

Cunningham RADIO TUBES

C-336



RADIO-FREQUENCY AMPLIFIER

The '36 is a screen grid radio-frequency amplifier and detector for use in automobile receivers or sets operated from d-c power lines. It contains a heater-cathode which is designed for d-c operation. Its design permits uniform tube operation over a comparatively wide range of heater voltages without appreciably affecting either the performance or serviceability of the tube. This feature, together with that of general freedom from microphonic and battery circuit disturbances, makes the '36 well suited to mobile service and other applications where complete d-c operation is desirable.

CHARACTERISTICS

HEATER VOLTAGE (D. C.)		6.3	Volts
HEATER CURRENT		0.3	Ampere
PLATE VOLTAGE	90* 135	180 <i>max.</i>	Volts
SCREEN VOLTAGE	55 67.5	90 <i>max.</i>	Volts
GRID VOLTAGE	-1.5 -1.5	-3	Volts
PLATE CURRENT	1.8 3	3.1	Milliamperes
SCREEN CURRENT	Not over $\frac{1}{3}$ of plate current		
PLATE RESISTANCE	250000 300000 350000		Ohms
AMPLIFICATION FACTOR	215 315 370		
MUTUAL CONDUCTANCE	850 1050 1050		Micromhos
EFFECTIVE GRID-PLATE CAPACITANCE		0.01 <i>maximum</i>	$\mu\text{mf.}$
INPUT CAPACITANCE		3.7	$\mu\text{mf.}$
OUTPUT CAPACITANCE		9.2	$\mu\text{mf.}$
OVERALL LENGTH			$4\frac{9}{32}$ " to $4\frac{17}{32}$ "
MAXIMUM DIAMETER			$1\frac{1}{16}$ "
BULB (See page 42, Fig. 9)			S-12
CAP			Small Metal
BASE			Small 5-Pin

* Particularly applicable to receivers designed for operation from 110-volt d.c. power line.

INSTALLATION

The base pins of the '36 fit the standard five-contact socket which may be mounted to hold the tubes in any position. For socket connections, see page 39, Fig. 9.

The heater of the '36 is designed to operate satisfactorily from a 6-volt automobile storage battery without a rheostat or fixed resistor, despite the voltage fluctuations during the charge and discharge periods. These variations in the applied heater voltage do not seriously affect the performance or serviceability of this tube. The heater may be operated in series with the heaters of the '37, '38 or '39. This feature is especially desirable in receivers designed to operate from d-c house mains. Regardless of the number of heaters connected in series, the current in the heater circuit should be adjusted to 0.3 ampere for the normal supply voltage.

The cathode circuit in most d-c receivers is usually tied in either directly or through biasing resistors to the negative side of the heater circuit. The voltage difference thus introduced between heater and cathode should be kept as much as possible below the recommended maximum of 45 volts.

The positive screen voltage for the '36 may be obtained from a section of the B-battery, or from a fixed or variable tap on a voltage divider connected across the

