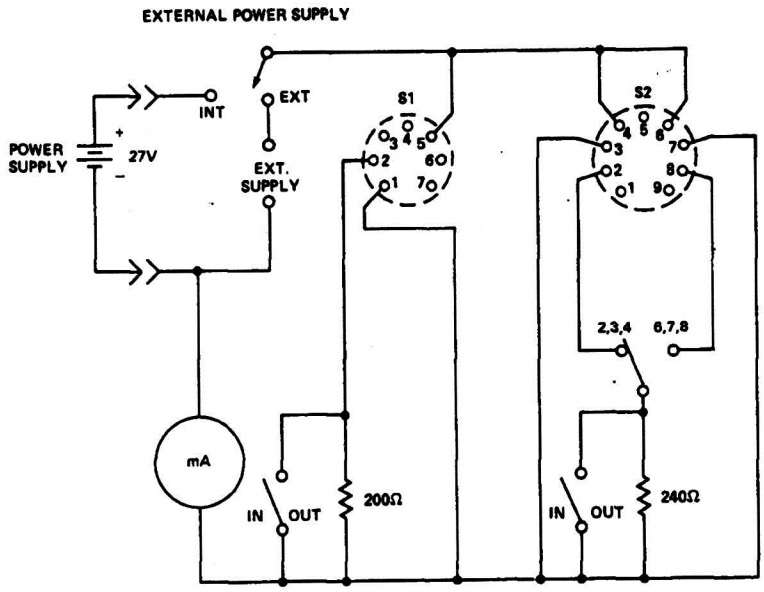


Figure 2. FETRON Test Fixture Schematic.

APPENDIX I. TRANSCONDUCTANCE MEASUREMENTS

Transconductance can be calculated from currents monitored with a simple DC FETRON testor by means of the equation:

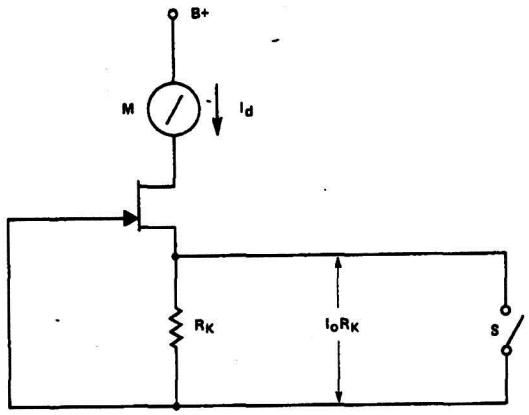
$$gm = \frac{\frac{I_c}{I_o} - 1}{R_K}$$

Where referring to the schematic shown:

R_K is the cathode resistor.

I_o is the current with switch S open.

I_c is the current with switch S closed.



$$gm \triangleq \frac{\Delta I_d}{\Delta V_g} \qquad \therefore gm = \frac{I_c - I_o}{I_o R_K} = \frac{\frac{I_c}{I_o} - 1}{R_K}$$

$I_d = I_c - I_o$ for switch alternately open and closed.

$\Delta V_g = I_o R_K$ for switch alternately open and closed since $V_g = 0$ for SW closed.

This method gives only "Large Signal" gm and should be interpreted only as a first order approximation to small signal gm.

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