

RADIOTRON

RECEIVING VALVE MANUAL

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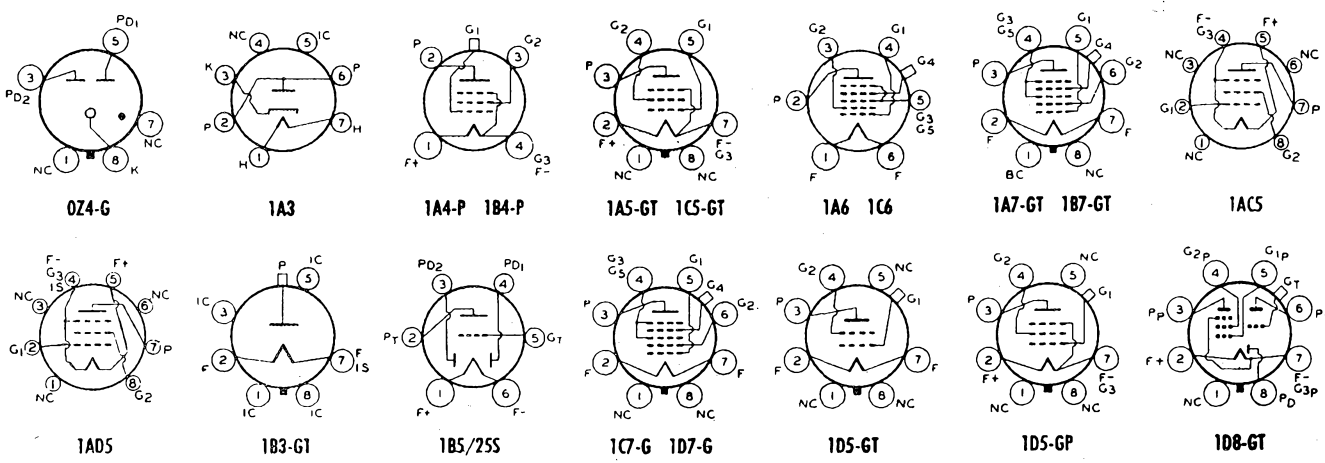
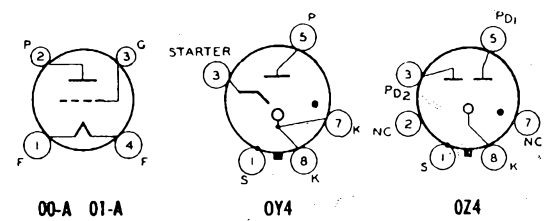
RADIOTRON RECEIVING VALVE MANUAL

RCA RANGE

Type	Name	Tube Dimensions	Cathode Type and Rating		Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plates) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts Amp.												
00-A	Detector Triode	D12	D.C. F	5.0 0.25	Grid-Leak Detector	45		Grid Return to (-) Filament	1.5	30000	666	20			00-A	
01-A	Detector Amplifier	D12	D.C. F	5.0 0.25	Class A Amplifier	90 135	- 4.5 - 9.0			2.5 3.0	11000 10000	725 800	8.0		01-A	
0Y4	Half-Wave Gas Rectifier	B2		Cold	Rectifier	Max. Peak Inverse Plate Volts, 300 Max. D.C. Starting Volts, 95					Max. Peak Plate Current, 500 ma. Max. D.C. Output Current, 75 ma.				0Y4	
0Z4	Full-Wave Gas Rectifier	B2		Cold	Rectifier	Starting-Supply Voltage per Plate, 300 min. peak volts. Peak Plate Current, 200 max. ma. D.C. Output Current, 75 max., 30 min. ma. D.C. Output Voltage, 300 max. volts.									0Z4	
0Z4-G	Full-Wave Gas Rectifier	B1a		Cold	Rectifier										0Z4-G	
1A3	HF Diode	B0	H	1.4 0.15	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma., 5					Max. D.C. Output Ma., 0.5 Max. Peak Heater-Cathode Volts, 140				1A3	
1A4-P	Remote-Cutoff Pentode	D9	D.C. F	2.0 0.06	Amplifier	For other characteristics, refer to Type 1D5-GP.										1A4-P
1A5-GT	Power Amplifier Pentode	C3	D.C. F	1.4 0.05	Class A Amplifier	85 90	- 4.5 - 4.5	85 90	0.7 0.8	3.5 4.0	300000 300000	800 850		25000 25000	0.100 0.115	1A5-GT
1A6	Pentagrid Converter	D9	D.C. F	2.0 0.06	Converter	135 180	{ - 3.0 min. }	67.5 67.5	2.5 2.4	1.2 1.3	400000 500000	Anode-Grid (#2): 180 max. volts, 2.3 ma. Oscillator-Grid (#1) Resistor, Conversion Transcond., 300 micromhos.			1A6	
1A7-GT	Pentagrid Converter	C3	D.C. F	1.4 0.05	Converter	90	0	45	0.7	0.6	600000	Anode-Grid (#2): 90 max. volts, 1.2 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.			1A7-GT	
1AC5	Power Pentode	A	F	1.25 0.04	Class A Amplifier	30 45 67.5	- 2 - 3 - 4.5	30 45 67.5	0.1 0.2 0.4	0.5 1.0 2.0	200000 170000 150000	450 600 750		50000 40000 25000	5 15 50	1AC5
1AD5	Sharp-Cutoff Pentode	A	F	1.25 0.04	Class A Amplifier	30 45 67.5	0 0 0	30 45 67.5	0.16 0.35 0.75	0.45 0.9 1.85	700000 700000 700000	430 580 735				1AD5
1B3-GT	Half-Wave Rectifier	D2	F	1.25 0.2	Half-Wave Rectifier	Max. Peak Inverse Plate Volts, 30000 Max. Peak Plate Ma., 17						Max. Average Plate Ma., 2 Max. Frequency of Supply Voltage, 300 Kc			1B3-GT	
1B4-P	RF Amplifier Pentode	D9	D.C. F	2.0 0.06	Amplifier	For other characteristics, refer to Type 1E5-GP.										1B4-P
1B5/25S	Duplex-Diode Triode	D5	D.C. F	2.0 0.06	Triode Unit as Amplifier	For other characteristics, refer to Type 1H6-G.										1B5/25S
1B7-GT	Pentagrid Converter	C3	D.C. F	1.4 0.10	Converter	90	0	45	1.3	1.5	350000	Anode-Grid (#2): 90 max. volts, 1.6 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 350 micromhos.			1B7-GT	
1C5-GT	Power Amplifier Pentode	C2b	D.C. F	1.4 0.10	Class A Amplifier	83 90	- 7.0 - 7.5	83 90	1.6 1.6	7.0 7.5	110000 115000	1500 1550		9000 8000	0.20 0.24	1C5-GT
1C6	Pentagrid Converter	D9	D.C. F	2.0 0.12	Converter	For other characteristics, refer to Type 1C7-G.										1C6
1C7-G	Pentagrid Converter	D8	D.C. F	2.0 0.12	Converter	135 180	- 3.0 - 3.0	67.5 67.5	2.5 2.0	1.3 1.5	600000 700000	Anode-Grid (#2): 180 max. volts, 4.0 ma. Oscillator-Grid (#1) Resistor, Conversion Transcond., 325 micromhos.			1C7-G	
1D5-GP	Remote-Cutoff Pentode	D8	D.C. F	2.0 0.06	Class A Amplifier	90 180	{ - 3.0 min. }	67.5 67.5	0.9 0.8	2.2 2.3	600000 1.0	720 750			1D5-GP	
1D5-GT	Remote-Cutoff Pentode	D8	D.C. F	2.0 0.06	Class A Amplifier	180	- 3.0	67.5	0.7	2.2	600000	650			1D5-GT	
1D7-G	Pentagrid Converter	D8	D.C. F	2.0 0.06	Converter	For other characteristics, refer to Type 1A6.										1D7-G
1D8-GT	Diode-Triode-Power Amplifier Pentode	C2b	D.C. F	1.4 0.10	Pentode Unit as Class A Amplifier Triode Unit as Class A Amplifier	45 90	- 4.5 - 9.0	45 90	0.3 1.0	1.6 5.0	300000 200000	650 925		20000 12000	0.035 0.200	1D8-GT

