
Subject: Microphone Interface

Posted by [gofar99](#) on Fri, 04 Jan 2013 21:12:55 GMT

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Hi Everyone, I recently got a calibrated microphone for doing audio measurements. Unfortunately, I had no way to connect it to anything. So after doing a bit of a search on what it really needed to work I built a small interface for it. The microphone requires a phantom power source between 15 and 48 volts and has a 200 ohm balanced output. I used a standard wall wart that gave out 32 VDC no load. It was rated for 24 VDC, but the drain is so small that it was able to deliver the full 32 volts. The schematic shows how an AC wall wart and rectifier could be used. The number of sections in the filter is probably excessive, but I like to be sure the DC is clean. Yes I know that a phantom powered microphone should be able to reject PS crud, but I want to be sure what I measure is not contaminated by PS junk. The matching transformer is from Eddor and is under \$7. It has excellent specs (20-20KHZ) and is well suited for this application. The box is an ABS type and also inexpensive. Build is not complicated or critical as the impedances are low. It might be sensitive to nearby EMI sources so a metal box might actually be better. I can feed the output into either my laptop running TrueRTA software or into the Velleman PC based DSO on my main PC. Results agree with previous ones made on cruder gear.

File Attachments

- 1) [IMG_0415e.jpg](#), downloaded 3007 times
 - 2) [IMG_0416e.jpg](#), downloaded 3001 times
 - 3) [IMG_0417e.jpg](#), downloaded 3000 times
 - 4) [Microphone Interface 3 Jan 2012.png](#), downloaded 3050 times
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Subject: Re: Microphone Interface

Posted by [Wayne Parham](#) on Fri, 04 Jan 2013 21:42:54 GMT

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That's pretty cool, Bruce. Lots of capacitance in there with good long RC time constants to make the supply smooth. Gives a good voltage too, just right for standard IEC 61938 phantom power.

On a semi-related note, the little electret condenser microphones so commonly used by DIYers also need power supplied to them, although it isn't quite as high a voltage requirement as used in (any flavor of) IEC 61938. The electret capsules usually need 2-10V. I sometime use AA batteries for electret condenser power, which also provides good noise immunity. This is a little preamp circuit I use, which provides phantom power for the little microphone capsules:

Mic Preamp
