841

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

Filament	Thoriated Tungsten	
Voltage	7.5	a-c or d-c volts
Current	1.25	amp.
Amplification Factor	30	
Direct Interelectrode Capacitances:		
Grid to Plate	7	μμf
Grid to Filament	4	μμf
Plate to Filament	3	μμf
Maximum Overall Length		5-5/8"
Maximum Diameter		2-3/16"
Bulb		S-17
Base		Medium 4-Pin Bayonet

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

A-F VOLTAGE AMPLIFIER (Resistance-coupled)-Class A

D-C Plate Voltage		425 max.	volts
D-C Plate-Supply Voltage*		1250 max.	volts
Plate Dissipation		12 max.	watts
Typical Operation and Characteristics:			
Filament Voltage	7.5	7.5	d-c volts
D-C Plate-Supply Voltage*	425	1000	volts
D-C Grid Voltage	-6	-9	volts
Peak A-F Grid Voltage	6	9	volts
D-C Plate Current	0.7	2.2	ma.
Plate Resistance	63000	40000	ohms
Transconductance	450	750	μmhos
Load Resistance	250000	250000	ohms
Voltage Output (5% second harmonic)	126	225	volts

*** Voltage effective at plate is less than the plate-supply voltage by an amount equal to the voltage drop in the load resistance caused by the plate current.**

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage		425 max.	volts
Max-Signal D-C Plate Current*		60 max.	ma.
Max-Signal Plate Input*		25 max.	watts
Plate Dissipation*		15 max.	watts
Typical Operation - 2 tubes:			
Unless otherwise specified, values are for 2 tubes.			
Filament Voltage	7.5	7.5	d-c volts ←
D-C Plate Voltage	350	425	volts
D-C Grid Voltage	-5	-5	volts
Peak A-F Grid-to-Grid Voltage	176	180	volts
Zero-Signal D-C Plate Cur.	7	13	ma.
Max-Signal D-C Plate Cur.	114	120	ma.
Load Resistance (per tube)	1300	1750	ohms
Effective Load Res. (plate to plate)	5200	7000	ohms
Max-Signal Driving Power	3.2	3.6	approx. watts
Max-Signal Power Output	21	28	approx. watts

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

← Indicates a change

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

841

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

(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		450 max.	volts
D-C Plate Current		50 max.	ma.
R-F Grid Current		4 max.	amp.
Plate Input		22.5 max.	watts
Plate Dissipation		15 max.	watts
Typical Operation:			
Filament Voltage	7.5	7.5 a-c	volts
D-C Plate Voltage	350	450	volts
D-C Grid Voltage	-12	-15	volts
Peak R-F Grid Voltage	60	60	volts
D-C Plate Current	45	45	ma.
D-C Grid Current**	4	4 approx.	ma
Driving Power**°	3.5	3.5 approx.	watts
Power Output	4.25	6 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		350 max.	volts
→ D-C Grid Voltage		-200 max.	volts
D-C Plate Current		60 max.	ma.
D-C Grid Current		20 max.	ma.
R-F Grid Current		4 max.	amp.
Plate Input		21 max.	watts
Plate Dissipation		10 max.	watts
Typical Operation:			
Filament	7.5	7.5 a-c	volts
D-C Plate Voltage	250	350	volts
D-C Grid Voltage	-40	-47	volts
Peak R-F Grid Voltage	125	130	volts
D-C Plate Current	50	50	ma.
D-C Grid Current**	15	15 approx.	ma.
Driving Power**	2	2 approx.	watts
Power Output	7	11 approx.	watts

R-F POWER AMPLIFIER & MODULATOR - Class C Telegraphy

Key-down conditions per tube without modulation **

D-C Plate Voltage		450 max.	volts
→ D-C Grid Voltage		-200 max.	volts
D-C Plate Current		60 max.	ma.
D-C Grid Current		20 max.	ma.
R-F Grid Current		5 max.	amp.
Plate Input		27 max.	watts
Plate Dissipation		15 max.	watts
Typical Operation:			
Filament Voltage	7.5	7.5 a-c	volts
D-C Plate Voltage	350	450	volts
D-C Grid Voltage	-30	-34	volts
Peak R-F Grid Voltage	115	120	volts
D-C Plate Current	50	50	ma.

