

ON MOST DMM'S, THE HIGHEST RESISTANCE range is 20 megohms. But if you need to read higher resistances you are usually out of luck. Here, however, is a simple add-on for your DMM that can solve that problem. The meter readout will have to be converted to read the resistance, but that's relatively easy to do, especially if you have a calculator.

tion of it and the meter's input impedance is the same 0.5025 megohms.

In use, the R_x terminals are shorted, and R2 is adjusted so that the DMM reads 8 volts when the DMM is switched to the appropriate range. Then the short is removed, the unknown resistance is connected to those R_x terminals, and the DMM is switched to the 200-millivolt

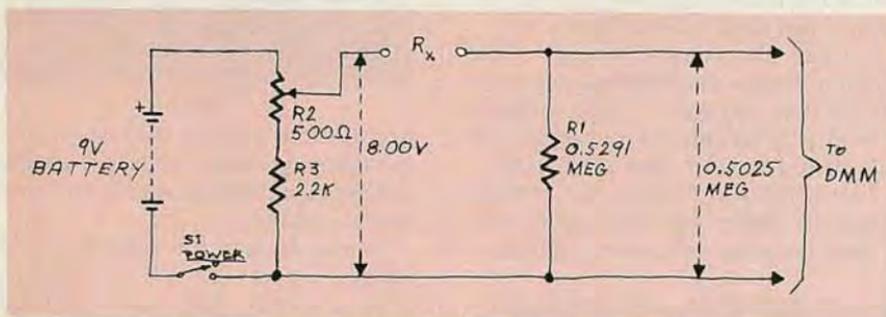


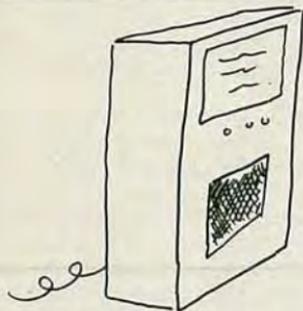
FIG. 1

The circuit is shown in Fig. 1. In it, the voltage from 9-volt battery is dropped across a voltage divider. Potentiometer R2 is adjusted so that the divider's output is exactly 8 volts. The odd value of R1, 0.5291 megohms, was chosen so that the parallel combination of it and the 10-megohm input impedance of the DMM equals 0.5025 megohms. If that is done, a 100-megohm resistance will result in a midscale reading on your meter (more on that later). As R1 is a non-standard value, it is formed by connecting either precision or selected 200K and 330K resistors in series. Note that the input impedance of some DMM's is not 10 megohms. If yours is one of those, R1 should be recalculated so that the parallel combina-

range. To find the resistance of the unknown, simply divide 4000 by the meter reading. The result is the resistance in megohms, including proper placement of the decimal point. That's all there is to it.

Here are two notes that may come in handy:

When checking leakage resistance of large capacitors, be sure that the capacitors have charged up completely before switching to the 200-millivolt range. Otherwise, you'll be subjecting your meter to the rather high voltage caused by the changing current. Also, for best results, wait a few minutes after switching on the add-on before adjusting R2. That will allow the circuit to stabilize.—Don R. King



"Interference is along network lines and is not the fault of your illegal descrambler"

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