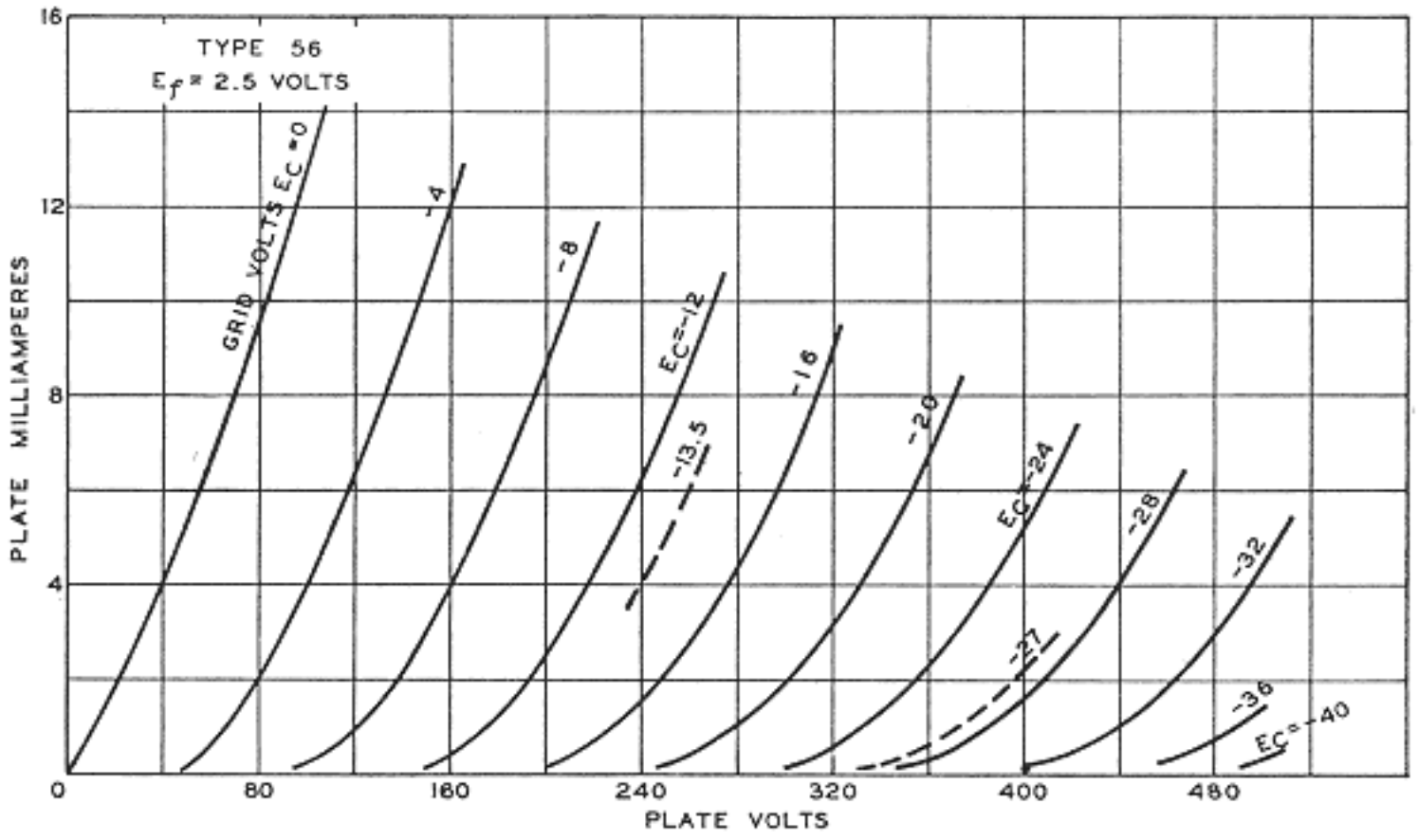
–9 volts (approximate); plate load resistor, 50000 to 100000 ohms; and plate current, 1 to 2 milliamperes.

As a **detector,** the 56 may be of the grid leak and condenser or grid bias type. The plate voltage for the grid leak and condenser method should be about 45 volts. A grid leak of from 1 to 5 megohms with a grid condenser of 0.00025 μf. is satisfactory. For the grid bias method of detection, the maximum plate supply voltage of 250 volts may be used together with a negative grid bias voltage of approximately 20 volts. The plate current should be adjusted to 0.2 milliampere with no a-c input signal voltage. The grid bias voltage may be supplied from the voltage drop in a resistor between cathode and ground. The value of this self-biasing resistor is not critical, 100000 to 150000 ohms being suitable. The higher value will permit the application of a larger input signal.

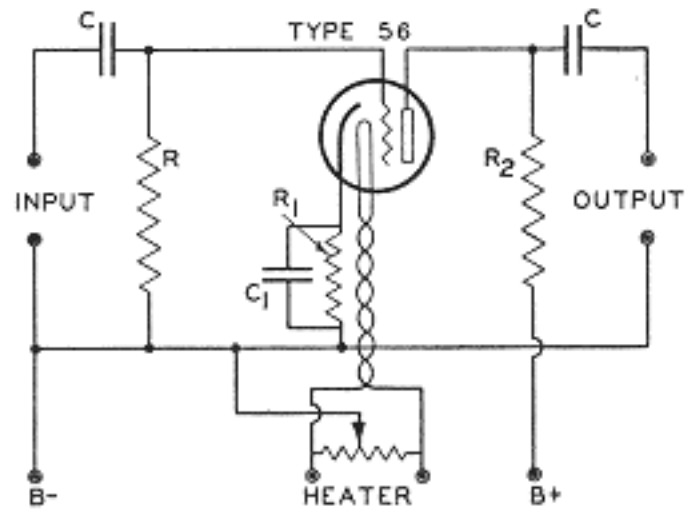
The 56 may be employed as a two-electrode detector preferably by connecting the plate to the cathode for the one electrode and using the grid for the other. With this arrangement, a-c input voltages as high as 40 volts RMS may be applied between grid and cathode.

As an **oscillator,** the 56 may be operated with a plate voltage of approximately 90 volts and zero grid bias. A lower value of plate voltage may be found desirable in some applications.

AVERAGE PLATE CHARACTERISTICS



RESISTANCE-COUPLED A-F AMPLIFIER



R = GRID RESISTOR (1.0 MEGOHM, MAX.)
R_1 = SELF-BIASING RESISTOR (3000 OHMS)
R_2 = COUPLING RESISTOR (50000 TO 100000 OHMS)
C = COUPLING CONDENSER (0.1 μf. - 1.0 μf.)
C_1 = BY-PASS CONDENSER (4 μf.)

AVERAGE CHARACTERISTICS