HEATER

Voltage: 6.3 volts
Current: 0.15 amp.

Direct Interelectrode Capacitances:
- Grid to Plate: 0.007 μf max.
- Input: 3.4 μf
- Output: 3.0 μf

Overall Length: 1-11/16" ± 3/16"
Overall Diameter: 1-3/32" ± 1/16"
Bulb: T-4½

End Terminals: See Outline in GENERAL SECTION

Base:
- Pin 1 - Heater
- Pin 2 - Grid No. 2
- Pin 3 - Grid No. 3
- Pin 4 - Heater

RCA Socket: Stock No. 9925
RCA Grid & Plate Clips: Stock No. 9939
Mounting Position: Any

P is on long part of bulb: Top
G₁ is on short part of bulb: Bottom

Bottom View (5BB)

Maximum and Minimum Ratings Are Design-Center Values

A, B AMPLIFIER

D-C Plate Voltage: 250 max. volts
D-C Screen (Grid No. 2) Voltage: 100 max. volts
D-C Grid (No. 1) Voltage: -3 min. volts
Plate Dissipation: 0.5 max. watt
Screen Dissipation: 0.1 max. watt
D-C Heater-Cathode Potential: 80 max. volts

Characteristics - Class A₁ Amplifier:

- D-C Plate Voltage: 90 volts
- Suppressors (Grid No. 3) Connected to cathode at socket
- D-C Screen Voltage: 90 volts
- D-C Grid Voltage: -3 volts
- Plate Resistance: 1.0 Greater than 1.0 meghms
- Transconductance: 1100 1400 meghms
- D-C Plate Current: 1.2 ma.
- D-C Screen Current: 0.5 ma.

Typical Operation with Resistance-Coupling:

- Plate-Supply Voltage: 250 volts
- Suppressor Connected to cathode at socket
- D-C Screen Voltage: 50 volts
- D-C Grid Voltage: -2.1 volts
- Load Resistance: 0.25 meghms
- D-C Plate Current: 0.5 ma.
- Second Harmonic Distortion: 5%
- Voltage Output: 40 to 50 RMS volts
- Voltage Gain: 100 approx.

* *: See next page.
* *: Indicates a change.

JUNE 30, 1944
RAO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
DETECTOR AMPLIFIER PENTODE

(continued from preceding page)

D-C Plate Voltage  250 max. volts
D-C Screen (Grid No.2) Voltage  100 max. volts
D-C Heater-Cathode Potential  80 max. volts

Typical Operation—Biased Detector:
Plate-Supply Voltage 0  250 volts
Suppressor (Grid No.3) Connected to cathode at socket
D-C Screen Voltage  100 volts
D-C Grid (No.1) Voltage  -6 approx. volts
Load Resistance  0.25 megohm
D-C Plate Current Adjusted to 0.1 ma. with no input signal
Cathode Resistor 20000 to 50000 ohms

- With shield baffle.
- Under maximum rated conditions, the resistance in the grid circuit should not exceed 0.5 megohm with fixed bias, or 1.0 megohm with cathode bias.

0 This is a plate-supply voltage value. The voltage effective at the plate will be plate-supply voltage minus the voltage drop in load caused by the plate current.

R-f grounding by means of condensers placed close to the tube terminals is required if the full capabilities of the 954 for ultra-high-frequency uses are to be obtained. It is important in the cases of the plate and control-grid circuits that separate r-f grounding returns be made to a common point in order to avoid r-f inter-action through common return circuits. It may also be advisable in some applications to supplement the action of the by-pass condensers by r-f chokes placed close to the condensers in the return or supply lead for the grid, the screen, the suppressor, the plate, and the heater.

TYPICAL R-F AMPLIFIER CIRCUIT

For ultra-high frequencies, coils L1 and L2 may be tapped at suitable points determined by test to reduce effect of tube loading on circuit impedances.

Because electronic plate loading is not serious in a pentode, the use of coil L2 with tapped plate connection may not be necessary to give satisfactory results.

The condensers should all be of high quality and be designed for ultra-high frequency operation.

The license extended to the purchaser of tubes appears in the License Notice accompanying them. Information contained herein is furnished without assuming any obligations.

92CM-4386R2

954

INDICATES A CHANGE. NOTE: THE ABOVE DATA ARE NECESSARILY APPROXIMATE

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

JUNE 30, 1944

WAVE-LENGTH RANGE

TURNS | WIRE OUTSIDE DIA. | LENGTH | METERS APPRX. | METERS APPRX. | METER APPRX.
----------------------------------|-----------------|---------|----------------|
L1+L2 | 10 | Na16, B.C. | ¾ | 4 | Na16 B.C. | ½ | Na30 B.C. | ⅛ |
C1+C2 | (VARIABLE) | 3 TO 25 µμF | 3 TO 25 µμF | 3 TO 4 µμF |
C | 100 TO 500 | µμF | 100 TO 500 | µμF | 100 TO 500 | µμF |
Z | 15 | Na30 | S.L. | 15 | Na30 | S.L. | 15 | Na30 | S.L.

* B.C. = BARE COPPER  /  S.L. = SINGLE LAYER