks (918-664-6299) to see if he has anything that will fit.

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Subject: Re: Field coil speaker replacement advice...  
Posted by [Neo](#) on Wed, 05 Nov 2003 09:42:04 GMT  
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Hi Wayne, I love your radio collection! Especially the first one you restored... rewinding the field-coil. Wow. I love the way mine sounds. It's not 'High-Fidelity', but it just sounds right and good. I hooked it up to my Pi 4's last night. It sounded much better. As I said, the voice coil is rubbing. Reconing won't fix that will it? Until I read your post, I was (and may still) going to get a 8 ohm Delta 12a. But I'll give Dave a call tonight. I got a schematic from Antique Electronic Supply, but a lot of it I don't understand. It's got Police, Overseas, Broadcast and pushbutton bands. Only the broadcast and one pushbutton works right now. I think I need to clean the pushbutton contacts somehow. Do I just need a longer antenna wire to get Overseas (I'm assuming this is really shortwave) band to work? I had fun fabricating a dial indicator and restringing the tuner knob and band selector light. Gotta get back to work...Tom

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Subject: Re: Field coil speaker replacement advice...  
Posted by [Wayne Parham](#) on Wed, 05 Nov 2003 10:14:59 GMT  
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Let's take this over to the Vintage Radio Forum.

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