Subject: A speaker/earbud setup in a GPS
Posted by FloydV on Thu, 23 Feb 2012 02:18:30 GMT
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I know this is a bit off center, but it is audio. And, I find good answers here.

I have a Garmin GPS. I've put a jack in for earbuds, so that I can hear directions under my helmet when riding.

I inserted a 350 ohm 1/8 watt resistor in line with the earbud jack. The jack disconnects the speaker when the earbuds are plugged in.

Someone was mentioning that to much resistance to a tube amplifier could hurt it, and I wondered if that applied to all amplifiers.
Am I putting any stress on the amplifier by placing the resistor in line?

The volume level is the same, which was the point.

Thanks,

Floyd

Subject: Re: A speaker/earbud setup in a GPS
Posted by Wayne Parham on Thu, 23 Feb 2012 02:35:58 GMT
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Solid state amps are usually more prone to damage by excessive output current, so you don't want to short the outputs or drive a load that has too low impedance. Tube amps sometimes are just the opposite, in that too high impedance load will allow the plate voltage swings to become excessive. This isn't the case with all tube amps, but it is something to consider. When in doubt, ask the manufacturer of the amp.

Subject: Re: A speaker/earbud setup in a GPS
Posted by FloydV on Thu, 23 Feb 2012 19:10:13 GMT
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This is definitely a solid state amp, and a cheap one though the GPS if far from cheap. Both the earbuds and the speaker are about 8 ohms, it's just that an earbud is so close to your ear drum, the same sound seems 5 times louder.

Not being a tube amp, I think I will chance it. I don't hear any distortion in either mode.

Most new GPS units have blue tooth. A BT headset would never fit under the full face race helmet I wear. Good helmets have to be snug. I can't even pull my helmet over my hearing aids without dislodging them (the bulk fits over the ear).

Subject: Re: A speaker/earbud setup in a GPS
Posted by Wayne Parham on Thu, 23 Feb 2012 19:40:59 GMT
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Yeah, I think you're OK. Solid state amps aren't damaged by high-impedance loads. They won't develop as much power, but I think that's your goal here.

Subject: Re: A speaker/earbud setup in a GPS
Posted by FloydV on Thu, 23 Feb 2012 21:52:27 GMT
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Thanks Wayne,

I didn't want to have to take the thing apart and remove the resistor. It is easy to mar the case even with the proper plastic pry tool.

It keeps me from having to change the volume back and forth between car and bike (and jumping a foot if I forget to turn the volume down with the earbuds).

You said someone (named Bruce, I think) made amplifier tube kits.
Does he have a web site or a catalog?

And, looking at the third woofer option for the Three Pi, I see a number and the words "plus Atlas."
Who is Atlas, a guy who helps hold the woofer in place (snicker)?

Floyd

Subject: Re: A speaker/earbud setup in a GPS
Posted by Wayne Parham on Fri, 24 Feb 2012 00:06:41 GMT
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Bruce is Bruce Herron at OddWatt Audio. I think you and he have exchanged a few posts on various threads around here.

The "stock" TD12S driver has a conductive Faraday ring, and the Apollo upgrade adds to that.

These internal conductive rings stabilize flux and inductance, and they improve thermal dissipation.

Optimization of the three factors - inductance linearity / flux stabilization / thermal dissipation - is done by ring placement and size, and what is optimal for one factor is usually not optimal for another. So multiple rings can be used to optimize each separately. That's what the Apollo upgrade is - using multiple conductive devices to improve all factors, rather than just one.

Subject: Re: A speaker/earbud setup in a GPS
Posted by FloydV on Fri, 24 Feb 2012 18:54:41 GMT
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I really finds these things intriguing. Are you increasing or smoothing bass response or working more on the midrange aspect?

Floyd

Subject: Re: A speaker/earbud setup in a GPS
Posted by Wayne Parham on Fri, 24 Feb 2012 20:00:14 GMT
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Shorting rings improve flux stability from low-midrange up. They become increasingly less effective below about 200Hz, and are generally ineffective below 100Hz. Inductance linearity is only an issue at high frequency, so bass performance is a non-issue in this respect. Thermal dissipation is improved by having conductive structures embedded within the magnet, provided they wick the heat out and dissipate it externally somehow. While these are as effective at low frequencies as they are at high frequencies, the cooling vent is generally able to remove heat out at low frequencies, where excursion provides good pumpoing action for forced air convection cooling. It's higher frequencies where you really need the thermal transfer from cooling plugs, rings and similar devices.
Magnet structures
Push-pull verses shorting rings
