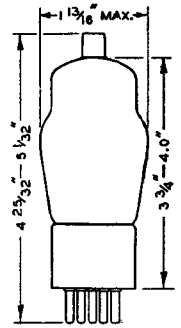
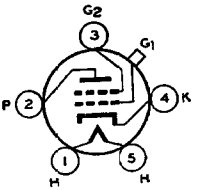


RCA-35

SUPER-CONTROL R-F AMPLIFIER



The 35 is a super-control screen grid amplifier tube of the heater-cathode type recommended as an r-f amplifier and an i-f amplifier in a-c receivers. The 35 is very effective in reducing cross-modulation and modulation-distortion over the entire range of received signals. Its design is such as to permit easy control of a large range of signal voltages without the use of local-distance switches or antenna potentiometers. This super-control feature makes the tube adaptable to circuits incorporating automatic volume control. See page 16 for Super-Control feature. The 35 is interchangeable with type 51.

CHARACTERISTICS

Heater Voltage (A. C. or D. C.)		2.5	Volts
Heater Current		1.75	Amperes
Plate Voltage*	180	250	Volts
Screen Voltage (Maximum)	90	90	Volts
Grid Voltage, Variable (Minimum)	−3	−3	Volts
Plate Current	6.3	6.5	Milliamperes
Screen Current (Maximum)	2.5	2.5	Milliamperes
Plate Resistance	0.3	0.4	Megohm
Amplification Factor	305	420	
Transconductance	1020	1050	Micromhos
Transconductance (At −40 volts bias)	15	15	Micromhos
Grid-Plate Capacitance (With shield-can)		0.007 *max.*	*μμf*
Input Capacitance		5.3	*μμf*
Output Capacitance		10.5	*μμf*
Bulb			ST-14
Cap			Small Metal
Base			Medium 5-Pin

* Maximum plate voltage = 275 volts.

INSTALLATION

The **base** pins of the 35 fit the standard five-contact socket which may be installed to hold the tube in any position.

For **heater** operation and **cathode** connection, refer to type 2A5.

The **screen voltage** for the 35 may be obtained from a fixed or variable tap on a voltage divider across the supply voltage or from a portion of the supply.

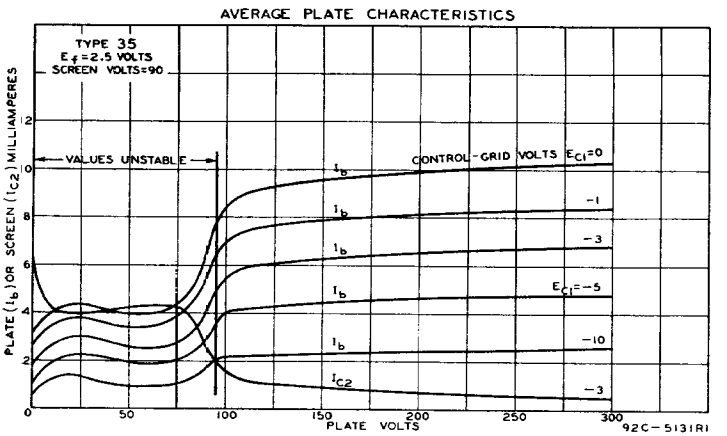
Complete **shielding** for all stages of the circuit is necessary if maximum gain and the volume-control-range capabilities of this tube are to be realized.

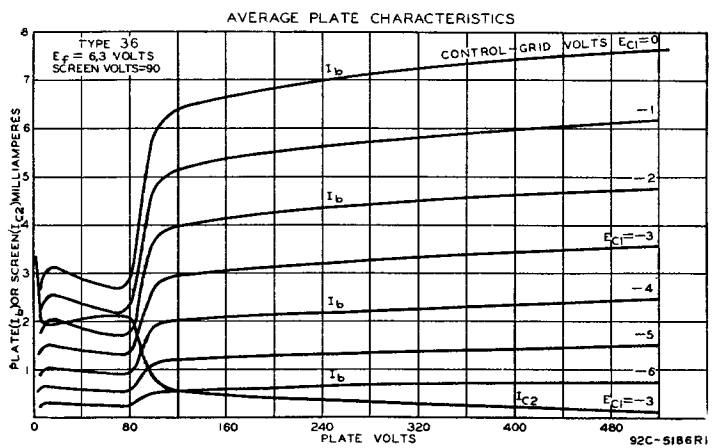
APPLICATION

As a **radio-frequency** and **intermediate-frequency amplifier**, the 35 should be operated as shown under CHARACTERISTICS. In general, properly designed radio-frequency transformers are preferable to interstage coupling impedances, especially in cases where a high-impedance B-supply may cause oscillation below radio frequencies.

Volume control of receivers designed for the 35 may be accomplished by variation of the negative grid bias of this tube. In order to utilize the full volume-control range of the 35, an available grid-bias voltage of approximately 50 volts will be required, depending on the circuit design and operating conditions. This voltage may be obtained from a potentiometer, a bleeder circuit, or from an adjustable cathode resistor.

As a mixer in superheterodyne receivers, the 35 may be used under the following conditions: Plate voltage, 250 volts; screen voltage, 90 volts; and grid bias, −7 volts with a 6-volt peak swing from the oscillator. By varying the grid bias on the mixer in conjunction with that on the radio-frequency and/or the intermediate-frequency stages, additional control of volume may be accomplished.





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