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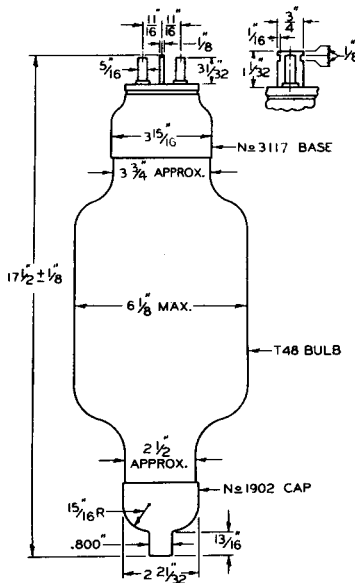
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D-C Grid Voltage	-150	-200	-250	approx. volts
Peak R-F Grid Voltage	375	425	450	approx. volts
D-C Plate Current	0.9	0.9	0.9	amp.
D-C Grid Current**	0.15	0.12	0.1	approx. amp.
Driving Power**	55	50	45	approx. watts
Power Output	900	1250	1700	approx.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

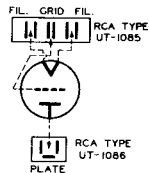
** Subject to wide variations as explained on sheet TRANS, TUBE RATINGS.

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.

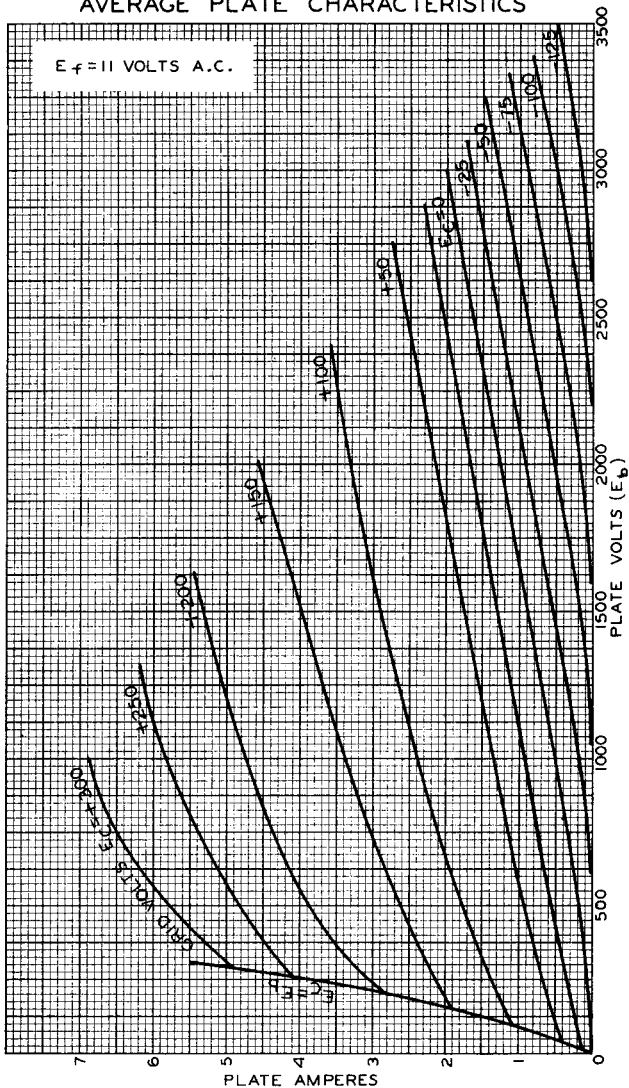


TUBE SYMBOL & CONNECTIONS
TO END-MOUNTINGS.





