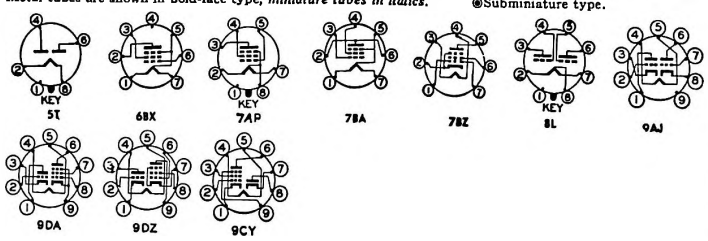
Tube Type	Classification by Construction	Base Connections	Outline Dwg	Type Cathode	Filament Volts	Filament Amp	Max Plate Volts	Max Screen Volts	Capacitance in Micromicrofarads: Input	Output	Grid-plate
3Q4	Power Amplifier Pentode	7BA	5-2	Fil	1.4	0.1	90	90	Parallel Filaments		
					2.8 DC	0.05	90	90	Series Filaments		
3Q5-GT	Beam Power Amplifier	7AP	9-11 or 9-41	Fil	1.4	0.1	110	110	Parallel Filaments		
					2.8 DC	0.05	110	110	Series Filaments		
3S4	Power Amplifier Pentode	7BA	5-2	Fil	1.4	0.1	90	67.5	Parallel Filaments		
					2.8 DC	0.05	90	67.5	Series Filaments		
3V4	Power Amplifier Pentode	6BX	5-2	Fil	1.4	0.1	90	90	Parallel Filaments		
					2.8 DC	0.05	90	90	Series Filaments		
4A6-G	Twin Triode Power Amplifier	8L	12-7	Fil	4.0 2.0 DC	0.06 0.12	90	—	—		
4BQ7-A	High-Frequency Twin Triode	9AJ	6-2	Htr	4.2¶	0.6¶	250	—	2.85₁	1.35₁	1.15
4BZ7	High-Frequency Twin Triode	9AJ	6-2	Htr	4.2¶	0.6¶	250	—	2.5₁	1.35₁	1.15
5AM8	Diode Sharp-Cutoff RF Pentode	9CY	6-2	Htr	4.7¶	0.6¶	300	150	6.0	3.4	0.015 ♣
									Diode Section		
5AN8	Triode-Pentode	9DA	6-2	Htr	4.7¶	0.6¶	300	150	Pentode Section		
							300	—	Triode Section		
5AQ5	Beam Power Amplifier	7BZ	5-3	Htr	4.7¶	0.6¶	250	250	Pentode Connection		
							250	—	Triode Connection (G_2 & P tied)		
5AU4	Full-Wave High-Vacuum Rectifier	5T	T-X	Fil	5.0	4.5	Tube Voltage Drop: ♠ 5 v at 350 ma d-c				
5AV8	Triode-Pentode	9DZ	6-2	Htr	4.7¶	0.6¶	300	150	Pentode Section		
							300	—	Triode Section		
5AW4	Full-Wave High-Vacuum Rectifier	5T	T-X	Fil	5.0	4.0	Tube Voltage Drop: ♠ 46 v at 250 ma d-c				
5AX4-GT	Full-Wave, High-Vacuum Rectifier	5T	9-13	Fil	5.0	2.5	Tube Voltage Drop: ♠ 65 v at 175 ma d-c				
5AZ4	Full-Wave High-Vacuum Rectifier	5T	9-31	Fil	5.0	2.0	Tube Voltage Drop: ♠ 60 v at 125 ma d-c				
5BK7-A	High-Frequency Twin Triode	9AJ	6-2	Htr	4.7¶	0.6¶	300	—	3.0▲	1.0₁▲ 0.9₂▲	1.8▲

Metal tubes are shown in bold-face type, *miniature tubes in italics.* ◉Subminiature type.



