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## TWIN-TRIODE POWER AMPLIFIER

## GENERAL DATA

## Electrical:

Heater, for Unipotential Cathode:

Voltage. . . . . 12.6  $\pm$  10% . . . ac or dc volts

Current. . . . . 1.125 . . . . . amp

Amplification Factor,

(per unit). . . . . 11

Direct Interelectrode Capacitances (per unit):

Grid to Plate. . . . . 5 . . . . .  $\mu\text{mf}$ Grid to Cathode. . . . . 8.5 . . . . .  $\mu\text{mf}$ Plate to Cathode . . . . . 4 . . . . .  $\mu\text{mf}$ 

## Mechanical:

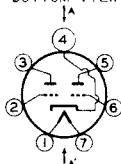
Mounting Position. . . . . Vertical, base up or down;  
Horizontal, with plane of  
each plate verticalOverall Length . . . . . 3-1/2"  $\pm$  3/16"Seated Length. . . . . 3-1/16"  $\pm$  3/16"

Maximum Diameter . . . . . See Outline Drawing

Bulb . . . . . T-16

Base . . . . . Medium Molded-Flare Septar 7-Pin

Basing Designation for BOTTOM VIEW . . . . . 7CG

Pin 1-Heater  
Pin 2-Grid of  
Unit No.2  
Pin 3-Plate of  
Unit No.2  
Pin 4-CathodePin 5-Plate of  
Unit No.1  
Pin 6-Grid of  
Unit No.1  
Pin 7-HeaterPLANE OF ELECTRODES OF EACH UNIT  
IS PARALLEL TO PLANE THROUGH AXIS  
OF TUBE AND AA'

## CONTROL AMPLIFIER SERVICE

Values are for each unit unless otherwise specified

## Maximum Ratings, Absolute Values:

PEAK PLATE VOLTAGE . . . . .  $\pm$  2000 max. volts

DC GRID VOLTAGE. . . . . -200 max. volts

PEAK CATHODE CURRENT . . . . . 500 max. ma.

AVERAGE PLATE CURRENT. . . . . 120 max. ma.

AVERAGE GRID CURRENT . . . . . 7.5 max. ma.

PLATE DISSIPATION. . . . . 15 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode 100 max. volts

Heater positive with respect to cathode 100 max. volts

## Typical Operation in Accompanying Circuit:

Plate-Supply Voltage (ERMS)\* . . . . . 600 . . volts

DC Grid-Supply Voltage (E<sub>CC</sub>) . . . . . -160 . . volts

\* See next page.

3C33



3C33

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|                                             |          |        |
|---------------------------------------------|----------|--------|
| Peak Grid Voltage (See Note 1) . . . . .    | 160 . .  | volts  |
| Grid-Circuit Resistance ( $R_g$ ) . . . . . | 0.5 . .  | megohm |
| Load Resistance ( $R_L$ ) . . . . .         | 3000 . . | ohms   |
| Peak Output Current <sup>o</sup> . . . . .  | 210 . .  | ma.    |

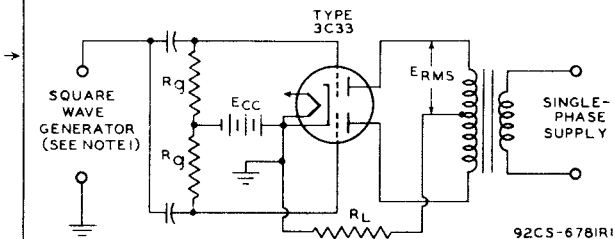
## Maximum Circuit Values:

## Grid-Circuit Resistance:

|                                                   |          |        |
|---------------------------------------------------|----------|--------|
| → When grid potential is always negative. . . . . | 0.5 . .  | megohm |
| When grid potential swings positive . . . . .     | 0.03 . . | megohm |

\* Plates are operated 180° out of phase.

o output-current wave-shape is essentially that of a half-sine wave.



**NOTE 1:** VOLTAGE DELIVERED BY SQUARE-WAVE GENERATOR TO THE PARALLELED GRIDS SHOULD BE IN PHASE WITH THE PLATE VOLTAGE ON ONE OF THE UNITS TO PERMIT CONDUCTION THROUGH THAT UNIT WITH RESULTANT CURRENT FLOW THROUGH  $R_L$ , AND SHOULD BE REVERSIBLE IN PHASE TO PERMIT CONDUCTION THROUGH THE OTHER UNIT WITH RESULTANT CURRENT FLOW THROUGH  $R_L$ .

Devices and arrangements shown or described herein may use patents of RCA or others. Information contained herein is furnished without responsibility by RCA for its use and without prejudice to RCA's patent rights.

→ Indicates a change.