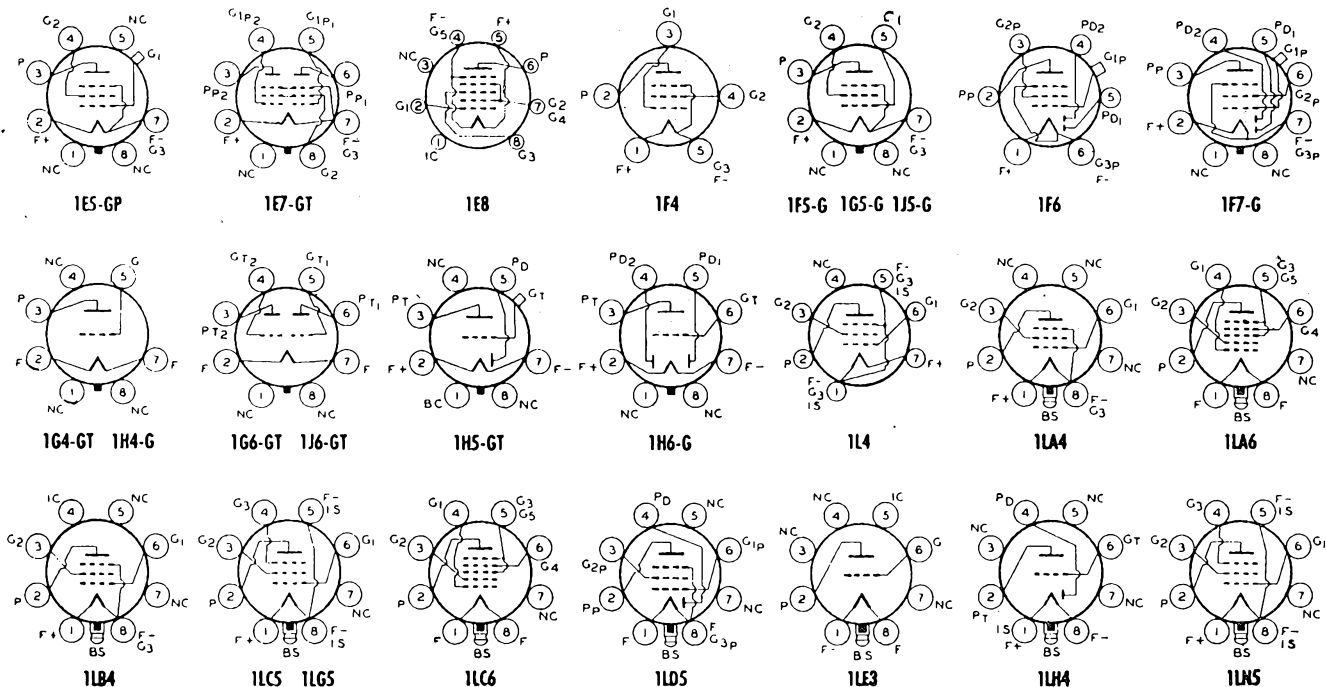
Four vertical lines before or after type No. = Subminiature type.
 Three vertical lines before or after type No. = Miniature type having either 7 or 9 pins.
 Two vertical lines before or after type No. = Metal type.
 One vertical line before or after type No. = GT or other larger glass type.
 Light Face = Discontinued type.
 For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
 * For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.
 o Grids #3 and #5 are screen. Grid No. 4 is signal-input grid.

† Power output is for two tubes at stated plate-to-plate load.
 ▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
 ♣ For two tubes.
 ♠ 50000 ohms.
 § Megohms.
 ♣ Obtained preferably by using 70000-ohm voltage-dropping resistor in series with 90-volt supply.
 ** For grid of following tube.
 ■ Applied through plate resistor of 250000 ohms.
 * Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.



Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plates) μmhos	Amplification Factor	Load (or Stated Power Output) Ohms	Power Output Watts	Type			
			C.T.	Volts	Amp.															
1E5-GP	RF Amplifier Pentode	D8	D.C. F	2.0	0.06	90 180	- 3.0 - 3.0	67.5 67.5	0.7 0.6	1.6 1.7	1.0Ω 1.3	650					1E5-GP			
1E7-GT	Twin-Pentode Power Amplifier	C2b	D.C. F	2.0	0.24	135	- 7.5	135			Power Output is for one tube at stated plate-to-plate load.			24000	0.575		1E7-GT			
1E8	Pentagrid Converter	A	F	1.25	0.04	30 45 67.5	0 0 0	30 45 67.5	0.8 1.1 1.5	0.3 0.6 1.0	300000 400000 400000	Oscillator Grid (#1) Resistor, 0.1 meg. Conversion Transcond., 150 micromhos.						1E8		
1F4	Power Amplifier Pentode	D12	D.C. F	2.0	0.12				For other characteristics, refer to Type 1F5-G.											1F4
1F5-G	Power Amplifier Pentode	D10	D.C. F	2.0	0.12	90 135	- 3.0 - 4.5	90 135	1.1 2.4	4.0 8.0	240000 200000	1400 1700		20000 16000	0.11 0.31		1F5-G			
1F6	Duplex-Diode Pentode	D8	D.C. F	2.0	0.06				For other characteristics, refer to Type 1F7-G.											1F6
1F7-G	Duplex-Diode Pentode	D8	D.C. F	2.0	0.06	180 135	- 1.5 - 2.0	67.5	0.7	2.2	1.0Ω	650					1F7-G			
1G4-GT	Medium-Mu Triode	C4	D.C. F	1.4	0.05	90	- 6.0			2.3	10700	825	8.8				1G4-GT			
1G5-G	Power Amplifier Pentode	D10	D.C. F	2.0	0.12	90 135	- 6.0 - 13.5	90 135	2.5 2.5	8.5 8.7	133000 160000	1500 1550		8500 9000	0.25 0.55		1G5-G			
1G6-GT	Twin-Triode Amplifier	C4	D.C. F	1.4	0.10	90	0				Power Output is for one tube at stated plate-to-plate load.			12000	0.350		1G6-GT			
1H4-G	Detector Amplifier	D3	D.C. F	2.0	0.06	90 135 180	- 4.5 - 9.0 - 13.5			2.5 3.0 3.1	11000 10300 10300	850 900 900	9.3 9.3 9.3				1H4-G			
1H5-GT	Diode High-Mu Triode	C3	D.C. F	1.4	0.05	90	0			0.15	240000	275	65				1H5-GT			
1H6-G	Duplex-Diode Triode	D3	D.C. F	2.0	0.06	135	- 3.0			0.8	35000	575	20				1H6-G			
1J5-G	Power Pentode	D10	D.C. F	2.0	0.12	135	- 16.5	135	2.0	7.0	105000	950		13500	0.45		1J5-G			
1J6-GT	Twin-Triode Amplifier	C10	D.C. F	2.0	0.24	135 135	0 - 3.0				Power Output is for one tube at stated plate-to-plate load.			10000 10000	2.2 2.0		1J6-GT			
1L4	RF Amplifier Pentode	B0	D.C. F	1.4	0.05	90 90	0 0	67.5 90	1.2 2.0	4.5	600000 260000	925 1025					1L4			
1LA4	Power Amplifier Pentode	B5	D.C. F	1.4	0.05				For other characteristics, refer to Type 1A5-GT.											1LA4
1LA6	Pentagrid Converter	B5	D.C. F	1.4	0.05	90	0	45	0.6	0.55	750000	Anode-Grid (#2): 90 max. volts, 1.2 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.						1LA6		
1LB4	Power Amplifier Pentode	B5	D.C. F	1.4	0.05				For other characteristics, refer to Pentode Unit of Type 1D8-GT.											1LB4
1LC5	RF Amplifier Pentode	B5	D.C. F	1.4	0.05	45 90	0 0	45 45	0.35 0.30	1.10 1.15	700000 1.0Ω	750 775					1LC5			
1LC6	Pentagrid Converter	B5	D.C. F	1.4	0.05	45 90	0 0	35 35	0.75 0.70	0.70 0.75	300000 300000	Anode-Grid (#2): 45 max. volts, 1.4 ma. Oscillator-Grid (#1) Resistor, 1.0 meg. Conversion Transcond., 275 micromhos.						1LC6		
1LD5	Diode-Pentode	B5	D.C. F	1.4	0.05				Plate Supply, 90 volts applied through 1 meg. resistor. 5.6 meg. resistor. Grid Bias, 0 volts, Grid Resistor, 10 megohms. Voltage Gain, 101 approx.								1LD5			
1LE3	Medium-Mu Triode	B5	F	1.4	0.05	90 90	0 - 3			4.5 1.4	11200 19000	1300 760	14.5				1LE3			
1LG5	Remote-Cutoff Pentode	B5	F	1.4	0.05	90 90	0 - 1.5	45 90	0.4 0.9	1.7 3.7	500000	800 1150					1LG5			
1LH4	Diode High-Mu Triode	B5	D.C. F	1.4	0.05				For other characteristics, refer to Type 1H5-GT.											1LH4
1LN5	RF Amplifier Pentode	B5	D.C. F	1.4	0.05	90	0	90	0.35	1.6	1.1Ω	800					1LN5			

