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

Filament	Tungsten	
Voltage	22	a-c or d-c volts
Current	52	amp.
Amplification Factor	42	
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	18	$\mu\text{f}$
Grid to Filament	16	$\mu\text{f}$
Plate to Filament	2	$\mu\text{f}$
Maximum Overall Length		24-1/2"
Maximum Radius		7-1/2"
Base		Ncnc
Water Jacket		UT-1290

### MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

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

#### A-F POWER AMPLIFIER - Class B

D-C Plate Voltage	20000 max.	volts
Max-Signal D-C Plate Current *	2.0 max.	amp.
Max-Signal D-C Plate Input *	40 max.	kw
Plate Dissipation *	20 max.	kw
Typical Operation - 2 tubes:		

*Unless otherwise specified, values are for 2 tubes.*

Filament Voltage	22	d-c volts
D-C Plate Voltage	12000	volts
D-C Grid Voltage	-140	volts
Peak A-F Grid-to-Grid Voltage	2600	volts
Zero-Signal D-C Plate Cur.	0.5	amp.
Max-Signal D-C Plate Cur.	3.6	amp.
Load Resistance (per tube)	1800	ohms
Effective Load Res. (plate to plate)	7200	ohms
Max-Signal Driving Power	115 approx.	watts
Max-Signal Power Output	26.5 approx.	kw

\* Averaged over any audio-frequency cycle.

#### 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	20000 max.	volts
D-C Plate Current	1.0 max.	amp.
R-F Grid Current	48 max.	amp.
Plate Input	20 max.	kw
Plate Dissipation	15 max.	kw
Typical Operation:		
Filament Voltage	22      22      22	d-c volts
D-C Plate Voltage	10000    14000    18000	volts
D-C Grid Voltage	-100    -200    -300	volts
Peak R-F Grid Voltage	400    575    725	volts
D-C Plate Current	0.5    0.7    0.9	amp.

(continued on next page)



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## OSCILLATOR, R-F POWER AMPLIFIER

(continued from preceding page)

Driving Power ** 0	25	70	85	approx.watts
Power Output	1.5	3.3	5.6	approx.kw

0 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			12000	max. volts
D-C Grid Voltage			-3000	max. volts
D-C Plate Current			1.0	max. amp.
D-C Grid Current			0.25	max. amp.
R-F Grid Current			48	max. amp.
Plate Input			12	max. kw
Plate Dissipation			10	max. kw

Typical Operation:

Filament Voltage	22	22	22	a-c volts
D-C Plate Voltage	8000	10000	12000	volts
D-C Grid Voltage	-900	-950	-1000	volts
Peak R-F Grid Voltage	1875	1950	1950	volts
D-C Plate Current	0.90	0.90	0.95	amp.
D-C Grid Current **	0.10	0.09	0.08	approx.amp.
Driving Power **	180	200	150	approx.watts
Power Output	5	6	8	approx.kw

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

Key-down conditions per tube without modulation \*

D-C Plate Voltage			20000	max. volts
D-C Grid Voltage			-3000	max. volts
D-C Plate Current			2.0	max. amp.
D-C Grid Current			0.25	max. amp.
R-F Grid Current			60	max. amp.
Plate Input			40	max. kw
Plate Dissipation			20	max. kw

Typical Operation:

Filament Voltage	22	22	22	a-c volts
D-C Plate Voltage	10000	15000	18000	volts
D-C Grid Voltage	-1000	-1100	-1200	volts
Peak R-F Grid Voltage	2200	2500	2600	volts
D-C Plate Current	1.4	1.8	1.8	amp.
D-C Grid Current **	0.13	0.10	0.10	approx.amp.
Driving Power **	275	250	250	approx.watts
Power Output	9	18	22.4	approx.kw

