



826

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TRANSMITTING TRIODE

GENERAL DATA

Electrical:

Filament, Thoriated Tungsten:†

Voltage. 7.5 ac or dc volts

Current. 4 amp

Amplification Factor 31

Direct Interelectrode Capacitances:

Grid to Plate. 3 μf ←Grid to Filament. 3 μf ←Plate to Filament. 1.1 μf ←

Mechanical:

Mounting Position. Vertical Only, Base up or down

Overall Length 3-1/2" $\pm$ 3/16"Seated Length. 3-1/16" $\pm$ 3/16"

Maximum Diameter See Outline Drawing

Bulb T-16

Base Medium Molded-Flare Septar 7-Pin

Basing Designation for BOTTOM VIEW 7B0

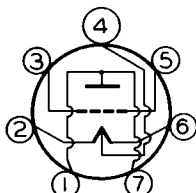
Pin 1-Plate

Pin 2-Filament

Pin 3-Grid

Pin 4-Filament

Center-Tap



Pin 5-Grid

Pin 6-Filament

Pin 7-Plate

PLATE-MODULATED RF POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation factor of 1.0

Maximum Ratings, Absolute Values:

NATURAL COOLING

CCS*

ICAS**

DC PLATE VOLTAGE 800 max. 1000 max. volts

DC GRID VOLTAGE. -600 max. -600 max. volts

DC PLATE CURRENT 95 max. 125 max. ma

DC GRID CURRENT. 40 max. 40 max. ma

PLATE INPUT. 60 max. 95 max. watts

PLATE DISSIPATION. 30 max. 45 max. watts

Typical Operation with Natural Cooling:

DC Plate Voltage - . . . 1000 . . volts

DC Grid Voltage*# { - . . -160 . . volts

Peak RF Grid Voltage - . . 4000 . . ohms

DC Plate Current - . . 320 . . volts

DC Grid Current (Approx.)[□] . . . - . . 95 . . maDriving Power (Approx.)[□] . . . - . . 40 . . ma

Power Output (Approx.) - . . 11.5 . . watts

Power Output (Approx.) - . . 70 . . watts

†, •, **, #, □: See next page.

← Indicates a change.



TRANSMITTING TRIODE

→ **Maximum Ratings, Absolute Values:**

	<u>FORCED-AIR CCS[•]</u>	<u>COOLING ICAS^{••}</u>	
DC PLATE VOLTAGE	800 max.	1000 max.	volts
DC GRID VOLTAGE.	-600 max.	-600 max.	volts
DC PLATE CURRENT	95 max.	125 max.	ma
DC GRID CURRENT.	40 max.	40 max.	ma
PLATE INPUT.	75 max.	125 max.	watts
PLATE DISSIPATION.	40 max.	60 max.	watts

→ **Typical Operation with Forced-Air Cooling:**

DC Plate Voltage	800 . .	1000 . .	volts
DC Grid Voltage ^{••} {	-100 . .	-100 . .	volts
	2800 . .	2800 . .	ohms
Peak RF Grid Voltage	198 . .	210 . .	volts
DC Plate Current	94 . .	125 . .	ma
DC Grid Current (Approx.) [□]	35 . .	35 . .	ma
Driving Power (Approx.) [□]	6.3 . .	6.6 . .	watts
Power Output (Approx.)	53 . .	90 . .	watts

RF POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy*Key-down conditions per tube without modulation^{□□}*

→ **Maximum Ratings, Absolute Values:**

	<u>NATURAL CCS[•]</u>	<u>COOLING ICAS^{••}</u>	
DC PLATE VOLTAGE	1000 max.	1000 max.	volts
DC GRID VOLTAGE.	-600 max.	-600 max.	volts
DC PLATE CURRENT	125 max.	140 max.	ma
DC GRID CURRENT.	40 max.	40 max.	ma
PLATE INPUT.	95 max.	130 max.	watts
PLATE DISSIPATION.	45 max.	55 max.	watts