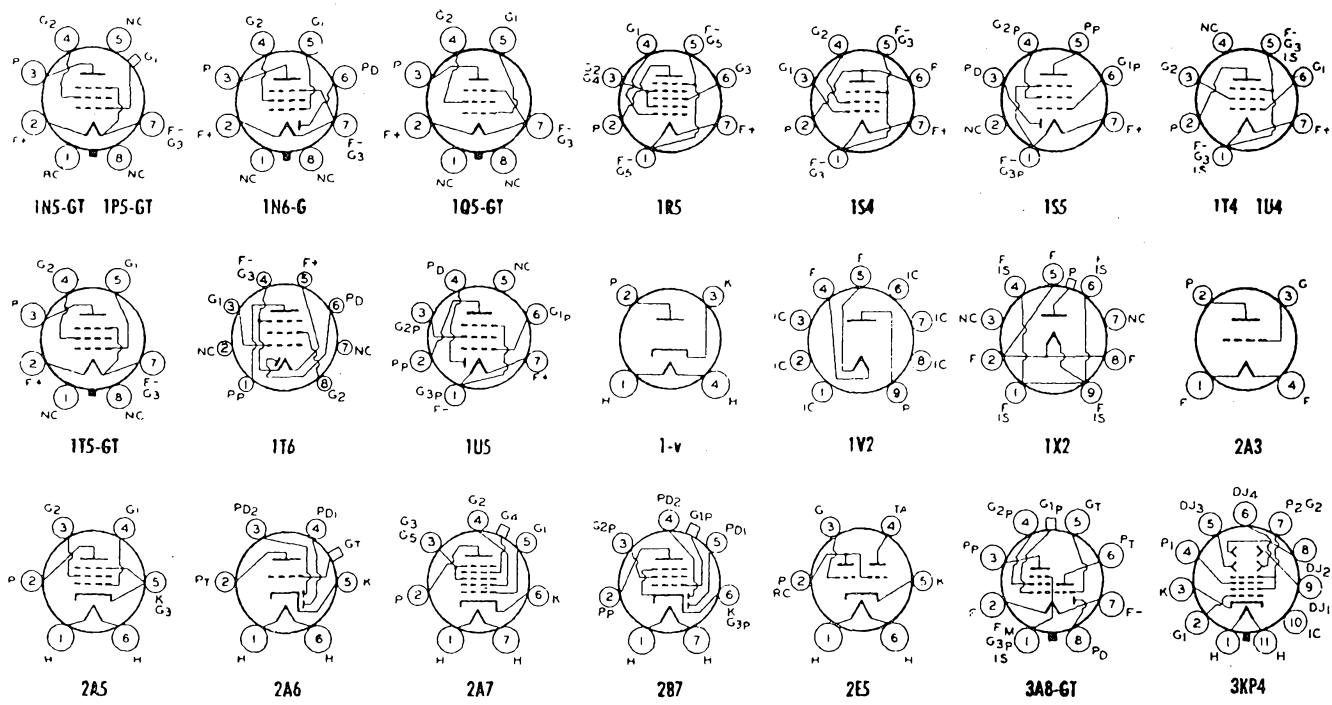
For footnotes, see preceding page



1N5-GT to 3KP4

Type	Name	Tube Dimensions	Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) micromhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type	
			C. T.	Volts													Amp.
1N5-GT	RF Amplifier Pentode	C3	D.C. F	1.4 0.05	Class A Amplifier	90	0	90	0.3	1.2	1.5Ω	750	—	—	—	1N5-GT	
1N6-G	Diode—Power Amplifier Pentode	D1	D.C. F	1.4 0.05	Pentode Unit as Class A Amplifier	90	-4.5	90	0.7	3.4	300000	800	—	25000	0.1	1N6-G	
1P5-GT	Remote-Cutoff Pentode	C3	D.C. F	1.4 0.05	Class A Amplifier	90	0	90	0.7	2.3	800000	750	—	—	—	1P5-GT	
1Q5-GT	Beam Power Amplifier	C3	D.C. F	1.4 0.1	Class A Amplifier	90	-4.5	90	1.3	9.5	90000	2200	—	8000	0.27	1Q5-GT	
1R5	Pentagrid Converter	B0	D.C. F	1.4 0.05	Converter	45	0	45	1.9	0.7	600000	Grid #1 Resistor, 100000 ohms.	—	—	—	1R5	
1S4	Power Amplifier Pentode	B0	D.C. F	1.4 0.1	Class A Amplifier	45	-4.5	45	0.8	3.7	100000	1250	—	8000	0.065	1S4	
1S5	Diode-Pentode	B0	D.C. F	1.4 0.05	Pentode Unit as AF Amplifier	90	-7.0	67.5	1.4	100000	1575	Screen Supply, 90 volts applied through 3 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 50 approx.	—	—	—	1S5	
1T4	Super-Control RF Amplifier Pentode	B0	D.C. F	1.4 0.05	Class A Amplifier	45	0	45	0.7	1.7	350000	700	—	—	—	1T4	
1T5-GT	Beam Power Amplifier	C4	D.C. F	1.4 0.05	Class A Amplifier	90	-6.0	90	0.8	6.5	—	1150	—	14000	0.17	1T5-GT	
1T6	Diode-Pentode	A	F	1.25 0.04	Pentode Unit as Class A Amplifier	30	0	30	0.10	0.33	500000	330	—	—	—	1T6	
1U4	RF Amplifier Pentode	B0	D.C. F	1.4 0.05	Class A Amplifier	90	0	90	0.50	1.0	1.0Ω	900	—	—	—	1U4	
1U5	Diode-Pentode	B0	D.C. F	1.4 0.05	Pentode Unit as Class A Amplifier	90	0	90	0.50	1.0	1.0Ω	900	—	—	—	1U5	
1-v	Half-Wave Rectifier	D6	H	6.3 0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 325 Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 325 volts, 75 ohms.										1-v	
1V2	Half-Wave Rectifier	B0a	F	0.625 0.3	Pulsed Rectifier	Max. Peak Inverse Plate Volts, 7500 Max. Average Plate Ma., 0.5										1V2	
1X2	Half-Wave Rectifier	B4	F	1.25 0.2	Half-Wave Rectifier	Max. Peak Inverse Plate Volts, 15000 Max. Average Plate Ma., 1 Max. Frequency of Supply Voltage, 300Kc										1X2	
2A3	Power Amplifier Triode	E3	F	2.5 2.5	Class A Amplifier Push-Pull Class AB ₁ Amplifier	250	-45.0	—	—	60.0	—	800	5250	4.2	2500	3.5	2A3
2A4-G	Glow-Discharge Triode	D3	D.C. F	2.5 2.5	Relay Service	Max. Peak Inverse Anode Volts, 200 Max. Peak Forward Anode Volts, 200 Max. Peak Anode Current, 1.25 ampere Max. Av. Anode Current, 0.1 ampere										2A4-G	
2A5	Power Amplifier Pentode	D12	H	2.5 1.75	Amplifier	For other characteristics, refer to Type 6F6-G.										2A5	
2A6	Duplex-Diode High-Mu Triode	D8	H	2.5 0.8	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										2A6	
2A7	Pentagrid Converter	D9	H	2.5 0.8	Converter	For other characteristics, refer to Type 6A8.										2A7	
2B7	Duplex-Diode Pentode	D9	H	2.5 0.8	Pentode Unit as Amplifier	For other characteristics, refer to Type 6B8-Q.										2B7	
2E5	Electron-Ray Tube	D8	H	2.5 0.8	Visual Indicator	For other characteristics, refer to Type 6E5.										2E5	
3A8-GT	Diode-Triode RF Amplifier Pentode	C8	D.C. F	1.4 0.1 2.8 0.05	Triode Unit as Class A Amplifier Pentode Unit as Class A Amplifier	90	0	—	—	0.2	200000	325	65	—	—	3A8-GT	
3KP4	Directly Viewed Kinescope	G1a	H	6.3 0.6	Picture Reproduction	Focus: Electrostatic Deflection: Electrostatic Phosphor: No. 4 Picture Size: 1 1/4' x 2 1/4' Deflection Factors: DJ ₁ and DJ ₂ ; (nearer screen), 100 to 136 vdc/in./kv; DJ ₁ and DJ ₂ ; (nearer base), 76 to 104 vdc/in./kv. Anode No. 2 and Grid No. 2 Volts, 2500 max. Anode No. 1 Volts for Focus, 320 to 600 (1000 max.) Anode No. 1 Current Range, -15 to +10 microamperes Grid No. 1 Volts for Visual Cutoff, -38 to -90										3KP4	

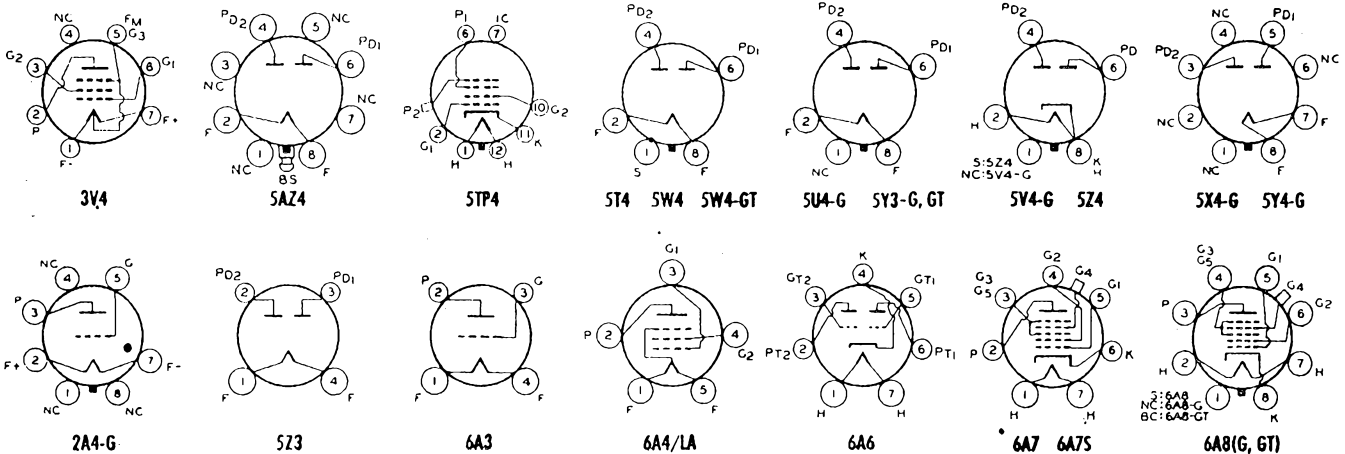
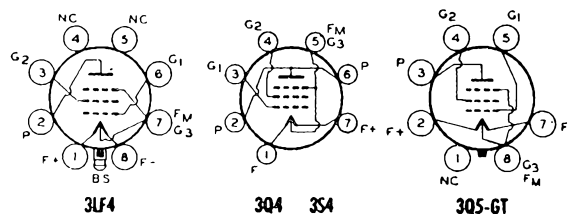
For footnotes, see following page



