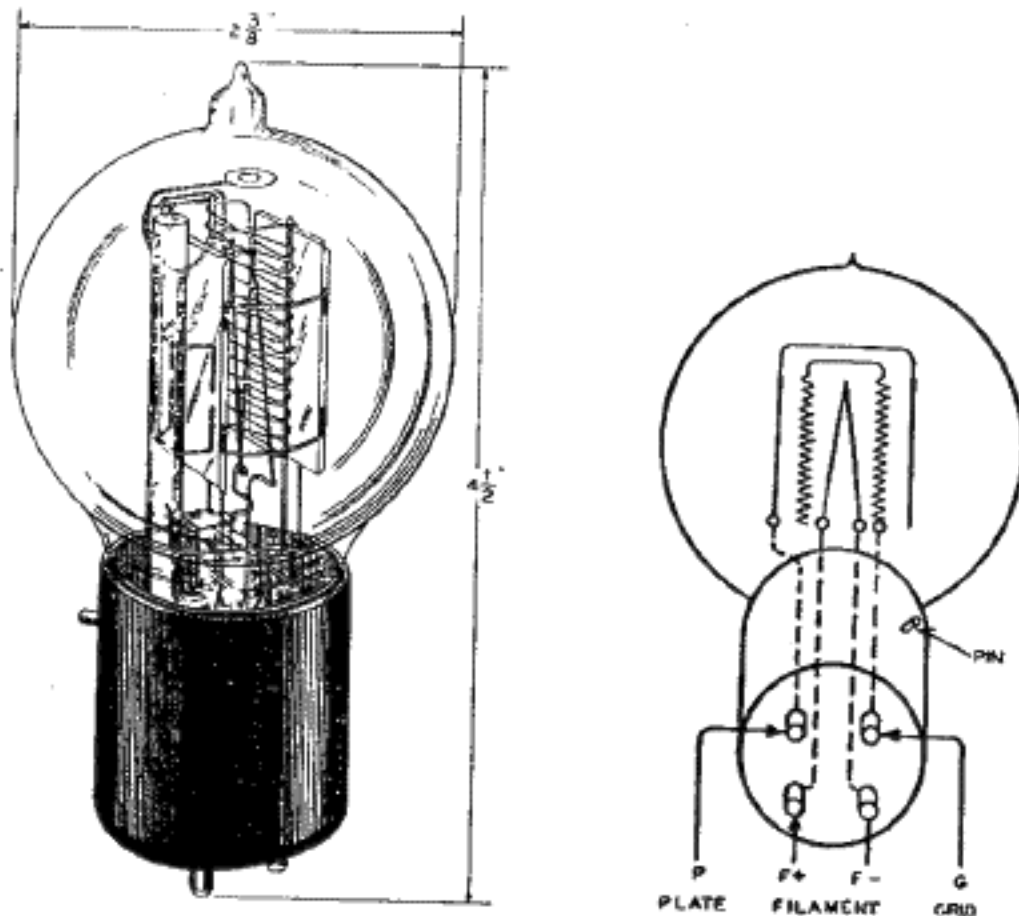


# 205E Vacuum Tube



## Classification

The No. 205E is a three-element filamentary type tube intended for use as a radio-frequency amplifier, oscillator, modulator, and audio-frequency amplifier in output stages when moderate powers are required.

## Base and Socket

The No. 205E Vacuum Tube employs a four-prong bayonet pin type base suitable for use in a Western Electric 100M (front panel mounting), 115B (rear panel mounting), or similar type socket.

## General Ratings and Information

Filament Voltage.....	4.5 Volts, AC or DC
Filament Current.....	1.6 Amperes
Average Amplification Factor.....	7.3
Approximate Direct Interelectrode Capacities (measured without socket)	
Plate to Grid.....	4.8 MMF
Plate to Filament.....	3.3 MMF
Grid to Filament.....	5.2 MMF

**Audio-Amplifier or Modulator Rating—Peak Grid Input Equal to or less than grid Bias—Class A Service.**

Maximum Plate Voltage.....	400 Volts
Maximum Plate Current.....	50 Milliampères
Maximum Plate Dissipation.....	14 Watts

Typical outputs obtainable within the recommended operating conditions for resistance loads equal to twice the plate resistance and for inputs on the grid equal to the grid bias.

