

Re: unkown output impedance measurement?

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- *From:* "Henry Kolesnik" <kolesnik@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Mon, 3 Nov 2008 19:22:44 -0600
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Roger

50 years ago I wound and rewound many a transformer with great success. But today I'm older, more patient and lazy and looking for an easy way out that may not be totally accurate.

But I kind of recall reading an excellent article with a trick that I thought was pretty ingenious but I never saved it. It may have been a ham mag, or Howard Sams booklet or maybe Rufus Turner. Maybe someone will remember.

Hank

"Engineer" <junk2007@xxxxxxxxxxx> wrote in message

news:32b2cc1a-3eee-47a1-ba86-eb96907cd648@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

On Nov 2, 5:47 pm, "Charles" <charlesschu...@xxxxxxxxxxx> wrote:

"Henry Kolesnik" <koles...@xxxxxxxxxxxxxxxxxxxxxx> wrote in message

[news:Kj7Pk.6569\\$be.3512@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:Kj7Pk.6569$be.3512@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

> What the easiest ways to measure the output impedance of a push pull > tube
> amplifier?

Load the amplifier with an adjustable resistor. When the loaded output voltage drops to 1/2 of the no-load voltage, the resistor can be removed and measured with an ohmmeter.

Sorry, not so. This will only give you what I originally mentioned, i.e. equivalent generator source impedance (see Thevenin), and it will be very low – no use in selecting speakers. You need the O/P transformer (OPT) ratio. Make sure the receiver/amplifier is OFF. Use a filament transformer run off a variac to energise the OPT secondary (use the speaker terminals) – keep it low, say 2 to 4 VAC. Measure the OPT primary and secondary voltages at a few levels. Calculate each ratio and average them. Figure out the correct plate load for the O/P tube (not covered here) – it will likely be in the range 4 Kohms to 8 Kohms, call it R_p . Then the correct speaker load will be $R_p/\text{OPT ratio squared}$. Ex: $R_p = 5000$ ohms, OPT ratio found to be 36:1. Then, speaker should be $5000/(36)^2 = 5000/1296 = 3.86$ ohms. So use a 4 ohm speaker.

Cheers,

Roger

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