

Beam Power Tube

FORCED-AIR COOLED ABOVE 30 Mc

For use at frequencies up to 240 Mc

GENERAL DATA

Electrical:

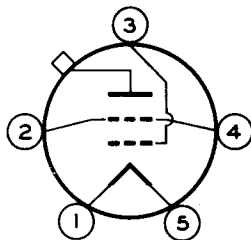
Filament, Thoriated Tungsten:

Voltage (AC or DC)	5.0 ± 5%	volts
Current at filament volts = 5.0	6.5	amp
Transconductance, for plate volts = 2500, grid-No.2 volts = 400, and plate ma. = 50.	2500	μmhos
Mu-Factor, Grid No.2 to Grid No.1	5.9	
Direct Interelectrode Capacitances: ^a		
Grid No.1 to plate.	0.05 max.	μμf
Grid No.1 to filament, grid No.2, and base shell.	11.0	μμf
Plate to filament, grid No.2, and base shell.	3.2	μμf

Mechanical:

Operating Position.	Vertical, base down or up
Maximum Overall Length.	5-11/16"
Seated Length	4-11/16" ± 1/4"
Maximum Diameter.	2-7/8"
Weight (Approx.).	6.5 oz
Cap	Skirted Small (JEDEC No.C1-22)
Base.	Special Metal-Shell Giant 5-Pin
Basing Designation for BOTTOM VIEW.	5BK

Pin 1-Filament
Pin 2-Grid No.2
Pin 3-Grid No.1



Pin 4-Grid No.2
Pin 5-Filament
Cap-Plate

Thermal:

Forced-Air Cooling:

Through base toward bulb. 5 cfm
The specified air flow from a small fan or centrifugal blower should be applied simultaneously with filament power.

To bulb and plate seal:

Continuous service: At frequencies below 30 Mc, relatively slow movement of air past the bulb is sufficient to prevent exceeding the specified plate-seal temperature of 170° C. At frequencies above 30 Mc, special attention should be given to adequate cooling of bulb and plate seal. A small stream of air directed toward the upper part of the bulb will generally provide sufficient cooling.

← Indicates a change.



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Intermittent service ("On" period does not exceed 5 minutes and is followed by "off" period of the same or greater duration): In this service, a plate-seal temperature as high as 220°C is permissible. At frequencies below 30 Mc and for ambient temperatures below 30° C, forced-air cooling of the bulb and plate seal is not usually required, provided a heat-radiating plate connector is used, and free circulation of air is provided. At frequencies above 30 Mc, special attention should be given to adequate cooling to prevent exceeding the specified plate-seal temperature.

Plate-Seal Temperature (Measured on top of plate cap):

Continuous service.	170 max.	°C
Intermittent service (As defined above)	220 max.	°C

Components:

Socket. . . E.F. Johnson Co. Socket No.122-275, or equivalent
Heat-Radiating Plate Connector. . . Eimac HR-6, or equivalent

AF POWER AMPLIFIER & MODULATOR — Class AB₁^b

Maximum CCS^c Ratings, Absolute-Maximum Values:

DC PLATE VOLTAGE.	3000 max.	volts
DC GRID-No.2 VOLTAGE.	600 max.	volts
MAX.--SIGNAL DC PLATE CURRENT ^d	225 max.	ma
GRID-No.2 INPUT ^d	20 max.	watts
PLATE DISSIPATION ^d	125 max.	watts

→ AF POWER AMPLIFIER & MODULATOR — Class AB₂^e

Maximum Ratings, Absolute-Maximum Values:

	CCS ^c	ICAS ^f	
DC PLATE VOLTAGE.	3000 max.	3200 max.	volts
DC GRID-No.2 VOLTAGE.	400 max.	400 max.	volts
MAX.--SIGNAL DC PLATE CURRENT ^d	225 max.	250 max.	ma
GRID-No.2 INPUT ^d	20 max.	20 max.	watts
PLATE DISSIPATION ^d	125 max.	125 max.	watts

→ PLATE MODULATED RF POWER AMPLIFIER — Class C Telephony

*Carrier conditions per tube for use
with a maximum modulation factor of 1*

Maximum Ratings, Absolute-Maximum Values:

