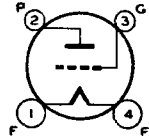


RCA-45

POWER AMPLIFIER

The 45 is a power amplifier triode of the filament type capable of supplying large undistorted output in a-c operated receivers.



CHARACTERISTICS

FILAMENT VOLTAGE (A. C. or D. C.)	2.5	Volts
FILAMENT CURRENT	1.5	Amperes
GRID-PLATE CAPACITANCE	7	$\mu\mu\text{f}$
GRID-FILAMENT CAPACITANCE	4	$\mu\mu\text{f}$
PLATE-FILAMENT CAPACITANCE	3	$\mu\mu\text{f}$
BULB		ST-14
BASE		Medium 4-Pin

As Single-Tube Class A₁ Amplifier

FILAMENT VOLTAGE (A. C.)		2.5	Volts
PLATE VOLTAGE	180	250	275 max.
GRID VOLTAGE*	-31.5	-50	-56
PLATE CURRENT	31	34	36
PLATE RESISTANCE	1650	1610	1700
AMPLIFICATION FACTOR	3.5	3.5	3.5
TRANSCONDUCTANCE	2125	2175	2050
LOAD RESISTANCE	2700	3900	4600
SELF-BIAS RESISTOR	1020	1470	1550
UNDISTORTED POWER OUTPUT	0.825	1.6	2.0
			Watts

* Grid volts measured from mid point of a-c operated filament. Self-bias is advisable in all cases, required if grid d-c resistance (max. value of 1.0 megohm) is used in grid circuit.

As Push-Pull Class AB₂ Amplifier (Two Tubes)

Values are for two tubes.

	Fixed Bias	Self-Bias	
FILAMENT VOLTAGE (A. C.)	2.5	2.5	Volts
PLATE VOLTAGE (Maximum)	275	275	Volts
GRID VOLTAGE	-68	—	Volts
SELF-BIAS RESISTOR	—	775	Ohms
ZERO-SIGNAL PLATE CURRENT	28	72	Milliamperes
MAXIMUM-SIGNAL PLATE CURRENT	138	90	Milliamperes
LOAD RESISTANCE (Plate-to-plate)	3200	5060	Ohms
TOTAL HARMONIC DISTORTION	5	5	Per cent
POWER OUTPUT	18	12	Watts

INSTALLATION AND APPLICATION

For installation refer to INSTALLATION on type 2A3.

As a power amplifier (Class A₁), the 45 may be used either singly or in push-pull. Typical operating conditions are given under CHARACTERISTICS.

In a push-pull Class AB₂ stage, the 45 is operated under conditions such that a small amount of grid current flows during the most positive swing of the input signal and the second harmonic distortion is cancelled by virtue of the push-pull circuit. A driver stage, consisting of one 56 operated at 250 volts on the plate, will drive two 45's in push-pull (fixed-bias or self-bias) to the stated output values. A step-down interstage transformer of suitable design is required.

A family of plate characteristic curves is given on page 143.



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1	131	1937
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