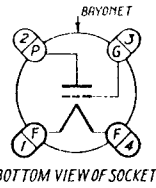


### TRIODE POWER AMPLIFIER OSCILLATOR

The RK-10 is a triode type power amplifier tube having a thoriated tungsten filament and an isolantite base. It is designed for use as an amplifier, oscillator or frequency multiplier.



#### FILAMENT RATING

Filament Voltage	7.5	volts
Filament Current	1.25	amp

#### DIRECT INTERELECTRODE CAPACITANCES

Grid to Plate	8	$\mu\text{f}$
Input	3	$\mu\text{f}$
Output	4	$\mu\text{f}$

#### A-F POWER AMPLIFIER—CLASS A

##### MAXIMUM RATINGS

D-C Plate Voltage	425	volts
Plate Dissipation	12	watts

##### TYPICAL OPERATION

D-C Plate Voltage	250	350	425	volts
D-C Grid Voltage	-23.5†	-32 †	-40 †	volts
D-C Plate Current	10	16	18	ma
Amplification Factor	8	8	8	
Plate Resistance	6000	5150	5000	ohms
Transconductance	1330	1550	1600	$\mu\text{mhos}$
Load Resistance	13000	11000	10200	ohms
Power Output	0.4	0.9	1.6	watts

#### R-F POWER AMPLIFIER OR OSCILLATOR—CLASS C

##### MAXIMUM RATINGS

D-C Plate Voltage—Telegraphy	450	volts
D-C Plate Voltage—Telephony	450	volts
With Grid Modulation	350	volts
With Plate Modulation	350	volts
D-C Plate Current	65	ma
D-C Grid Current	15	ma
R-F Grid Current	5	amp
Plate Dissipation	15	watts

†Grid Voltage measured from mid-point of a-c operated filament.

#### TYPICAL OPERATION

	Telephony Grid Modulation	Telephony Plate Modulation	Telegraphy	
D-C Plate Voltage	450	350	450	volts
D-C Grid Voltage	-170	-100	-100	volts
D-C Plate Current	40	50	65	ma
D-C Grid Current	1	12	15	ma
Peak R-F Input Voltage	240	200	235	volts
R-F Driving Power	2.4*	2.2	3.2	watts
Carrier Power Output	6	12	19	watts
Peak A-F Voltage—Plate	—	350*	—	volts
Peak A-F Voltage—Grid	70 *	—	—	volts
A-F Modulating Power	0.7*	9	—	watts
Peak Power Output	24 *	48 *	—	watts

#### R-F POWER AMPLIFIER—CLASS B—TELEPHONY

##### MAXIMUM RATINGS

D-C Plate Voltage	450	volts
D-C Plate Current (Carrier)	40	ma
Plate Dissipation (Carrier)	12	watts

##### TYPICAL OPERATION

D-C Plate Voltage	450	volts
D-C Grid Voltage	-60	volts
D-C Plate Current	40	ma
D-C Grid Current	1.5	ma
Peak R-F Input Voltage	200*	volts
R-F Driving Power	4.1 *	watts
Carrier Power Output	6	watts
Peak Power Output	24 *	watts

\*At the peak of the a-f cycle with 100% modulation.

#### OPERATING NOTES

##### FREQUENCY RANGE

The RK-10 may be operated at the maximum ratings at frequencies up to 60 megacycles. Above 60 megacycles the reduced efficiency realized requires that the plate voltage be lowered to prevent the plate dissipation from exceeding the maximum rated value.

##### BIAS

At least 40 volts of fixed bias should be used with 450 volts on the plate to protect the tube in case of failure of the bias or excitation. Additional bias may be obtained by the use of a grid or cathode resistor.

##### PLATE TEMPERATURE

The plate of the RK-10 will not show color when operated at the maximum rated plate dissipation. Dissipations above the rated value should be avoided.