	CCS ^c	ICAS ^f	
	Up to 120 Mc	Up to 30 Mc	
DC PLATE VOLTAGE.	2500 max.	3200 max.	volts
DC GRID-No.2 VOLTAGE.	400 max.	400 max.	volts
DC GRID-No.1 VOLTAGE.	-500 max.	-500 max.	volts
DC PLATE CURRENT.	200 max.	200 max.	ma
GRID-No.2 INPUT	20 max.	20 max.	watts
GRID-No.1 INPUT	5 max.	5 max.	watts
PLATE DISSIPATION	85 max.	100 max.	watts

→ Indicates a change.

RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy^g and RF POWER AMPLIFIER — Class C FM Telephony

Maximum Ratings, *Absolute-Maximum Values*:

	CCS ^c	ICAS ^f	
	Up to 120 Mc	Up to 30 Mc	
DC PLATE VOLTAGE.	3000 max.	4000 max.	volts
DC GRID-No.2 VOLTAGE.	400 max.	400 max.	volts
DC GRID-No.1 VOLTAGE.	-500 max.	-500 max.	volts
DC PLATE CURRENT.	225 max.	225 max.	ma
GRID-No.2 INPUT	20 max.	20 max.	watts
GRID-No.1 INPUT	5 max.	5 max.	watts
PLATE DISSIPATION	125 max.	125 max.	watts

^a Without external shield.

^b Subscript 1 indicates that grid-No.1 current does not flow during any part of the input cycle.

^c Continuous Commercial Service.

^d Averaged over any audio-frequency cycle of sine-wave form.

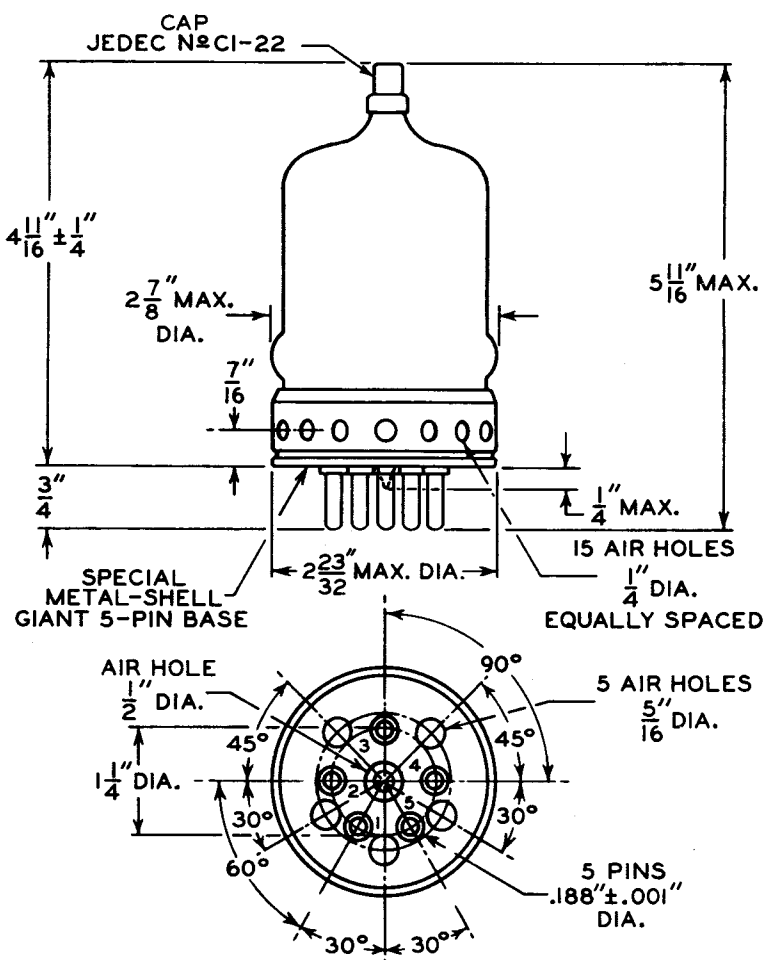
^e Subscript 2 indicates that grid-No.1 current flows during some part of the input cycle.

