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## 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	$\mu\text{f}$
Grid to Filament	4	$\mu\text{f}$
Plate to Filament	3	$\mu\text{f}$
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	$\mu\text{mhos}$
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



## 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** <sup>o</sup>	3.5	3.5	approx. watts
Power Output	4.25	6	approx. watts

<sup>o</sup> 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



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# R-F POWER AMPLIFIER A-F VOLTAGE AMPLIFIER

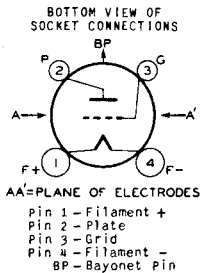
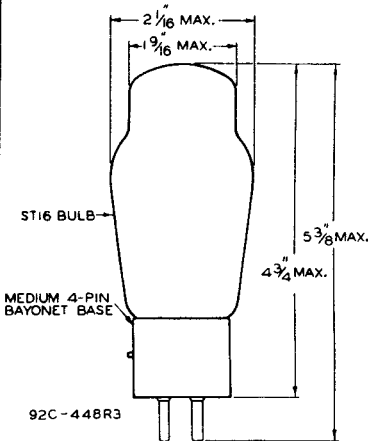
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D-C Grid Current**	15	15 approx.ma.
Driving Power**	1.8	1.8 approx.watts
Power Output	11	15 approx.watts

## 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.

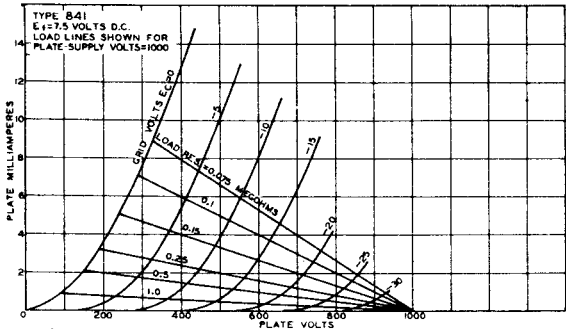
For the use of the 841 at the higher frequencies refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.



TUBE MOUNTING POSITION

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

## AVERAGE PLATE CHARACTERISTICS





## AVERAGE PLATE CHARACTERISTICS