AVERAGE PLATE CHARACTERISTICS

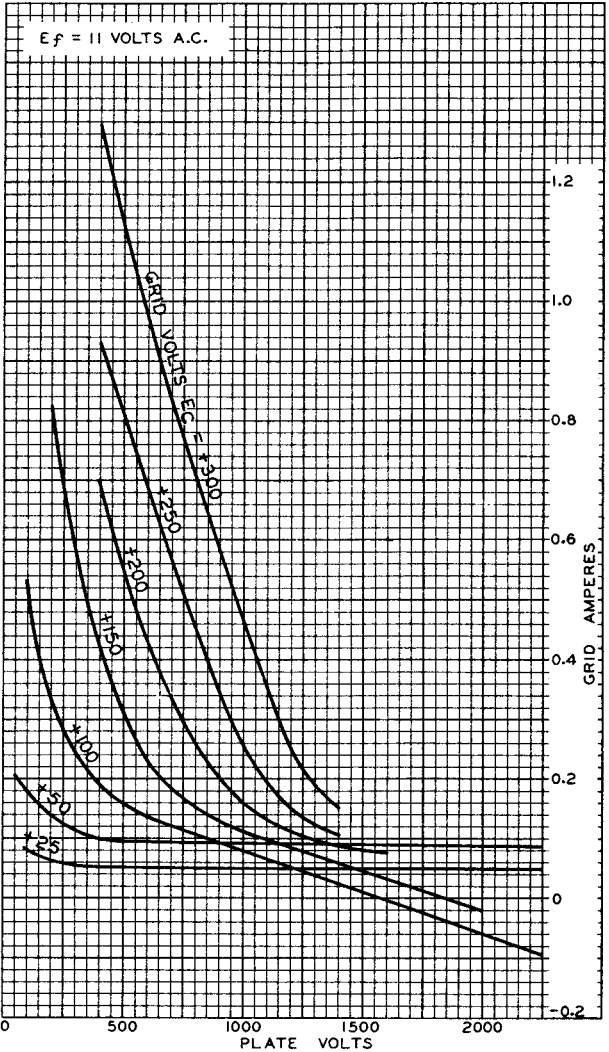




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TYPICAL CHARACTERISTICS

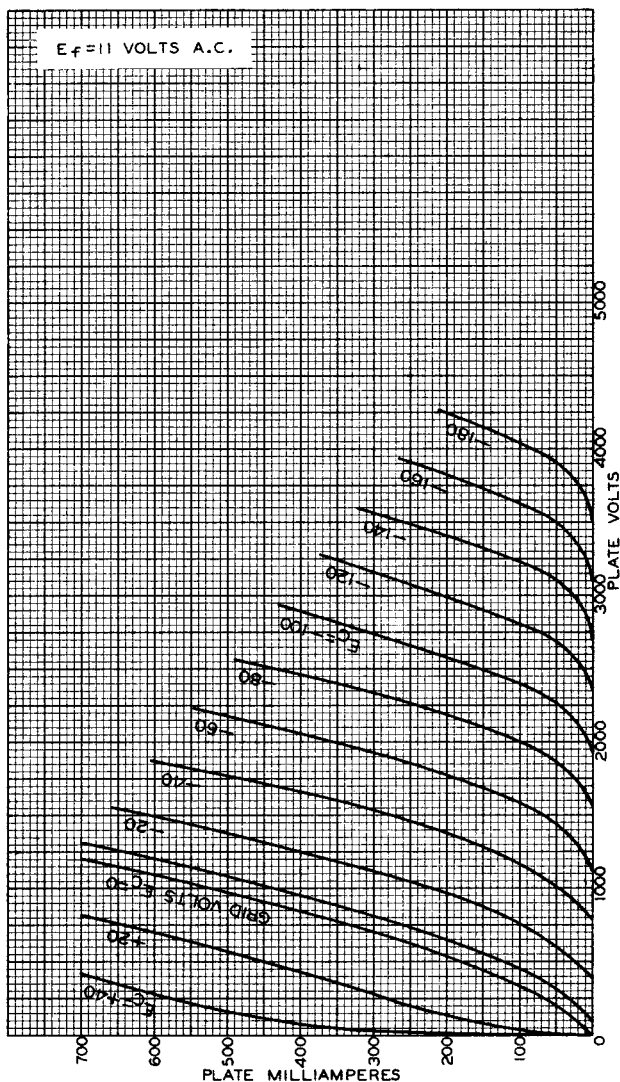


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AVERAGE PLATE CHARACTERISTICS



AUG. 29, 1928

RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY INC.

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