Type	Name	Tube Dimensions	Cathode Type and Rating			Use <small>Values in right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C. T.	Volts	Amp.												
3LF4	Beam Power Amplifier	88	D.C. 1.4 F 2.8	0.1 0.05	Class A Amplifier												3LF4
3Q4	Power Amplifier Pentode	80	D.C. 1.4 F 2.8	0.1 0.05	Class A Amplifier												3Q4
3Q5-GT	Beam Power Amplifier	C3	D.C. 1.4 F 2.8	0.1 0.05	Class A Amplifier	110 110	- 6.6 - 6.6	110 110	1.4 1.1	10.0 8.5	100000 110000	2200 2000		8000 8000	0.40 0.33		3Q5-GT
3S4	Power Amplifier Pentode	80	D.C. 1.4 F 2.8	0.1 0.05	Class A Amplifier	90 90	- 7 - 7	67.5 67.5	1.4 1.1	7.4 6.1	100000 100000	1575 1425		8000 8000	0.27 0.235		3S4
3V4	Power Amplifier Pentode	80	D.C. 1.4 F 2.8	0.1 0.05	Class A Amplifier	90 90	- 4.5 - 4.5	90 90	2.1 1.7	9.5 7.7	100000 120000	2150 2000		10000 10000	0.27 0.24		3V4
5A24	Full-Wave Rectifier	C2a	F 5.0	2.0		For ratings and characteristics, refer to Type 5Y3-GT.										5A24	
5T4	Full-Wave Rectifier	D7	F 5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550								Max. D-C Output Ma., 225 Max. Peak Plate Ma., 675	Min. Total Effect. Supply Imped. per Plate, 150 ohms		5T4
5TP4	Projection Kinescope	H1	H 6.3	0.6	Picture Reproduction With Reflective Optical System	Focus: Electrostatic Deflection: Magnetic Deflection Angle: 50° Phosphor: No. 4 Picture Size: 18" x 24"								Anode-No. 2 Volts, 27000 (max.) Anode-No. 1 Volts for Focus, 4300 to 5400 (6000 max.) Grid-No. 2 Volts, 200 (350 max.) Grid-No. 1 Volts for Visual Cutoff, -42 to -98	Anode-No. 2 Current Range, 100 to 200 microamperes Anode-No. 1 Current, 75 microamperes (max.) Grid-No. 2 Current Range, -15 to +15 microamperes		5TP4
5U4-G	Full-Wave Rectifier	E2	F 5.0	3.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550								Max. D-C Output Ma., 225 Max. Peak Plate Ma., 675	Min. Total Effect. Supply Imped. per Plate, 75 ohms		5U4-G
5V4-G	Full-Wave Rectifier	D10	H 5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 375 Max. Peak Inverse Volts, 1400								Max. D-C Output Ma., 175 Max. Peak Plate Ma., 525	Min. Total Effect. Supply Imped. per Plate, 100 ohms		5V4-G
5W4 5W4-GT	Full-Wave Rectifiers	C2 C5	F 5.0	1.5	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400								Max. D-C Output Ma., 100 Max. Peak Plate Ma., 300	Min. Total Effect. Supply Imped. per Plate, 50 ohms		5W4 5W4-GT
5X4-G	Full-Wave Rectifier	E2	F 5.0	3.0		For other ratings, refer to Type 5U4-G.										5X4-G	
5Y3-G 5Y3-GT	Full-Wave Rectifiers	C5	F 5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400								Max. D-C Output Ma., 125 Max. Peak Plate Ma., 400	Min. Total Effect. Supply Imped. per Plate, 50 ohms		5Y3-G 5Y3-GT
5Y4-G	Full-Wave Rectifier	D10	F 5.0	2.0		For other ratings, refer to Type 5Y3-GT.										5Y4-G	
5Z3	Full-Wave Rectifier	E3	F 5.0	3.0		For other ratings, refer to Type 5U4-G.										5Z3	
5Z4	Full-Wave Rectifier	C2	H 5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400								Max. D-C Output Ma., 125 Max. Peak Plate Ma., 375	Min. Total Effect. Supply Imped. per Plate, 50 ohms		5Z4
6A3	Power Amplifier Triode	E3	F 6.3	1.0	Amplifier	For other characteristics, refer to Type 6B4-G.										6A3	
6A4/LA	Power Amplifier Pentode	D12	F 6.3	0.3	Class A Amplifier	100 180	- 6.5 - 12.0	100 180	1.6 3.9	9.0 22.0	83250 45500	1200 2200		11000 8000	0.31 1.40		6A4/LA
6A6	Twin-Triode Amplifier	D12	H 6.3	0.8	Amplifier	For other characteristics, refer to Type 6N7-GT.										6A6	
6A7	Pentagrid Converter	D9	H 6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										6A7	
6A7S	Pentagrid Converter	D9	H 6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										6A7S	
6A8 6A8-G 6A8-GT	Pentagrid Converters	C1 D8 C3	H 6.3	0.3	Converter	100 250	- 1.5 - 3.0	50 100	1.3 2.7	1.1 3.5	600000 360000			Anode-Grid (#2): 250 max. volts, 4.0 ma. Oscillator-Grid (#1) Resistor = . . . Conversion Transcond., 550 micromhos.		6A8 6A8-G 6A8-GT	

Four vertical rules before or after type No. = Subminiature type.
 Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
 Two vertical rules before or after type No. = Metal type.
 One vertical rule before or after type No. = GT or other larger glass type.
 Light Face - Discontinued type.
 For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
 a Grids #3 and #5 are screen. Grid No. 4 is signal-input grid.
 † Power output is for two tubes at stated plate-to-plate load.

▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
Note 1: Subscript 1 on class of amplifier service (as AB₁) indicates that grid current does not flow during any part of input cycle.
 ◆ For two tubes
 ♦ Supply voltage applied through 20000-ohm voltage-dropping resistor.
 ● 50000 ohms.
 § Megohms.
 ■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.



