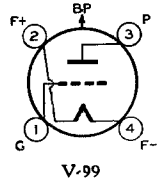
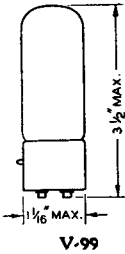


# RCA-V99 and RCA-X99



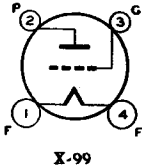
## DETECTORS, AMPLIFIERS

The 99 types are three-electrode, general-purpose tubes designed for dry-cell operation. The low power consumption of these tubes makes them applicable to portable receivers and services where power economy is important. The two types have different bases.

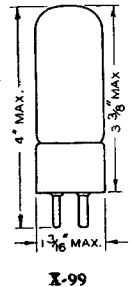
### CHARACTERISTICS

FILAMENT VOLTAGE (D. C.)	3.0- 3.3	Volts
FILAMENT CURRENT	0.060-0.063	Ampere
PLATE VOLTAGE	90 max.	Volts
GRID VOLTAGE	-4.5	Volts
PLATE CURRENT	2.5	Milliamperes
PLATE RESISTANCE	15500	Ohms
AMPLIFICATION FACTOR	6.6	
TRANSCONDUCTANCE	425	Micromhos
GRID-PLATE CAPACITANCE	3.3	$\mu\text{ft}$
GRID-FILAMENT CAPACITANCE	2.5	$\mu\text{ft}$
PLATE-FILAMENT CAPACITANCE	2.5	$\mu\text{ft}$
BULB	Type V99	Type X99
BASE	T-8 Small 4-Nub	T-9 Small 4-Pin

### INSTALLATION



The base pins of the X99 fit the standard four-contact socket; the V99 fits only the small shell socket with bayonet slot. The sockets should be installed so that the tubes will operate in a vertical position. Cushioning of the sockets in the detector stage may be desirable if microphonic disturbances are encountered.



### APPLICATION

As detectors, 99's may be operated either with grid leak and condenser or with grid bias. The recommended plate voltage for the former method is 45 volts. A grid leak of from 1 to 5 megohms used with a grid condenser of 0.00025  $\mu\text{f}$  is satisfactory. The grid-circuit return should be connected to the positive filament terminal. For grid-bias detection the maximum plate voltage of 90 volts may be used with the corresponding negative grid bias of 10.5 volts. The grid bias should be adjusted so that the plate current is 0.2 milliamperes with no input signal.

As amplifiers, the 99's are applicable to the audio or the radio-frequency stages of a receiver. Recommended plate and grid voltages are shown under CHARACTERISTICS.

*These two types are used principally for renewal purposes.*



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**V99 X99**

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