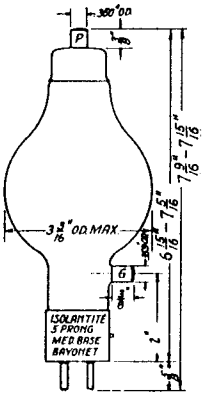
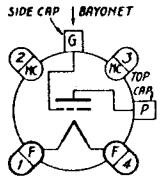


TRIODE POWER AMPLIFIER OSCILLATOR



The RK-36 is a triode type power amplifier tube having a thoriated tungsten filament, a tantalum plate and grid, a hard glass bulb and an isolantite base. It is designed for use as a power amplifier, oscillator or frequency multiplier.

FILAMENT RATING

Filament Voltage	5.0	volts
Filament Current	8.0	amp

DIRECT INTERELECTRODE CAPACITANCES

Grid to Plate	5	μμf
Input	4.5	μμf
Output	1.0	μμf

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

MAXIMUM RATINGS

D-C Plate Voltage	3000	volts
D-C Plate Current	165	ma
D-C Grid Current	35	ma
Plate Dissipation	100	watts

TYPICAL OPERATION

D-C Plate Voltage	2000	volts
D-C Grid Voltage	—360	volts
D-C Plate Current	150	ma
D-C Grid Current	30	ma
Peak R-F Input Voltage	560	volts
R-F Driving Power	15	watts
Power Output	200	watts

R-F POWER AMPLIFIER—CLASS B—TELEPHONY

MAXIMUM RATINGS

D-C Plate Voltage	3000	volts
D-C Plate Current (Carrier)	100	ma
Plate Dissipation (Carrier)	100	watts

TYPICAL OPERATION

D-C Plate Voltage	2000	volts
D-C Grid Voltage	—180	volts
D-C Plate Current	75	ma
D-C Grid Current	3	ma
Peak R-F Input Voltage	420*	volts
R-F Driving Power	10 *	watts
Carrier Power Output	50	watts
Peak Power Output	200*	watts

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

R-F POWER AMPLIFIER—CLASS C—TELEPHONY

MAXIMUM RATINGS

	Grid Modulation	Plate Modulation	
D-C Plate Voltage	3000	2000	volts
D-C Plate Current (Carrier)	100	165	ma
D-C Grid Current (Carrier)	5	35	ma
Plate Dissipation (Carrier)	100	100	watts

TYPICAL OPERATION

	Grid Modulation	Plate Modulation	
D-C Plate Voltage	2000	2000	volts
D-C Grid Voltage	—270	—360	volts
D-C Plate Current	72	150	ma
D-C Grid Current	1	30	ma
Peak R-F Input Voltage	315	560	volts
R-F Driving Power	3.5 *	15	watts
Carrier Power Output	42	200	watts
Peak A-F Modulating Voltage	110*	2000*	volts
A-F Modulating Power	1 *	150	watts
Peak Power Output	168*	800 *	watts

A-F POWER AMPLIFIER—CLASS A

MAXIMUM RATINGS

D-C Plate Voltage	1500	volts
D-C Plate Current	165	ma
Plate Dissipation	100	watts

TYPICAL OPERATION

D-C Plate Voltage	1500	volts
D-C Grid Voltage	—77.5	volts
D-C Plate Current	67	ma
Amplification Factor	14	
Plate Resistance	5600	ohms
Transconductance	2500	μmhos
Load Resistance	10000	ohms
Power Output	21	watts

