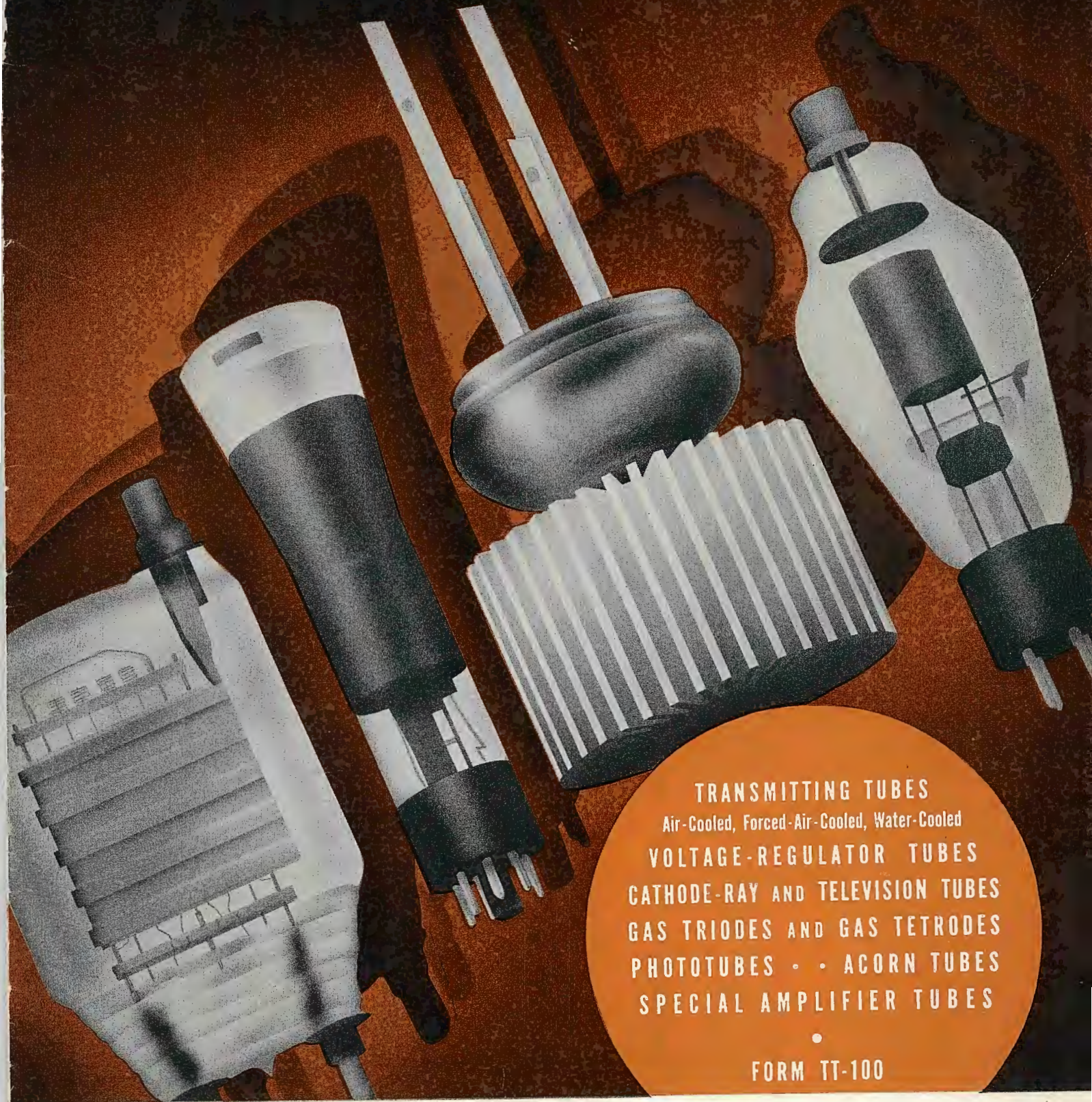




# TRANSMITTING *and* SPECIAL-PURPOSE TUBES



TRANSMITTING TUBES  
Air-Cooled, Forced-Air-Cooled, Water-Cooled  
VOLTAGE-REGULATOR TUBES  
CATHODE-RAY AND TELEVISION TUBES  
GAS TRIODES AND GAS TETRODES  
PHOTOTUBES • • ACORN TUBES  
SPECIAL AMPLIFIER TUBES

FORM TT-100



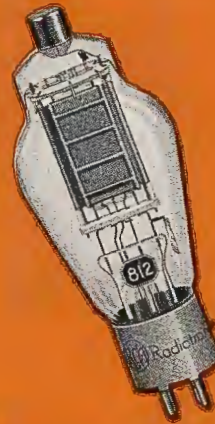
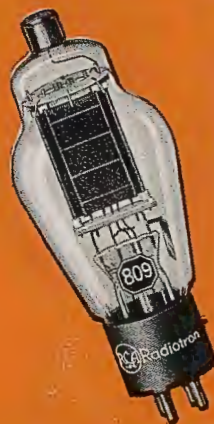
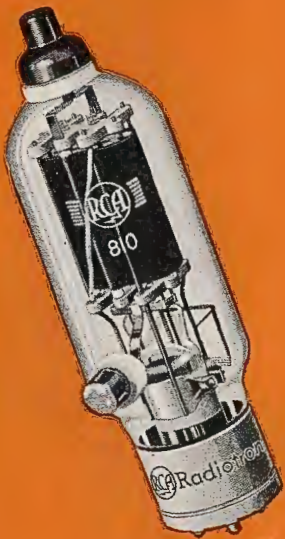
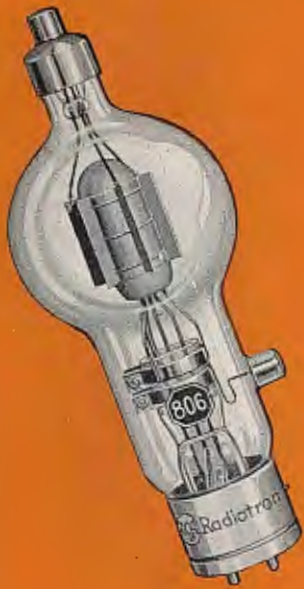
In the following tube descriptions, types of special interest to amateurs are shown in bold face. Types especially suited for u-h-f uses at frequencies of 100 megacycles and above are shown in red.

## AIR-COOLED TRANSMITTING TUBES

### TRIODES

Type	Description	Max. Plate Dissipation Watts	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.
203-A	R-F Power Amplifier, Class B Modulator. $\mu=25$ .	100	7 $\frac{7}{8}$	2 $\frac{5}{8}$
204-A	R-F Power Amplifier, Class B Modulator. $\mu=23$ .	250	14 $\frac{3}{8}$	4 $\frac{1}{8}$
211	R-F Power Amplifier, Class B Modulator. $\mu=12$ .	100	7 $\frac{7}{8}$	2 $\frac{5}{8}$
800	R-F Power Amplifier, Class B Modulator. $\mu=15$ .	35	6 $\frac{3}{8}$	2 $\frac{11}{8}$
801-A/ 801	R-F and A-F Power Amplifier, Class B Modulator. Full input to 60 Mc.	20	5 $\frac{3}{8}$	2 $\frac{1}{8}$
805	R-F Power Amplifier, Zero-Bias Class B Modulator. High $\mu$ . Full input to 30 Mc.	125	8 $\frac{1}{2}$	2 $\frac{5}{8}$
806	R-F Power Amplifier, Class B Modulator. Full input to 30 Mc.	225 <sup>b</sup>	10	3 $\frac{11}{8}$
808	R-F Power Amplifier, Class B Modulator. $\mu=47$ . Full input to 30 Mc.	50	6 $\frac{1}{8}$	2 $\frac{11}{8}$
809	R-F Power Amplifier, Class B Modulator. $\mu=50$ . Full input to 60 Mc.	30 <sup>b</sup>	6 $\frac{3}{8}$	2 $\frac{7}{8}$
810	R-F Power Amplifier, Class B Modulator. $\mu=36$ . Full input to 30 Mc.	150 <sup>b</sup>	9 $\frac{1}{8}$	2 $\frac{3}{4}$ ▲
811	R-F Power Amplifier, Zero-Bias Class B Modulator. $\mu=160$ . Full input to 60 Mc.	55 <sup>b</sup>	6 $\frac{1}{8}$	2 $\frac{7}{8}$
812	R-F Power Amplifier, Class B Modulator. $\mu=29$ . Full input to 60 Mc.	55 <sup>b</sup>	6 $\frac{3}{8}$	2 $\frac{7}{8}$
826	U-H-F Power Amplifier, Oscillator. $\mu=31$ . Full input to 250 Mc.	60	3 $\frac{11}{8}$	2 $\frac{3}{8}$
830-B	R-F Power Amplifier, Class B Modulator. $\mu=25$ .	60	6 $\frac{11}{8}$	2 $\frac{1}{8}$
833-A	R-F Power Amplifier, Class B Modulator. Direct replacement for Type 833. Forced-air cooling required at higher inputs.	450 <sup>b</sup>	8 $\frac{11}{8}$	4 $\frac{11}{8}$
834	U-H-F Power Amplifier. $\mu=10.5$ . Full input to 100 Mc.	50	6 $\frac{7}{8}$	2 $\frac{11}{8}$
838	R-F Power Amplifier, Class B Modulator. Variable high $\mu$ .	100	7 $\frac{7}{8}$	2 $\frac{5}{8}$
841	R-F Power Amplifier, Class B Modulator. $\mu=30$ .	15	5 $\frac{3}{8}$	2 $\frac{3}{8}$
842	Class A Modulator. $\mu=3$ .	12	5 $\frac{3}{8}$	2 $\frac{3}{8}$
843	R-F Power Amplifier, Class A Modulator. $\mu=7.7$ .	15	5 $\frac{3}{8}$	2 $\frac{3}{8}$
845	Class A and AB <sub>1</sub> Modulator. $\mu=5.3$ .	100	7 $\frac{7}{8}$	2 $\frac{5}{8}$
849	R-F Power Amplifier, Class A and B Modulator. $\mu=19$ .	400	14 $\frac{3}{8}$	4 $\frac{1}{8}$
851	R-F Power Amplifier, Class A and B Modulator. $\mu=20.5$ .	750	17 $\frac{5}{8}$	6 $\frac{1}{8}$

▲ Maximum radius. <sup>b</sup> ICAS rating.





