

RCA-1610

Crystal-Oscillator Pentode

RCA-1610 is a filament type of pentode intended particularly for use as a crystal oscillator. The 1610 may be operated at maximum ratings at frequencies as high as 20 megacycles. The maximum plate dissipation for class C service is 6 watts.

TENTATIVE CHARACTERISTICS AND RATINGS

Filament Volts (a-c or d-c).....	2.5	Grid-Plate Capacitance	1.2 μf
Filament Amperes	1.75	Input Capacitance	8.6 μf
Transconductance (For plate current of 31 ma.) Micromhos	2500	Output Capacitance	13 μf

As R-F Power Amplifier and Oscillator—Class C Telegraphy

Key-down conditions per tube without modulation††

D-C PLATE VOLTAGE	400 max.	Volts
D-C SCREEN VOLTAGE	200 max.	Volts
D-C GRID VOLTAGE	-100 max.	Volts
D-C PLATE CURRENT	30 max.	Milliamperes
D-C GRID CURRENT	3 max.	Milliamperes
PLATE INPUT	9 max.	Watts
SCREEN INPUT	2 max.	Watts
PLATE DISSIPATION	6 max.	Watts

TYPICAL OPERATION:

D-C Plate Voltage	300	400	Volts
D-C Screen Voltage	125	150	Volts
D-C Grid Voltage	-60	-50	Volts
Peak R-F Grid Voltage	110	75	Volts
D-C Plate Current	30	22.5	Milliamperes
D-C Screen Current	13	7	Milliamperes
D-C Grid Current (Approx.)	2.5	1.5	Milliamperes
Screen Resistor	13500	35000	Ohms
Driving Power (Approx.)	0.25	0.1	Watt
Power Output (Approx.)	5	5	Watts

†† Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

INSTALLATION AND APPLICATION

The base pins of the 1610 fit the standard 5-contact socket which should be installed preferably to hold the tube in a vertical position.

As a **crystal-controlled oscillator**, the 1610 should be operated with a grid-leak resistance of approximately 30,000 ohms (1-watt rating). When the tube is used as an oscillator, the screen voltage should be obtained from a fixed supply or from a potentiometer connected across the plate-voltage supply.

For **high-frequency operation** above 20 megacycles, see page 144.

For additional information, see chapters on **INSTALLATION** and **APPLICATION**.