→ **Typical Operation with Natural Cooling:**

DC Plate Voltage	- . .	1000 . .	volts
DC Grid Voltage ^{•▲} {	- . .	-70 . .	volts
	- . .	2000 . .	ohms
	- . .	425 . .	ohms
Peak RF Grid Voltage	- . .	183 . .	volts
DC Plate Current	- . .	130 . .	ma
DC Grid Current (Approx.)	- . .	35 . .	ma
Driving Power (Approx.)	- . .	5.8 . .	watts
Power Output (Approx.)	- . .	90 . .	watts

→ **Maximum Ratings, Absolute Values:**

	<u>FORCED-AIR CCS[•]</u>	<u>COOLING ICAS^{••}</u>	
DC PLATE VOLTAGE	1000 max.	1250 max.	volts
DC GRID VOLTAGE.	-600 max.	-600 max.	volts
DC PLATE CURRENT	125 max.	140 max.	ma
DC GRID CURRENT.	40 max.	40 max.	ma
PLATE INPUT.	125 max.	175 max.	watts
PLATE DISSIPATION.	60 max.	75 max.	watts

†, •, ••, •••, □, □□, ▲: See next page.

→ Indicates a change.



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Typical Operation with Forced-Air Cooling:

DC Plate Voltage	1000 . .	1250 . .	volts
DC Grid Voltage*▲	-70 . . 2000 . . 440 . .	-125 . . 3600 . . 780 . .	volts ohms ohms
Peak RF Grid Voltage	183 . .	245 . .	volts
DC Plate Current	125 . .	125 . .	ma
DC Grid Current (Approx.) . .	35 . .	35 . .	ma
Driving Power (Approx.) . . .	5.8 . .	7.7 . .	watts
Power Output (Approx.)	86 . .	120 . .	watts

† The filament is center-tapped and the center lead is brought out of the tube. With this design, it is possible to minimize the effect of filament-lead inductance by connecting all three filament leads in parallel through rf by-pass capacitors. The center lead of this parallel connection should not be returned directly to the center-tap of the filament-transformer winding or to ground, although it may be by-passed to either of these points if desired. RF by-passing of the grid- and plate-return circuits should be made to the center lead of the filament.

- Continuous Commercial Service.
- Intermittent Commercial and Amateur Service.
- Obtained by grid resistor of value shown. Fixed supply not recommended for linear modulation.
- * Grid voltages are given with respect to the mid-point of filament operated on ac. If dc is used, each stated value of grid voltage should be decreased by one-half the filament voltage and the circuit returns made to the negative end of the filament.
- Subject to wide variations as explained on sheet TUBE RATINGS in General Section.
- Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.
- ▲ Obtained from fixed supply, by grid resistor (2000, 2000, 3600) or by cathode resistor (425, 440, 780).

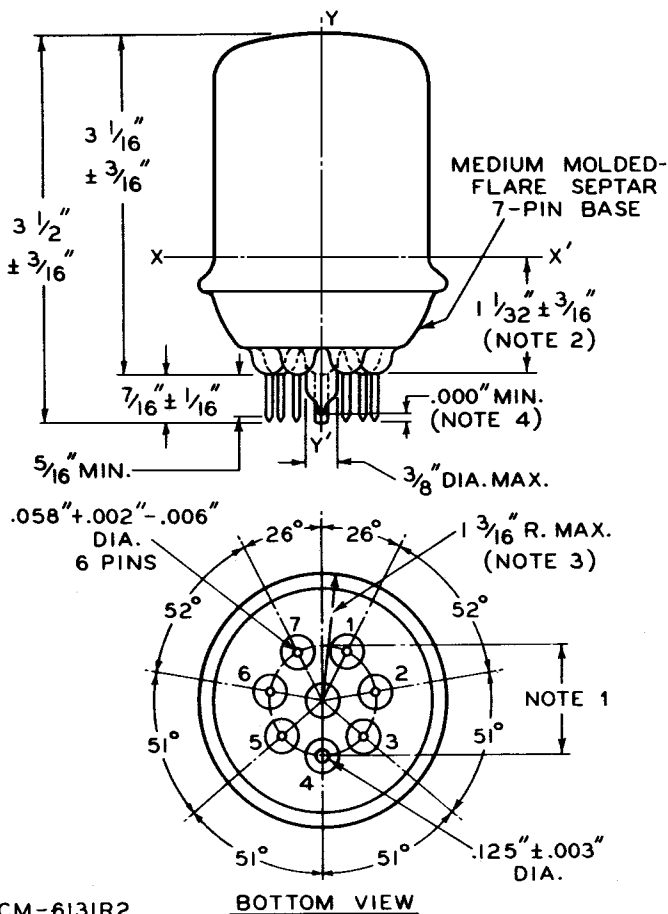
NOTE: When the 826 is used in the final amplifier or a preceding stage of a transmitter designed for break-in operation and oscillator keying, a small amount of fixed bias must be used to maintain the plate current at a safe value. With plate voltage of 1250 volts, a fixed bias of at least -22.5 volts should be used.

Data on operating frequencies for the 826 are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY. Adequate shielding must be provided at the higher frequencies. At the very-high frequencies, push-pull operation is recommended and it is desirable to use each tube with its two grid terminals connected together as well as its two plate terminals connected together, in order to reduce the respective lead inductances.

← Indicates a change.



TRANSMITTING TRIODE



92CM-6131R2

THE REFERENCE AXIS YY' IS DEFINED AS THE AXIS OF THE BASE-PIN GAUGE DESCRIBED IN NOTE 1.

NOTE 1: ANGULAR VARIATIONS BETWEEN PINS AND VARIATION IN PIN-CIRCLE DIAMETER ARE HELD TO TOLERANCES SUCH THAT PINS WILL ENTER TO A DISTANCE OF 0.375" A FLAT-PLATE BASE-PIN GAUGE HAVING SIX HOLES 0.0800" ± 0.0005" AND ONE HOLE 0.1450" ± 0.0005" ARRANGED ON A 1.0000" ± 0.0005" CIRCLE AT SPECIFIED ANGLES WITH TOLERANCE OF ±5° FOR EACH ANGLE. GAUGE IS ALSO PROVIDED WITH A HOLE 0.500" ± 0.010" CONCENTRIC WITH PIN CIRCLE WHOSE CENTER IS ON THE AXIS YY'.

NOTE 2: A FLAT-PLATE FLANGE GAUGE WITH HOLE 2.063" - 0.000" + 0.003" IS LOWERED OVER TUBE SEATED IN BASE-PIN GAUGE SO THAT THE HOLE AXIS IS COINCIDENT WITH AXIS YY' WITHIN 0.150", AND SO THAT THE BOTTOM SURFACE OF THE

(continued on next page)



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FLANGE GAUGE IS PARALLEL TO THE TOP SURFACE OF THE BASE-PIN GAUGE, AND UNTIL THE FLANGE GAUGE RESTS ON THE TUBE-FLANGE SEAL AT POSITION XX'. THE PERPENDICULAR DISTANCE BETWEEN THE TWO GAUGES WILL BE AS SHOWN.

NOTE 3: MINIMUM DIAMETER OF TUBE-SEAL FLANGE WILL BE SUCH THAT A RING GAUGE HAVING I.D. OF $2.125'' - 0.000'' + 0.003''$ AND THICKNESS OF $0.125'' \pm 0.010''$ WILL NOT PASS THE FLANGE WHEN TRIED AT ANY ANGLE.