## AIR-COOLED TRANSMITTING TUBES

### TRIODES (Cont'd)

Type	Description	Max. Plate Dissipation Watts	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.
852	R-F Power Amplifier. Mu=12.	100	8¾	4¼▲
889-R	R-F Power Amplifier, Class B Modulator. Radiator cooled. Mu=21.	5000	11⅝	5⅞▲
891-R	R-F Power Amplifier, Class B Modulator. Radiator cooled. Two-phase filament. Mu=8.	4000	22	5⅞▲
892-R	R-F Power Amplifier, Class B Modulator. Radiator cooled. Two-phase filament. Mu=50.	4000	22	5⅞▲
893-R	R-F Power Amplifier, Class B Modulator. Radiator cooled. Three-phase filament. Mu=36.	20000	28	8¾▲
1608	R-F Power Amplifier, Class B Modulator. Mu=20.	25 <sup>b</sup>	5⅞	2⅞
1623	R-F Power Amplifier, Class B Modulator. Similar to Type 809 but has mu of 20.	30 <sup>b</sup>	6⅞	2⅞
1627	R-F Power Amplifier, Class B Modulator. Same as Type 810 except for 5-volt filament.	150 <sup>b</sup>	9⅞	2¾▲
1628	U-H-F Power Amplifier. Mu=23. Full input to 500 Mc.	40	4¼	2⅞
8000	Oscillator, R-F Power Amplifier, Class B Modulator. Similar to Type 810 but has mu of 16.5. Useful as self-rectifying oscillator in therapeutic applications.	150	9⅞	2¾▲
8003	Oscillator, R-F Power Amplifier, Class B Modulator. Mu=12. Useful as self-rectifying oscillator in therapeutic applications.	100	8¾	2⅞
8005	R-F Power Amplifier, Class B Modulator. Mu=20. Useful as self-rectifying oscillator in therapeutic applications. New type.**	300 <sup>b</sup>	6⅞	2⅞

### TETRODES

844	R-F Power Amplifier.	15	5¾	2⅞
850	R-F Power Amplifier.	100	8¾	2⅞
860	R-F Power Amplifier.	100	8¾	4¼▲
861	R-F Power Amplifier.	400	17⅞	6⅝▲
865	R-F Power Amplifier.	15	5¾	2⅞

### PENTODES

802	R-F Power Amplifier, Class A Modulator, Doubler, Crystal and Electron-Coupled Oscillator. Easy to drive.	13 <sup>b</sup>	5¾	2⅞
803	R-F Power Amplifier. Excellent as suppressor-modulated amplifier. High power sensitivity.	125	9⅞	2⅞
804	R-F Power Amplifier. Excellent as suppressor-modulated amplifier. Easy to drive.	50 <sup>b</sup>	7¾	2⅞
837	R-F Power Amplifier. Excellent as suppressor-modulated amplifier or as a doubler.	12	5¾	2⅞
1610	Crystal Oscillator, Doubler.	6	5⅞	2⅞
1613	R-F Power Amplifier, Crystal Oscillator, Doubler. Metal type.	10	3¼	1⅞

▲ Maximum radius. <sup>b</sup> ICAS rating. \*\* Added too late to include in Charts. Write for bulletin.





## AIR-COOLED TRANSMITTING TUBES

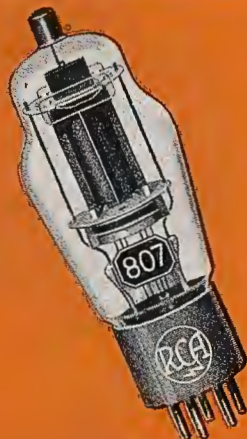
### BEAM TUBES

Type	Description	Max. Plate Dissipation Watts	Max. Dimensions Inches	
			Length	Diam.
807	R-F Power Amplifier, Class AB <sub>2</sub> Modulator, Doubler, Crystal Oscillator. Full input to 60 Mc. Easy to drive.	30 <sup>b</sup>	5 $\frac{3}{4}$	2 $\frac{1}{8}$
813	R-F Power Amplifier, Doubler, Crystal Oscillator. High power sensitivity.	100	7 $\frac{1}{4}$	2 $\frac{9}{16}$
814	R-F Power Amplifier, Doubler, Crystal Oscillator. High power sensitivity.	65 <sup>b</sup>	7 $\frac{3}{4}$	2 $\frac{1}{8}$
815	Push-Pull R-F Power Amplifier, Class AB <sub>2</sub> Modulator, Frequency Multiplier. Exceptional efficiency at the higher frequencies. Full input to 150 Mc.	25 <sup>b</sup>	4 $\frac{9}{16}$	2 $\frac{3}{8}$
827-R	R-F Power Amplifier. Radiator cooled. Full input to 110 Mc. Useful in frequency modulation and television transmitters.	800	6	4 $\frac{11}{16}$
828	R-F Power Amplifier, Class AB <sub>1</sub> Modulator. Can deliver large audio power with low distortion.	80 <sup>b</sup>	7 $\frac{3}{4}$	2 $\frac{1}{8}$
829	Push-Pull R-F Power Amplifier. Exceptional efficiency with full input at frequencies as high as 200 Mc.	40	4 $\frac{5}{16}$	2 $\frac{3}{8}$
832	Push-Pull R-F Power Amplifier. High power sensitivity. Full input to 150 Mc.	15	3 $\frac{7}{16}$	2 $\frac{3}{8}$
1614	R-F Power Amplifier. Metal type.	21	4 $\frac{5}{16}$	1 $\frac{5}{8}$
1619	R-F Power Amplifier, Modulator. Metal type with filament-type cathode. Quick heating for fast off-on operation.	15	4 $\frac{5}{16}$	1 $\frac{5}{8}$
1624	R-F Power Amplifier, Class AB <sub>2</sub> Modulator. Filament-type cathode. Quick heating for fast off-on operation.	25	5 $\frac{3}{4}$	2 $\frac{1}{8}$
1625	R-F Power Amplifier, Class AB <sub>2</sub> Modulator, Frequency Multiplier. Similar to Type 807 but has 12.6-volt heater and 7-pin base. Especially useful in air-craft transmitters.	30 <sup>b</sup>	5 $\frac{3}{4}$	2 $\frac{1}{8}$
8001	R-F Power Amplifier, Modulator, Frequency Multiplier. Full input to 75 Mc. Low driving power. High power sensitivity. New type.**	75	6 $\frac{7}{8}$	2 $\frac{11}{16}$

### INDUCTIVE-OUTPUT TUBE

825	U-H-F Power Amplifier. For use above 300 Mc especially in television, frequency-modulation, and other wide-band services. Max. d-c collector volts, 2000; max. d-c collector input watts, 100. Typical power output watts in class C telegraphy, 35. Capacitances: grid No. 1 to grid No. 2, 1.8 $\mu$ f max.; grid No. 1 to cathode, 3.2 $\mu$ f; grid No. 2 to cathode, 0.9 $\mu$ f. Heater: volts, 6.3; amperes, 0.75.	50 $\diamond$	8 $\frac{3}{4}$	2 $\frac{1}{8}$
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<sup>b</sup> ICAS rating.  $\diamond$  Value for collector. \*\* Added too late to include in Charts. Write for bulletin.





# WATER-COOLED TRANSMITTING TUBES

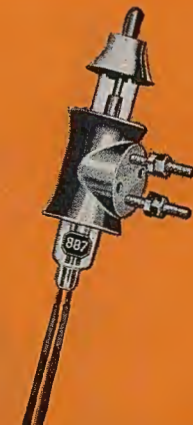
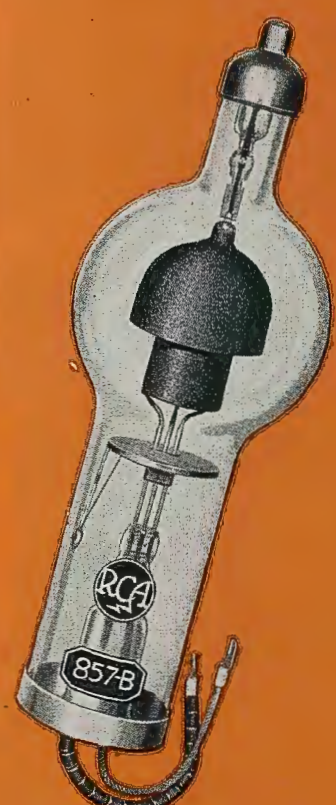
## TRIODES

Type	Description	Mu	Max. Plate Dissipation Watts	Max. Dimensions Inches	
				Length	Diam.
207	R-F Power Amplifier, Class B Modulator.	Mu=20.	10000	20 1/4	6 1/2 ▲
846	R-F Power Amplifier, Class B Modulator. Full input to 50 Mc.	Mu=20.	2500	9 1/2	3 3/8 ▲
858	R-F Power Amplifier, Class B Modulator.	Mu=42.	20000	24 1/2	7 1/2 ▲
862	R-F Power Amplifier, Class B Modulator.	Mu=48.	100000	60 3/8	10 ▲
880	R-F Power Amplifier, Class B Modulator.	Mu=20.	20000	11 1/2	7
887	U-H-F Power Amplifier. Full input to 225 Mc.	Mu=10.	1000	7 3/8	2 1/8 ▲
888	U-H-F Power Amplifier. Full input to 225 Mc.	Mu=30.	1000	7 3/8	2 1/8 ▲
889	R-F Power Amplifier, Class B Modulator. Full input to 50 Mc.	Mu=21.	5000	10 5/8	3 3/8
891	R-F Power Amplifier, Class A and B Modulator. Two-phase filament. Supersedes Type 848.	Mu=8.	6000	20 5/8	6 1/2 ▲
892	R-F Power Amplifier, Class B Modulator. Two-phase filament. Supersedes Type 863.	Mu=50.	10000	20 5/8	6 1/2 ▲
893	R-F Power Amplifier, Class B Modulator. Three-phase filament.	Mu=36.	20000	26 3/4	6 3/8 ▲
898	R-F Power Amplifier, Class B Modulator. Three-phase filament.	Mu=44.	100000	60 3/8	10 ▲

