Medium-Mu Twin Triode

9-PIN MINIATURE TYPE
For Applications Critical as to Microphonicity

GENERAL DATA

Electrical:
Heater, for Unipotential Cathodes:
Heater arrangement...
Series... Parallel...
Voltage (AC or DC). 12.6 6.3 ± 10% volts
Current... 0.15 ± 6% 0.3 amp
Direct Interelectrode Capacitances (Approx.):
Unit No. 1 Unit No. 2
Grid to plate... 1.5 1.5 μμf
Grid to cathode and heater... 1.6 1.6 μμf
Plate to cathode and heater... 0.5 0.35 μμf

Characteristics, Class A, Amplifier (Each Unit):
Plate Voltage... 100 250 volts
Grid Voltage... 0 -8.5 volts
Amplification Factor... 19.5 17
Plate Resistance (Approx.)... 6250 7700 ohms
Transconductance... 3100 2200 μμhos
Plate Current... 11.8 10.5 ma
Grid Voltage (Approx.)
for plate μμa = 10... -24 volts

Mechanical:
Operating Position... Any
Maximum Overall Length... 2-3/16"
Maximum Seated Length... 1-15/16"
Length, Base Seat to Bulk Top (Excluding tip)... 1-9/16" ± 3/32"
Diameter... 0.750" to 0.875"
Dimensional Outline... See General Section

Base... Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW... 9A

Pin 1-Plate of Unit No. 2
Pin 2-Grid of Unit No. 2
Pin 3-Cathode of Unit No. 2
Pins 4&9-Heater of Unit No. 2
Pins 5&9-Heater of Unit No. 1
Pin 6-Plate of Unit No. 1
Pin 7-Grid of Unit No. 1
Pin 8-Cathode of Unit No. 1
Pin 9-Heater Tap

←Indicates a change.
### 12AU7A

**AMPLIFIER — Class A**

*Values are for Each Unit*

- **Maximum Ratings, Design-Maximum Values:**
  - PLATE VOLTAGE: 330 max. volts
  - CATHODE CURRENT: 22 max. ma
  - PLATE DISSIPATION:
    - Either plate: 2.75 max. watts
    - Both plates (Both units operating): 5.5 max. watts
  - PEAK HEATER-CATHODE VOLTAGE:
    - Heater negative with respect to cathode: 200 max. volts
    - Heater positive with respect to cathode: 200\* max. volts

**Typical Operation as Resistance-Coupled Amplifier:**

See RESISTANCE-COUPLED AMPLIFIER CHART No. 10 at front of this Section

- **Maximum Circuit Values:**
  - Grid-Circuit Resistance: 1 max. megohm

---

**HORIZONTAL-DEFLECTION OSCILLATOR**

*Values are for Each Unit*

- **Maximum Ratings, Design-Maximum Values:**
  - For operation in a 525-line, 30-frame system\(^c\)
    - DC PLATE VOLTAGE: 330 max. volts
    - PEAK NEGATIVE-PULSE GRID VOLTAGE: 660 max. volts
    - CATHODE CURRENT:
      - Peak: 330 max. ma
      - Average: 22 max. ma
    - PLATE DISSIPATION:
      - Either plate: 2.75 max. watts
      - Both plates (Both units operating): 5.5 max. watts
    - PEAK HEATER-CATHODE VOLTAGE:
      - Heater negative with respect to cathode: 200 max. volts
      - Heater positive with respect to cathode: 200\* max. volts

- **Maximum Circuit Values:**
  - Grid-Circuit Resistance: 2.2 max. megohms

---

**VERTICAL-DEFLECTION OSCILLATOR**

*Values are for Each Unit*

- **Maximum Ratings, Design-Maximum Values:**
  - For operation in a 525-line, 30-frame system\(^c\)
    - DC PLATE VOLTAGE: 330 max. volts
    - PEAK NEGATIVE-PULSE GRID VOLTAGE: 440 max. volts
    - CATHODE CURRENT:
      - Peak: 66 max. ma
      - Average: 22 max. ma

\(^c\) Indicates a change.
PLATE DISSIPATION:
- Either plate: 2.75 max. watts
- Both plates (both units operating): 5.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:
- Heater negative with respect to cathode: 200 max. volts
- Heater positive with respect to cathode: 200 max. volts

Maximum Circuit Values:
- Grid-Circuit Resistance: 2.2 max. megohms

VERTICAL-DEFLECTION AMPLIFIER
Values are for Each Unit

Maximum Ratings, Design-Maximum Values:
For operation in a 525-line, 30-frame system:

DC PLATE VOLTAGE: 300 max. volts
PEAK POSITIVE-PULSE PLATE VOLTAGE: 1200 max. volts
PEAK NEGATIVE-PULSE GRID VOLTAGE: 275 max. volts

CATHODE CURRENT:
- Peak: 66 max. ma
- Average: 22 max. ma

PLATE DISSIPATION:
- Either plate: 2.75 max. watts
- Both plates (both units operating): 5.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:
- Heater negative with respect to cathode: 200 max. volts
- Heater positive with respect to cathode: 200 max. volts

Maximum Circuit Values:
- Grid-Circuit Resistance: 2.2 max. megohms

---

a Without external shield.
b The dc component must not exceed 100 volts.
c As described in "Standards of Good Engineering Practice Concerning Tele-
vision Broadcast Stations," Federal Communications Commission.
d This rating is applicable where the duration of the voltage pulse does
not exceed 15 per cent of one vertical scanning cycle. In a 525-line,
30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milli-
seconds.

---

Indicates a change.

RCA
Radio Corporation of America
Electron Tube Division
Harrison, N. J.
DATA 2
7-61