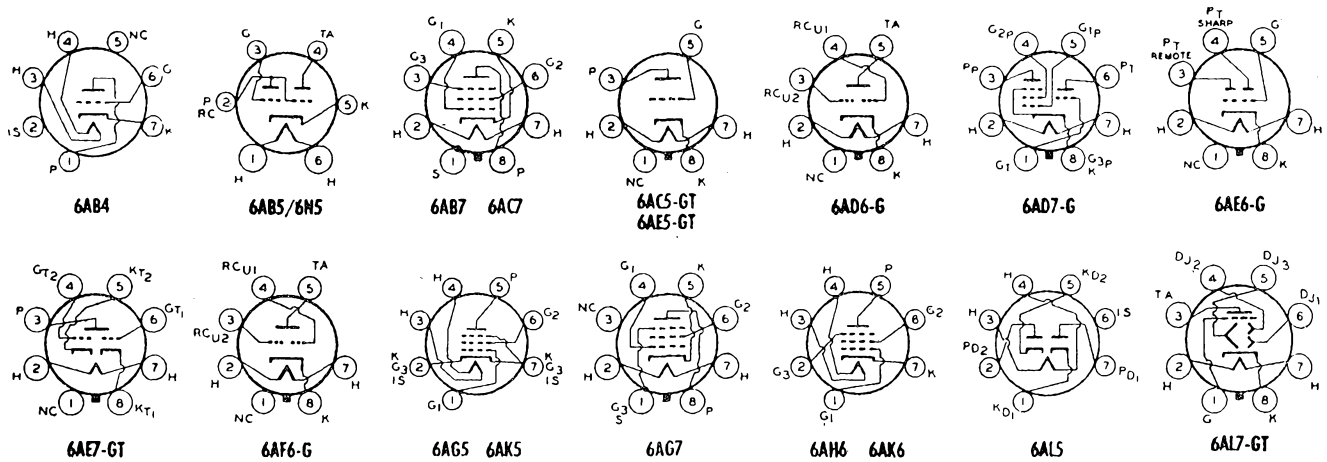
6AB4 to 6AL7-GT

Type	Name	Tube Dimensions	Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias V	Screen Supply V	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid plate) μ mhos	Amplification Factor	Load Im. Stand. Power Output Ohms	Power Output Watts	Type
			C. T.	Volts												
6AB4	RF Amplifier Triode	B0	H	6.3 0.15	Class A Amplifier	100 250	- 1 - 2			3.7 10.0		4000 5500	54 55			6AB4
6AB5/6N5	Electron-Ray Tube	D4	H	6.3 0.15	Visual Indicator											6AB5/6N5
6AB7	Remote-Cutoff Pentode	B2	H	6.3 0.45	Class A Amplifier	300	- 3.0	200	3.2	12.5	700000	5000				6AB7
6AC5-GT	High-Mu Power Amplifier Triode	C3	H	6.3 0.4	Class B Amplifier Dynamic-Coupled Amplifier With 76 Driver	250	0			5.0				10000	8.01	6AC5-GT
6AC7	Sharp-Cutoff Pentode	B2	H	6.3 0.45	Class A Amplifier	300	Cath. Bias	150	2.5	10.0	1.0	9000				6AC7
6AD6-G	Electron-Ray Tube Twin Indicator Type	B8a	H	6.3 0.15	Visual Indicator											6AD6-G
6AD7-G	Triode-Power Amplifier Pentode	D10	H	6.3 0.85	Triode Unit as Class A Amplifier	250	-25.0			3.7	19000	325	6			6AD7-G
						250	-16.5	250	6.5	34.0	80000	2500		7000	3.2	
						375	Cath. Bias	250	6.7	41.0			Cathode-Bias Resistor, 470 ohms	16000	9.01	
6AE5-GT	Amplifier Triode	C3	H	6.3 0.3	Class A Amplifier	95	-15.0			7.0	3500	1200	4.2			6AE5-GT
6AE6-G	Twin-Plate Control Tube	D3	H	6.3 0.15	Remote Cutoff Triode	250	-1.5			6.5	25000	1000	25			6AE6-G
						250	-35.0			0.01						
6AE7-GT	Twin-Input Triode Amplifier	C3	H	6.3 0.5	Class A Amp. AA Driver For Push-Pull 6AC5-GT In Dynamic-Coupled Amplifier	250	-13.5			10.0	4650	3000	14			6AE7-GT
															10000	
6AF6-G	Electron-Ray Tube Twin Indicator Type	B0c	H	6.3 0.15	Visual Indicator											6AF6-G
6AG5	Sharp-Cutoff Pentode	B0	H	6.3 0.3	As Pentode Class A Amplifier	100	Cath. Bias	100	1.5	4.5	700000	4250	Cath. Bias Res., 180 ohms			6AG5
						250	-15.0	150	2.0	7.0	800000	5000	Cath. Bias Res., 200 ohms			
						180	Cath. Bias			7.0	7900	5700	Cath. Bias Res., 350 ohms			
						250	-13.5			5.5	11000	3800	Cath. Bias Res., 825 ohms			
6AG7	Video Power Amplifier Pentode	C2	H	6.3 0.65	Class A Amplifier	300	Cath. Bias - 2.0	125	7.0	28.0		Cathode-Bias Resistor, 57 ohms. Load Resistance, 3500 ohms. Peak-to-Peak Volts Output, 140 approx.			6AG7	
6AH6	Sharp-Cutoff Pentode	B0	H	6.3 0.45	Class A Amplifier	300	Cath. Bias	150	2.5	10.0	500000	9000	Cath. Res., 160 ohms			6AH6
6AK5	Sharp-Cutoff Pentode	A1	H	6.3 0.175	Class A Amplifier	120	Cath. Bias	120	2.5	7.5	340000	5000	Cath. Res., 200 ohms			6AK5
6AK6	Power Amplifier Pentode	B0	H	6.3 0.15	Class A Amplifier	180	- 9.0	180	2.5	15	200000	2300		10000	1.1	6AK6
6AL5	Twin Diode	A1	H	6.3 0.3	Detector Rectifier											6AL5
6AL7-GT	Electron-Ray Tube Indicator Type	C0a	H	6.3 0.15	Visual Indicator											6AL7-GT

Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
Two vertical rules before or after type No. = Metal type.
One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.
For key to tube dimensions and legend for base and envelope connection diagrams, see page 23.
Grids #3 and #5 are screen. Grid No. 4 is signal-input grid.
† Power output is for two tubes at stated plate-to-plate load.

▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
Note 1: Subscript 1 on class of amplifier service (as AB₁) indicates that grid current does not flow during any part of input cycle.
□ Grid #2 tied to plate.
♦ For two tubes.
▲ Supply voltage applied through 20000-ohm voltage-dropping resistor.
● 50000 ohms.
§ Megohms.
▲▲ Both grids connected together, likewise both cathodes.

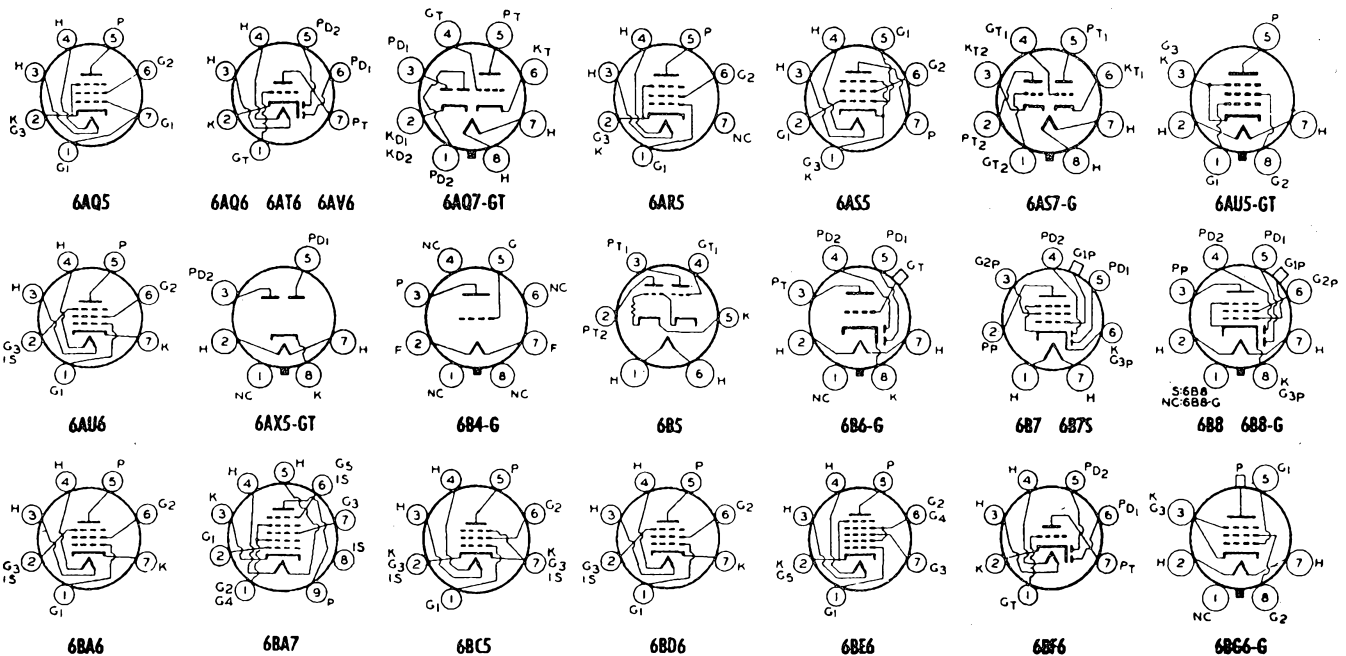
♦♦ For grid of following tube.
■ Applied through plate resistor of 250000 ohms.
■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
♥ Applied through plate resistor of 100000 ohms.
• With tube mounted horizontally and pins No. 4 and No. 8 in the vertical plane (pin 4 on top), deflecting electrode No. 1 controls left-hand section of pattern, deflecting electrode No. 2 controls top right-hand section of pattern, deflecting electrode No. 3 controls bottom section of pattern.



