

Beam Power Tube— Sharp-Cutoff Pentode

DUODECAR TYPE

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	1.200	amp
Peak heater-cathode voltage (Each unit):		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 ^a max.	volts
Direct Interelectrode Capacitances (Approx.): ^b		

Beam Power Unit:

Grid No.1 to plate	0.26	pf
Grid No.1 to cathode & grid No.3, grid No.2, internal shield, and heater	12.0	pf
Plate to cathode & grid No.3, grid No.2, internal shield, and heater	12.0	pf

Pentode Unit:

Grid No.1 to plate	0.034	pf
Grid No.3 to plate	2.8	pf
Grid No.1 to cathode, grid No.2, grid No.3, internal shield, and heater	6.5	pf
Grid No.3 to cathode, grid No.1, grid No.2, plate, internal shield, and heater	7.5	pf
Grid No.1 to grid No.3	0.24	pf
Plate of beam power unit to plate of pentode unit	0.12	pf

Characteristics, Class A₁ Amplifier (Pentode Unit):

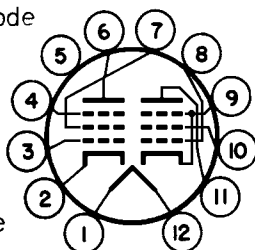
Plate Supply Voltage	150	volts
Grid-No.3 Supply Voltage	Connected to cathode at socket	
Grid-No.2 Supply Voltage	100	volts
Cathode Resistor	560	ohms
Plate Resistance (Approx.)	0.15	megohm
Transconductance, Grid No.1 to Plate	1000	μmhos
Transconductance, Grid No.3 to Plate	400	μmhos
Plate Current	1.3	ma
Grid-No.2 Current	2	ma
Grid-No.1 Voltage (Approx.) for plate $\mu_a = 10$	-4.5	volts
Grid-No.3 Voltage (Approx.) for plate $\mu_a = 10$	-4.5	volts



Mechanical:

Operating Position. Any
 Type of Cathodes. Coated Unipotential
 Maximum Overall Length. 2.375"
 Seated Length. 1.750" to 2.000"
 Diameter. 1.062" to 1.188"
 Bulb. T9
 Base. Small-Button Duodecar 12-Pin (JEDEC No.E12-70)
 Basing Designation for BOTTOM VIEW. 12BU

Pin 1-Heater	Pin 8-Beam Power
Pin 2-Pentode Cathode	Grid No.1
Pin 3-Pentode	Pin 9-Beam Power
Grid No.1	Cathode,
Pin 4-Pentode	Beam Power
Grid No.3	Plate
Pin 5-Internal	Pin 10-Beam Power
Shield	Grid No.2
Pin 6-Pentode Plate	Pin 11-Beam Power
Pin 7-Pentode	Plate
Grid No.2	Pin 12-Heater



PENTODE UNIT — FM SOUND DETECTOR

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE	330 max.	volts
GRID-No.3 (SUPPRESSOR-GRID) VOLTAGE	28 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE.	330 max.	volts
GRID-No.2 VOLTAGE	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive-bias value	0 max.	volts
PLATE DISSIPATION	1.7 max.	watts
GRID-No.2 INPUT:		
For grid-No.2 voltages		
up to 165 volts	1.1 max.	watts
For grid-No.2 voltages between		
165 and 330 volts	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	

BEAM POWER UNIT — AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE.	150 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE.	135 max.	volts
AVERAGE CATHODE CURRENT.	65 max.	ma
PLATE DISSIPATION.	6.5 max.	watts
GRID-No.2 INPUT.	1.8 max.	watts

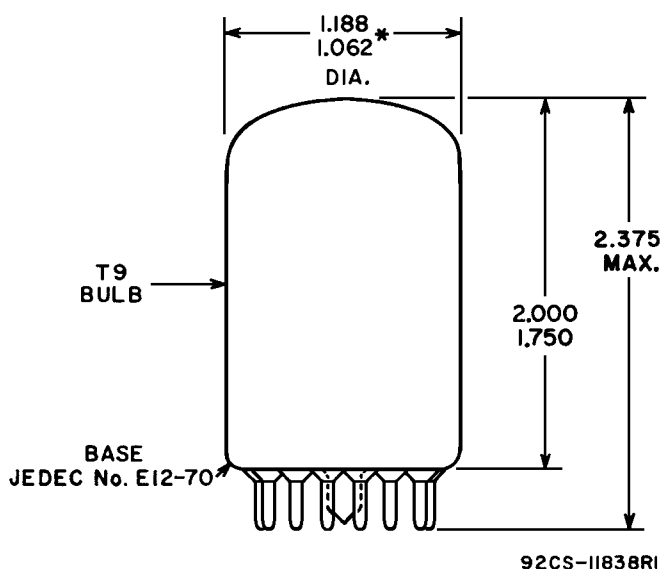
Typical Operation and Characteristics:

Plate Voltage.	120	volts
Grid-No.2 Voltage.	110	volts
Grid-No.1 (Control-Grid) Voltage	-8	volts
Peak AF Grid-No.1 Voltage	8	volts

Zero-Signal Plate Current.	49	ma
Max.-Signal Plate Current.	50	ma
Zero-Signal Grid-No.2 Current.	4	ma
Max.-Signal Grid-No.2 Current.	8.5	ma
Plate Resistance (Approx.)	10000	ohms
Transconductance	7500	μ mhos
Load Resistance.	2500	ohms
Total Harmonic Distortion.	10	per cent
Max.-Signal Power Output	2.3	watts

a The dc component must not exceed 100 volts.

b without external shield.



DIMENSIONS IN INCHES

* APPLIES TO MINIMUM DIAMETER EXCEPT IN AREA OF SEAL.

