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MODULATOR, A-F POWER AMPLIFIER R-F POWER AMPLIFIER, OSCILLATOR

Filament	Thoriated Tungsten	
Voltage	11	a-c or d-c volts
Current	15.5	amp.
Amplification Factor	20.5	
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	47	μf
Grid to Filament	25.5	μf
Plate to Filament	4.5	μf
Overall Length		17-1/2" $\pm$ 1/8"
Maximum Diameter		6-1/8"
Bulb		T-48
Cap		No. 1902
Base		No. 3117

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

A-F POWER AMPLIFIER & MODULATOR - Class A

D-C Plate Voltage		2500 max.	volts
Plate Dissipation		600 max.	watts
Typical Operation:			
Filament Voltage	11	11	11 a-c volts
D-C Plate Voltage	1500	2000	2500 volts
D-C Grid Voltage	-49	-65	-92 volts
Peak A-F Grid Voltage	44	60	87 volts
D-C Plate Current	175	270	240 ma.
Plate Resistance	1800	1500	1600 ohms
Load Resistance	3700	3100	5000 ohms
Power Output	46	100	160 watts

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage		3000 max.	volts
Max-Signal D-C Plate Current*		1 max.	amp.
Max-Signal Plate Input*		2250 max.	watts
Plate Dissipation*		750 max.	watts
Typical Operation - 2 tubes:			

Unless otherwise specified, values are for 2 tubes.

Filament Voltage	11	11	11 a-c volts
D-C Plate Voltage	2000	2500	3000 volts
D-C Grid Voltage	-85	-111	-135 volts
Peak A-F Grid-to-Grid Volt.	500	490	490 volts
Zero-Signal D-C Plate Cur.	0.12	0.12	0.11 amp.
Max-Signal D-C Plate Cur.	1.7	1.4	1.2 amp.
Load Resistance (per tube)	650	1000	1400 ohms
Effective Load Resistance (plate to plate)	2600	4000	5600 ohms
Max-Signal Driving Power	20	12	6 approx. watts
Max-Signal Power Output	2.2	2.3	2.4 approx. kw

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

← Indicates a change



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MODULATOR, A-F POWER AMPLIFIER, R-F POWER AMPLIFIER, OSCILLATOR

(continued from preceding page)

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	2500 max.	volts
D-C Plate Current	0.75 max.	amp.
R-F Grid Current	8 max.	amp.
Plate Input	1100 max.	watts
Plate Dissipation	750 max.	watts

Typical Operation:

Filament Voltage	11	11	11	a-c volts
D-C Plate Voltage	1500	2000	2500	volts
D-C Grid Voltage	-60	-85	-110	volts
Peak R-F Grid Voltage	150	140	135	volts
D-C Plate Current	0.62	0.475	0.39	amp.
Driving Power**	40	25	20	approx.watts
Power Output	275	300	325	approx.watts

* 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	2000 max.	volts
D-C Grid Voltage	-500 max.	volts
D-C Plate Current	1 max.	amp.
D-C Grid Current	0.2 max.	amp.
R-F Grid Current	8 max.	amp.
Plate Input	1800 max.	watts
Plate Dissipation	500 max.	watts

Typical Operation:

Filament Voltage	11	11	a-c volts
D-C Plate Voltage	1500	2000	volts
D-C Grid Voltage	-250	-300	volts
Peak R-F Grid Voltage	475	525	volts
D-C Plate Current	0.9	0.85	amp.
D-C Grid Current**	0.15	0.125	approx.amp.
Driving Power**	75	65	approx.watts
Power Output	900	1250	approx.watts

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation*

D-C Plate Voltage	2500 max.	volts
D-C Grid Voltage	-500 max.	volts
D-C Plate Current	1 max.	amp.
D-C Grid Current	0.2 max.	amp.
R-F Grid Current	10 max.	amp.
Plate Input	2500 max.	watts
Plate Dissipation	750 max.	watts

Typical Operation:

Filament Voltage	11	11	11	a-c volts
D-C Plate Voltage	1500	2000	2500	volts

*, ** See next page.

