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CLASS B MODULATOR
R-F POWER AMPLIFIER, OSCILLATOR

Filament	Thoriated Tungsten	
Voltage	10	a-c or d-c volts
Current	3.25	amp.
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	8	μμf
Grid to Filament	6.5	μμf
Plate to Filament	5	μμf
Maximum Overall Length		7-7/8"
Maximum Diameter		2-5/16"
Bulb		T-18
Base		Jumbo 4-Large Pin

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage		1250 max.	volts
Max-Sig. D-C Plate Current*		175 max.	ma.
Max-Sig. Plate Input*		220 max.	watts
Plate Dissipation*		100 max.	watts
Typical Operation - 2 tubes:			
Unless otherwise specified, values are for 2 tubes.			
Filament Voltage	10	10	a-c volts
D-C Plate Voltage	1000	1250	volts
D-C Grid Voltage	0	0	volts
Peak A-F Grid-to-Grid Voltage	200	200	volts
Zero-Sig. D-C Plate Current	106	148	ma.
Max.-Sig. D-C Plate Current	320	320	ma.
Load Resistance (per tube)	1725	2250	ohms
Effective Load Res. (Plate to plate)	6900	9000	ohms
Max.-Sig. Driving Power	7	7.5	approx.watts
Max.-Sig. Power Output #	200	260	approx.watts

* Averaged over any audio-frequency cycle of sine-wave form.
\# Approximately 4% harmonic distortion.

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		150 max.	ma.
R-F Grid Current		6 max.	amp.
Plate Input		150 max.	watts
Plate Dissipation		100 max.	watts
Typical Operation:			
Filament Voltage	10	10	a-c volts
D-C Plate Voltage	1000	1250	volts
D-C Grid Voltage	0	0	volts
Peak R-F Grid Voltage	70	60	volts
D-C Plate Current	130	106	ma
D-C Grid Current**	15	15	approx.ma.
Driving Power ° **	8	6	approx.watts
Power Output	40	42.5	approx.watts

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

** See next page.

← indicates a change

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CLASS B MODULATOR
R-F POWER AMPLIFIER, OSCILLATOR

(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			175 max.	ma.
D-C Grid Current			70 max.	ma.
R-F Grid Current			6 max.	amp.
Plate Input			175 max.	watts
Plate Dissipation			67 max.	watts
Typical Operation:				
Filament Voltage	10	10	a-c	volts
D-C Plate Voltage	750	1000		volts
D-C Grid Voltage	-100	-135		volts
Peak R-F Grid Voltage	220	255		volts
D-C Plate Current	150	150		ma.
D-C Grid Current **	60	60	approx.	ma.
Driving Power **	14	16	approx.	watts
Power Output	65	100	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			175 max.	ma.
D-C Grid Current			70 max.	ma.
R-F Grid Current			7.5 max.	amp.
Plate Input			220 max.	watts
Plate Dissipation			100 max.	watts
Typical Operation:				
Filament Voltage	10	10	10	a-c volts
D-C Plate Voltage	750	1000	1250	volts
D-C Grid Voltage	-80	-85	-90	volts
Peak R-F Grid Voltage	190	195	200	volts
D-C Plate Current	150	150	150	ma.
D-C Grid Current **	30	30	30	approx. ma.
Driving Power **	6	6	6	approx. watts
Power Output	65	100	130	approx. watts

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

** Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

For use of the 838 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.

OUTLINE DIMENSIONS, TUBE SYMBOL, and SOCKET CONNECTIONS for the 838 are the same as for the 211.

→ Indicates a change

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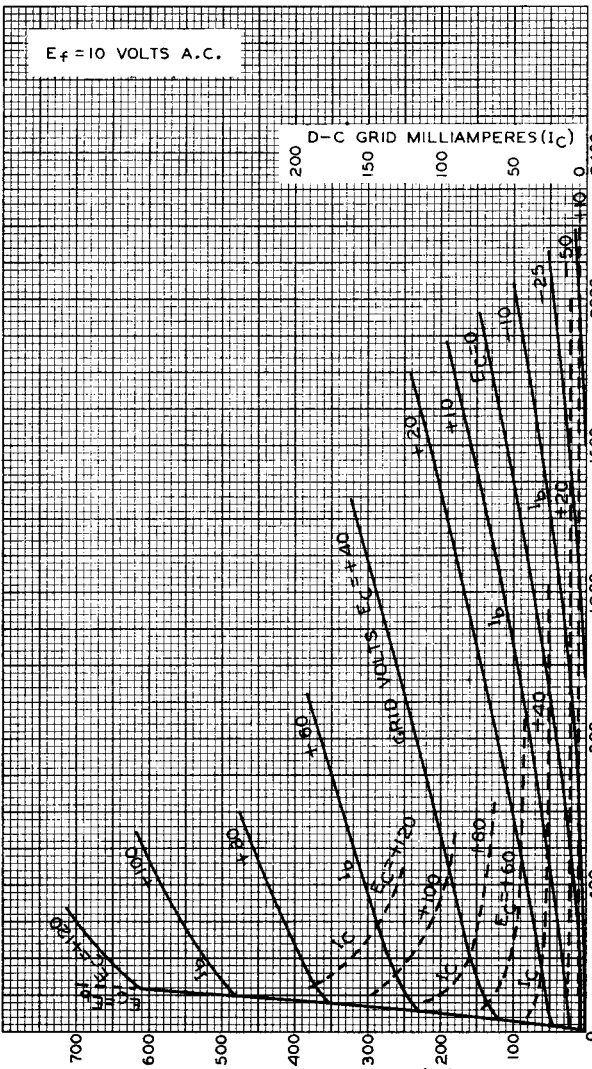
AVERAGE PLATE CHARACTERISTICS



APRIL 15, 1935 RCA RADIOTRON DIVISION 92C-4404

RCA MANUFACTURING COMPANY, INC.

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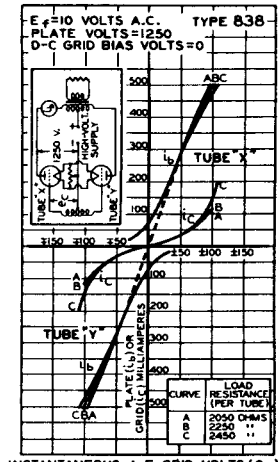
CHARACTERISTICS CURVES

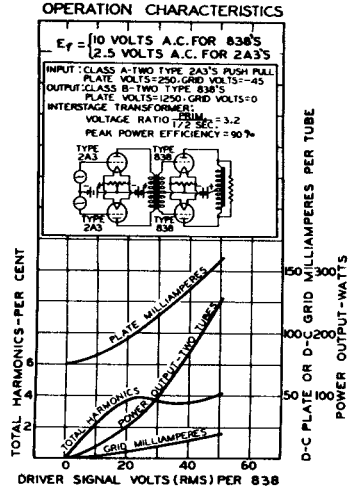
DYNAMIC TRANSFER CHARACTERISTICS



INSTANTANEOUS A-F GRID VOLTS (e_c)

92C-4407R1

OPERATION CHARACTERISTICS



DRIVER SIGNAL VOLTS (RMS) PER 838

92C-4406R1

JUNE 15, 1936

92C-4406R1 & 4407R1