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LOW-MU TWIN POWER TRIODE

GENERAL DATA

Heater, for Unipotential Cathodes:
 Voltage 6.3 ± 10% ac or dc volts
 Current 2.5 amp

Direct Interelectrode Capacitances (Approx.):
 (Each Unit, without external shield)

Grid to Plate 8 μf
 Input 6 μf
 Output 2.2 μf

Heater to Cathode:
 Triode Unit No.1 6.5 μf
 Triode Unit No.2 6 μf
 Grid of Unit No.1 to Grid of Unit No.2 0.5 μf
 Plate of Unit No.1
 to Plate of Unit No.2 2 μf

Characteristics, Amplifier Class A₁ (Each Unit):

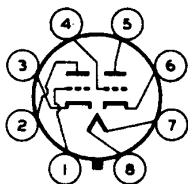
Plate-Supply Voltage 135 volts
 Cathode-Bias Resistor 250 ohms
 Amplification Factor 2
 Plate Resistance 280 ohms
 Transconductance 7000 μhos
 Plate Current 125 ma

Mechanical:

Mounting Position Any
 Maximum Overall Length 4-1/16"
 Maximum Seated Length 3-1/2"
 Maximum Diameter 1-23/32"
 Bulb T-12
 Base Large-Wafer Octal 8-Pin with Sleeve and External Barriers (JETEC No. B8-98)

Basing Designation for BOTTOM VIEW 8BD

Pin 1 - Grid of Unit No.2
 Pin 2 - Plate of Unit No.2
 Pin 3 - Cathode of Unit No.2
 Pin 4 - Grid of Unit No.1



Pin 5 - Plate of Unit No.1
 Pin 6 - Cathode of Unit No.1
 Pin 7 - Heater
 Pin 8 - Heater

DC AMPLIFIER

Values are for Each Unit

Maximum Ratings, Absolute Values:

PLATE VOLTAGE 250 max. volts
 PLATE CURRENT 125 max. ma
 PLATE DISSIPATION 13 max. watts
 PEAK HEATER-CATHODE VOLTAGE:
 Heater negative with respect to cathode 300 max. volts
 Heater positive with respect to cathode 300 max. volts

← indicates a change

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BULB TEMPERATURE[⊙]. 200 max. °C

Maximum Circuit Values:

Grid-Circuit Resistance:

For cathode-bias operation 1.0 max. megohm
 For fixed-bias operation[⊠]. 0.1 max. megohm
 For combined fixed and cathode-bias operation[★]. 0.1 max. megohm

BOOSTER SCANNING SERVICE

Values are for Each Unit

Maximum Ratings, Absolute Values:

For operation in a 525-line, 30-frame system[▲]

PEAK NEGATIVE-PULSE PLATE VOLTAGE[●] 3000 max. volts
 PEAK NEGATIVE-PULSE GRID VOLTAGE 2300 max. volts
 DC PLATE CURRENT 125 max. ma
 PLATE DISSIPATION. 13 max. watts
 PEAK HEATER-CATHODE VOLTAGE:
 Heater negative with respect to cathode[●] 300 max. volts
 Heater positive with respect to cathode. 300 max. volts
 BULB TEMPERATURE[⊙]. 200 max. °C

Maximum Circuit Values (For maximum rated conditions):

Grid-Circuit Resistance:

For cathode-bias operation 1.0 max. megohm
 For fixed-bias operation not recommended

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current	1	2.26	2.74	amp
Amplification Factor (Each Unit)	1,2	1.4	2.6	
Plate Current (Each Unit).	1,2	100	150	ma
Transconductance (Each Unit)	1,2	5800	8200	μmhos
Reverse Grid Current (Units in Parallel)	1,3	-	4	μamp

- Note 1: With 6.3 volts ac or dc on heater.
- Note 2: With plate-supply voltage of 135 volts, and cathode-bias resistor of 250 ohms in each cathode (both triode units operating).
- Note 3: With plate-supply voltage of 135 volts, grid resistor of 1 megohm in each grid and cathode-bias resistor of 250 ohms in each cathode (both triode units operating).

- At hottest point on bulb surface.
- ⊠ When fixed bias is used, the plate circuit should contain a protective resistance to provide a minimum drop of 15 volts dc at the normal operating conditions.

★, ▲, ●, ⊙: See next page. → indicates a change



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- ★ When combined fixed- and cathode-bias is used, the cathode-bias portion should have a minimum value of 7.5 volts dc at the normal operating conditions.
- ▲ As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.
- The duration of the voltage pulse must not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.
- operation of this tube is not recommended with a damper pulse between heater and cathode.

SPECIAL RATINGS & PERFORMANCE DATA

Shock Rating:

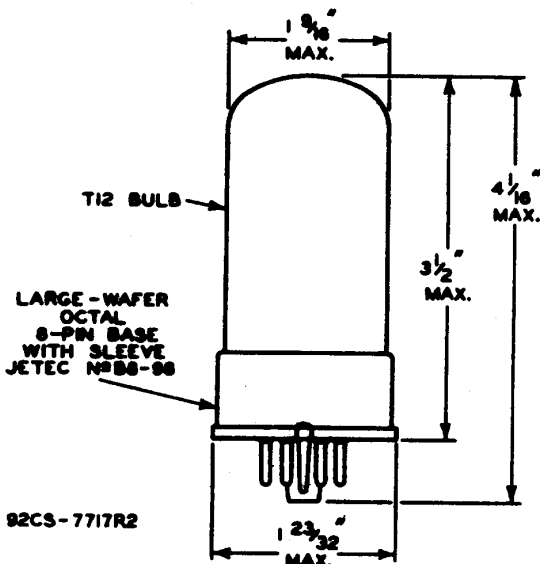
Impact Acceleration 450 max. g
 Tubes are held rigid in four different positions in a Navy Type, High Impact (flyweight) Shock Machine and are subjected to 450 g impact acceleration.