## TRANSMITTING RECTIFIERS

Type	Description **	Filament or Heater (H)	Max. Peak Inverse Volts	Max. Peak Plate Amp.	Max. D-C Output Amp.	Condensed Mercury Temp. Range °C	Max. Dimensions Inches	
							Length	Diam.
217-A	High-Vacuum	10 V 3.25 A	3500	0.6	0.20	—	7 7/8	2 5/16
217-C	High-Vacuum	10 V 3.25 A	7500	0.6	0.15	—	8 1/2	2 5/16
816	Mercury-Vapor.	2.5 V 2 A	5000	0.5	0.125	20 - 60	4 1/8	1 3/16
836	High-Vacuum	2.5 V 5 A (H)	5000	1	0.25	—	6 9/16	2 7/16
857-B	Mercury-Vapor. Forced-air cooling. Supersedes Type 857.	{ 5 V } { 30 A }	10000 22000	40 40	10 10	25 - 65 30 - 40	19 1/8	7 1/8
866-A/ 866	Mercury-Vapor. Supersedes Types 866-A and 866.	2.5 V 5 A	10000	1	0.25	25 - 60	6 5/8	2 7/16
869-B	Mercury-Vapor. Supersedes Type 869-A	{ 5 V } { 18 A }	10000 20000	10 10	2.5 2.5	30 - 40 30 - 60	14 7/16	5 1/16
871	Mercury-Vapor	2.5 V 2 A	5000	0.5	0.125	10 - 60	4 1/2	1 3/16
872	Mercury-Vapor	5 V 10 A	7500	5	1.25	10 - 60	8 1/2	2 5/16
872-A	Mercury-Vapor	{ 5 V } { 6.75 A }	5000 10000	5 5	1.25 1.25	20 - 70 20 - 60	8 1/2	2 5/16
1616	High-Vacuum	2.5 V 5 A	5500	0.8	0.13	—	6 1/8	2 1/16

▲ Maximum radius. \*\* All of these types are half-wave rectifiers.





# TELEVISION TUBES

## KINESCOPIES

Type	Description	Max. Anode Volts	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.
3AP4/ 906-P4	3-Inch White-Phosphor-Screen Picture Tube. Electrostatic deflection. Sensitivity of deflecting electrodes near gun: 0.23 mm/volt d.c.	1500	11 $\frac{7}{8}$	3 $\frac{1}{8}$
5AP4/ 1805-P4	5-Inch White-Phosphor-Screen Picture Tube. Electrostatic deflection. Short bulb. Sensitivity of deflecting electrodes near gun: 0.21 mm/volt d.c.	2000	13 $\frac{3}{8}$	5 $\frac{1}{8}$
5BP4/ 1802-P4	5-Inch White-Phosphor-Screen Picture Tube. Electrostatic deflection. Sensitivity of deflecting electrodes near gun: 0.33 mm/volt d.c.	2000	17 $\frac{1}{8}$	5 $\frac{1}{8}$
7AP4	7-Inch White-Phosphor-Screen Picture Tube. Magnetic deflection. Short bulb.	3500	13 $\frac{3}{8}$	7 $\frac{1}{8}$
9AP4/ 1804-P4	9-Inch White-Phosphor-Screen Picture Tube. Magnetic deflection.	7000	21 $\frac{3}{8}$	9 $\frac{1}{8}$
12AP4/ 1803-P4	12-Inch White-Phosphor-Screen Picture Tube. Magnetic deflection.	7000	25 $\frac{3}{8}$	12 $\frac{3}{4}$

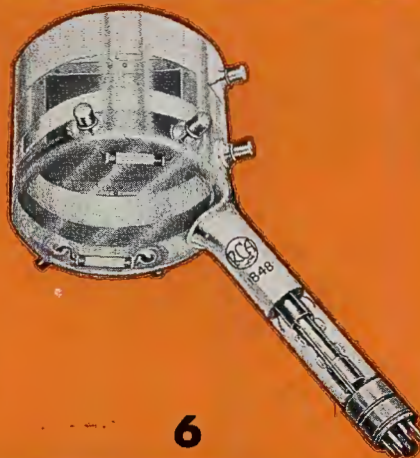
## ICONOSCOPES, ORTHICONS, and MONOSCOPES

1840	Orthicon for Direct and Film Pick-Up Camera. Electrostatic deflection. Magnetic focus. Heater: volts, 6.3; amperes, 0.6. Octal 8-pin base.	300	18 $\frac{1}{2}$	4 $\frac{1}{8}$
1847	Iconoscope for Radio Amateurs. Electrostatic deflection. Electrostatic focus. Heater: volts, 6.3; amperes, 0.6. Octal 8-pin base.	600	7 $\frac{5}{8}$	2 $\frac{1}{8}$
1848	Iconoscope for Portable Television Camera. Magnetic deflection. Electrostatic focus. Heater: volts, 6.3; amperes, 0.6. Octal 8-pin base.	1200	—	—
1849	Iconoscope for Film Pick-Up Camera. Magnetic deflection. Electrostatic focus. Heater: volts, 6.3; amperes, 0.6. Medium 6-pin ceramic base.	1200	—	—
1850	Iconoscope for Direct Pick-Up Camera. Magnetic deflection. Electrostatic focus. Heater: volts, 6.3; amperes, 0.6. Medium 6-pin ceramic base.	1200	—	—
1898	Monoscope for Generating Test Pattern. Three-inch size. Electrostatic deflection and focus. Heater: volts, 2.5; amperes, 2.1. Medium 7-pin base.	1200	12 $\frac{1}{4}$	3 $\frac{1}{8}$
1899	Monoscope for Generating Test Pattern. Five-inch size. High resolution capability. Magnetic deflection. Electrostatic focus. Heater: volts, 2.5; amperes, 2.1. Medium 6-pin base.	1500	14 $\frac{3}{8}$	5 $\frac{1}{8}$

## RECTIFIERS

Type	Description	Max. Peak Inverse Volts	Max. Peak Plate Amp.	Max. D-C Output Amp.	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.
2V3-G	Half-Wave, High-Vacuum Diode. Filament: volts, 2.5; amperes, 5. Octal 6-pin base.	16500	0.012	0.002	4 $\frac{1}{2}$	1 $\frac{1}{8}$
2X2/ 879	Half-Wave, High-Vacuum Diode. Heater: volts, 2.5; amperes, 1.75. Small 4-pin base.	12500	0.1	0.0075	4 $\frac{1}{2}$	1 $\frac{1}{8}$
878	Half-Wave, High-Vacuum Diode. Filament: volts, 2.5; amperes, 5. Medium 4-pin base.	20000	0.02	0.005	7 $\frac{5}{8}$	1 $\frac{1}{2}$

NOTE: For other tubes in television receivers, refer to RCA Receiving Tube Characteristics Chart (Form 1275-B).





## OSCILLOGRAPH TUBES

Type	Description	Max. Anode Volts	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.
3AP1/ 906-P1	3-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic deflection. Medium persistence. Sensitivity of deflecting electrodes near gun: 0.23 mm/volt d.c.	1500	11 $\frac{1}{8}$	3 $\frac{1}{16}$
5BP1/ 1802-P1	5-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic deflection. Medium persistence. Sensitivity of deflecting electrodes near gun: 0.33 mm/volt d.c.	2000	17 $\frac{1}{8}$	5 $\frac{5}{16}$
902	2-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic deflection. Medium persistence. Sensitivity of deflecting electrodes near gun: 0.22 mm/volt d.c.	600	7 $\frac{5}{8}$	2 $\frac{1}{16}$
904	5-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic-magnetic deflection. Medium persistence. Sensitivity of deflecting electrodes: 0.09 mm/volt d.c.	4600	16 $\frac{5}{8}$	5 $\frac{1}{16}$
905	5-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic deflection. Medium persistence. Sensitivity of deflecting electrodes near gun: 0.23 mm/volt d.c.	2000	16 $\frac{7}{8}$	5 $\frac{5}{16}$
907	5-Inch Blue-Phosphor-Screen Oscilloscope. Electrostatic deflection. Short persistence. Sensitivity of deflecting electrodes near gun: 0.23 mm/volt d.c.	2000	16 $\frac{7}{8}$	5 $\frac{1}{16}$
908	3-Inch Blue-Phosphor-Screen Oscilloscope. Electrostatic deflection. Short persistence. Sensitivity of deflecting electrodes near gun: 0.23 mm/volt d.c.	1500	11 $\frac{1}{8}$	3 $\frac{1}{16}$
913	1-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic deflection. Medium persistence. Sensitivity of deflecting electrodes near gun: 0.10 mm/volt d.c.	500	4 $\frac{3}{4}$	1 $\frac{1}{16}$
914	9-Inch Green-Phosphor-Screen Oscilloscope. Electrostatic deflection. Medium persistence. Sensitivity of deflecting electrodes near gun: 0.093 mm/volt d.c.	7000	21 $\frac{1}{8}$	9 $\frac{3}{8}$