6AQ5 to 6BG6-G

Type	Name	Tube Dimensions	Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ ms	Amplification Factor	Load (for Stated Power Output) Ohms	Power Output Watts	Type
			C.T.	Volts												
6AQ5	Beam Power Amplifier	B1	H	6.3	0.45	180	-8.5	180	3.0	29.0	58000	3700	---	5500	2.0	6AQ5
						250	-12.5	250	4.5	45.0	52000	4100	5000	10.0†		
6AQ6	Duplex-Diode High-Mu Triode	B0	H	6.3	0.15	100	-1.0	---	---	0.8	61000	1150	70	---	---	6AQ6
						250	-3.0	---	---	1.0	58000	1200	70	---		
6AQ7-GT	Twin-Diode High-Mu Triode	C2b	H	6.3	0.3	250	-2	---	---	2.3	44000	1600	70	---	6AQ7-GT	
6AR5	Power Pentode	B1	H	6.3	0.4	250	-16.5	250	10	34.0	65000	2400	---	7000	3.2	6AR5
6AS5	Beam Power Amplifier	B1	H	6.3	0.8	150	-8.5	110	2.0	35	---	5600	---	4500	2.2	6AS5
						250	-18	250	10	32.0	68000	2300	7000	3.4		
6AS7-G	Low-Mu Twin Power Triode	E2	H	6.3	2.5	135	---	Cath. Res., 250 ohms	125	---	280	7000	2.0	---	---	6AS7-G
						Max. Peak Inverse Plate Volts, 1700	Max. Heater-Cathode Volts, \pm 300	Max. Peak Plate Current (Per Plate), 125 ma	Max. Plate Dissipation (Per Plate), 13 watts							
6AT6	Duplex-Diode High-Mu Triode	B0	H	6.3	0.3	100	-1.0	---	---	0.8	54000	1300	70	---	6AT6	
6AU5-GT	Beam Power Amplifier	C2b	H	6.3	1.25	100	-1.0	---	---	0.5	80000	1250	100	---	---	6AU5-GT
						250	-2.0	---	---	1.2	62500	1600	100	---		
6AU6	RF Amplifier Pentode	B0	H	6.3	0.3	100	---	Cath. Bias 150	2.1	5.0	500000	3900	Cath. Bias Res., 150 ohms	---	6AU6	
6AV6	Twin-Diode High-Mu Triode	B0	H	6.3	0.3	100	-1.0	---	---	0.5	80000	1250	100	---	---	6AV6
						250	-2.0	---	---	1.2	62500	1600	100	---		
6AX5-GT	Full-Wave Rectifier	C2b	H	6.3	1.2	100	---	---	---	0.5	80000	1250	100	---	---	6AX5-GT
						250	---	---	---	1.2	62500	1600	100	---		
6B4-G	Power Amplifier Triode	E2	F	6.3	1.0	250	-45.0	---	---	60.0	800	5250	4.2	2500	3.20	6B4-G
						325	Cath. Bias, 850 ohms ϕ	80.0 ϕ	---	---	5000	10.0†				
6B5	Direct-Coupled Power Amplifier	D12	H	6.3	0.8	325	-68 volts, fixed bias	---	---	80.0 ϕ	---	---	---	3000	15.0†	6B5
6B6-G	Duplex-Diode High-Mu Triode	D8	H	6.3	0.3	100	-3.0	100	1.7	5.8	300000	950	---	---	6B6-G	
6B7	Duplex-Diode Pentode	D9	H	6.3	0.3	100	-3.0	125	2.3	9.0	600000	1125	---	---	6B7	
6B7S	Duplex-Diode Pentode	D9	H	6.3	0.3	100	-3.0	125	2.3	9.0	600000	1125	---	---	6B7S	
6B8	Duplex-Diode Pentode	C1	H	6.3	0.3	100	-3.0	125	2.3	9.0	600000	1125	---	---	6B8	
6B8-G	Duplex-Diode Pentode	D8	H	6.3	0.3	100	-3.0	100	1.7	5.8	300000	950	---	---	6B8-G	
						250	-3.0	125	2.3	9.0	600000	1125	---			
6BA6	RF Amplifier Pentode	B0	H	6.3	0.3	100	---	Cath. Bias 100	4.4	10.8	250000	4300	Cath. Bias Res., 68 ohms	---	6BA6	
6BA7	Pentagrid Converter Δ	B0a	H	6.3	0.3	100	-1.0	100	10.2	3.6	500000	1.0 ϕ	Grid-No. 1 Resistor, 20000 ohms	---	6BA7	
6BC5	Sharp-Cutoff Pentode	B0	H	6.3	0.3	250	---	Cath. Bias 150	2.1	7.5	800000	5700	Cath. Bias Res., 180 ohms	---	6BC5	
6BD6	Remote-Cutoff Pentode	B0	H	6.3	0.3	100	-1	100	5.0	13.0	150000	2550	---	---	6BD6	
6BE6	Pentagrid Converter Δ	B0	H	6.3	0.3	100	-1.5	100	7.5	2.6	400000	1.0 ϕ	Grid #1 Resistor, 20000 ohms	---	6BE6	
6BF6	Duplex-Diode Triode	B0	H	6.3	0.3	250	-1.5	100	7.5	2.6	400000	1.0 ϕ	Conversion Transcond., 475 micromhos	---	6BF6	
6BG6-G	Beam Power Amplifier	F1	H	6.3	0.9	Max. DC Plate Volts, 700	---	---	---	---	---	---	---	Max. Peak Positive-Pulse Plate Volts, 6000	6BG6-G	
						Max. DC Plate Ma., 100	---	---	---	---	---	---	---	Max. Plate Dissipation, 20 watts		

