

Re: Amp output Z

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2005-04/msg02663.html>

- *From:* The Phantom <phantom@xxxxxxx>
 - *Date:* Wed, 13 Apr 2005 19:54:02 -0700
-

On Thu, 14 Apr 2005 00:06:16 +0100, John Woodgate <jmw@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

>I read in sci.electronics.design that The Phantom <phantom@xxxxxxx>
>wrote (in <0q4r51pg9l8v7sin5c9jenvd4v6opa9k90@xxxxxxx>) about 'Amp
>output Z', on Wed, 13 Apr 2005:
>
>>In the real amp it must be something other a pure resistance of 10 ohms
>>to account for the voltages he measures.
>
>I see you have assumed that they are accurate. But do you not think that
>your inference from them is, on reflection, improbable? How could such
>an inductance arise?

As I said in another post, this problem is not well described.

In his original post, Harry said:

"The output voltage of the amp is
10.0Vrms at 400 Hz with no loads connected."

Then in another post, he said:

"Hi John,
I am looking for Zo not Ro. I cannot measure the open circuit output
voltage because the amp is unstable with no load. This is a customers design
that I have to redesign. He believes that the output Z is about 10 ohms
which is easy to measure by $R_o = dV_o/dI$. I believe it to be 70 ohms but
cannot prove it. The spec requirement is less than 25 ohms."

So, which is it? Is the output voltage of the amp with no loads connected equal to 10.0
Vrms, or is the amp unstable with no loads connected? My best guess is that in the OP he
was talking about the simulated amp, and in the "Hi, John" post he was talking about the
real amp. It would help avoid confusion if he gave more detail and tell us whether he's
talking about the simulation or the real amp.

If that 10 ohm resistor is in place, then you can't have the voltages he gives us for E2A
and E2B without some inductance in the circuit.

But if you allow the 10 ohms to become .54874 ohms, and the open circuit voltage to be

Re: Amp output Z

14.927 volts, then you can get the 14.81 volts with a 600 ohm load, and 14.5 volts with a 300 ohm load. And in this case, it's actually 14.81 V @ 6.747 degrees, and 14.5 V @ 13.301 degrees. But, he's not seeing the phase angle. Too bad; if he were, that would help figure out what's going on.

.

- **Follow-Ups:**

- ◆ **Re: Amp output Z**
 - ◇ From: Pooh Bear

- **References:**

- ◆ **Re: Amp output Z**
 - ◇ From: Joerg
- ◆ **Re: Amp output Z**
 - ◇ From: Harry Dellamano
- ◆ **Re: Amp output Z**
 - ◇ From: Jim Thompson
- ◆ **Re: Amp output Z**
 - ◇ From: Jim Thompson
- ◆ **Re: Amp output Z**
 - ◇ From: John Woodgate
- ◆ **Re: Amp output Z**
 - ◇ From: Jim Thompson
- ◆ **Re: Amp output Z**
 - ◇ From: Harry Dellamano
- ◆ **Re: Amp output Z**
 - ◇ From: The Phantom
- ◆ **Re: Amp output Z**
 - ◇ From: John Woodgate
- ◆ **Re: Amp output Z**
 - ◇ From: The Phantom
- ◆ **Re: Amp output Z**
 - ◇ From: John Woodgate

- Prev by Date: **Re: XP is great**
- Next by Date: **Re: XP is great**
- Previous by thread: **Re: Amp output Z**
- Next by thread: **Re: Amp output Z**
- Index(es):
 - ◆ **Date**
 - ◆ **Thread**