## PHOTOTUBES

Type	Description and Principal Use	Luminous Sensitivity Microamp./Lumen ♦♦	Max. Dimensions Inches Length	Max. Dimensions Inches Diam.
868	Gas Tube. Sound reproduction.	65	4 $\frac{1}{8}$	1 $\frac{1}{16}$
917	Vacuum Tube (Anode Cap). Relays and measurements.	20	4 $\frac{7}{16}$	1 $\frac{1}{16}$
918	Gas Tube (High Sensitivity). Sound reproduction.	110	4 $\frac{1}{8}$	1 $\frac{1}{16}$
919	Vacuum Tube (Cathode Cap). Relays and measurements.	20	4 $\frac{7}{16}$	1 $\frac{1}{16}$
920	Gas Twin Tube. Sound reproduction.	75**	4	1 $\frac{1}{16}$
921	Gas Tube—Cartridge Style. Sound reproduction and relays.	100	1 $\frac{3}{16}$	$\frac{1}{16}$
922	Vacuum Tube—Cartridge Style. Relays and measurements.	20	1 $\frac{3}{16}$	$\frac{1}{16}$
923	Gas Tube (High Sensitivity). Sound reproduction and relays. Superseded for new equipment by Type 930.	100	3 $\frac{9}{16}$	1 $\frac{1}{16}$
924	Gas Tube—End Style with Screw Base. Relays.	55	2 $\frac{3}{16}$	$\frac{1}{16}$
925	Vacuum Tube. Relays.	15	2 $\frac{5}{8}$	1 $\frac{1}{16}$
926	Vacuum Tube—Cartridge Style. Colorimetry.	6.5	1 $\frac{3}{16}$	$\frac{1}{16}$
927	Gas Tube—Miniature Size. Sound reproduction.	75	2 $\frac{1}{16}$	$\frac{3}{16}$
928	Gas Tube—Non-directional Style. Relays.	65	3 $\frac{9}{16}$	1 $\frac{1}{16}$
929	Vacuum Tube (High Sensitivity). Relays, measurements.	45	3 $\frac{1}{16}$	1 $\frac{1}{16}$
930	Gas Tube (High Sensitivity). Sound reproduction, relays.	100	3 $\frac{1}{16}$	1 $\frac{1}{16}$
931	Multiplier Tube—9-Stage electrically focused type. Enormous sensitivity. Low noise level. Relays, sound reproduction, and scientific research. New type.**	2.3x10 <sup>6</sup>	3 $\frac{1}{16}$	1 $\frac{5}{16}$

♦♦ With incandescent light source at 2870°K. \*\* Each unit.

\*\* Added too late to be included in Chart. Write for bulletin.





## ACORN TUBES, MIDGET TUBES

Type	Classification	Description	Max. Plate Volts	Max. Dimensions Inches	
				Length	Diam.
954	Pentode	U-H-F Amplifier, Detector. Especially for wavelengths as short as 0.7 meter. Heater: volts, 6.3; amperes, 0.15.	250	1 $\frac{1}{8}$	1 $\frac{5}{32}$
955	Triode	U-H-F Amplifier, Detector, Oscillator. Especially for wavelengths as short as 0.5 meter. Heater: volts, 6.3; amperes, 0.15.	250	1 $\frac{3}{8}$	1 $\frac{5}{32}$
956	Pentode	U-H-F Super-Control Amplifier. Especially for wavelengths as short as 0.7 meter. Heater: volts, 6.3; amperes, 0.15.	250	1 $\frac{3}{8}$	1 $\frac{5}{32}$
957	Triode	U-H-F Amplifier, Detector. Intended for dry-cell operation. Filament: volts, 1.25; amperes, 0.05.	135	1 $\frac{3}{8}$	1 $\frac{5}{32}$
958	Triode	U-H-F Amplifier, A-F Amplifier. Intended for dry-cell operation. Filament: volts, 1.25; amperes, 0.1.	135	1 $\frac{3}{8}$	1 $\frac{5}{32}$
959	Pentode	U-H-F Amplifier, Detector. Intended for dry-cell operation. Filament: volts, 1.25; amperes, 0.05.	135	1 $\frac{3}{8}$	1 $\frac{5}{32}$
9001	Pentode	U-H-F Amplifier, detector. Midget construction. Electrically similar to Type 954.	250	1 $\frac{11}{16}$	$\frac{3}{4}$
9002	Triode	U-H-F Amplifier, Detector, Oscillator. Midget construction. Electrically similar to Type 955.	250	1 $\frac{11}{16}$	$\frac{3}{4}$
9003	Pentode	U-H-F Super-Control Amplifier. Midget construction. Electrically similar to Type 956.	250	1 $\frac{11}{16}$	$\frac{3}{4}$

## GAS-DIODES, GAS-TRIODES, GAS-TETRODES

Type	Description	Max. Dimensions Inches	
		Length	Diam.
884	Gas-Triode for Relay and Sweep Control. For sweep control, max. ratings are: anode volts, 300; peak anode ma., 300; average anode ma., 2. For relay service, max. ratings are: peak volts between any two electrodes, 350; peak anode ma., 300; average anode ma., 75. Heater: 6.3 v, 0.6 a. Octal 6-pin base.	4 $\frac{1}{8}$	1 $\frac{9}{16}$
885	Gas-Triode for Relay and Sweep Control. Same as 884 except it has a heater rating of 2.5 volts, 1.4 amperes and has a small 5-pin base.	4 $\frac{1}{16}$	1 $\frac{9}{16}$
2000	Half-Wave Gas Rectifier. Excellent stability. Especially suitable for supplying rectified current to exciter lamps in sound equipment. Max. ratings are: peak inverse volts, 350; d-c output volts, 90; d-c output amperes, 6. Filament: 2.2 v, 18 a. Mogul screw base.	7	3 $\frac{3}{16}$
2050	Gas-Tetrode for Relay Service. High sensitivity. Operates directly from vacuum phototube. Max. ratings are: peak forward anode volts, 650; peak inverse anode volts, 1300; peak anode ma., 500; average anode ma., 100. Heater: 6.3 v, 0.6 a. Octal 8-pin base.	4 $\frac{1}{8}$	1 $\frac{9}{16}$
2051	Gas-Tetrode for Relay Service. Similar to Type 2050 but has lower rating. Max. ratings are: peak forward anode volts, 350; peak inverse anode volts, 700; peak anode ma., 375; average anode ma., 75. Heater: 6.3 v, 0.6 a. Octal 8-pin base.	4 $\frac{1}{8}$	1 $\frac{9}{16}$





## VOLTAGE REGULATORS

Type	Description	Max. Dimensions Inches	
		Length	Diam.
VR75-30	Glow-Discharge Tube with Cold Cathode. Operating values: volts, 75; ma., 5 to 30. Octal 6-pin base.	4 $\frac{1}{8}$	1 $\frac{9}{16}$
VR105-30	Glow-Discharge Tube with Cold Cathode. Operating values: volts, 105; ma., 5 to 30. Octal 6-pin base.	4 $\frac{1}{8}$	1 $\frac{9}{16}$
VR150-30	Glow-Discharge Tube with Cold Cathode. Operating values: volts, 150; ma., 5 to 30. Octal 6-pin base.	4 $\frac{1}{8}$	1 $\frac{9}{16}$
874	Glow-Discharge Tube with Cold Cathode. Operating values: volts, 90; ma., 10 to 50. Medium 4-pin bayonet base.	5 $\frac{5}{8}$	2 $\frac{3}{16}$
991	Glow-Discharge Tube with Cold Cathode. Operating values: volts, 48-67; ma., 0.4 to 2. Bayonet candelabra, double-contact base.	1 $\frac{9}{16}$	$\frac{5}{8}$

## SPECIAL AMPLIFIER TUBES

Type	Classification	Description	Max. Dimensions Inches	
			Length	Diam.
12A6	Beam Tube (Metal)	A-F Power Amplifier. Especially for aircraft applications. Max. ratings: plate volts, 250; screen volts, 250. Power output, 2.5 watts. Heater: volts, 12.6; amperes, 0.15. Octal 7-pin base.	3 $\frac{1}{4}$	1 $\frac{5}{16}$
864	Triode	Low-Microphonic Amplifier. Max. plate volts, 90. Filament: volts, 1.1; amperes, 0.25. Small 4-pin base.	3 $\frac{3}{4}$	1 $\frac{3}{16}$
1602	Triode	Low-Microphonic Amplifier. Max. plate volts, 425. Filament: volts, 7.5; amperes, 1.25. Medium 4-pin bayonet base.	5 $\frac{5}{8}$	2 $\frac{3}{16}$
1603	Pentode	Low-Microphonic, Low-Noise, Low-Hum Amplifier. Max. ratings: plate volts, 250; screen volts, 180. Heater: volts, 6.3; amperes, 0.3. Small 6-pin base.	4 $\frac{15}{16}$	1 $\frac{9}{16}$
1609	Pentode	Low-Microphonic Amplifier. Max. ratings: plate volts, 135; screen volts, 67.5. Filament: volts, 1.1; amperes, 0.25. Small 5-pin base.	4 $\frac{3}{16}$	1 $\frac{9}{16}$
1612	Heptode (Metal)	Low-Microphonic Pentagrid Amplifier. Max. ratings: plate volts, 250; screen volts, 100. Heater: volts, 6.3; amperes, 0.3. Octal 7-pin base.	3 $\frac{1}{8}$	1 $\frac{5}{16}$
1620	Pentode (Metal)	Low-Microphonic Detector, Amplifier. Max. ratings: plate volts, 250; screen volts, 100. Heater: volts, 6.3; amperes, 0.3. Octal 7-pin base.	3 $\frac{1}{8}$	1 $\frac{5}{16}$
1621	Pentode (Metal)	A-F Power Amplifier. For applications requiring continuity of service. Max. ratings in push-pull service: plate volts, 300; screen volts, 300. Power output, 5 watts. Heater: volts, 6.3; amperes, 0.7. Octal 7-pin base.	3 $\frac{1}{4}$	1 $\frac{5}{16}$
1622	Beam Tube (Metal)	A-F Power Amplifier. For applications requiring continuity of service. Max. ratings in push-pull service: plate volts, 300; screen volts, 250. Power output, 10 watts. Heater: volts, 6.3; amperes, 0.9. Octal 7-pin base.	4 $\frac{5}{16}$	1 $\frac{5}{8}$
1629	Visual Indicator	Electron-Ray Tube. Has 12.6 volt, 0.15 ampere heater. Other electrical characteristics are same as for RCA-6E5. Small shell octal 7-pin base.	4 $\frac{1}{8}$	1 $\frac{3}{16}$
1851	Pentode (Metal)	Amplifier. Features high transconductance of 9000 micro-mhos. Superseded for new equipment by Type 6AC7/1852.	3 $\frac{3}{8}$	1 $\frac{1}{8}$





