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## OSCILLATOR, R-F POWER AMPLIFIER (WATER COOLED)

Filament	Tungsten	
Voltage	11	a-c or d-c volts
Current	51	amp.
Amplification Factor	40	
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	9	$\mu\text{f}$
Grid to Filament	6.5	$\mu\text{f}$
Plate to Filament	1.5	$\mu\text{f}$
Maximum Overall Length		9-1/2"
Maximum Radius		3-3/8"
Base		None
Water Jacket		Special

### MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

*This tube can often be operated at reduced filament voltage as explained on sheet TYPES OF CATHODES in front of book.*

#### 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	7500 max.	volts
D-C Plate Current	0.5 max.	amp.
R-F Grid Current	24 max.	amp.
Plate Input	3.75 max.	kw
Plate Dissipation	2.5 max.	kw

#### Typical Operation:

Filament Voltage	11	d-c volts
D-C Plate Voltage	7000	volts
D-C Grid Voltage	-100	<u>approx.volts</u>
Peak R-F Grid Voltage <sup>o</sup>	1275	<u>approx.volts</u>
D-C Plate Current	0.45	amp.
Driving Power <sup>** o</sup>	175	<u>approx.watts</u>
Power Output	1	<u>approx.kw</u>

<sup>o</sup>. At crest of a-f cycle with modulation factor of 1.0.

#### 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	6000 max.	volts		
D-C Grid Voltage	-1000 max.	volts		
D-C Plate Current	0.5 max.	amp.		
D-C Grid Current	0.15 max.	amp.		
R-F Grid Current	24 max.	amp.		
Plate Input	3 max.	kw		
Plate Dissipation	1.66 max.	kw		
Typical Operation:				
Filament Voltage	11	11	11	a-c volts
D-C Plate Voltage	4000	5000	6000	volts
D-C Grid Voltage	-850	-900	-950	<u>approx.volts</u>

\*\* See next page.

(continued on next page)

JULY 17, 1935 (1-36)

RCA RADIOTRON DIVISION  
RCA MANUFACTURING COMPANY, INC.

DATA

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## OSCILLATOR, R-F POWER AMPLIFIER

(continued from preceding page)

Peak R-F Grid Voltage	1600	1700	1950	<u>approx.volts</u>
D-C Plate Current	0.3	0.4	0.5	amp.
D-C Grid Current**	0.080	0.100	0.125	<u>approx.amp.</u>
Driving Power**	125	175	200	<u>approx.watts</u>
Power Output	0.9	1.5	2.25	<u>approx.kw</u>

### R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

*Key-down conditions per tube without modulation #*

D-C Plate Voltage		7500 max.	volts
D-C Grid Voltage		-1000 max.	volts
D-C Plate Current		1.0 max.	amp.
D-C Grid Current		0.15 max.	amp.
R-F Grid Current		30 max.	amp.
Plate Input		7.5 max.	kw
Plate Dissipation		2.5 max.	kw

#### Typical Operation:

Filament Voltage	11	11	11	a-c volts
D-C Plate Voltage	5000	6000	7000	volts
D-C Grid Voltage	-800	-850	-900	<u>approx.volts</u>
Peak R-F Grid Voltage	1850	2040	2300	<u>approx.volts</u>
D-C Plate Current	0.60	0.75	0.90	amp.
D-C Grid Current**	0.11	0.125	0.14	<u>approx.amp.</u>
Driving Power**	175	235	300	<u>approx.watts</u>
Power Output	2	3	4.25	<u>approx.kw</u>

\* 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 846 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs Frequency.