

## ***DVM, VTVM, VOM will NOT measure Geiger Counter High Voltage with any kind of accuracy.***

Geiger counter HV power supplies are very high impedance output. They must be able to survive the virtual short circuits placed on the probe terminal when a GM tube fires. There is always some high MegOhm resistor in series with the HV going to the probe jack.

Furthermore, the HV supply is only capable of sourcing a few MICRO-Amps.

Any kind of meter that is less than 100 MegOhms input impedance will load down the HV, therefore the meter will read incorrectly.

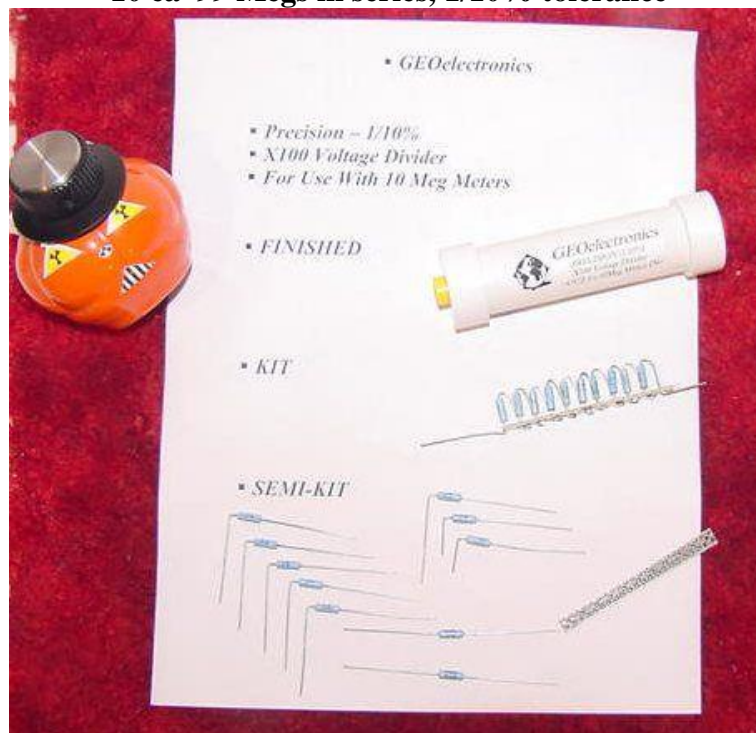
At least 100 Megs (reads 1/10<sup>th</sup>) or better, 1000 Megs (reads 1/100<sup>th</sup>) is the required meter impedance.

This can be accomplished by adding a series resistance, then multiply the meter reading by 10 or 100 to get the actual HV reading.

Assuming using a 10 MegOhm DVM, 990 Megs in series with the red lead will give accurate readings but at only 1/100th the actual HV. Using instead an extra 99 MegOhms, the DVM will read 1/10<sup>th</sup> to actual HV.

### ***HV test meter multiplier >Project by Geo***

**10 ea 99 Megs in series, 1/10% tolerance**



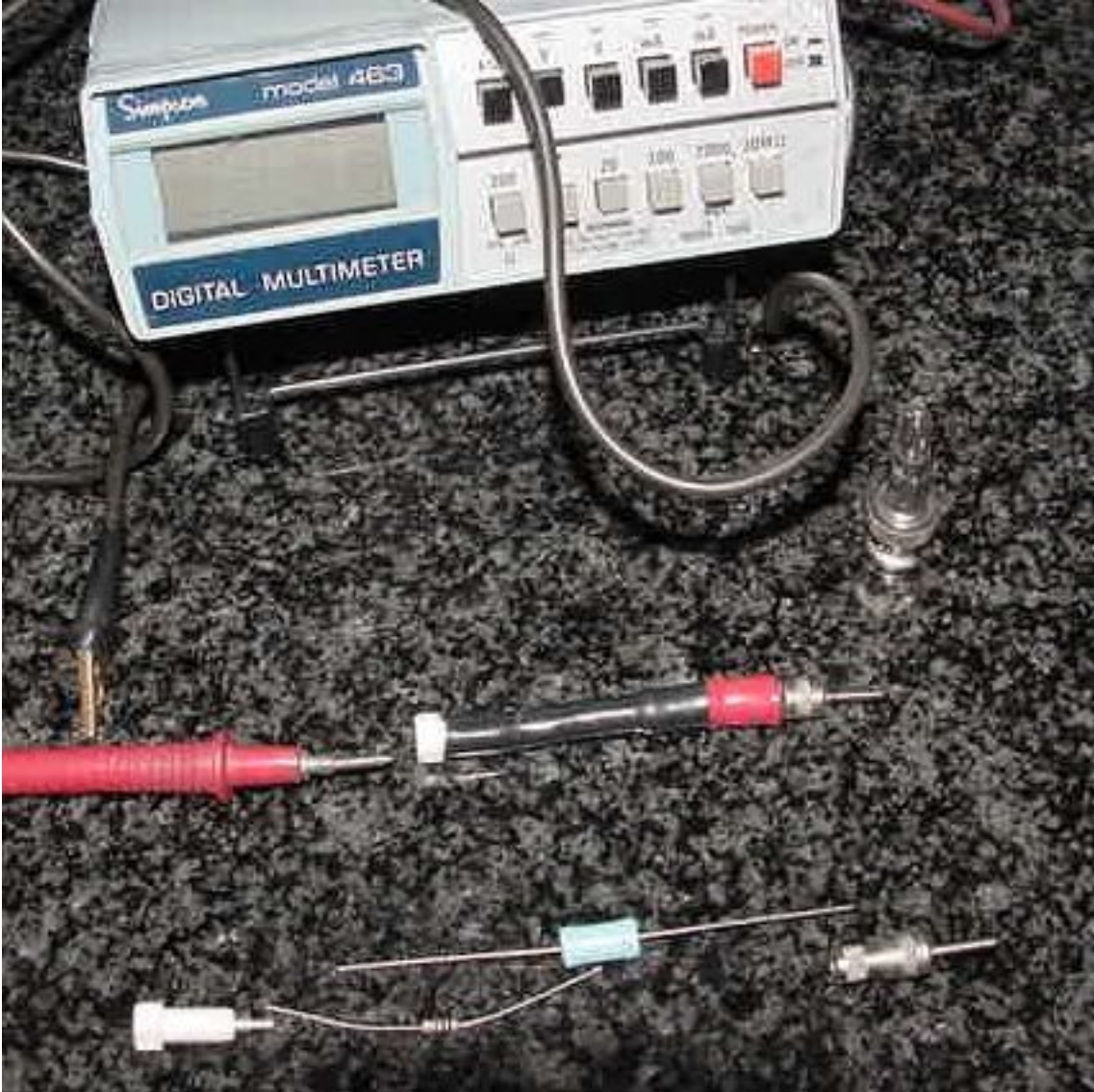
Goes in series with 10 Meg DVM to measure HV in Geiger Counters with precision, without loading down the high impedance circuits. Total 1000 MegOhm including the meter resistance for a X100 multiplication factor on voltages read.