MAR. 15, 1948

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

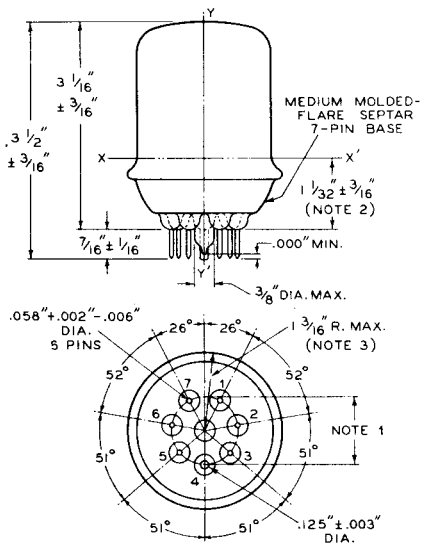
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3C33

3C33

## TWIN-TRIODE POWER AMPLIFIER



92CM-6780

BOTTOM VIEW

THE REFERENCE AXIS YY' IS DEFINED AS THE AXIS OF THE BASE-PIN GAUGE DESCRIBED IN NOTE 1.

**NOTE 1:** ANGULAR VARIATIONS BETWEEN PINS AND VARIATION IN PIN-CIRCLE DIAMETER ARE HELD TO TOLERANCES SUCH THAT PINS WILL ENTER TO A DISTANCE OF 0.375" A FLAT-PLATE BASE-PIN GAUGE HAVING SIX HOLES  $0.0800'' \pm 0.0005''$  AND ONE HOLE  $0.1450'' \pm 0.0005''$  ARRANGED ON A  $1.0000'' \pm 0.0005''$  CIRCLE AT SPECIFIED ANGLES WITH TOLERANCE OF  $\pm 5'$  FOR EACH ANGLE. GAUGE IS ALSO PROVIDED WITH A HOLE  $0.500'' \pm 0.010''$  CONCENTRIC WITH PIN CIRCLE WHOSE CENTER IS ON THE AXIS YY'.

**NOTE 2:** A FLAT-PLATE FLANGE GAUGE WITH HOLE  $2.063'' - 0.000'' + 0.003''$  IS LOWERED OVER TUBE SEATED IN BASE-PIN GAUGE SO THAT THE HOLE AXIS IS COINCIDENT WITH AXIS YY' WITHIN 0.150'', AND SO THAT THE BOTTOM SURFACE OF THE FLANGE GAUGE IS PARALLEL TO THE TOP SURFACE OF THE BASE-PIN GAUGE, AND UNTIL THE FLANGE GAUGE RESTS ON THE TUBE-FLANGE SEAL AT POSITION XX'. THE PERPENDICULAR DISTANCE BETWEEN THE TWO GAUGES WILL BE AS SHOWN.

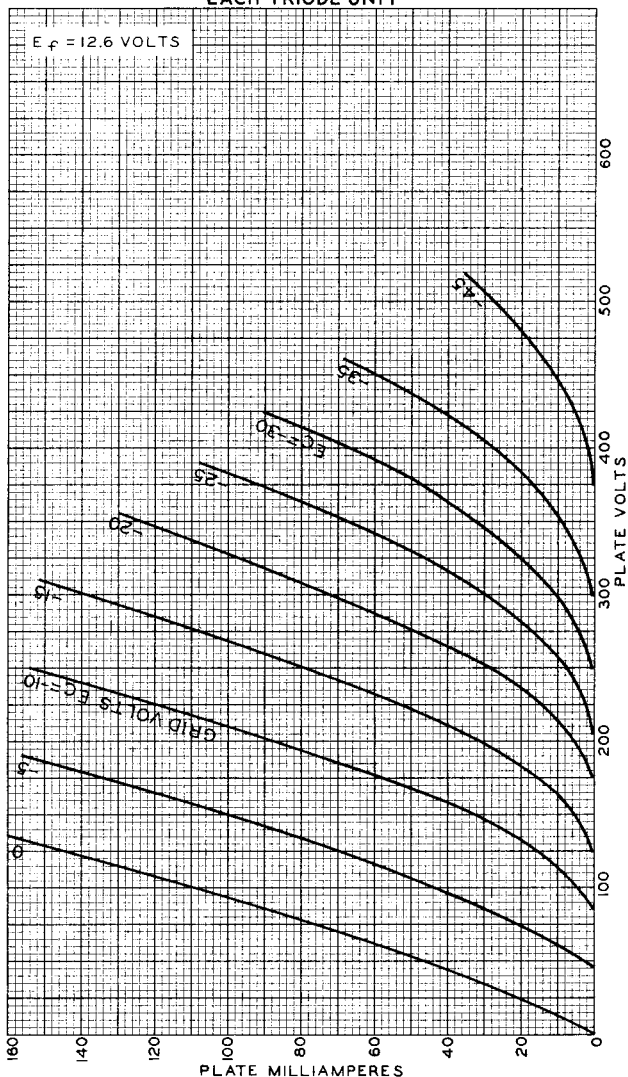
**NOTE 3:** MINIMUM DIAMETER OF TUBE-SEAL FLANGE WILL BE SUCH THAT A RING GAUGE HAVING AN INSIDE DIAMETER OF  $2.125'' - 0.000'' + 0.003''$  AND THICKNESS OF  $0.125'' \pm 0.010''$  WILL NOT PASS THE FLANGE WHEN TRIED AT ANY ANGLE.

3C33



3C33

# AVERAGE PLATE CHARACTERISTICS EACH TRIODE UNIT



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