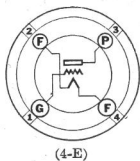


Sylvania
TYPES
V99, X99
DETECTOR
AMPLIFIER



(4-D)



(4-E)

CHARACTERISTICS

Filament Voltage DC	3.0 to 3.3 Volts
Filament Current	0.060 to 0.063 Ampere

Direct Interelectrode Capacitances:

Grid to Plate	3.6 μf
Input	2.5 μf
Output	2.2 μf

	V99	X99
Maximum Over-all Length	3 1/2"	4"
Maximum Diameter	1 1/8"	1 3/8"
Bulb	T-8	T-9
Base—(Type V99) Small 4-Nub	4-E	...
Base—(Type X99) Small 4-Pin	4-D

Operating Conditions and Characteristics as an Amplifier:

Filament Voltage	3.0 to 3.3 Volts
Plate Voltage	90 Volts Max.
Grid Voltage	-4.5 Volts
Plate Current	2.5 Ma.
Plate Resistance	15500 Ohms
Mutual Conductance	425 μmhos
Amplification Factor	6.6

Operating Conditions as a Biased Detector:

Plate Voltage	90 Volts Max.
Grid Voltage	-10.5 Volts (Approx.)
Plate Current	Adjust to 0.2 ma. with no input signal

Operating Conditions as a Grid-Leak Detector:

Plate Voltage	45 Volts
Grid Condenser	0.00025 μf
Grid Leak	0.25 to 5.0 Megohms

CIRCUIT APPLICATION

Sylvania 99 is a general purpose tube which was designed for dry cell operation, the filament operating properly at 3.3 volts and only 0.06 ampere. Originally the filament was of thoriated tungsten, but the tube is now made with an oxide coated filament.

The tube may be employed either as an audio or radio frequency amplifier, or as a detector. It is used mainly for replacement purposes in receivers designed for this type.

Recent improvements in radio tube design have been incorporated in this tube. The present characteristics make it quite satisfactory for use in low filament consumption amplifiers, especially where a compact design is required. The non-microphonic properties of the tube are particularly desirable in such applications.

When used as a detector, plate potentials of 20 to 40 volts may be employed without grid voltage. The proper negative grid bias for use with different plate voltages when the tube is used as an amplifier are:

Plate Voltage	Negative Grid Voltage
60 volts	1.5 to 3.0 volts
80 volts	3.0 to 4.5 volts
100 volts	4.5 to 6.0 volts

The base pins of the X99 fit the standard 4-contact socket; the V99 is supplied with the small short pin base and fits only the small shell socket with bayonet slot. Operation of the tube in a vertical position is recommended.