

Measuring input impedance

See: <http://www.sengpielaudio.com/calculator-InputOutputImpedance.htm>

And a few others

1) Open the amp

Trace your inputs

After the coupling cap, find the first resistor to ground... that is close enough.

OR:

Put a 50 - 100 K rheostat (pot) in series with your sound card and the amp (pos lead)

Power up the amp and apply a sine wave... 500 - 1000 Hz, 2.5 VACrms

Adjust the pot until the VACrms across the pot and across the amp input are equal.

Power down, disconnect, and measure your pot value; that is your Z_{in} .

2) Here's a simple way to do it (but it won't tell you complex input impedance, just input resistance):

Do all of this while the input source is not loaded to anything. Take your input test source (your tone generator), put it at mid band frequency (let's say 1kHz for audio), and make its amplitude a nice number (1V peak is fine). Once you have your input source adjusted to these settings, do NOT change them.

THEN, place a potentiometer in series with the source:

Tie the wiper of the pot to the source, and one end of the pot to the input of your audio amp (you can leave the third terminal open). Your source is now connected to the amp input through the pot.

THEN, put your oscilloscope probe at the input of the amp. Turn the amp on. Keep dialing the potentiometer wiper until the measured voltage at the input is HALF of what you started with (so if you started with a source that is 1V peak, adjust the pot so that the voltage at the input of the amp is .5V peak). Once this is done, turn off everything, and then measure the resistance of the potentiometer. The resistance of the pot will be equal to the input resistance of your amp.

In order for this method to work, you have to make sure your pot's maximum resistance is greater than the input resistance of your amp.