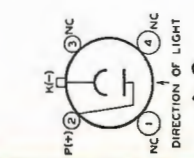
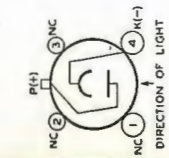
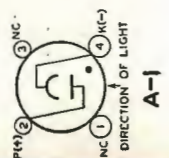
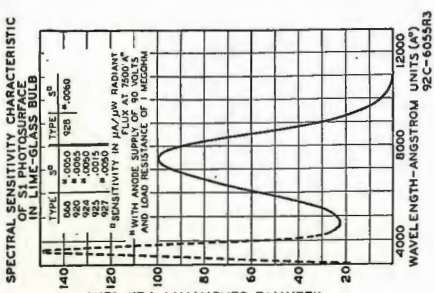
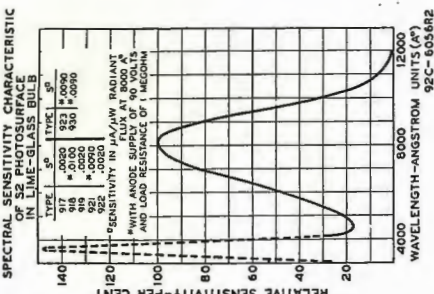
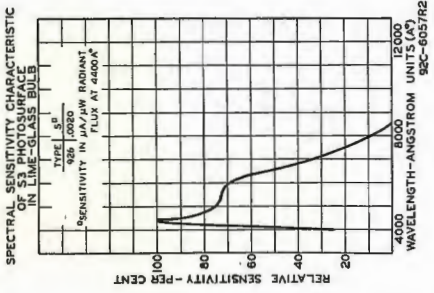
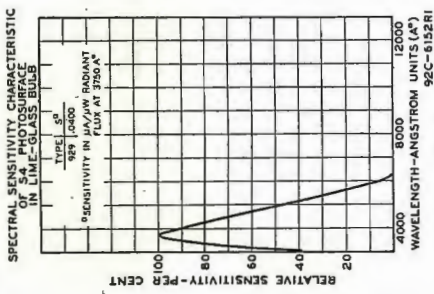
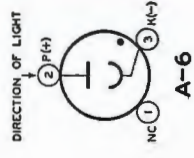
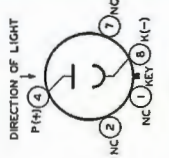
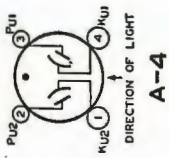
# RCA PHOTOTUBE CHART

Type	Name	Principal Use	Dimensions & Socket Connections		Cathode		Luminous Sensitivity		Spectral Sensitivity Curve	Gas Amplification Factor	Direct Inter-Electrode Capacitance $\mu\text{f}$	Max. Ambient Temperature $^{\circ}\text{C}$	Max. Anode Supply D-C or Peak A-C Volts	Max. Anode Current $\mu\text{Amp.}$	Min. D-C Load Resistance (Megohms)				Type			
			Dimen.	S.C.	Photo-Surface	Window Area Sq. In.	0 Cycles	1000† Cycles							5000† Cycles	Up to 75-V Supply	90-V Supply	250-V Supply		500-V Supply		
868	GAS PHOTOTUBE	Sound Reproduction	D-1	A-1	S1	1	65	61	57	C-1	Not over 7	2.5	90	20	0	0.1	0.1	2.5	—	—	868	
917	VACUUM PHOTOTUBE with Anode Cap	Relays and Measurements	D-2	A-2	S2	1	20	20	20	C-2	—	2.0	500	30	—	—	—	—	1	10	917	
918	GAS PHOTOTUBE	Sound Reproduction	D-1	A-1	S2	1	110	104	96	C-2	Not over 10	2.5	90	20	0	0.1	1	4	—	—	918	
919	VACUUM PHOTOTUBE with Cathode Cap	Relays and Measurements	D-2	A-3	S2	1	20	20	20	C-2	—	2.0	500	30	—	—	—	—	1	10	919	
920	TWIN PHOTOTUBE Gas Type	Sound Reproduction	D-4	A-4	S1	0.3	75	70	65	C-1	Not over 10	1.5*	90	10	0	0.1	1	4	—	—	920	
921	GAS PHOTOTUBE Cartridge Type	Sound Reproduction	D-3	—	S2	0.4	100	94	87	C-2	Not over 9	1.0	90	20	0	0.1	1	4	—	—	921	
922	VACUUM PHOTOTUBE Cartridge Type	Relays and Measurements	D-3	—	S2	0.4	20	20	20	C-2	—	0.5	500	30	—	—	—	—	1	10	922	
923	GAS PHOTOTUBE	Sound Reproduction	D-5	A-1	S2	0.4	100	94	87	C-2	Not over 9	2.0	90	20	0	0.1	1	4	—	—	923	
924	GAS PHOTOTUBE End Type	Relays	D-6	—	S1	0.2	55	Less than 55	Less than 55	C-1	Not over 8.5	2.5	90	15	0	0.1	0.1	2.5	—	—	924	
925	VACUUM PHOTOTUBE	Relays	D-7	A-5	S1	0.4	15	15	15	C-1	—	1.0	250	20	—	—	—	1	—	—	925	
926	VACUUM PHOTOTUBE Cartridge Type	Colorimetry	D-3	—	S3	0.4	6.5	6.5	6.5	C-3	—	0.5	500	20	—	—	—	1	10	—	926	
927	GAS PHOTOTUBE	Sound Reproduction	D-8	A-6	S1	0.4	75	70	65	C-1	Not over 7	2.0	90	2	0	—	0.1	—	—	—	—	927
928	GAS PHOTOTUBE Non-Directional Type	Relays	D-10	A-7	S1	0.7	65	Less than 65	Less than 65	C-1	Not over 10	3.0	90	15	0	0.1	1	4	—	—	928	
929	VACUUM PHOTOTUBE	Relays and Measurements	D-9	A-5	S4	0.6	45	45	45	C-4	—	2.5	250	20	—	—	—	—	1	—	—	929
930	GAS PHOTOTUBE	Sound Reproduction	D-9	A-5	S2	0.6	100	94	87	C-2	Not over 9	2.5	90	20	0	0.1	1	4	—	—	—	930

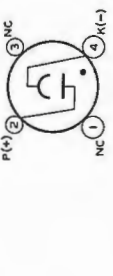
◆ Ratio of sensitivity at maximum anode voltage to sensitivity at a voltage sufficiently low (approximately 25 volts) to eliminate gas ionization effects.  
 † On basis of the use of a sensitive cathode area  $\frac{1}{2}$ " in diameter.  
 ‡ Values are for each unit.  
 \* Between cathode and anode of each unit. Capacitance between cathodes = 1.6  $\mu\text{f}$ ; between anodes = 0.36  $\mu\text{f}$ .

† These sensitivity values are measured with a light input varied sinusoidally about a mean value from zero to a maximum of twice the mean. The sensitivity values shown are the ratio of the amplitude of variation in the current output to the amplitude of variation in the light input. The light source was a Mazda projector lamp operating at a filament color temperature of 2870°K. Sensitivity of the gas phototubes was measured with a 90-volt supply, a 1-megohm load, and a mean light input of 0.015 lumen. Sensitivity of the vacuum phototubes was measured with a 250-volt supply, a 1-megohm load, and a mean light input of 0.1 lumen.

