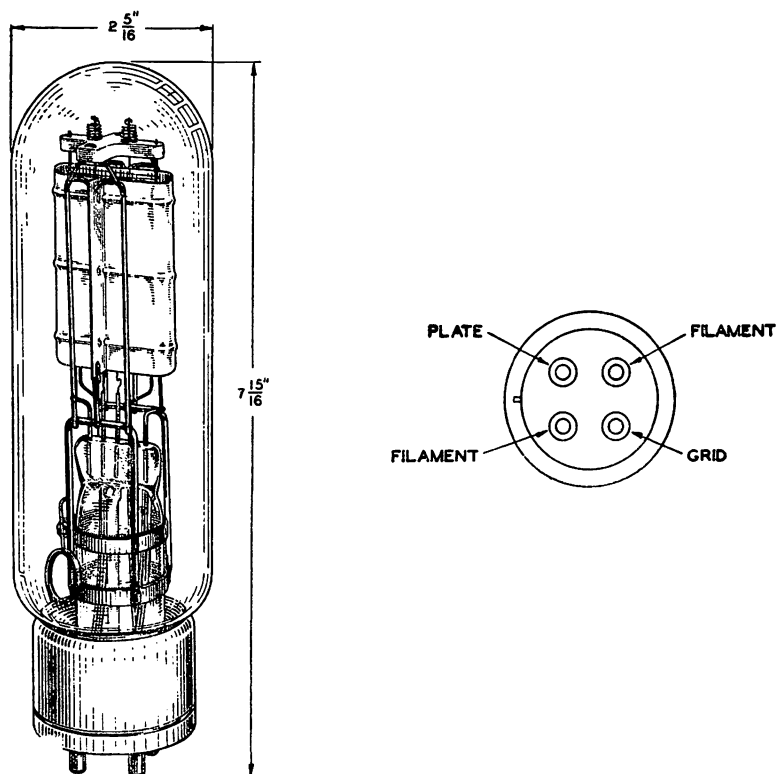


284A Vacuum Tube



Classification

The No. 284A Vacuum Tube is a 3 element tube for use as an audio-frequency amplifier, modulator, oscillator, or radio-frequency amplifier.

Base and Socket

The No. 284A Vacuum Tube employs a standard four prong bayonet pin type base suitable for use in a Western Electric 112A or similar type socket. The arrangement of electrode connections to the base terminals is shown above.

General Ratings and Information

Filament Voltage.....	10 Volts AC.
Nominal Filament Current.....	3.25 Amperes
Maximum Plate Voltage.....	1250 Volts
Maximum Plate Current.....	0.150 Ampere
Average Plate Resistance.....	1900 Ohms
Average Amplification Factor.....	4.7

Approximate Direct Interelectrode Capacities

Plate to Grid.....	8.2 MMF
Plate to Filament.....	7.8 MMF
Grid to Filament.....	7.0 MMF

Audio Amplifier or Modulator Rating—Peak Grid Drive equal to or less than the bias—Class A Service.

Maximum Plate Voltage.....	1000
Maximum Plate Current.....	0.85 Ampere
Maximum Plate Dissipation.....	85 Watts
Grid Bias Voltage.....	—165

Typical outputs obtainable within recommended operating conditions for different resistance loads, R, and for inputs on the grid equal to the grid bias:

Plate Volts	Plate Current (Milli-amperes)	Approx. Grid Volts	Approx. Plate Resistance, R_p , (Ohms)	R, Load Resistance	Fundamental Power Output (Watts)	Second Harmonic % of Funda.	Third Harmonic % of Funda.
750	100	-106	1600	$R = 2R_p$	16.6	4.5	.8
				$R = 5R_p$	10.5	1.1	.03
750	75	-116	1760	$R = 2R_p$	16.9	7.5	2.0
				$R = 5R_p$	10.8	2.0	.16
1000	85	-165	1700	$R = 2R_p$	33.3	10.0	3.2
				$R = 5R_p$	22.5	2.4	.4
1000	50	-178	2100	$R = 5R_p$	20.6	5.0	1.8
1250	60	-228	2000	$R = 2R_p$	52.5	15.8	5.6
				$R = 5R_p$	41.5	5.1	2.2
1250	40	-238	2440	$R = 5R_p$	31.3	7.0	2.8

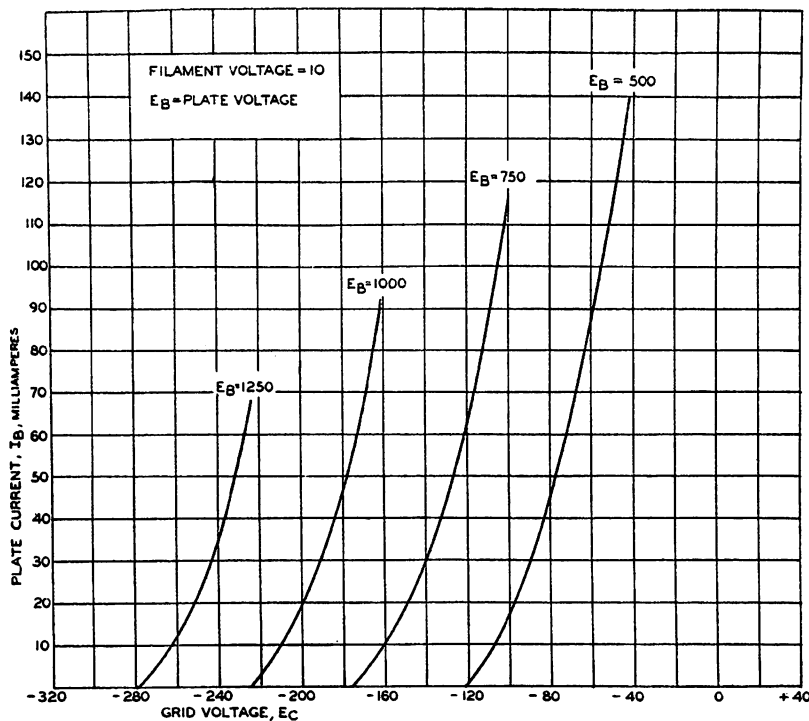
It is possible to obtain very substantial reduction in 2nd harmonic output by the use of the push-pull circuit. With resistance loads greater than twice the plate resistance of the tube, improved levels of harmonic outputs are obtained with relatively little sacrifice in the level of the fundamental power outputs.

Radio Frequency, Oscillator, or Amplifier—Grid Bias practically at or greater than cut-off, grid drive higher than the bias—Class B or C Service.

Maximum Plate Voltage.....	1250
Maximum Plate Current.....	0.150 Ampere
Maximum Plate Dissipation.....	100 Watts
Grid Bias Voltage.....	-300 Volts
Maximum R.F. Charging Current in Grid or Plate Leads.....	5 Amperes
Peak Output.....	100 Watts

Average Static Characteristics

The accompanying curves give the average static characteristics of the No. 284A Vacuum Tube. These curves are taken with the filament operating on alternating current and with the plate and grid returns connected to a center point on the filament transformer.



General Features

The electrical characteristics of the No. 284A Vacuum Tube make it especially suitable for audio-frequency power amplifier or modulator. In the design of the No. 284A Vacuum Tube, special attention has been given to obtain low interelectrode capacities, low plate resistance and uniform heating of the plate. Thoriated tungsten is used for the filament.

This vacuum tube has an unusually rugged type of structure which insures it against breakage in shipment and service and makes possible the maintenance of uniform electrical characteristics.