← Indicates a change



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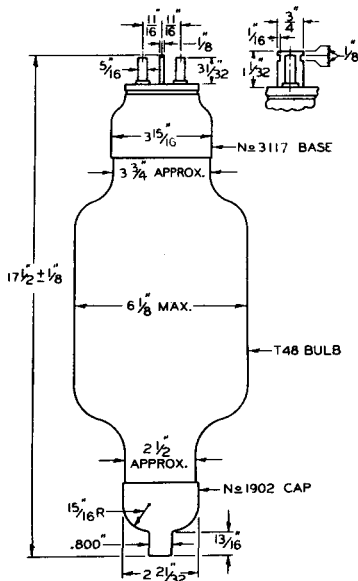
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D-C Grid Voltage	-150	-200	-250	approx. volts
Peak R-F Grid Voltage	375	425	450	approx. volts
D-C Plate Current	0.9	0.9	0.9	amp.
D-C Grid Current**	0.15	0.12	0.1	approx. amp.
Driving Power**	55	50	45	approx. watts
Power Output	900	1250	1700	approx. watts

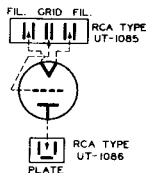
** Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

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

For use of the 851 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.

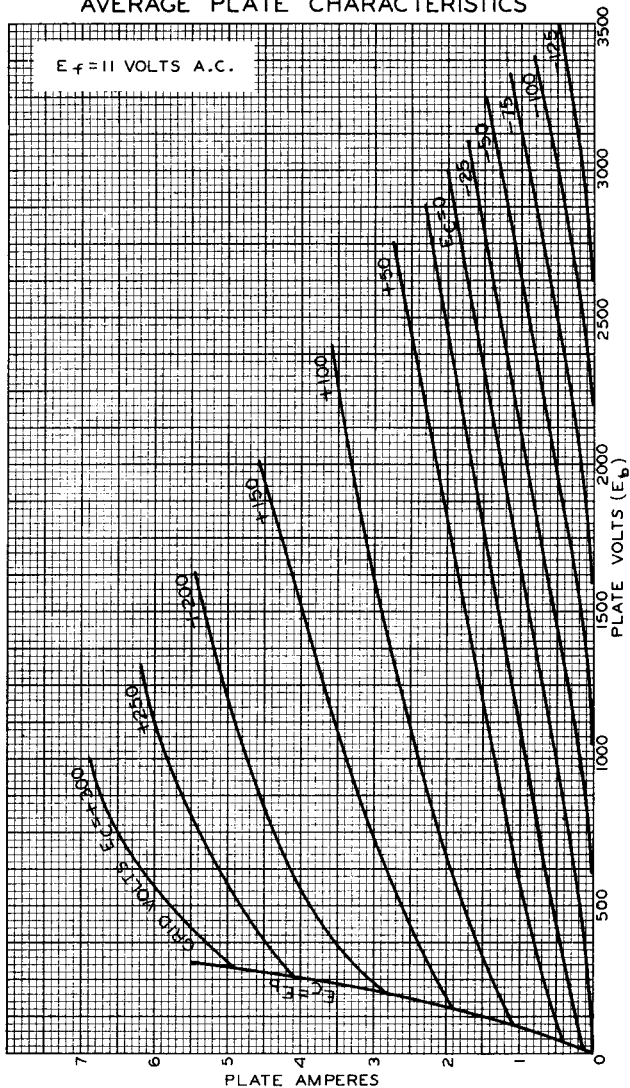


TUBE SYMBOL & CONNECTIONS
TO END-MOUNTINGS.





