POWER PENTODE
MINIATURE TYPE

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
  Voltage ........... 6.3 .......... ac or dc volts
  Current .......... 0.65 .......... amp
Direct Interelectrode Capacitances (without external shield):
  Grid No.1 to Plate .... 0.120 ........... μf
  Input ........... 11 ........... μf
  Output .......... 5.5 ........... μf

Characteristics, Amplifier Class A1:
  Plate Voltage ........... 250 volts
  Grid No.3 ........... Connected to cathode at socket
  Grid-No.2 Voltage .... 150 volts
  Grid-No.1 Voltage .... -3 volts
  Peak AF Grid-No.1 Signal Voltage .... 3 volts
  Zero-Signal DC Plate Current .......... 30 ma
  Max.-Signal DC Plate Current .... 31 ma
  Zero-Signal DC Grid-No.2 Current .... 7 ma
  Max.-Signal DC Grid-No.2 Current .... 7.2 ma
  Plate Resistance (Approx.) .... 0.15 megohm
  Transconductance .......... 11000 μhos
  Grid-No.1 Voltage (Approx.) for plate current of 10 μamp .... -14 volts
  Load Resistance .......... 7500 ohms
  Total Harmonic Distortion .... 8 per cent
  Max.-Signal Power Output .......... 2.8 watts

Mechanical:
  Mounting Position ........... Any
  Maximum Overall Length .... 2-5/8"
  Maximum Seated Length .... 2-3/8"
  Length, Base Seat to Bulb Top (excluding tip) .... 2" ± 3/32"
  Maximum Diameter .......... 7/8"
  Bulb ........... Small-Button Noval 9-Pin (JETEC No.E9-1)
  Base ........... BOTTOM VIEW

  Pin 1 - Cathode
  Pin 2 - Grid No.1
  Pin 3 - Grid No.2
  Pin 4 - Heater
  Pin 5 - Heater
  Pin 6 - Plate
  Pin 7 - Grid No.3, Int.Shield
  Pin 8 - Grid No.2
  Pin 9 - Grid No.1

AMPLIFIER - Class A1

Maximum Ratings, Design-Center Values:
  PLATE VOLTAGE ........... 300 max. volts
  PLATE SUPPLY VOLTAGE .... 300 max. volts
  GRID-No.3 (SUPPRESSOR) VOLTAGE .... 0 max. volts

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GRID-No.2 (SCREEN) VOLTAGE ........ See Rating Curve at front of this Section
GRID-No.2 SUPPLY VOLTAGE ............ 300 max. volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:
Negative bias value .................. 50 max. volts
Positive bias value .................. 0 max. volts
PLATE DISSIPATION .................. 7.5 max. watts
GRID-No.2 INPUT .................. 1.7 max. watts
PEAK HEATER- CATHODE VOLTAGE:
Heater negative with respect to cathode .. 90 max. volts
Heater positive with respect to cathode .. 90 max. volts
BULB TEMPERATURE (At hottest point on bulb surface) ........ 200 max. °C

Typical Operation in 4-Mc Bandwidth Video Amplifier
Circuit of Fig. 1:
Plate Supply Voltage .................. 300 volts
Grid No.3 .................. Connected to cathode at socket
Grid-No.2 Supply Voltage ............ 300 volts
Grid-No.1 Bias Voltage ............ -2 volts
Grid-No.1 Signal Voltage (Peak to Peak) .... 3 volts
Grid-No.2 Resistor ............ 24000 ohms
Grid-No.1 Resistor ............ 0.1 megohm
Load Resistor ............ 3900 ohms
Zero-Signal Plate Current ............ 30 ma
Zero-Signal Grid-No.2 Current ........ 7.0 ma
Voltage Output (Peak to Peak) ........ 132 volts

Maximum Circuit Values:
Grid-No.1-Circuit Resistance:
For fixed-bias operation ............ 0.1 max. megohm
For cathode-bias operation ............ 0.5 max. megohm

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POWER PENTODE

Fig. 1 - Typical Video Voltage Amplifier Circuit Having Bandwidth of 4 Mc.

C1: 0.1 µf, 400 volts
C2: 4 µf, 400 volts
L1: Peaking Coil, 180 µh
L2: Peaking Coil, 120 µh
R1: 100000 ohms, 0.5 watt
R2: 47000 ohms, 0.5 watt
R3: 24000 ohms, 2 watts
R4: 3900 ohms, 5 watts
non-inductive type

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.
AVERAGE PLATE CHARACTERISTICS
WITH EC2 AS VARIABLE

E_P = 6.3 VOLTS
GRID NO. 3 CONNECTED TO CATHODE
GRID NO. 1 VOLTS = 0
AVERAGE PLATE CHARACTERISTICS
WITH EC1 AS VARIABLE

E_P = 6.3 VOLTS
GRID NO. 3 CONNECTED TO CATHODE
GRID NO. 2 VOLTS = 150

GRID NO. 1 (I_C1) MILLIAMPERES

PLATE (I_L) OR GRID NO. 2 (I_C2) MILLIAMPERES

MAY 22, 1952
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92CM - 7802
AVERAGE CHARACTERISTICS

$E_F = 6.3$ VOLTS
PLATE VOLTS = 300
GRID NO. 3 CONNECTED TO CATHODE

GRID-N°1 VOLTS

TRANSCONDUCENCE - MICROMOHS

MAY 21, 1952
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92CM-7801
AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

$E_F = 6.3$ VOLTS
GRID NO. 3 CONNECTED TO CATHODE
GRID NO. 2 CONNECTED TO PLATE

PLATE MILLIAMPERES

MAY 26, 1952
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92CM-7808