^f Intermittent Commercial and Amateur Service.

^g Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115 per cent of the carrier conditions.



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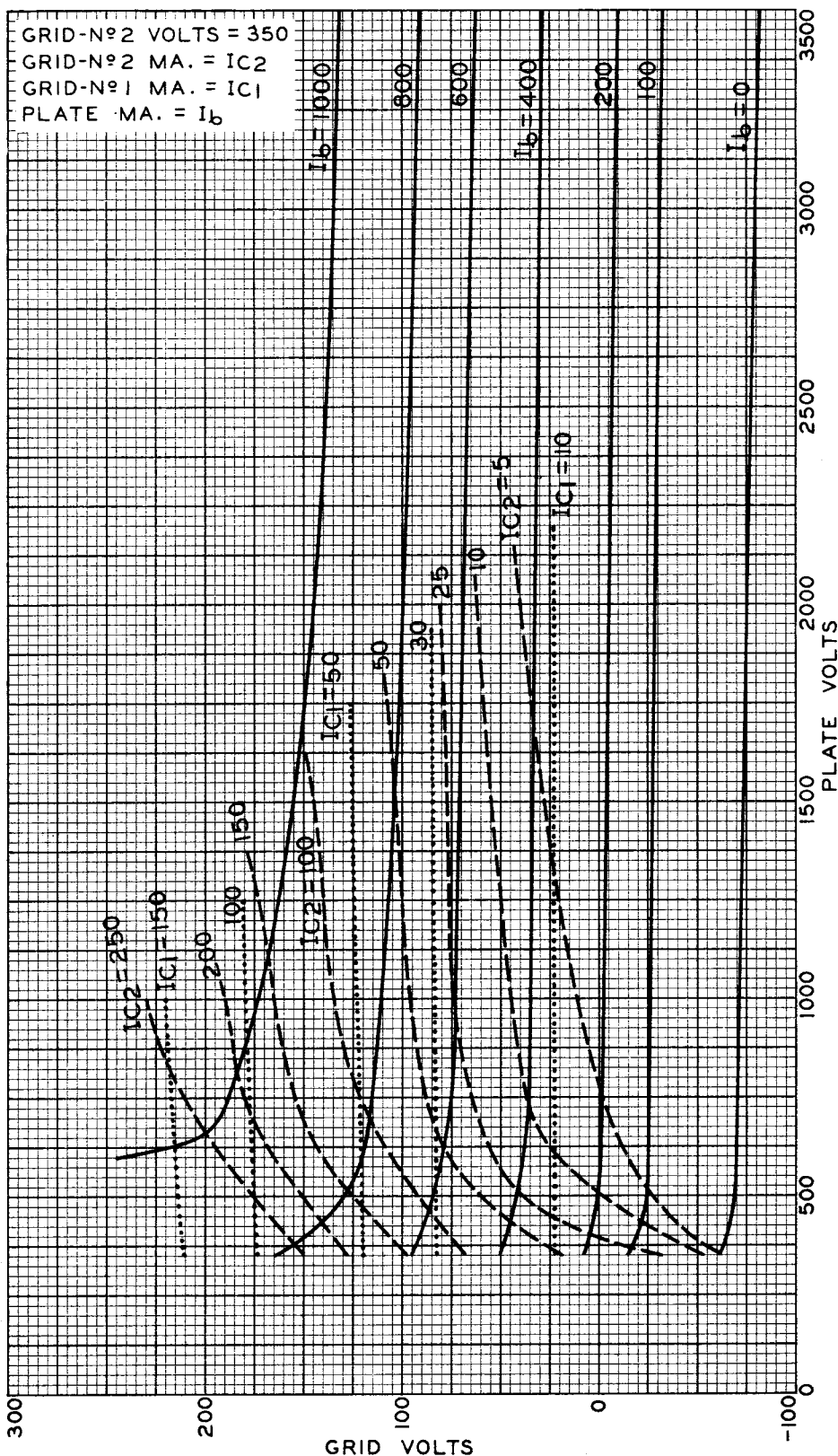
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AVERAGE CONSTANT-CURRENT CHARACTERISTICS



MAY 21, 1946

TUBE DEPARTMENT

92CM-6767

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY