



800

800

TRANSMITTING TRIODE

Filament	Thoriated Tungsten	
Voltage	7.5	a-c or d-c volts
Current	3.1	amp.
Amplification Factor	15	
Direct Interelectrode Capacitances:		
Grid to Plate	2.5	μmf
Grid to Filament	2.8	μmf
Plate to Filament	2.8	μmf
Overall Length		6-5/32" $\pm$ 7/32"
Seated Height		5-17/32" $\pm$ 7/32"
Maximum Diameter		2-11/16"
Bulb		S-21
Caps (two)		Small
Base		Medium 4-Pin, Bayonet
RCA Socket		Stock No. 9937

*Maximum Ratings Are Absolute Values***MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS**A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage	1250 max.	volts
Max.-Signal D-C Plate Current*	115 max.	ma.
Max.-Signal Plate Input*	85 max.	watts
Plate Dissipation*	35 max.	watts

Typical Operation:

Unless otherwise specified, values are for 2 tubes.

D-C Plate Voltage	750	1000	1250	volts
D-C Grid Voltage**	-40	-55	-70	volts
Peak A-F Grid-to-Grid Volt.	320	300	300	volts
Zero-Signal D-C Plate Cur.	26	28	30	ma.
Max.-Signal D-C Plate Cur.	210	160	130	ma.
Load Resistance (per tube)	1600	3125	5250	ohms
Effective Load Resistance (plate to plate)	6400	12500	21000	ohms
Max.-Signal Driving Power	6.0	4.4	3.4	<u>approx.watts</u>
Max.-Signal Power Output	90	100	106	<u>approx.watts</u>

R-F POWER AMPLIFIER - Class B Telephony*Carrier conditions per tube for use with a max. modulation fact. of 1.0*

D-C Plate Voltage		1250 max.	volts
D-C Plate Current		45 max.	ma.
Plate Input		50 max.	watts
Plate Dissipation		35 max.	watts
Typical Operation:			
D-C Plate Voltage	750	1000	volts
D-C Grid Voltage**	-40	-55	volts
Peak R-F Grid Voltage	160	170	volts
D-C Plate Current	45	42	ma.
D-C Grid Current †	2	2	<u>approx.ma.</u>
Driving Power °†	3.6	3.3	<u>approx.watts</u>
Power Output	10	14	<u>approx.watts</u>

*, **, †, °: See next page.

← Indicates a change.



TRANSMITTING TRIODE

(continued from preceding page)

PLATE-MODULATED R-F POWER AMPLIFIER - Class C Telephony

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

D-C Plate Voltage	1000 max.	volts
D-C Grid Voltage	-400 max.	volts
D-C Plate Current	80 max.	ma.
D-C Grid Current	25 max.	ma.
Plate Input	80 max.	watts
Plate Dissipation	23 max.	watts

Typical Operation:

D-C Plate Voltage	750	1000	volts
D-C Grid Voltage ††	{ -150	{ -200	volts
	{ 10000	{ 13300	ohms
Peak R-F Grid Voltage	275	325	volts
D-C Plate Current	70	70	ma.
D-C Grid Current †	15	15	approx. ma.
Driving Power †	3	4	approx. watts
Power Output	35	50	approx. watts

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation ***

D-C Plate Voltage	1250 max.	volts
D-C Grid Voltage	-400 max.	volts
D-C Plate Current	80 max.	ma.
D-C Grid Current	25 max.	ma.
Plate Input	100 max.	watts
Plate Dissipation	35 max.	watts

Typical Operation:

D-C Plate Voltage	750	1000	1250	volts
D-C Grid Voltage †††	{ -100	{ -135	{ -175	volts
	{ 6700	{ 9000	{ 11700	ohms
	{ 1200	{ 1600	{ 2100	ohms
Peak R-F Grid Voltage	225	260	300	volts
D-C Plate Current	70	70	70	ma.
D-C Grid Current †	15	15	15	approx. ma.
Driving Power †	2	3	4	approx. watts
Power Output	35	50	65	approx. watts

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

** For a-c filament supply.

*** Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

O At crest of a-f cycle with modulation factor of 1.0.

† Subject to wide variations as explained on sheet TUBE RATINGS in General Section.

†† obtained from grid resistor of value shown or by combination methods.

††† obtained from a fixed supply, by grid resistor (6700, 9000, 11700) or by cathode resistor (1200, 1600, 2100).

Data on operating frequencies for the 800 are given on the sheet TRANS. TUBE RATINGS vs. FREQUENCY.

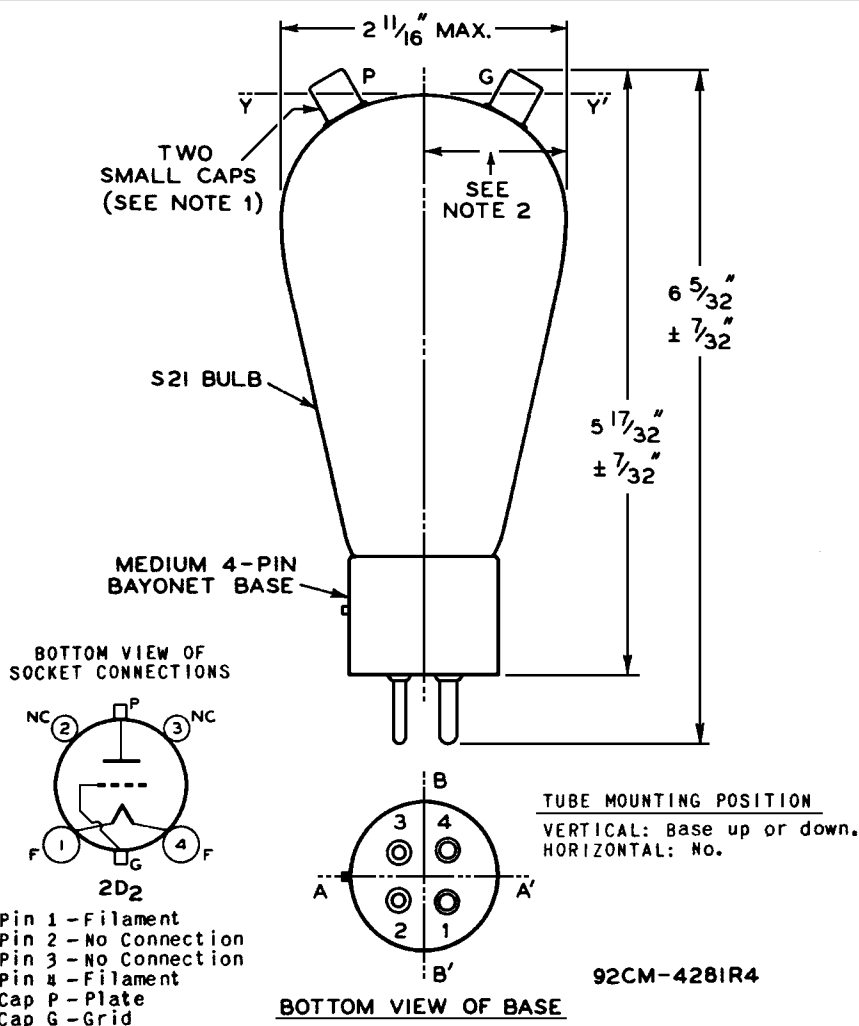
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TRANSMITTING TRIODE



AS USED BELOW, PLANES AA', BB', AND YY' HAVE THE FOLLOWING DEFINITIONS:

1. PLANE AA' IS PLANE THROUGH AXIS OF BASE AND POINT MID-WAY BETWEEN PINS NO.1 AND NO.4.
2. PLANE BB' IS PLANE THROUGH AXIS OF BASE AND PERPENDICULAR TO PLANE AA'.
3. PLANE YY' IS TANGENT TO TOP OF BULB AND PERPENDICULAR TO AXIS OF BASE.

NOTE 1 -- WITH ALL MEASUREMENTS MADE PARALLEL TO THE PLANE YY' AND AT OR ABOVE THE PLANE, THE TOP CAPS ARE POSITIONED SO THAT:

- a. NO PORTION OF CONTACT SURFACE EXTENDS MORE THAN 1-11/32" FROM THE PLANE BB'.
- b. NO PORTION OF CONTACT SURFACE IS NEARER THAN 1/2" TO THE PLANE BB'.
- c. NO PORTION OF CONTACT SURFACE EXTENDS MORE THAN 1/2" FROM THE PLANE AA'.

NOTE 2 -- WHEN TUBE IS ROTATED ABOUT AXIS OF ITS BASE, THE MAXIMUM RADIAL DISTANCE BETWEEN ANY POINT ON THE BULB AND THE ROTATIONAL AXIS DOES NOT EXCEED 1-7/16".

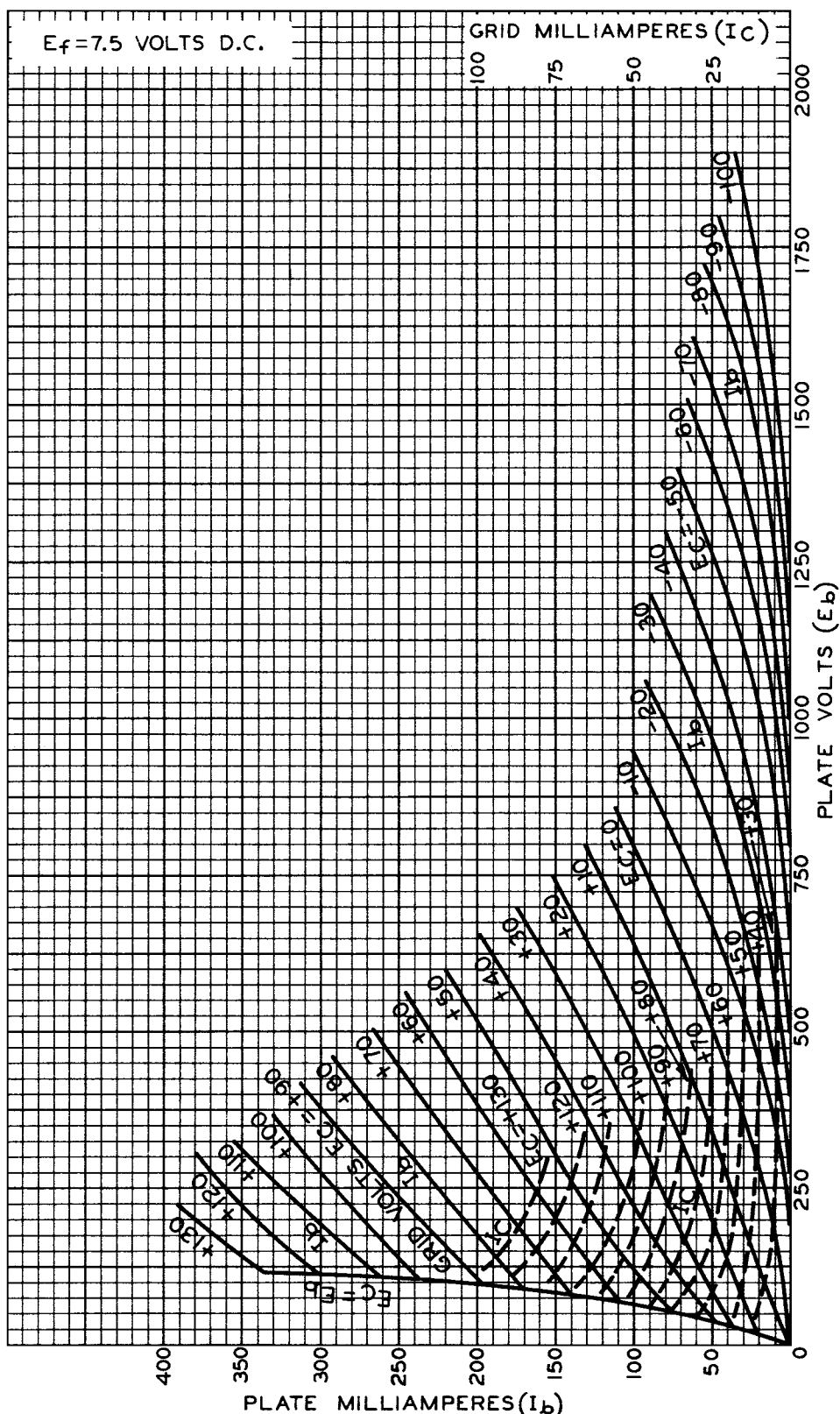
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AVERAGE PLATE CHARACTERISTICS