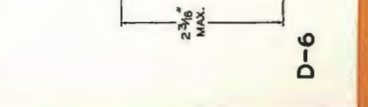
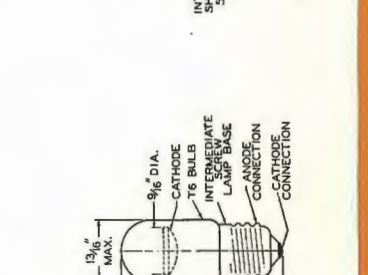
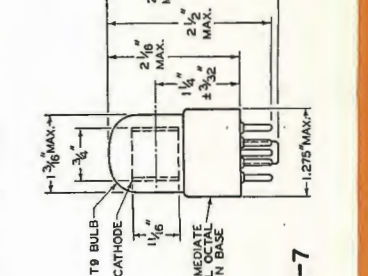
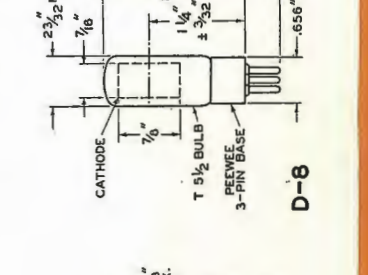
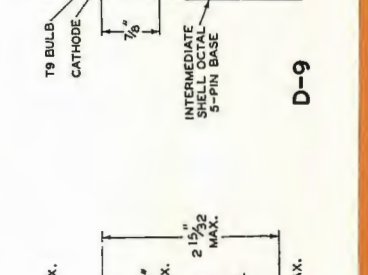
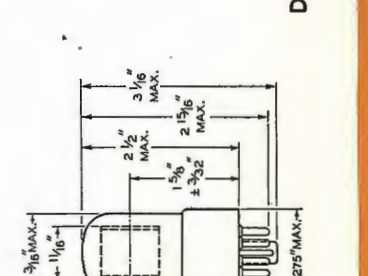
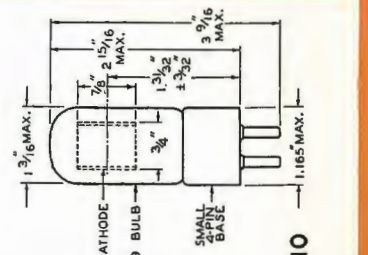
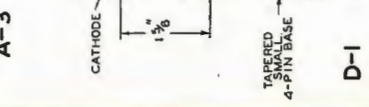
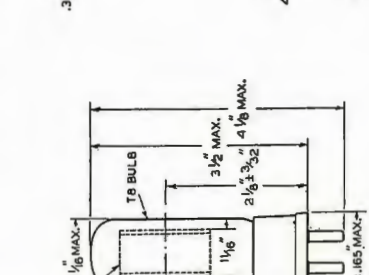
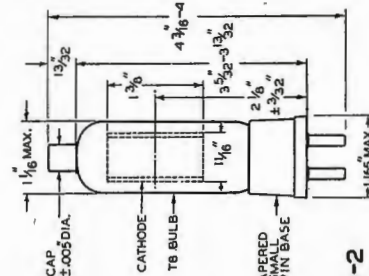
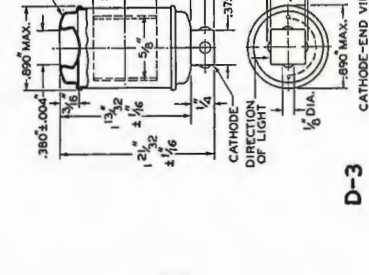
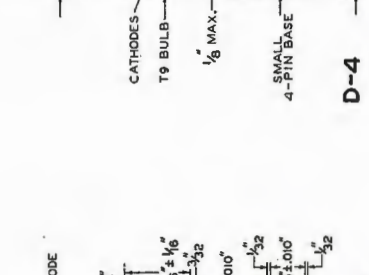
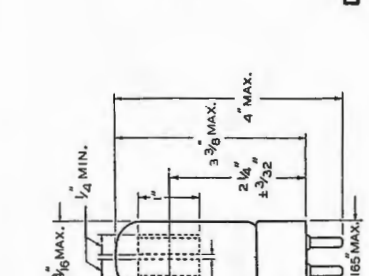
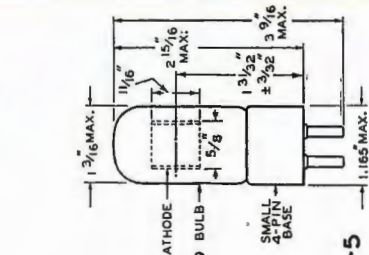




K = CATHODE  
NC = NO CONNECTION  
P = ANODE  
● = GAS TYPE



BOTTOM VIEWS OF SOCKET CONNECTIONS ARE SHOWN





# RCA TRANSMITTING TUBE CHARTS

These charts will assist the tube user in making selection of a tube type for a particular service or application. The tube types have been grouped under the following headings: MODULATORS, CLASS C AMPLIFIERS—Triodes, and CLASS C AMPLIFIERS—Tetrodes, Pentodes, and Beam Tubes. Those types of special interest to radio amateurs have their type number shown in **bold face**.

## MODULATORS

Type	Name and Cooling	Filament or Heater (H)		Class	Plate Voltage Volts	Screen Voltage Volts	Grid $\ddagger$ Voltage Volts	Peak A-F Grid-to-Grid Voltage Volts	Plate Current <sup>1,2</sup> Milliampères		Plate-to-Plate Load Resistance Ohms	Driver Stage <sup>15</sup>	Max.-Signal Power Output Watts <sup>1,3</sup>
		Volts	Amperes						Zero-Signal	Max.-Signal			
203-A	TRIODE Air	10	3.25	B	1000	—	-35	310	26	320	6900	Note 9	200
					1250 $\ddagger$	—	-45	330	26	320	9000		260
204-A	TRIODE Air	11	3.85	B	2000	—	-60	500	80	500	8800	Note 11	600
					3000 $\ddagger$	—	-100	500	80	372	20000		700
207	TRIODE Water	22	52	B	6000	—	-210	1520	500	2500	4200	—	8000
					12500	—	-575	2300	400	2800	10000		22500
211	TRIODE Air	10	3.25	B	1000	—	-77	380	20	320	6900	Note 9	200
					1250 $\ddagger$	—	-100	410	20	320	9000		260
800	TRIODE Air	7.5	3.1	B	1000	—	-55	300	28	160	12500	Note 8	100
					1250 $\ddagger$	—	-70	300	30	130	21000		106
801-A/ 801	TRIODE Air	7.5	1.25	B	500	—	-60	290	8	130	8000	Note 6	36
					600 $\ddagger$	—	-75	320	8	130	10000		45
805	TRIODE Air	10	3.25	B	1250	—	0	235	148	400	6700	Note 8	300
					1500 $\ddagger$	—	-16	280	84	400	8200		370
806	TRIODE Air	5	9.5	B	3000 $\ddagger^a$	—	-230	770	50	330	20800	Note 10	700
					3300 $\ddagger^b$	—	-240	930	80	475	16000	Note 12	1120
807	BEAM Air	6.3 (H)	0.9	AB <sub>2</sub>	600 $\ddagger^a$	300	-30	80	60	200	6660	Note 5	80
					750 $\ddagger^b$	300	-32	95	60	240	7320		120
808	TRIODE Air	7.5	4	B	1250	—	-15	240	40	230	12700	Note 8	190
					1500 $\ddagger$	—	-25	220	30	190	18300		185
809	TRIODE Air	6.3	2.5	B	750 $\ddagger^a$	—	-4.5	140	40	200	8400	Note 7	100
					1000 $\ddagger^b$	—	-10	156	40	200	11600		145
810	TRIODE Air	10	4.5	B	2000 $\ddagger^a$	—	-50	345	60	420	11000	Note 10	590
					2250 $\ddagger^b$	—	-60	380	70	450	11600		725
811	TRIODE Air	6.3	4	B	1250 $\ddagger^a$	—	0	140	48	200	15000	Note 7	175
					1500 $\ddagger^b$	—	-9	160	20	200	18000		225
812	TRIODE Air	6.3	4	B	1250 $\ddagger^a$	—	-36	210	48	200	15000	Note 8	175
					1500 $\ddagger^b$	—	-46	232	42	200	18000		225
815	TWIN BEAM Air	6.3 (H) per unit	0.8 per unit	AB <sub>2</sub>	400 $\ddagger^a$	125	-15	60	20	150	6200	Note 4	42
					500 $\ddagger^b$	125	-15	60	22	150	8000		54
828	BEAM Air	10	3.25	AB <sub>1</sub>	1700 $\ddagger^a$	750	-120	240	50	248	16200	Note 14	300
					2000 $\ddagger^b$	750	-120	240	50	270	18500		385
830-B	TRIODE Air	10	2	B	800	—	-27	250	20	280	6000	Note 8	135
					1000 $\ddagger$	—	-35	270	20	280	7600		175
833-A	TRIODE Forced-Air	10	10	B	4000 $\ddagger^a$	—	-100	480	100	800	12000	Note 13	2400
					4000 $\ddagger^b$	—	-100	510	100	900	11000		2700
838	TRIODE Air	10	3.25	B	1000	—	0	200	106	320	6900	Note 9	200
					1250 $\ddagger$	—	0	200	148	320	9000		260

For footnotes, see next page.



## MODULATORS (Cont'd)

Type	Name and Cooling	Filament or Heater (H)		Class	Plate Voltage Volts	Screen Voltage Volts	Grid § Voltage Volts	Peak A-F Grid-to-Grid Voltage Volts	Plate Current <sup>1,2</sup> Milliamperes		Plate-to-Plate Load Resistance Ohms	Driver Stage <sup>3</sup>	Max.-Signal Power Output Watts <sup>1,2</sup>
		Volts	Amperes						Zero-Signal	Max.-Signal			
841	TRIODE Air	7.5	1.25	B	350	—	-5	176	7	114	5200	Note 7	21
					425 ¶	—	-5	180	13	120	7000		28
849	TRIODE Air	11	5	B	2000	—	-105	450	14	650	6400	Note 11	900
					3000 ¶	—	-155	500	24	520	12800		1100
851	TRIODE Air	11	15.5	B	2000	—	-85	500	120	1700	2600	Note 11	2200
					3000 ¶	—	-135	490	110	1200	5600		2400
858	TRIODE Water	22	52	B	12000	—	-140	2600	500	3600	7200	—	26500
862	TRIODE Water	33	207	B	12000	—	0	2000	3000	13000	1800	—	90000
880	TRIODE Water	12.6	320	B	7500	—	-300	1450	1000	7000	2200	—	30000
					10000	—	-430	1690	1000	7000	3200	—	45000
889	TRIODE Water	11	125	B	5000	—	-180	1460	400	3200	2520	—	8800
					7500 ¶	—	-300	1700	400	3200	5000	—	15000
889-R	TRIODE Forced-Air	11	125	B	5000	—	-180	1460	400	3200	2520	—	8800
					7500 ¶	—	-300	1700	400	3200	5000	—	15000
891	TRIODE Water	11 per unit	60 per unit	B	6000	—	-600	2200	500	2300	5000	—	8000
					12500	—	-1450	3960	400	2800	10000	—	22000
891-R	TRIODE Forced-Air	11 per unit	60 per unit	B	6000	—	-600	2200	500	2300	5000	—	8000
					8000	—	-800	2400	500	2100	7400	—	10000
892	TRIODE Water	11 per unit	60 per unit	B	6000	—	0	1200	500	2500	4200	—	8000
					12500	—	-170	1530	400	2800	10000	—	22000
892-R	TRIODE Forced-Air	11 per unit	60 per unit	B	6000	—	0	1200	500	2500	4200	—	8000
					8000	—	-60	1000	500	2300	6800	—	10500
893	TRIODE Water	10 per strand	61 per terminal	B	12000	—	-260	1480	800	7000	4000	—	52000
					18000	—	-450	1720	800	5500	8000	—	70000
893-R	TRIODE Forced-Air	10 per strand	61 per terminal	B	12000	—	-260	1480	800	7000	4000	—	52000
					18000	—	-450	1720	800	5500	8000	—	70000
898	TRIODE Water	33 per section	70 per section	B	12000	—	-100	2200	2000	13000	2000	—	90000
1608	TRIODE Air	2.5	2.5	B	425 ¶ <sup>a</sup>	—	-15	130	36	188	5000	Note 7	54
					450 ¶ <sup>b</sup>	—	-25	160	20	220	4400		66
1619	BEAM Air	2.5	2	AB <sub>1</sub>	400 ¶	300	-20	40	52	80	14000	Note 14	17.5
				AB <sub>2</sub>	400 ¶	300	-16.5	77	75	150	6000	Note 4	36
1623	TRIODE Air	6.3	2.5	B	750 ¶ <sup>a</sup>	—	-25	200	35	200	8400	Note 7	100
					1000 ¶ <sup>b</sup>	—	-40	230	30	200	12000		145
1624	BEAM Air	2.5	2	AB <sub>2</sub>	400	300	-16.5	77	75	150	6000	Note 5	36
				600 ¶	300	-25	106	42	180	7500	72		
1625	BEAM Air	12.6 (H)	0.45	AB <sub>2</sub>	For other characteristics, refer to Type 807.								
1627	TRIODE Air	5	9	B	For other characteristics, refer to Type 810.								
8000	TRIODE Air	10	4.5	B	2000 ¶ <sup>a</sup>	—	-120	520	60	425	10800	Note 8	600
					2250 ¶ <sup>b</sup>	—	-130	560	65	450	12000		725
8003	TRIODE Air	10	3.25	B	1350 ¶	—	-100	480	40	490	6000	Note 10	460