Service	Plate Volts	Screen Volts	Neg Grid Volts	Plate Milliamperes	Screen Milliamperes	R_p, Ohms	G_m, μmhos	μ Factor	Load for Rated Output, Ohms	Power Output, Watts	Tube Type
Class A Amplifier	90	90	4.5	9.5†	2.1†	100,000§	2,150	—	10,000	0.27	***3Q4***
Class A Amplifier	90	90	4.5	7.7†	1.7†	120,000§	2,000	—	10,000	0.24	
Class A Amplifier	110	110	6.6	10†	1.4†	100,000§	2,200	—	8,000	0.40	3Q5-GT
	90	90	4.5	9.5†	1.3†	90,000§	2,200	—	8,000	0.27	
Class A Amplifier	110	110	6.6	8.5†	1.1†	110,000§	2,000	—	8,000	0.33	
	90	90	4.5	8.0†	1.0†	80,000§	2,000	—	8,000	0.23	
Class A Amplifier	90	67.5	7.0	7.4†	1.4†	100,000§	1,575	—	8,000	0.270	***3S4***
	67.5	67.5	7.0	7.2†	1.5†	100,000§	1,550	—	5,000	0.180	
Class A Amplifier	90	67.5	7.0	6.1†	1.1†	100,000§	1,425	—	8,000	0.235	
	67.5	67.5	7.0	6.0†	1.2†	100,000§	1,400	—	5,000	0.160	
Class A Amplifier	90	90	4.5	9.5†	2.1†	100,000§	2,150	—	10,000	0.27	***3V4***
	85	85	5.0	6.9†	1.5†	120,000§	1,975	—	10,000	0.25	
Class A Amplifier	90	90	4.5	7.7†	1.7†	120,000§	2,000	—	10,000	0.24	
Class A Amplifier ♠	90	—	1.5	1.2	—	28,000	900	25	—	—	4A6-G
Class A Amplifier ♠	150	—	R_k = 220	9.0	—	6,100§	6,400	39	—	—	***4BQ7-A***
Class A Amplifier ♠	150	—	R_k = 220	10	—	5,600§	6,800	38	—	—	***4BZ7***
Class A Amplifier	200	150	R_k = 120	11.5	2.7	600,000§	7,000	—	—	—	***5AM8***
Video Detector	Max d-c output current = 5 ma; volt drop: 10 v at 50 ma d-c										
Class A Amplifier	200	150	R_k = 180	9.5	2.8	300,000§	6,200	—	—	—	***5AN8***
Class A Amplifier	200	—	6.0	13	—	5,750§	3,300	19	—	—	
Class A Amplifier	180	180	8.5	29†	3.0†	58,000§	3,700	—	5,500	2.0	***5AQ5***
	250	250	12.5	45†	4.5†	52,000§	4,100	—	5,000	4.5	
Vertical Deflection Amplifier	250	—	12.5	49.5	—	1,970§	4,800	9.5	—	—	
	Max positive pulse plate voltage, ▣ = 1,100 v; max plate dissipation = 9 watts; max d-c cathode current = 35 ma										
Full-Wave Rectifier	Max d-c output current = 325 ma; max peak inverse voltage = 1400 volts; rms supply voltage per plate = 400 volts; max peak current per plate = 1075 ma										5AU4
Class A Amplifier	200	150	R_k = 180	9.5	2.8	300,000§	6,200	—	—	—	***5AV8***
Class A Amplifier	200	—	6.0	13	—	5,750§	3,300	19	—	—	
Full-Wave Rectifier	Max d-c output current = 250 ma; max peak inverse voltage = 1550 volts; rms supply voltage per plate = 450 volts; max peak current per plate = 750 ma										5AW4
Full-Wave Rectifier	Max d-c output current = 175 ma; max peak inverse voltage = 1400 volts; max rms supply voltage per plate = 350 volts; max peak current per plate = 525 ma										5AX4-GT
Full-Wave Rectifier	Max d-c output current = 125 ma; max peak inverse voltage = 1400 volts; max rms supply voltage per plate = 350 volts; max peak current per plate = 375 ma										5AZ4
Class A Amplifier ♠	150	—	R_k = 56	18	—	4,600§	9,300	43	—	—	***5BK7-A***