SEPT. 11, 1933

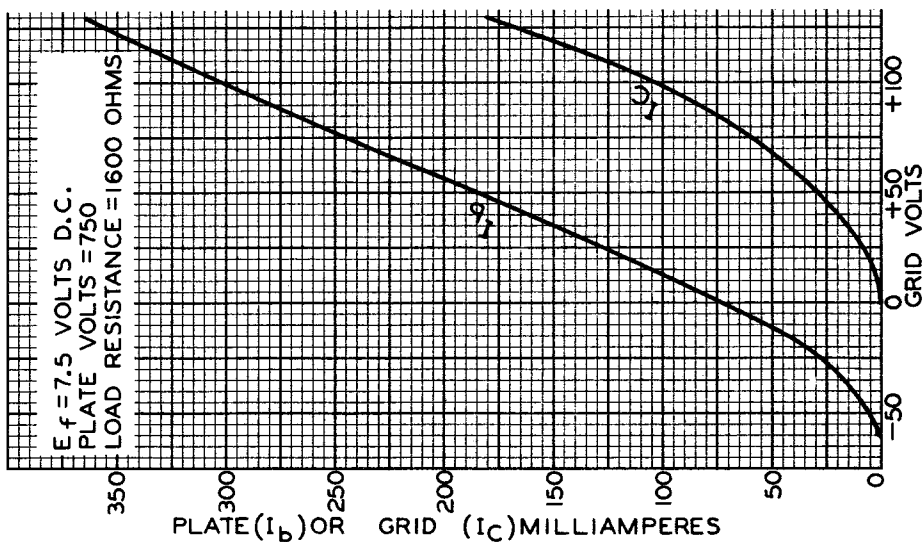
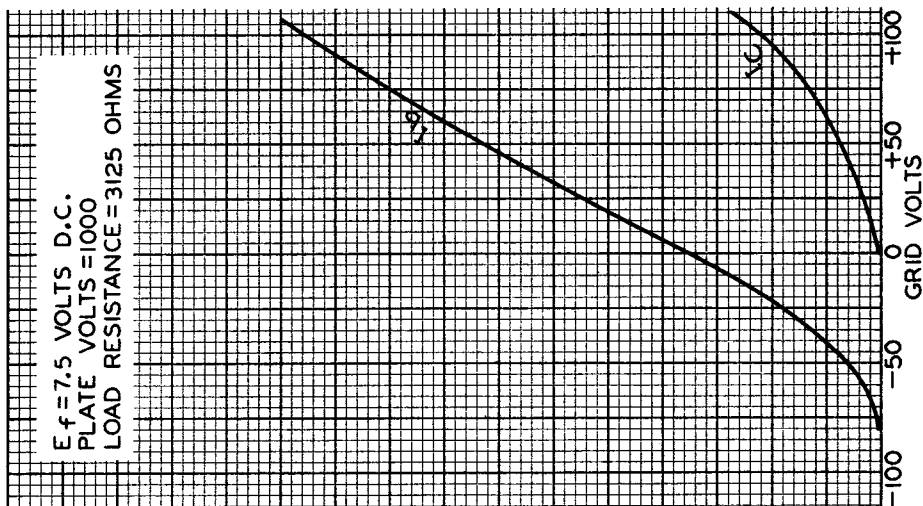
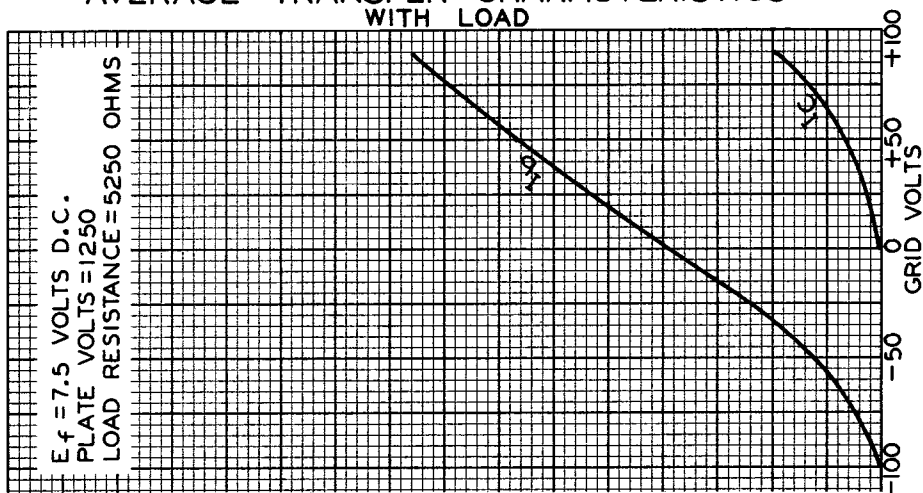
RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-5368



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AVERAGE TRANSFER CHARACTERISTICS
WITH LOAD

FEB. 9, 1937

RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

CE-5377RI

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OPERATION CHARACTERISTICS CLASS B OPERATION

$E_f = 7.5$ VOLTS A.C. FOR 800'S, 2.5 VOLTS A.C. FOR 2A3'S

INPUT: CLASS A-TWO TYPE 45'S PUSH PULL
 PLATE VOLTS=275, GRID VOLTS=-56
 TRANSFORMER VOLTAGE RATIO $\frac{\text{PRIM.}}{1/2 \text{ SEC.}} = 2.16$
 OUTPUT: CLASS B-TWO TYPE 800'S
 PLATE VOLTS=1000, GRID VOLTS=-55
 LOAD, PLATE TO PLATE=12500 OHMS

