858

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			μμf
Grid to Filament	16			μμf
Plate to Filament	2			μμf
Maximum Overall Length				24-1/2"
Maximum Radius				7-1/2"
Base				None
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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(continued from preceding page)

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

° 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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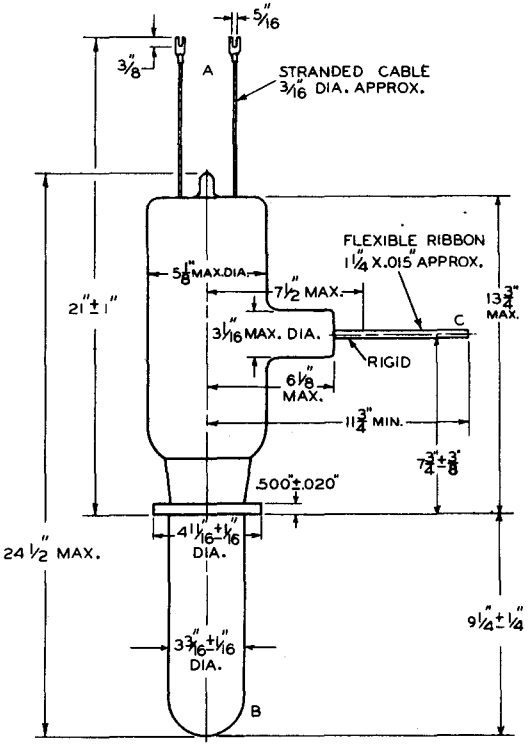
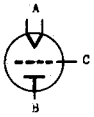
R-F POWER AMPLIFIER



TUBE SYMBOL
AND
TERMINAL CONNECTIONS



A – Filament
B – Plate
C – Grid

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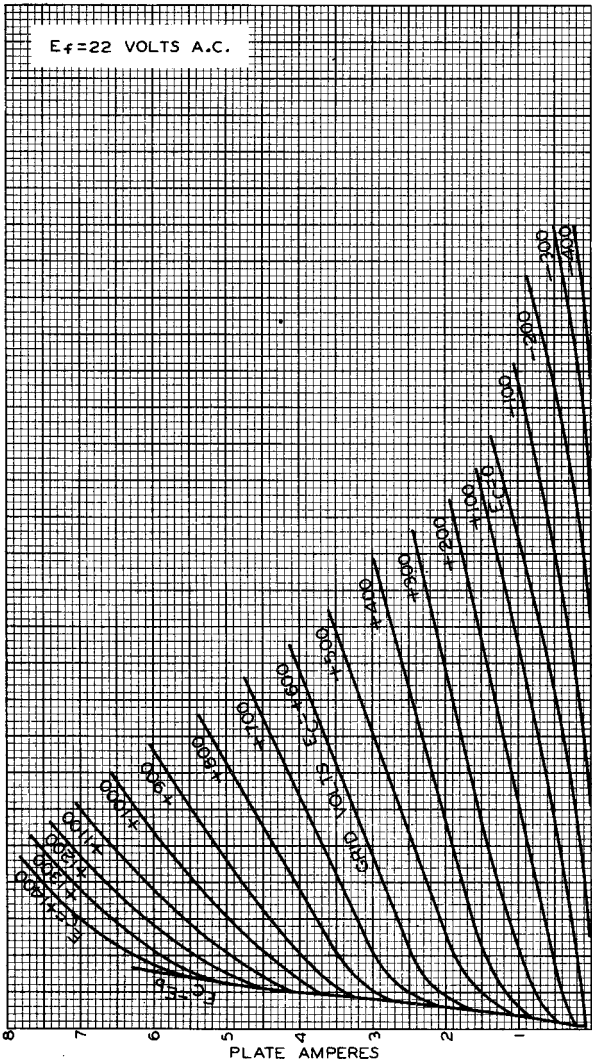
THE FILAMENT CHARACTERISTIC AND THE FILAMENT EMISSION CHARACTERISTIC FOR THE 858 ARE THE SAME AS THOSE SHOWN FOR THE 207.

AVERAGE PLATE CHARACTERISTICS



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TYPICAL CHARACTERISTICS