§ Approximate.
▲Without external shield.
† Zero signal.
♦ Grids 3 and 5 are screen. Grid 4 is signal-input grid.
Conversion transconductance.
♣Maximum.
♥Grids 2 and 4 are screen. Grid 3 is signal-input grid.
✱Screen supply voltage.
▣Absolute maximum rating.
‡ Plate-to-plate.
♠Per section.
⊕For both sections.
* Minimum.
¶ Heater warm-up time controlled for series-string service.
B_b Plate supply voltage.
‖ Input plate.
₃—The duration of the pulse voltage must not exceed 15 percent of one scanning cycle.
₁—Section 1.
₂—Section 2.
₄—A resistor of 3 ohms must be put in series with heater.

Tube Type	Classification by Construction	Base Connections	Outline Dwg	Type Cathode	Filament Volts	Filament Amp	Max Plate Volts	Max Screen Volts	Capacitance in Micromicrofarads: Input	Output	Grid-plate
6AJ8	Triode-Heptode	9CA	6-3	Htr	6.3	0.3	300	125	Heptode Section		
							250	—	Triode Section		
6AK4 ◉	Medium-Mu Triode	8DK	3-1	Htr	6.3	0.15	250	—	2.2	2.2	1.3
6AK5	Sharp-Cutoff RF Pentode	7BD	5-1	Htr	6.3	0.175	180	140	4.0	2.8	0.02 ♣
6AK6	Power Amplifier Pentode	7BK	5-2	Htr	6.3	0.15	300	250	3.6 ▲	4.2 ▲	0.12 ▲
6AK7	Power Amplifier Pentode	8Y	8-6	Htr	6.3	0.65	300	300	13	7.5	0.06 ♣
6AK8	Triple-Diode High-Mu Triode	9E	6-3	Htr	6.3	0.45	300	—	1.9 ▲	1.6 ▲	2.2 ▲
6AL5	Twin Diode	6BT	5-1	Htr	6.3	0.3	Tube Voltage Drop: ♠ 10 v at 60 ma d-c				
6AL6-G	Beam Power Amplifier	6AM	T-X	Htr	6.3	0.9	350	300	—	—	—
6AL7-GT	Electron-Ray Indicator	8CH	9-7 or 9-39	Htr	6.3	0.15	—	Max target voltage = 365 Min target voltage = 220			
6AM4	UHF High-Mu Triode	9BX	6-1	Htr	6.3	0.225	200	—	—	—	—
6AM5	Power Amplifier Pentode	6CH	5-2	Htr	6.3	0.2	250	250	Single Tube		
									2 tubes, push-pull		
6AM6	Sharp-Cutoff RF Pentode	7DB	5-2	Htr	6.3	0.3	300	250	Pentode Connection		
									Triode Connection (G_2 & P tied)		
6AM8	Diode Sharp-Cutoff RF Pentode	9CY	6-2	Htr	6.3	0.45	300	150	6.0	3.4	0.015 ♣
									Diode Section		
6AN4	UHF High-Mu Triode	7DK	5-1	Htr	6.3	0.225	300	—	—	—	—
6AN5	Beam Power Amplifier	7BD	5-2	Htr	6.3	0.45	120	120	9.0	4.8	0.075 ♣
6AN6	Quadruple Diode	7BJ	5-2	Htr	6.3	0.2	—	Tube Voltage Drop: ♠ 9.0 v at 6.6 ma			
6AN7	Triode-Hexode Converter	9Q	6-3	Htr	6.3	0.23	250	125	Osc I_{g1} = 0.35 ma R_{g1} = 22,000 ohms		