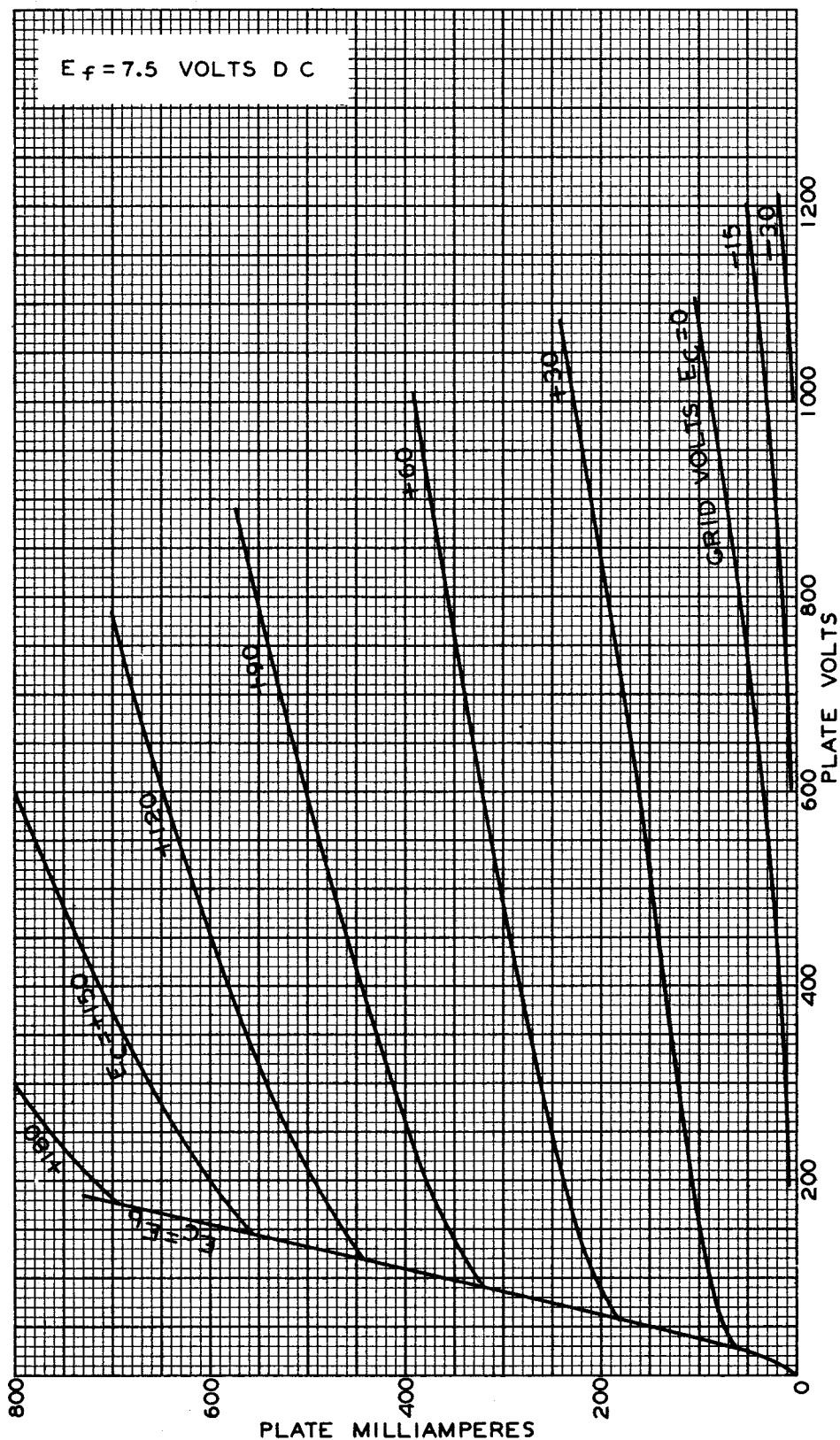
NOTE 4: EXHAUST TIP WILL NOT EXTEND BEYOND THE PLANE WHICH PASSES THROUGH THE ENDS OF THE THREE LONGEST PINS.

