



Sylvania  
**TYPE 864**  
**SPECIAL NON-**  
**MICROPHONIC**  
**GENERAL PURPOSE**  
**TUBE**

**CHARACTERISTICS**

Filament Voltage DC . . . . .	1.1 Volts
Filament Current . . . . .	0.25 Ampere

**Direct Interelectrode Capacitances:**

Grid to Plate . . . . .	4.0 $\mu\mu\text{f}$
Input . . . . .	2.6 $\mu\mu\text{f}$
Output . . . . .	2.1 $\mu\mu\text{f}$
Maximum Over-all Length . . . . .	4"
Maximum Diameter . . . . .	1 $\frac{3}{16}$ "
Bulb . . . . .	T-9
Base—Small 4-Pin . . . . .	4-D

**Operating Conditions and Characteristics:**

Filament Voltage . . . . .	1.1	1.1 Volts
Plate Voltage . . . . .	90	135 Volts Max.
Grid Voltage . . . . .	-4.5	-9 Volts
Plate Current . . . . .	2.9	3.5 Ma.
Plate Resistance . . . . .	13500	12700 Ohms
Mutual Conductance . . . . .	610	645 $\mu\text{mhos}$
Amplification Factor . . . . .	8.2	8.2

**CIRCUIT APPLICATION**

The 864 is a high vacuum, three electrode tube of the general purpose type constructed for use under conditions where freedom from microphonic disturbance is required. It is applicable as detector, amplifier, or oscillator to battery-operated equipment which may be subject to either impact or continuous vibration.

The coated filament in the 864 should be operated at its rated value of 1.1 volts, measured at the socket with the tube in operation.

The grid of the 864 should always be biased sufficiently negative in any application to limit the d-c plate current through the tube to 4.0 milliamperes.

When the 864 is used in high-gain resistance coupled amplifiers, considerable leeway of plate supply voltage is permissible provided that the coupling resistor and grid bias are chosen so as to limit the average voltage at the plate to the maximum value of 135 volts. The average voltage is that existing when no signal is impressed. A grid resistor in excess of 2.0 megohms is not recommended.

The 864 may be used as an oscillator with a plate voltage as high as 90 volts providing the d-c plate current is limited to 4.0 milliamperes.