

Sylvania
TYPE 30
 DETECTOR
 AMPLIFIER



CHARACTERISTICS

Filament Voltage DC	2.0 Volts
Filament Current	0.060 Ampere

Direct Interelectrode Capacitances:

Grid to Plate	6.0 μf
Input	3.0 μf
Output	2.1 μf
Maximum Over-all Length	4 $\frac{1}{4}$ "
Maximum Diameter	1 $\frac{3}{16}$ "
Bulb	ST-12
Base—Small 4-Pin	4-D

Operating Conditions and Characteristics:

Filament Voltage	2.0	2.0	2.0 Volts
Plate Voltage	90	135	180 Volts
Grid Voltage	-4.5	-9.0	-13.5 Volts
Plate Current	2.5	3.0	3.1 Ma.
Mutual Conductance	850	900	900 μmhos
Plate Resistance	11000	10300	10300 Ohms
Amplification Factor	9.3	9.3	9.3

CIRCUIT APPLICATION

Sylvania 30 has been developed to supply a general purpose tube for portable receivers. There are two requirements which have to be met in this tube. First, the filament power consumption must be as low as possible; second, this tube must be as free from microphonic disturbances as possible.

The characteristics of this tube are similar to the 99, and the 30 may be used interchangeably with the 99 if the filament voltage is reduced to 2.0 volts. It is possible that a tuned radio frequency receiver may require re-neutralization when the 30 is used in the radio frequency stages.

The 30 may be used in circuits of conventional design, either as a radio frequency amplifier, a detector, or an intermediate audio amplifier for Class A or Class B output systems. The grid and plate circuit returns should be completed through a C battery of correct voltage, to the negative filament terminal except in the case of a grid-leak-condenser detector, where the grid return is made directly to the positive side of the filament.

In circuits using a Class B power amplifier, Type 30 may be used as a driver tube. Operated at 135 volts on the plate and a bias of -9 volts, it will deliver sufficient power to drive a Type 19 to 1.25 watts output. Increasing the voltage on the 30 to 180 volts plate and -13.5 volts bias, will increase the power output sufficiently to drive a Type 19 to 1.6 watts output. This, of course, is only possible if sufficient input voltage is supplied to the Type 30 to operate it at maximum power output. If sufficient voltage is not available from the detector to fully swing the driver stage, an additional Type 30 as an audio amplifier will be required.