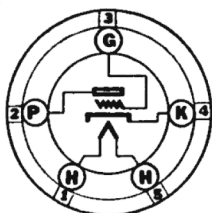


Sylvania
TYPE 27
DETECTOR
AMPLIFIER



CHARACTERISTICS

Heater Voltage AC	2.5 Volts
Heater Current	1.75 Amperes

Direct Interelectrode Capacitances:

Grid to Plate	3.3 μf Max.
Input	3.1 μf
Output	2.8 μf
Maximum Over-all Length	4 1/4"
Maximum Diameter	1 1/8"
Bulb	ST-12
Base—Medium 5-Pin	5-A

Operating Conditions and Characteristics:

Heater Voltage	2.5	2.5	2.5	2.5 Volts
Plate Voltage	90	135	180	250 Volts
Grid Voltage	-6	-9	-13.5	-21 Volts
Plate Current	3	4.7	5.0	5.2 Ma.
Plate Resistance	10000	9000	9000	9250 Ohms
Mutual Conductance	900	1000	1000	975 μmhos
Amplification Factor	9	9	9	9

CIRCUIT APPLICATION

Sylvania 27 is a general purpose tube designed for operation as an amplifier, detector or oscillator.

As an amplifier, the 27 is applicable either to radio frequency or audio frequency circuits. Recommended operating conditions for service using transformer coupling are given under "Characteristics." For circuits utilizing resistance coupling, typical operating conditions are as follows:

Heater Voltage	2.5 Volts
Plate Supply Voltage	250 Volts
Grid Voltage	-9 Volts Approx.
Plate Load	50,000-100,000 Ohms
Plate Current	1-2 Ma.

A grid coupling resistor in excess of 1.0 megohm should not be used.

The 27 is also useful in the driver stage (Class A amplifier) of a Class B power amplifier. For this type of service, the following operating conditions are suggested:

Heater Voltage	2.5 Volts
Plate Voltage	250 Volts
Grid Voltage	-13.5 Volts
Plate Load	36000 Ohms

As a detector, the 27 may be used as a biased detector or as a grid leak detector. Operating conditions for each type of service are given under "Characteristics." In general, grid leak detection is the more sensitive, but grid bias detection permits the handling of greater volume with high quality. For biased detector service, the grid bias may conveniently be obtained from the voltage drop in a resistor between cathode and ground. The value of this self-biasing resistor is not critical, 50,000 to 150,000 ohms being suitable. The higher value will permit the application of a larger input signal. The plate current should be adjusted to 0.2 ma. with no a-c signal applied.

The 27 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 r-m-s may be applied between grid and cathode.

As an oscillator, the 27 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.