Plate Volts	Grid Volts	Approx. Plate Current (Milli-amperes)	Approx. Plate Resistance Rp (Ohms)	Fundamental Power Output (Milli-watts)	Second Harmonic. % of Funda. Output	Third Harmonic. % of Funda. Output
250	-10	27.5	4000	160	1.5	.1
300	-24	15	5000	670	5.5	.5
	-18	25	4150	480	3.0	.2
350	-22.5	30	3900	800	3.0	.3
	-20	35	3750	675	2.5	.2
370	-30	21	4450	1200	5.0	.5

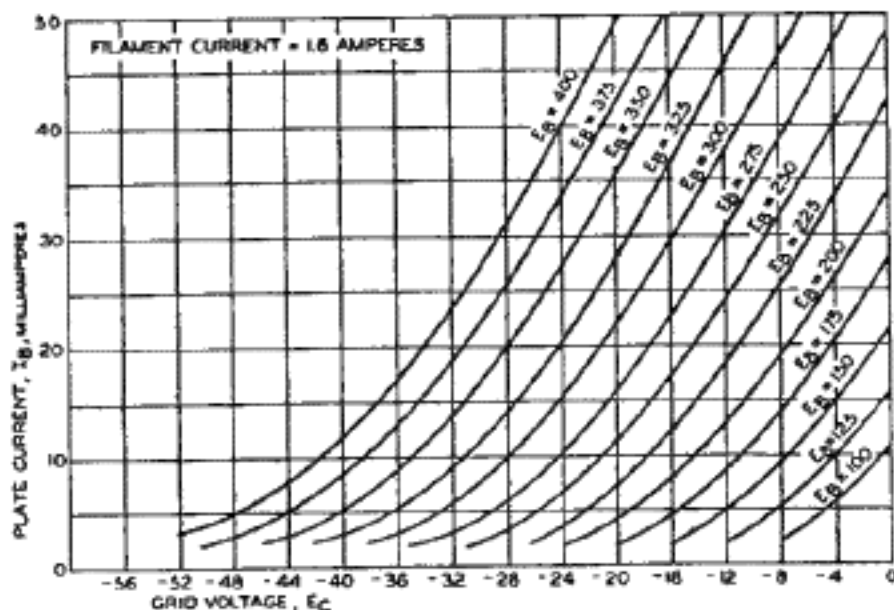
When two tubes are operated in a push-pull circuit the second harmonic in the output is reduced by the balancing action in the circuit. Due to the uniformity in the characteristics of the No. 205E tube the second harmonic output, in the push-pull circuit, is reduced to the general level of the third harmonic output. With a plate voltage of 375 volts and a total plate current of approximately 42 milliamperes, two No. 205E tubes will give 2.4 watts output with a total harmonic content of the order of 1.0 per cent.

**Radio-Frequency Amplifier—Grid Bias practically at Plate Cut-Off—  
Class B Service.**

Maximum Plate Voltage.....	400 Volts
Maximum DC Plate Current.....	50 Milliamperes
Maximum Plate Dissipation.....	14 Watts
Peak Power Output.....	12 Watts

**Oscillator or Radio-Frequency Amplifier—Grid Bias greater than  
Plate Current Cut-Off—Class C Service.**

Maximum Non-modulated DC Plate Voltage.....	400 Volts
Maximum Modulated DC Plate Voltage.....	350 Volts
Maximum DC Plate Current.....	50 Milliamperes
Maximum Plate Dissipation.....	14 Watts
Peak Power Output.....	12 Watts



**Average Static Characteristics**

The accompanying curve gives the average static characteristics for the No. 205E Tube. These curves have been obtained with the filament operating on direct current and the grid and plate returns connected to the negative ends of the filament.

**General Features**

The No. 205E Tube will operate satisfactorily at or above 30,000 kilocycles if the radio frequency charging current is limited to a value that will not cause excessive heating of lead-in wires or di-electric parts.

It is similar to the No. 205D except that the internal structure is designed to reduce noise disturbance outputs due to variable contacts within the tube. The prongs of the base are equipped with special contact metal tips to prevent noise disturbance due to poor electrical contact with the springs of the socket.

The filament is of a particularly rugged oxide coated type insuring a long tube life.