

RCA-865

Screen-Grid R-F Power Amplifier

Illustrated on page 133

RCA-865 is a screen-grid transmitting tube of the thoriated-tungsten filament type for use as an r-f amplifier and frequency multiplier. The plate connection is brought out through a separate seal at the top of the bulb to maintain low grid-plate capacitance. Neutralization to prevent feedback is generally unnecessary when this tube is used in adequately shielded circuits. The 865 can be operated at maximum ratings in all classes of service at frequencies as high as 15 megacycles.

CHARACTERISTICS

Filament Volts (a-c or d-c)	7.5	Grid-Plate Capacitance (with external shielding)	0.10 max. μf
Filament Amperes	2	Input Capacitance	8.5 μf
Amplification Factor (Approx.)	150	Output Capacitance	8 μf
Transconductance (For plate current of 18 ma.) Micromhos	750		

MAXIMUM RATINGS

	Class B Tele- phony*	Class C Tele- phony*	Class C Tele- graphy‡	
D-C PLATE VOLTAGE	750	500	750	Volts
D-C SCREEN VOLTAGE	175	175	175	Volts
D-C GRID VOLTAGE	—	-250	-250	Volts
D-C PLATE CURRENT	30	60	60	Milliamperes
D-C GRID CURRENT	—	15	15	Milliamperes
PLATE INPUT	22.5	30	45	Watts
SCREEN INPUT	3	2	3	Watts
PLATE DISSIPATION	15	10	15	Watts

* Carrier conditions per tube for use with a max. modulation factor of 1.0.

‡ Key-down conditions per tube without modulation. 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 865 fit the standard 4-contact socket, such as the RCA type UR-542A. The socket should be installed to hold the tube in a vertical position with the base down.

The plate of the 865 shows no color at the maximum plate-dissipation ratings for each class of service. The screen should not be allowed to show more than a barely perceptible red color.

For high-frequency operation above 15 megacycles, see page 144.

When the screen voltage is obtained from a series screen resistor, the value of the resistor should be not less than 20,000 ohms for a plate-supply voltage of 500 volts, 32,000 ohms for 625 volts, and 45,000 ohms for 750 volts.

For additional information, see chapters on INSTALLATION and APPLICATION.

**Top View of
Socket Connections**