##. ** See next page ← Indicates a change

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

841
R-F POWER AMPLIFIER
A-F VOLTAGE AMPLIFIER

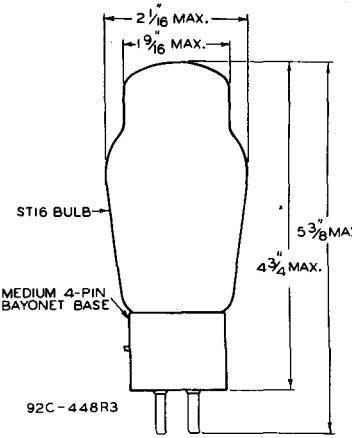
(continued from preceding page)

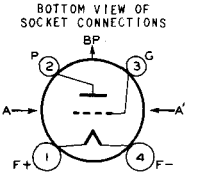
D-C Grid Current**	15	15 approx.ma.
Driving Power**	1.8	1.8 approx.watts
Power Output	11	15 approx.watts

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 the use of the 841 at the higher frequencies refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.





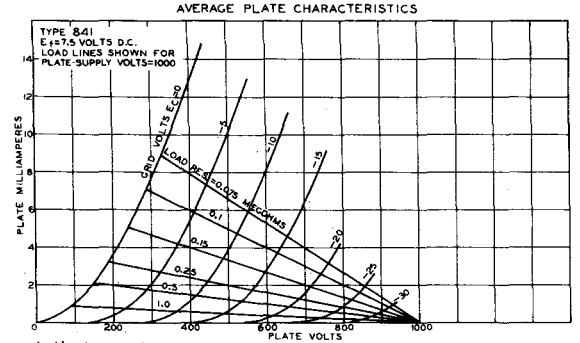
AA'=PLANE OF ELECTRODES

Pin 1 – Filament +
Pin 2 – Plate
Pin 3 – Grid
Pin 4 – Filament –
BP – Bayonet Pin

TUBE MOUNTING POSITION

VERTICAL: Base down
HORIZONTAL: Plate in vertical plane (on edge)

AVERAGE PLATE CHARACTERISTICS



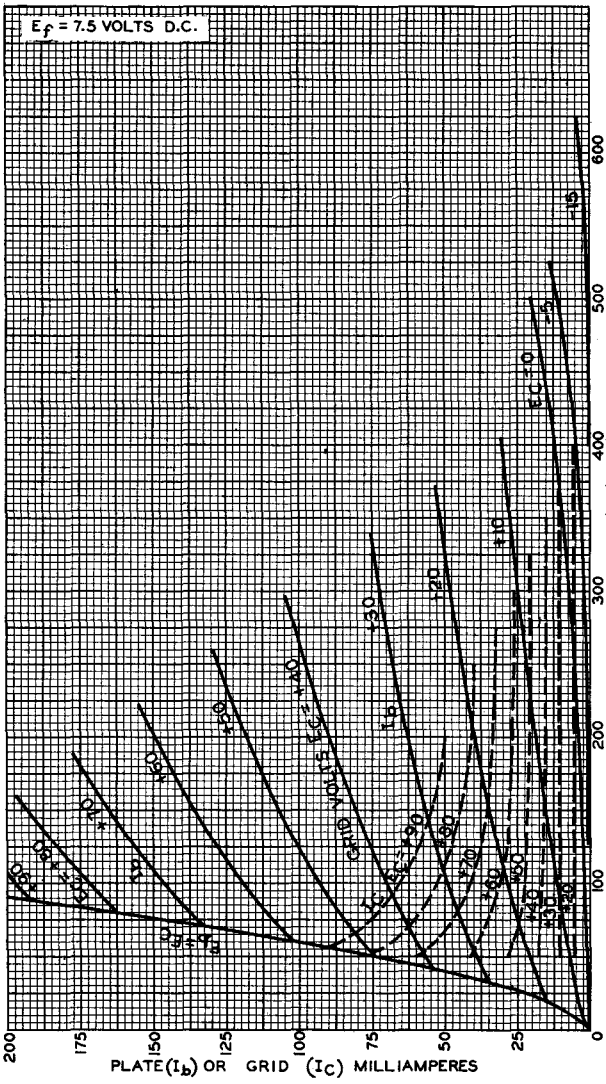
←Indicates a change.

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

841

841

AVERAGE PLATE CHARACTERISTICS



FEB. 12, 1934

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92S-5454