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AVERAGE PLATE CHARACTERISTICS



SEPT. 9, 1940

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

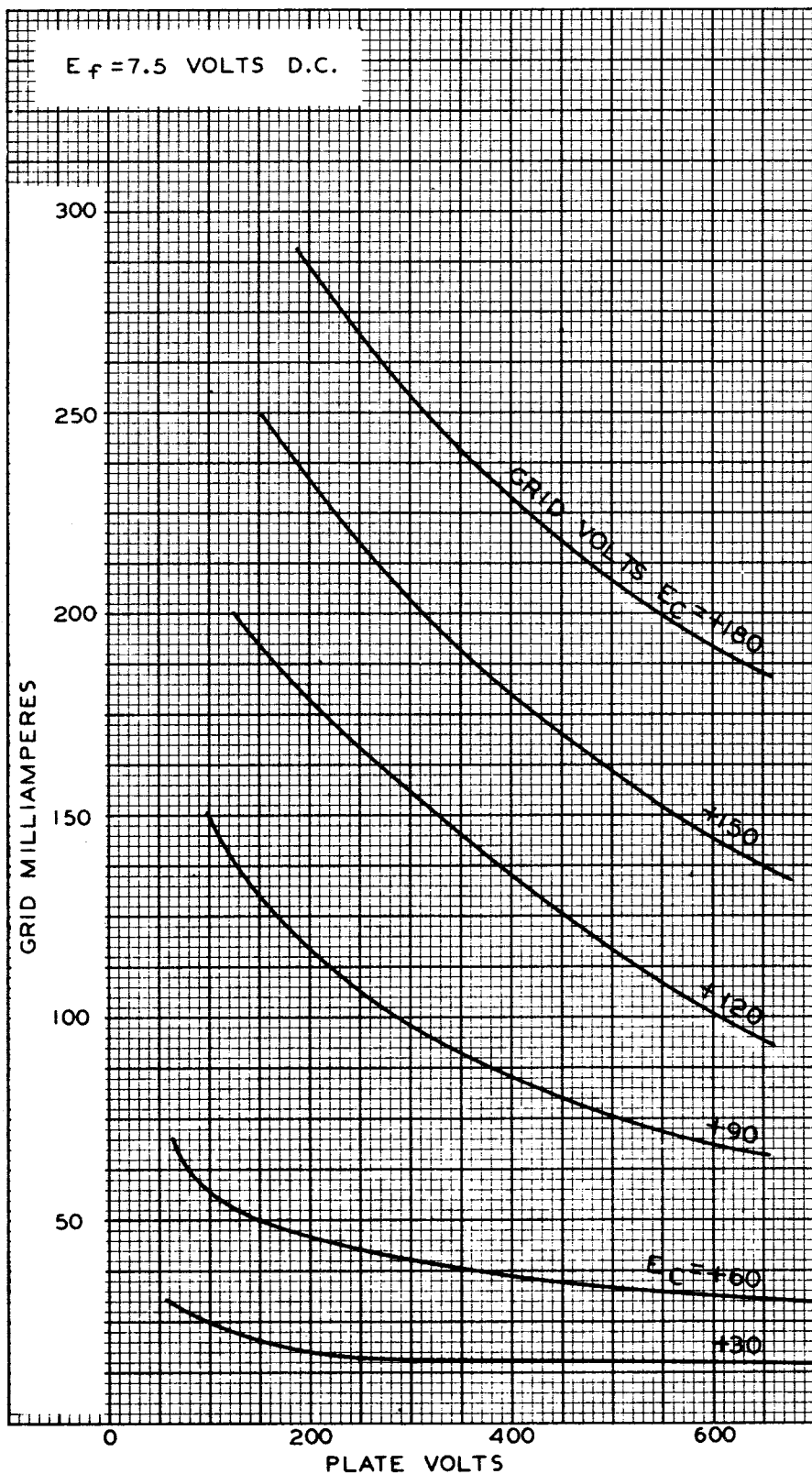
92CM - 6210



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TYPICAL CHARACTERISTICS



FEB. 12, 1941

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92C-6211