A Simple Fixture for Field Testing FETRONs

Assemble the test jig shown in Figure 1 which is wired according to the schematic shown in Figure 2.

After attaching a power supply and connector, the FETRON is inserted in the socket according to the socket callout in Tables I or II. With the cathode resistor switch in the "in" position, read the current referred to as Idsr in Tables I or II. To show that the device has gain, throw the cathode resistor switch to the "out" position. The current should roughly double in value. A good approximation of the transconductance may be computed at this point using the equation:

$$gm = \frac{\frac{I_c}{I_o} - 1}{R_K}$$

Where R_K = 200Ω for S1 and 240Ω for S2 and S3.

I_c = Drain current with cathode bypass switch (S1, S2 or S3) closed.

I_o = Drain current with cathode bypass switch open.

This equation is verified in Appendix I.

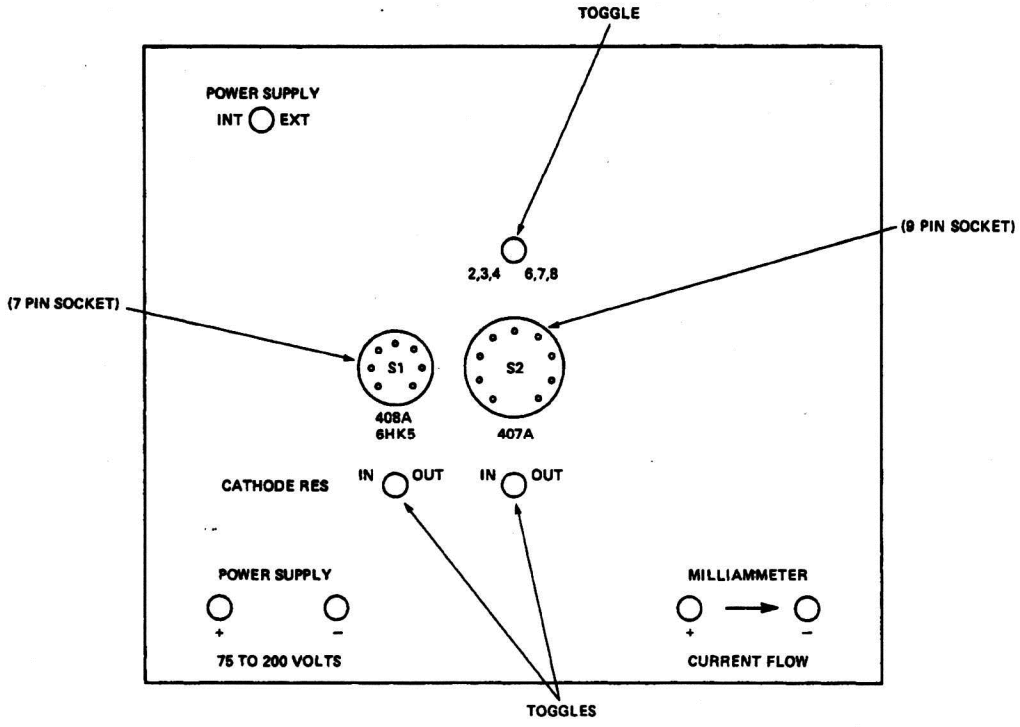

Figure 1. FETRON Test Fixture.