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

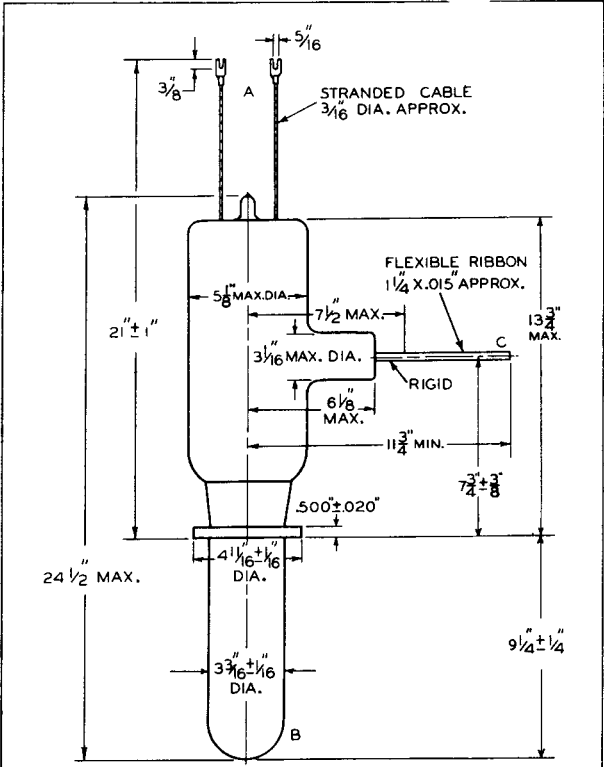
\*\* Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

For use of the 858 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.

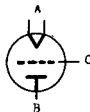


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# OSCILLATOR R-F POWER AMPLIFIER



TUBE SYMBOL  
AND  
TERMINAL  
CONNECTIONS



- A - Filament
- B - Plate
- C - Grid

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OSCILLATOR,  
R-F POWER AMPLIFIER

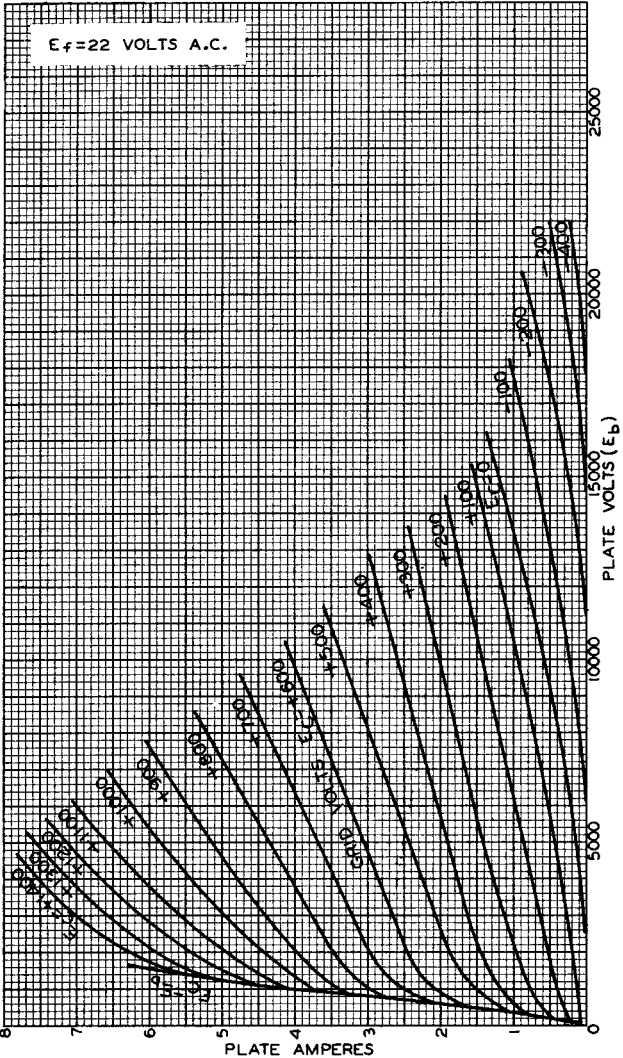
THE FILAMENT CHARACTERISTIC AND THE FILA-  
MENT EMISSION CHARACTERISTIC FOR THE 858  
ARE THE SAME AS THOSE SHOWN FOR THE 207.



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### AVERAGE PLATE CHARACTERISTICS



## TYPICAL CHARACTERISTICS