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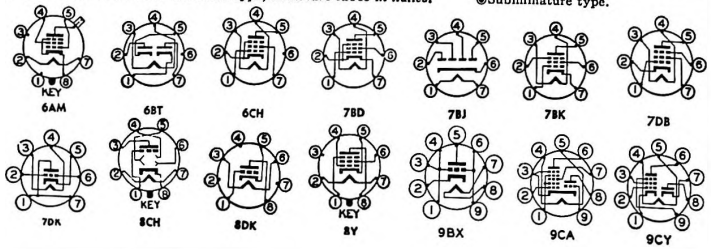
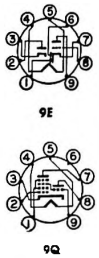


Service	Plate Volts	Screen Volts	Neg Grid Volts	Plate Milliamperes	Screen Milliamperes	R_p, Ohms	G_m, μmhos	μ Factor	Load for Rated Output, Ohms	Power Output, Watts	Tube Type
Class A Amplifier	250	102	2.0	6.5	3.8	700,000§	2,400	—	E_{c1} = 0 v		*6AJ8*
Class A Amplifier	100	—	0	13.5	—	5,900§	3,700	22	—	—	
Class A Amplifier	200	—	R_k = 680	9.5	—	5,300§	3,800	20	—	—	6AK4 ◉
Class A Amplifier	180	120	R_k = 180	7.7	2.4	500,000§	5,100	—	—	—	*6AK5*
	120	120	R_k = 180	7.5	2.5	300,000§	5,000	—	—	—	
Class A Amplifier	180	180	9.0	15†	2.5†	200,000	2,300	—	10,000	1.1	*6AK6*
Class A Amplifier	300	150	3.0	30†	7.0†	130,000	11,000	—	10,000	3.0	**6AK7**
Class A Amplifier	250	—	3.0	1.0	—	58,000§	1,200	70	—	—	*6AK8*
	100	—	1.0	0.8	—	54,000§	1,300	70	—	—	
Half-Wave Rectifier	Max d-c output current per plate = 9 ma; max peak inverse voltage = 330 volts; max rms supply voltage per plate = 117 volts; max peak current per plate = 54 ma										*6AL5*
Class A Amplifier	250	250	14	72†	5.0†	22,500	6,000	—	2,500	6.5	6AL6-G
FM/AM Tuning Indicator	Target voltage = 315 volts; cathode resistor = 3,300 ohms; grid voltage = 0 volts; pin 6 electrode controls top left quarter of fluorescent area, pin 4 electrode controls top right quarter of fluorescent area, and pin 5 electrode controls bottom half of fluorescent area when the tube is mounted horizontally with a plane passing through pins 4 and 8 vertical and with pin 4 on top.										6AL7-GT
Class A Amplifier	200	—	R_k = 100	10	—	8,700§	9,800	85	—	—	*6AM4*
Class A Amplifier	250	250	13.5	16	2.4	130,000	2,600	—	16,000	1.4	*6AM5*
Class AB_1 Amplifier	250	250	19	10†	1.3†	—	—	—	20,000‡	4.8	
Class A Amplifier	250	250	2.0	10	2.5	1,000,000§	7,500	—	—	—	*6AM6*
Class A Amplifier	250	—	2.0	12.5	—	7,500§	9,300	70	—	—	
Class A Amplifier Video Detector	200	150	R_k = 120	11.5	2.7	600,000§	7,000	—	—	—	*6AM8*
	Max d-c output current = 5 ma; voltage drop: 10 v at 50 ma d-c										
Class A Amplifier	200	—	R_k = 100	13	—	7,000	10,000	70	—	—	*6AN4*
Class A Amplifier	120	120	R_k = 120	35	12	12,500§	8,000	—	2,500	1.3	*6AN5*
Half-Wave Rectifier	Max d-c output current per plate = 8.0 ma; max peak inverse voltage = 210 volts; rms supply voltage per plate = 75 volts; max peak current per plate = 45 ma										*6AN6*
Converter	250	85	2.0	3.0	3.0	1,000,000♦	750 #		E_b (Triode Osc) = 250 thru 33,000 ohms I_b (Triode) = 5.1 ma		*6AN7*



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