I use one with a dedicated panel meter that has 0-20 Volts full scale= 0-2000V.

Regular DVMs can't be used to measure the HV on a Geiger Counter because they will load down the extremely high impedance circuits and give unrealistically low readings. . At least 100 MegOhms is required, and 1000 MegOhms is best.

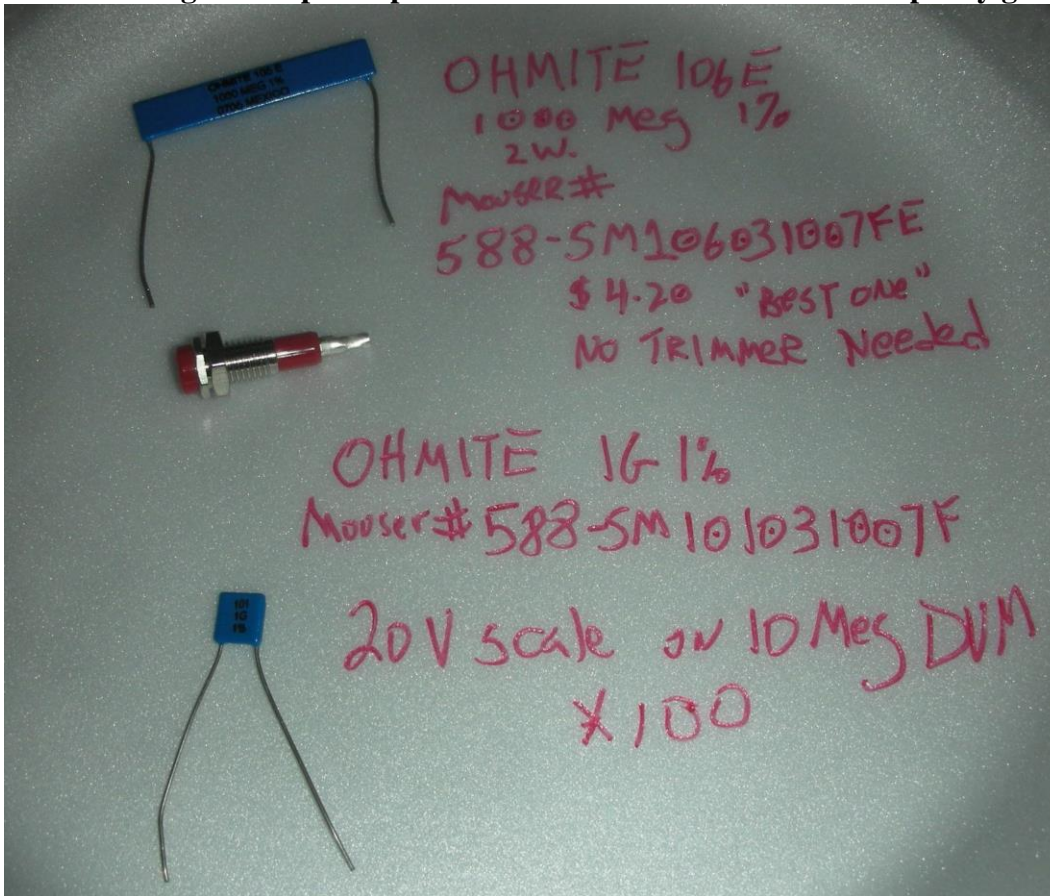
This is not an offer to sell these kits, they are all gone now. Use the information to construct your own version or contact author for advice.

This X100 version used a 1 GigOhm plus another 10 Megs to actually equal 990 Megs (tolerance issues).





The 1 GigOhm resistor on top of the picture has proved to be quite accurate for our needs when used with a 10 MegOhm input impedance DVM. The bottom resistor is pretty good and much cheaper.



has 90 Megs total.

This one is a X10 adaptor,



X10 in use. Multiply reading X10.



Geo

[GEOelectronics@netscape.com](mailto:GEOelectronics@netscape.com)