AVERAGE PLATE CHARACTERISTICS

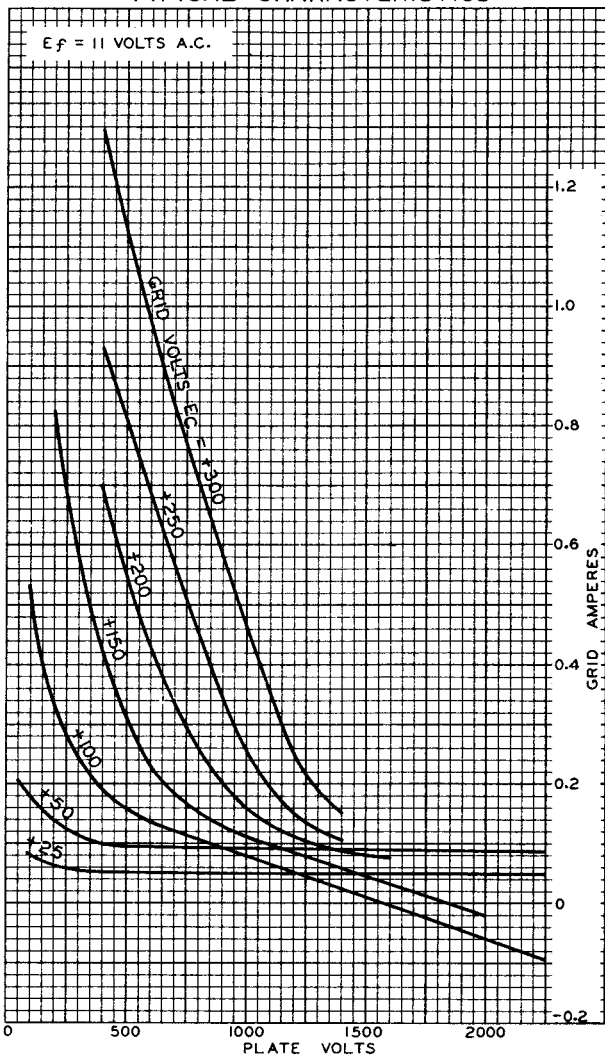




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TYPICAL CHARACTERISTICS

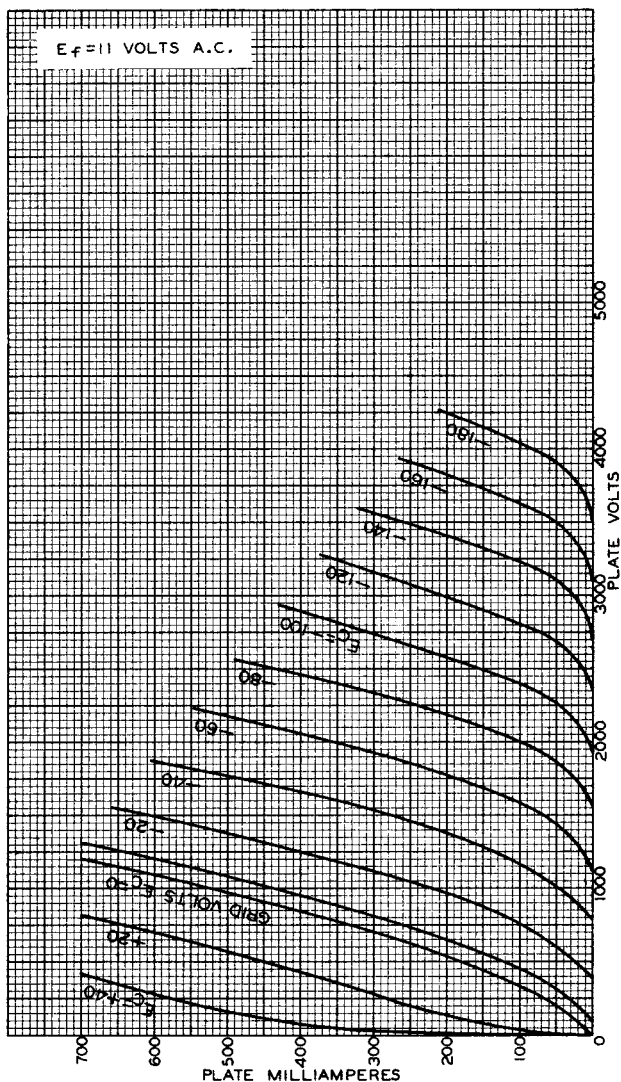


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AVERAGE PLATE CHARACTERISTICS



AUG. 29, 1928

RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY INC.

925-5497