801-A/801
R-F POWER AMPLIFIER, A-F POWER AMPLIFIER, MODULATOR

Filament	Thoriated tungsten	
Voltage	7.5	a-c or d-c volts
Current	1.25	amp.
Amplification Factor	8	
Direct Interelectrode Capacitances:		
Grid to Plate	6.0	μμf
Grid to Filament	4.5	μμf
Filament to Plate	1.5	μμf
Maximum Overall Length		5-3/8"
Maximum Diameter		2-1/16"
Bulb		ST-16
Base	Medium 4-Pin "MICANOL", Bayonet	←
RCA Socket	Type UR-542-A	

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS

A-F POWER AMPLIFIER & MODULATOR - Class A_1

D-C Plate Voltage			600 max.	volts
Plate Dissipation			20 max.	watts
Typical Operation:				
D-C Plate Voltage	425	500	600	volts
D-C Grid Voltage □△	-40	-45	-55	volts
Peak A-F Grid Voltage	35	40	50	volts
D-C Plate Current	18	24	30	ma.
Plate Resistance	5000	4600	4300	ohms
Transconductance	1600	1725	1840	μmhos
Load Resistance	10200	8000	7800	ohms
U.P.O. (5% second harmonic)	1.6	2.3	3.8	watts

□ The d-c resistance in the grid circuit should not exceed 0.5 megohm with cathode bias, or 0.1 megohm with fixed bias.

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage			600 max.	volts
Max.-Signal D-C Plate Current*			70 max.	ma.
Max.-Signal Plate Input*			42 max.	watts
Plate Dissipation*			20 max.	watts
Typical Operation:				
Unless otherwise specified, values are for 2 tubes				
D-C Plate Voltage	400	500	600	volts
D-C Grid Voltage △	-50	-60	-75	volts
Peak A-F Grid-to-Grid Voltage	270	290	320	volts
Zero-Signal D-C Plate Cur.	8	8	8	ma.
Max.-Signal D-C Plate Cur.	130	130	130	ma.
Load Resistance (per tube)	1500	2000	2500	ohms
Effective Load Resistance (plate to plate)	6000	8000	10000	ohms
Max.-Signal Driving Power	3	3	3	approx.watts
Max.-Signal Power Output	27	36	45	approx.watts

* Averaged over any audio-frequency cycle of sine-wave form.
△ With a-c filament supply.

←-Indicates a change.

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

(continued from preceding page)

R-F POWER AMPLIFIER – Class B Telephony

Carrier conditions per tube for use with a max. modulation factor of 1.0

D-C Plate Voltage		600 max.	volts
D-C Plate Current		50 max.	ma.
Plate Input		30 max.	watts
Plate Dissipation		20 max.	watts
Typical Operation:			
D-C Plate Voltage	500	600	volts
D-C Grid Voltage △	-60	-75	volts
Peak R-F Grid Voltage	85	90	volts
D-C Plate Current	45	45	ma.
D-C Grid Current**	0.2	0.2	approx.ma.
Driving Power** o	2.2	2.3	approx.watts
Power Output	6	7.5	approx.watts

o 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		500 max.	volts
D-C Grid Voltage		-200 max.	volts
D-C Plate Current		60 max.	ma.
D-C Grid Current		15 max.	ma.
Plate Input		30 max.	watts
Plate Dissipation		13.5 max.	watts
Typical Operation:			
D-C Plate Voltage	400	500	volts
D-C Grid Voltage ▲△	-150	-190	volts
	10000	12700	ohms
Peak R-F Grid Voltage	260	300	volts
D-C Plate Current	55	55	ma.
D-C Grid Current**	15	15	approx.ma.
Driving Power**	4	4.5	approx.watts
Power Output	14	18	approx.watts

▲ obtained by grid resistor of value shown, or by combination of grid resistor with either fixed supply or suitably by-passed cathode resistor.

R-F POWER AMPLIFIER & OSCILLATOR – Class C Telegraphy

Key-down conditions per tube without modulation ¾

D-C Plate Voltage		600 max.	volts
D-C Grid Voltage		-200 max.	volts
D-C Plate Current		70 max.	ma.
D-C Grid Current		15 max.	ma.
Plate Input		42 max.	watts
Plate Dissipation		20 max.	watts
Typical Operation:			
D-C Plate Voltage	500	600	volts
D-C Grid Voltage ▽△	-125	-150	volts
	8300	10000	ohms
	1560	1875	ohms
Peak R-F Grid Voltage	235	260	volts

**, #, ▽, △: see next page.

→ indicates a change.

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

(continued from preceding page)

D-C Plate Current	65	65	ma.
D-C Grid Current**	15	15	approx.ma.
Driving Power**	3.5	4	approx.watts
Power Output	20	25	approx.watts

▽ Obtained from fixed supply, by grid resistor (8300, 10000), or by cathode resistor (1560, 1875). When the 801-A is used in the final amplifier or a preceding stage of a transmitter designed for break-in operation and oscillator keying, a small amount of fixed bias must be used to maintain the plate current at a safe value. With plate voltage of 600 volts, a fixed bias of at least 50 volts should be used.

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

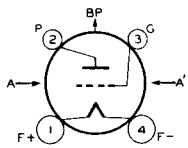
Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

△ With a-c filament supply.

For use of the 801 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs FREQUENCY.

For OUTLINE DIMENSIONS, refer to sheet OUTLINES OF RECEIVING TUBES, drawing of ST-16 bulb with 4-pin base.

BOTTOM VIEW OF SOCKET CONNECTIONS

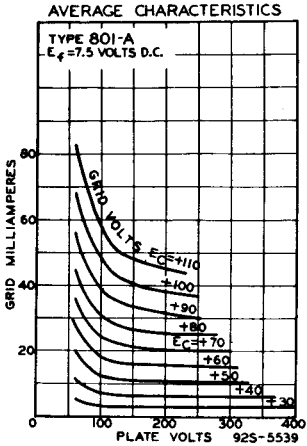


AA'=PLANE OF ELECTRODES

TUBE MOUNTING POSITION

VERTICAL: Base down.
HORIZONTAL: Plane of plate vertical (on edge).

AVERAGE CHARACTERISTICS



RCA

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AVERAGE PLATE CHARACTERISTICS