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

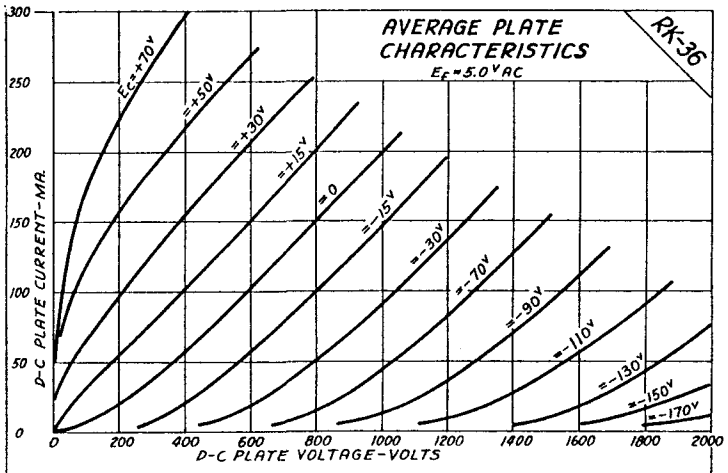
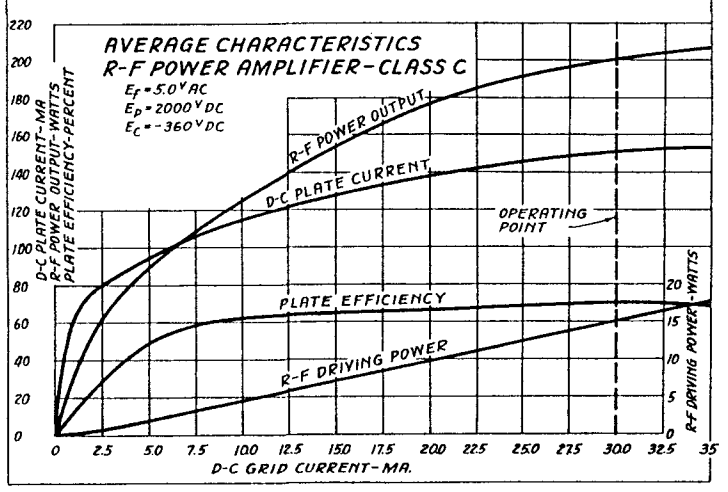
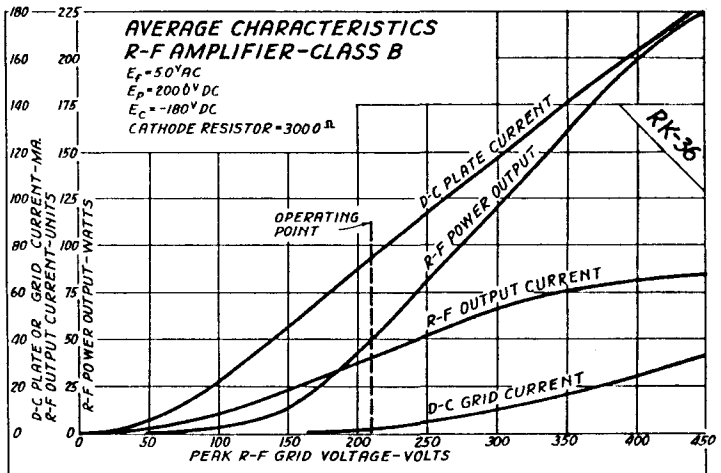
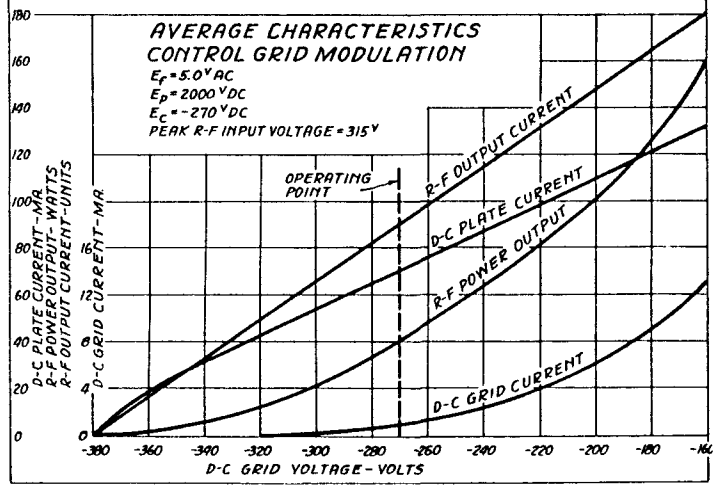
OPERATING NOTES

FREQUENCY RANGE

The construction of the RK-36 allows efficient operation at frequencies up to 60 megacycles. Above 60 megacycles reduced efficiency requires that the plate voltage be reduced to prevent the plate dissipation from exceeding the maximum rated value.

BIAS

At least 150 volts of fixed bias should be used with 2000 volts on the plate to protect the tube in case of failure of the bias or excitation.

PLATE TEMPERATURE

The plate of the RK-36 will show a light yellowish red color (See Plate Temperature Color Scale) when operated at the maximum rated plate dissipation. Dissipations above the rated value should be avoided.