¶ Maximum.

<sup>a</sup> CCS Ratings.

<sup>b</sup> ICAS Ratings.

§ § For a-c filament operation.

<sup>1</sup> Values are for two tubes.

<sup>2</sup> For sinusoidal signals; for speech signals the maximum-signal current values vary widely and may be as low as 50% of the values shown.

<sup>3</sup> Values do not include output transformer losses.

<sup>4</sup> One 6F6 (triode connection), class A<sub>1</sub>; plate volts = 250, self-bias resistor = 650 ohms.

<sup>5</sup> One 2A3 or 6A3, class A<sub>1</sub>; plate volts = 250, grid-bias volts = -45.

<sup>6</sup> Two 2A3's in push-pull, class A<sub>1</sub>; plate volts = 250, grid-bias volts = -45.

<sup>7</sup> Two 2A3's in push-pull, class AB<sub>1</sub>; plate volts = 300, self-bias resistor = 780 ohms.

<sup>8</sup> Two 2A3's in push-pull, class AB<sub>1</sub>; plate volts = 300, grid-bias volts = -62 (fixed).

<sup>9</sup> Four 2A3's in push-pull-parallel, class AB<sub>1</sub>; plate volts = 300, self-bias resistor = 390 ohms.

<sup>10</sup> Four 2A3's in push-pull-parallel, class AB<sub>1</sub>; plate volts = 300, grid-bias volts = -62 (fixed).

<sup>11</sup> Two 845's in push-pull, class A<sub>1</sub>; plate volts = 1000, grid-bias volts = -145.

<sup>12</sup> Two 845's in push-pull, class A<sub>1</sub>; plate volts = 1250, grid-bias volts = -195.

<sup>13</sup> Two 845's in push-pull, class AB<sub>1</sub>; plate volts = 1250, grid-bias volts = -225 (fixed).

<sup>14</sup> Two 6J7's in push-pull, class A<sub>1</sub> (with inverse feedback from plate to grid); plate volts = 250, grid-bias volts = -3.

<sup>15</sup> Properly designed input transformers having adequate peak-power efficiencies should be used. Suitable transformers are commercially available.



## CLASS C AMPLIFIERS—TRIODES

Type	Cooling	Filament or Heater (H)	Max. Frequency for Full Input Mega-cycles	Direct Interelectrode Capacitances $\mu\mu\text{f}$			Amplification Factor	Service P=Plate-Modulated Telephony T=Telegraphy	Maximum Ratings			Typical Operating Conditions				
				$C_{gp}$	$C_{gf}$	$C_{pf}$			Plate Voltage Volts	D-C Plate Input Watts	Plate Dissipation Watts	Plate Voltage Volts	Grid Voltage Volts	Plate Current Ma.	Approx. Grid Driving Power Watts	Approx. Carrier Power Output Watts
203-A	Air	10V 3.25A	15	14.5	6.5	5.5	25	P T	1000 1250	175 220	67 100	1000 1250	-135 -125	150 150	14 7	100 130
204-A	Air	11V 3.85A	3	15	12.5	2.3	23	P T	2000 2500	550 690	167 250	2000 2500	-250 -200	250 250	20 15	350 450
207	Water	22V 52A	1.6	27	18	2	20	P T	10000 15000	10000 30000	6600 10000	10000 12000	-2000 -1600	750 1670	185 235	6000 15000
211	Air	10V 3.25A	15	14.5	6	5.5	12	P T	1000 1250	175 220	67 100	1000 1250	-260 -225	150 150	14 7	100 130
800	Air	7.5V 3.1A	60	2.5	2.75	2.75	15	P T	1000 1250	80 100	23 35	1000 1250	-200 -175	70 70	4 4	50 65
801-A/ 801	Air	7.5V 1.25A	60	6	4.5	1.5	8	P T	500 600	30 42	13.5 20	500 600	-190 -150	55 65	4.5 4	18 25
805	Air	10V 3.25A	30	6.5	8.5	10.5	*	P T	1250 1500	220 315	85 125	1250 1500	-160 -105	160 200	16 8.5	140 215
806	Air	5V 9.5A	30	4.0	5.6	0.4	12.6	Pb Tb	3000 3300	600 1000	150 225	3000 3300	-670 -600	195 300	24 34	460 780
808	Air	7.5V 4A	30	2.8	5.3	0.15	47	P T	1250 1500	135 200	35 50	1250 1500	-225 -200	100 125	10.5 9.5	105 140
809	Air	6.3V 2.5A	60	6.7	5.7	0.9	50	Pb Tb	750 1000	75 100	25 30	750 1000	-60 -75	100 100	4.3 3.8	55 75
810	Air	10V 4.5A	30	4.8	8.7	12	36	Pb Tb	1800 2250	450 620	125 150	1800 2250	-200 -160	250 275	17 12	335 475
811	Air	6.3V 4A	60	5.5	5.5	0.6	160	Pb Tb	1250 1500	155 225	40 55	1250 1500	-125 -113	125 150	11 8	120 170
812	Air	6.3V 4A	60	5.3	5.3	0.8	29	Pb Tb	1250 1500	155 225	40 55	1250 1500	-125 -175	125 150	6 6.5	120 170
826	Air	7.5V 4A	250	2.9	3.7	1.4	31	P T	800 1000	75 125	40 60	800 1000	-98 -70	94 125	6.2 5.8	53 86
830-B	Air	10V 2A	15	11	5	1.8	25	P T	800 1000	80 150	40 60	800 1000	-150 -110	95 140	5 7	50 90
833-A	Forced Air	10V 10A	20	6.3	12.3	8.5	35	Pb Tb	4000 4000	1800 2000	350 450	4000 4000	-325 -225	450 500	42 35	1500 1600
834	Air	7.5V 3.1A	100	2.6	2.2	0.6	10.5	P T	1000 1250	100 125	35 50	1000 1250	-310 -225	90 90	6.5 4.5	58 75
838	Air	10V 3.25A	30	8	6.5	5	*	P T	1000 1250	175 220	67 100	1000 1250	-135 -90	150 150	16 6	100 130
841	Air	7.5V 1.25A	6	7	4	3	30	P T	350 450	21 27	10 15	350 450	-47 -34	50 50	2 1.8	11 15
843	Air	2.5V(II) 2.5A	6	4.5	4	4	7.7	P T	350 450	14 18	10 15	350 450	-150 -140	30 30	1.6 1	5 7.5
846	Water	11V 51A	50	9	6.5	1.5	40	P T	6000 7500	3000 7500	1660 2500	6000 7000	-950 -900	500 900	200 300	2250 4250
849	Air	11V 5A	3	33.5	17	3	19	P T	2000 2500	700 875	270 400	2000 2500	-300 -250	300 300	14 8	425 560
851	Air	11V 15.5A	3	47	25.5	4.5	20.5	P T	2000 2500	1800 2500	500 750	2000 2500	-300 -250	850 900	65 45	1250 1700
852	Air	10V 3.25A	30	2.6	1.9	1	12	P T	2000 3000	170 300	67 100	2000 3000	-500 -600	67 85	23 12	75 165
858	Water	22V 52A	1.6	18	16	2	42	P T	12000 20000	12000 40000	10000 20000	12000 18000	-1000 -1200	950 1800	150 250	8000 22400
862	Water	33V 207A	1.6	75	52	2	48	P T	12000 20000	60000 200000	50000 100000	12000 18000	-800 -1000	5000 8330	2000 2400	45000 100000

<sup>b</sup> ICAS Ratings. \* Variable High-Mu.