Fatigue Rating:

Vibrational Acceleration 2.5 max. g
 Tubes are rigidly mounted and subjected in each of three positions to 2.5 g vibrational acceleration at 25 cycles per second for 32 hours.

Low-Frequency Vibration Performance:

RMS Output Voltage 200 max. mv
 Under the following conditions and with units connected in parallel: Heater voltage of 6.3 volts, plate voltage supply of 135 volts, dc grid voltage of -7 volts, plate load resistance of 2000 ohms, and vibrational acceleration of 2.5 g at 25 cycles per second.



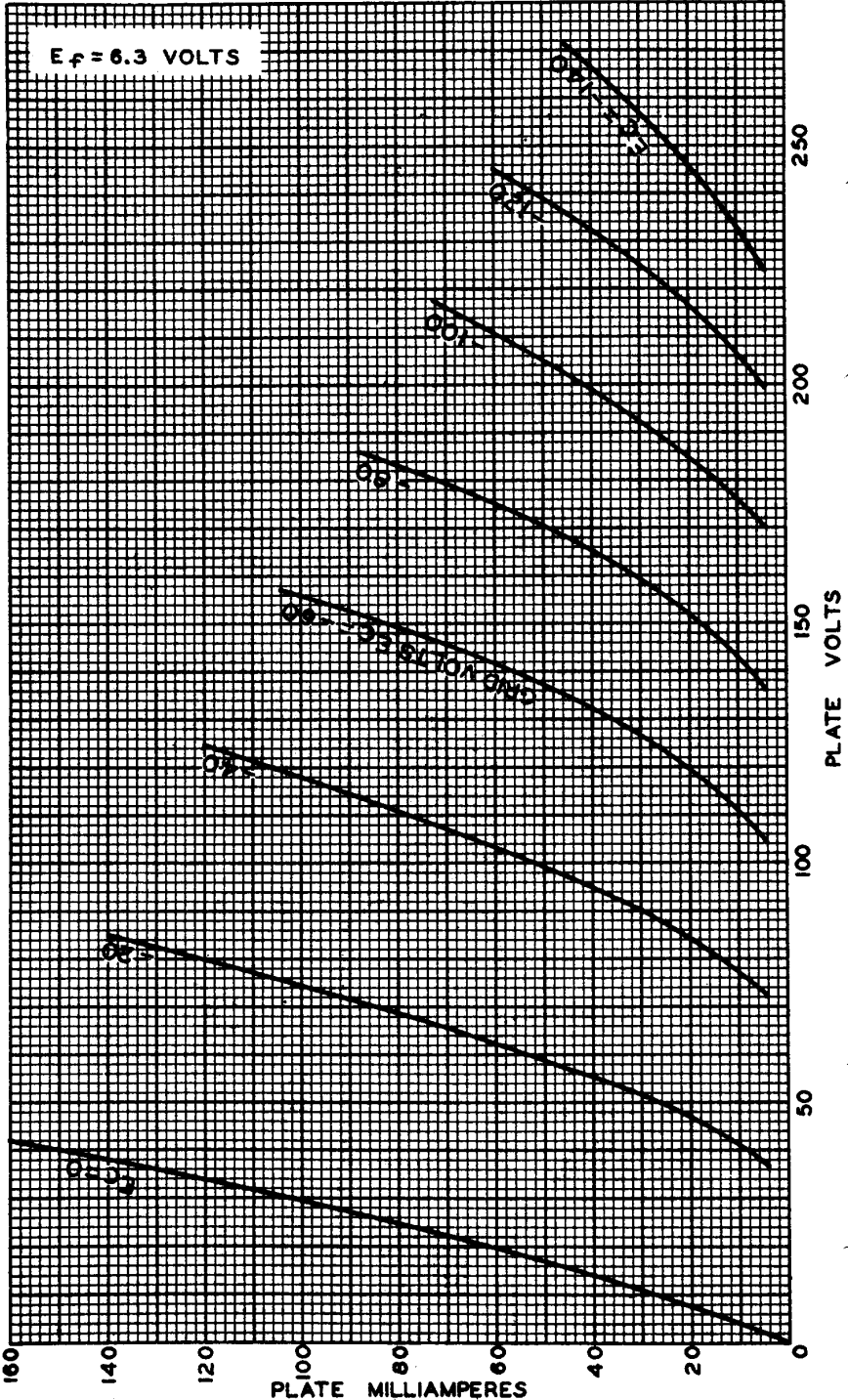
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AVERAGE PLATE CHARACTERISTICS EACH TRIODE UNIT



OCT. 19, 1951

TUBE DEPARTMENT

92CM-7695

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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LOW-MU TWIN POWER TRIODE

LARGE-WAFER OCTAL BASE
WITH EXTERNAL BARRIERS AND SLEEVE
JETEC No. B8-98