## CLASS C AMPLIFIERS—TRIODES (Cont'd)

Type	Cooling	Filament or Heater (H)	Max. Frequency for Full Input Mega-cycles	Direct Interelectrode Capacitances $\mu\text{f}$			Amplification Factor	Service P = Plate-Modulated Telephony T = Telephony	Maximum Ratings			Typical Operating Conditions				
				$C_{gp}$	$C_{gf}$	$C_{pf}$			Plate Voltage Volts	D-C Plate Input Watts	Plate Dissipation Watts	Plate Voltage Volts	Grid Voltage Volts	Plate Current Ma.	Approx. Grid Driving Power Watts	Approx. Carrier Power Output Watts
880	Water	12.6V 320A	25	26	29	2.6	20	P	10500	36000	12000	10000	-1200	3600	880	28000
								T	10500	60000	20000	10000	-800	6000	750	45000
887	Water	11V 24A	225	6.9	2.5	2.7	10	P	2000	400	400	2000	-500	200	40	300
								T	3000	1200	1000	3000	-500	400	35	800
888	Water	11V 24A	225	7.8	2.8	2.5	30	P	2000	400	400	2000	-350	200	50	300
								T	3000	1200	1000	3000	-300	400	45	800
889	Water	11V 125A	50	17.8	18.8	2.2	21	P	6000	6000	3000	6000	-900	1000	140	4000
								T	7500	15000	5000	7500	-800	2000	400	10000
889-R	Forced Air	11V 125A	25	20.7	19.5	2.5	21	P	6000	6000	3000	6000	-900	1000	140	4000
								T	8500	16000	5000	7500	-800	2000	400	10000
891	Water	11V• 60A•	1.6	27	18	2	8	P	8000	8000	4000	8000	-2400	780	260	5000
								T	12000	18000	6000	10000	-2000	1450	310	10000
891-R	Forced Air	11V• 60A•	1.6	30	18	2	8	P	8500	8000	2500	6000	-2000	750	260	3500
								T	10000	15000	4000	10000	-2000	1400	310	10000
892	Water	11V• 60A•	1.6	27	18	2	50	P	10000	10000	6600	10000	-1600	720	260	6000
								T	15000	30000	10000	12000	-1600	1640	500	14000
892-R	Forced Air	11V• 60A•	1.6	30	18	2	50	P	10000	10000	2500	8000	-1300	750	350	5000
								T	12500	18000	4000	10000	-1300	1400	400	10000
893	Water	10V # 61A◆	5	33	48	3.2	36	P	12000	24000	12000	12000	-1000	2000	210	18000
								T	20000	70000	20000	18000	-1000	3600	340	50000
893-R	Forced Air	10V # 61A◆	5	33	48	3.2	36	P	12000	24000	12000	12000	-1000	2000	210	18000
								T	20000	70000	20000	18000	-1000	3600	340	50000
898	Water	33V• 70A•	1.6	80	65	5	44	P	12000	60000	50000	12000	-800	5000	2000	45000
								T	20000	200000	100000	18000	-1000	8330	2400	100000
1608	Air	2.5V 2.5A	45	9	8.5	3	20	Pb	400	34	16	400	-62	85	1.9	24
								Tb	450	50	25	450	-60	110	2.5	33
1623	Air	6.3V 2.5A	60	6.7	5.7	0.9	20	Pb	750	75	25	750	-125	100	4	55
								Tb	1000	100	30	1000	-90	100	3.1	75
1627	Air	5V 9A	For other characteristics, refer to Type 810.													
1628	Air	3.5V 3.25A	500	2	2	0.4	23	P	800	33	27	800	-100	40	1.6	22
								T	1000	50	40	1000	-65	50	1.7	35
8000	Air	10V 4.5A	30	6.4	5	3.3	16.5	Pb	1800	450	125	1800	-320	250	8.8	335
								Tb	2250	620	150	2250	-210	275	9	475
8003	Air	10V 3.25A	30	11.7	5.8	3.4	12	P	1100	220	67	1100	-260	200	15	167
								T	1350	330	100	1350	-180	245	11	250

## CLASS C AMPLIFIERS—TETRODES, PENTODES, AND BEAM TUBES

Type	Name and Cooling	Filament or Heater(H)	Max. Frequency for Full Input Mega-cycles	Direct Interelectrode Capacitances $\mu\text{f}$			Service P = Plate-Modulated Telephony T = Telephony	Maximum Ratings			Typical Operating Conditions						
				$C_{gp}$ max.	C input	C output		Plate Voltage Volts	D-C Plate Input Watts	Plate Dissipation Watts	Plate Voltage Volts	Suppressor Voltage Volts	Screen Voltage Volts	Grid Voltage Volts	Plate Current Ma.	Approx. Grid Driving Power Watts	Approx. Carrier Power Output Watts
802	PENTODE Air	6.3V(H) 0.9A	30	0.15	12	8.5	Pb	500	20	8	500	40	245	-40	40	0.1	12
							Tb	600	33	13	600	40	250	-120	55	0.3	23
803	PENTODE Air	10V 5A	20	0.15	17.5	29	P	1600	250	85	1600	100	500	-80	150	4	155
							T	2000	350	125	2000	40	500	-90	160	2	210
804	PENTODE Air	7.5V 3A	15	0.01	16	14.5	Pb	1250	100	35	1250	50	250	-90	75	0.75	65
							Tb	1500	150	50	1500	45	300	-100	100	1.95	110
807	BEAM Air	6.3V(H) 0.9A	60	0.20	11	7	Pb	600	60	25	600	—	275	-78	100	0.1	37.5
							Tb	750	75	30	750	—	250	-50	100	0.22	50

b ICAS Ratings.    § Per Strand.    ◆ Per Terminal.    ● Per Section.



## CLASS C AMPLIFIERS—TETRODES, PENTODES, AND BEAM TUBES (Cont'd)

Type	Name and Cooling	Filament or Heater(H)	Max. Frequency for Full Input Mega-cycles	Direct Interelectrode Capacitances $\mu\mu\text{f}$			Service P = Plate-Modulated Telephony T = Telegraphy	Maximum Ratings			Typical Operating Conditions						
				C <sub>gp</sub> max.	C input	C output		Plate Voltage Volts	D-C Plate Input Watts	Plate Dissipation Watts	Plate Voltage Volts	Suppressor Voltage Volts	Screen Voltage Volts	Grid Voltage Volts	Plate Current Ma.	Approx. Grid Driving Power Watts	Approx. Carrier Power Output Watts
813	BEAM Air	10V 5A	30	0.20	16.3	14	P	1600	240	67	1600	—	400	-130	150	1.2	175
							T	2000	360	100	2000	—	400	-90	180	0.5	260
814	BEAM Air	10V 3.25A	30	0.1	13.5	13.5	Pb	1250	180	50	1250	—	300	-150	144	2	130
							Tb	1500	225	65	1500	—	300	-90	150	1.5	160
815	TWIN BEAM Air	6.3V(H)§ 0.8A §	150	0.2	13.3	8.5	Pb	400	60	20	400	—	175	-45	150	0.16	45
							Tb	500	75	25	500	—	200	-45	150	0.18	56
827-R	BEAM Forced-Air	7.5V 25A	110	0.18	21	13	P	3000	1200	550	3000	—	750	-325	400	68	825
							T	3500	1500	800	3500	—	700	-300	428	50	1050
828	BEAM Air	10V 3.25A	30	0.05	13.5	14.5	Pb	1250	200	70	1250	75	400	-140	160	2.7	150
							Tb	1500	270	80	1500	75	400	-100	180	2.2	200
829	TWIN BEAM Air	6.3V(H)§ 1.125A §	200	0.1	15.2	6.5	P	425	90	28	425	—	200	-60	212	0.8	63
							T	500	120	40	500	—	200	-45	240	0.7	83
832	TWIN BEAM Air	6.3V(H)§ 0.8A §	150	0.05	7.5	3.8	P	325	22	10	325	—	210	-50	68	0.06	12
							T	400	36	15	400	—	250	-60	90	0.18	22
837	PENTODE Air	12.6V(H) 0.7A	20	0.2	16	10	P	400	20	8	400	40	140	-40	45	0.3	11
							T	500	32	12	500	40	200	-75	60	0.4	22
844	TETRODE Air	2.5V(H) 2.5A	15	0.15	9.5	7.5	P	500	—	10	500	—	150	-100	20	—	4
							T	500	—	15	500	—	175	-125	25	—	9
850	TETRODE Air	10V 3.25A	15	0.25	17	25	P	1000	150	70	1000	—	140	-100	125	10	65
							T	1250	220	100	1250	—	175	-150	160	10	130
860	TETRODE Air	10V 3.25A	30	0.08	7.75	7.5	P	2000	170	67	2000	—	220	-200	85	17	105
							T	3000	300	100	3000	—	300	-150	85	7	165
861	TETRODE Air	11V 10A	20	0.10	14.5	10.5	P	3000	650	270	3000	—	375	-200	200	35	400
							T	3500	1200	400	3500	—	500	-250	300	30	700
865	TETRODE Air	7.5V 2A	15	0.10	8.5	8	P	500	30	10	500	—	125	-120	40	2.5	10
							T	750	45	15	750	—	125	-80	40	1	16
1610	PENTODE Air	2.5V 1.75A	20	1.4	8.6	13	T	400	9	6	400	—	150	-50	22.5	0.1	5
1613	PENTODE Air	6.3V(H) 0.7A	80	0.2	7.3	11.5	P	275	11.5	7	275	—	200	-35	42	0.16	6
							T	350	17.5	10	350	—	200	-35	50	0.22	9
1614	BEAM Air	6.3V(H) 0.9A	80	0.4	10	12	P	325	23	14	325	—	245	-40	70	0.1	15
							T	375	35	21	375	—	250	-40	80	0.1	21
1619	BEAM Air	2.5V 2A	45	0.55	10.5	12.5	P	325	20	10	325	—	285	-50	62	0.18	13
							T	400	30	15	400	—	300	-55	75	0.36	19.5
1624	BEAM Air	2.5V 2A	60	0.25	11	7.5	P	500	37.5	16.5	500	—	275	-50	75	0.25	24
							T	600	54	25	600	—	300	-60	90	0.43	35
1625	BEAM Air	12.6V(H) 0.45A	For other characteristics, refer to Type 807.														

<sup>b</sup> ICAS Ratings.

<sup>§</sup> Per Unit.