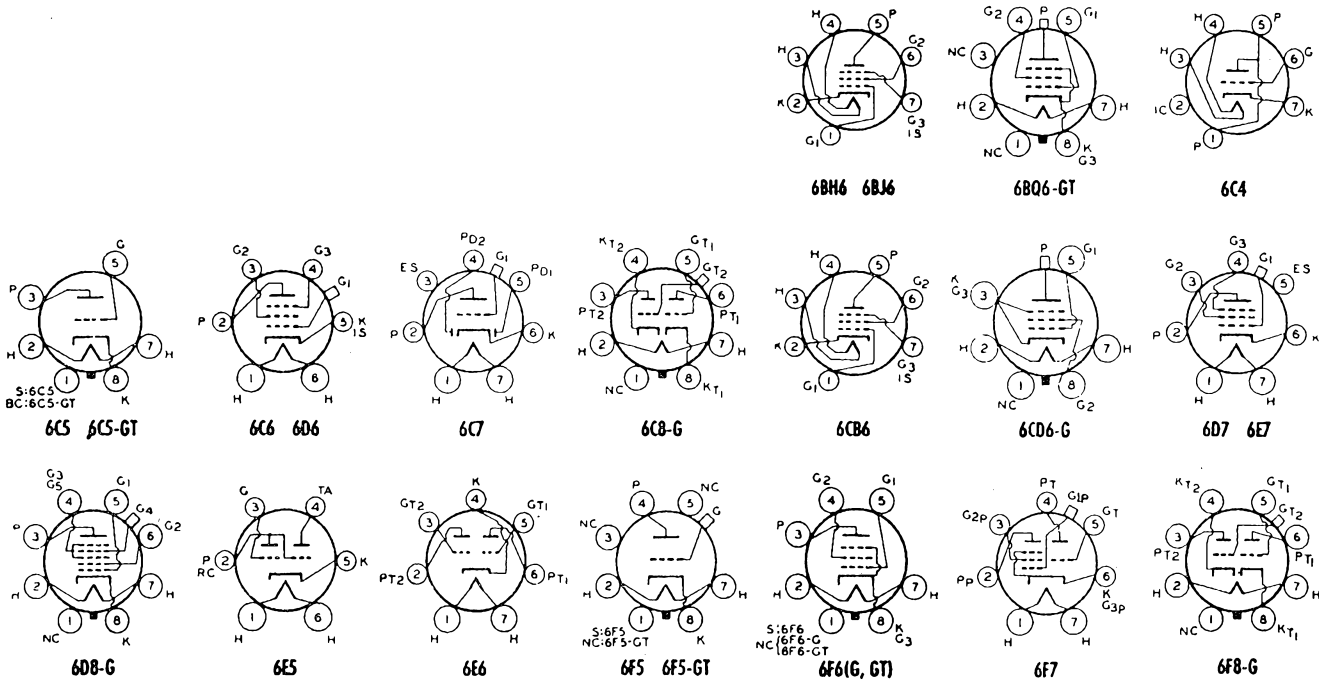
For footnotes, see preceding page.



6BH6 to 6F8-G

Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values in right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load (for Stated Power Output) Ohms	Power Output Watts	Type	
			C. T.	Volts	Ans.													
6BH6	Sharp-Cutoff Pentode	B0	H	6.3	0.15	100 250	- 1.0 - 1.0	100 150	1.4 2.9	3.6 7.4	700000 1.4 $\frac{1}{2}$	3400 4600	—	—	—	—	6BH6	
6BJ6	RF Amplifier Pentode	B0	H	6.3	0.15	100 250	- 1.0 - 1.0	100 100	3.5 3.3	9.0 9.2	250000 1.3 $\frac{1}{2}$	3650 3800	—	—	—	—	6BJ6	
6BQ6-GT	Beam Power Amplifier	C11	H	6.3	1.2	Max. DC Plate Volts, 550 Max. DC Plate Ma., 100 Max. Peak Positive-Pulse Plate Volts, 4000 Max. Plate Dissipation, 10 watts										6BQ6-GT		
6C4	HF Power Triode	B0	H	6.3	0.15	Class A Amplifier	100 250	— - 8.5	— —	— —	11.8 10.5	6250 7700	3100 2200	19.5 17	—	—	—	6C4
						Class C Amplifier	300	- 27.0	—	—	25.0	—	—	—	Grid Current, 7 ma. Driving Power, 0.35 watt	—	5.5	
6C5	Medium-Mu Triodes	B2	H	6.3	0.3	Class A Amplifier	250	- 8.0	—	—	8.0	10000	2000	20	—	—	6C5	
6C5-GT		C3				Class A Amplifier	90 ∇ 300 ∇	Cath. Bias, 6400 ohms. Cath. Bias, 5300 ohms.	—	—	—	—	Grid Resistor, ** 0.25 megohm.	—	—	Gain per stage = 11 Gain per stage = 13		
6C6	Sharp-Cutoff Pentode	D18	H	6.3	0.3	Amplifier Detector For other characteristics, refer to Type 6J7.										6C6		
6CB6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms	—	—	6CB6	
6C7	Duplex-Diode Triode	D9	H	6.3	0.3	Triode Unit as Class A Amplifier	250	- 9.0	—	—	4.5	16000	1250	20	—	—	6C7	
6C8-G	Twin-Triode Amplifier	D8	H	6.3	0.3	Each Unit as Amplifier	250	- 4.5	—	—	3.2	22500	1600	36	—	—	6C8-G	
6CD6-G	Beam Power Amplifier	F1	H	6.3	2.5	Horizontal Deflection Amplifier in TV Equipment Max. DC Plate Volts, 700 Max. DC Plate Ma., 170 Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 15 watts										6CD6-G		
6D6	Remote-Cutoff Pentode	D13	H	6.3	0.3	Amplifier Mixer For other characteristics, refer to Type 6U7-G.										6D6		
6D7	Sharp-Cutoff Pentode	D13	H	6.3	0.3	Amplifier Detector For other characteristics, refer to Type 6J7.										6D7		
6D8-G	Pentagrid Converter	D8	H	6.3	0.15	Converter	135 250	- 3.0 - 3.0	67.5 100	1.7 2.6	1.5 3.5	600000 400000	—	—	Anode-Grid (#2): 250 μ max. volts. 4.3 ma. Oscillator-Grid (#1) Resistor μ . Conversion Transcond., 550 micromhos.	—	6D8-G	
6E5	Electron-Ray Tube	D4	H	6.3	0.3	Visual Indicator Plate & Target Supply = 125 volts. Triode Plate Resistor = 1.0 meg. Target Current = 0.8 ma. Grid Bias, -4.0 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.1 ma. Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 2.0 ma. Grid Bias, -7.5 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.2 ma.										—	6E5	
6E6	Twin-Triode Power Amplifier	D12	H	6.3	0.6	Push-Pull Class A Amplifier	180 250	- 20.0 - 27.5	—	—	—	—	—	—	Power Output is for one tube at stated plate-to-plate load.	15000 14000	0.75 1.60	6E6
6E7	Remote-Cutoff Pentode	D13	H	6.3	0.3	Amplifier For other characteristics, refer to Type 6U7-G.										6E7		
6F5	High-Mu Triode	C1	H	6.3	0.3	Amplifier For other characteristics, refer to Type 6SF5.										6F5		
6F5-GT	High-Mu Triode	C2b	H	6.3	0.3	Amplifier For other characteristics, refer to Type 6SF5.										6F5-GT		
6F6	Power Pentodes	C2	H	6.3	0.7	Pentode Class A Amplifier	250 285	- 16.5 - 20.0	250 285	6.5 7.0	34.0 38.0	80000 78000	2500 2550	—	7000 7000	3.2 4.8	6F6	
						Triode Class A Amplifier	250	- 20.0	—	—	31.0	2600	2600	6.8	4000	0.85		
						Pentode Push-Pull Class A Amplifier	315 315	Cath. Bias - 24.0	285 285	12.0 \clubsuit 12.0 \clubsuit	62.0 \clubsuit 62.0 \clubsuit	Cath. Bias Resistor, 320 ohms \clubsuit	10000 10000	10.5 \clubsuit 11.0 \clubsuit				
						Pentode Push-Pull Class AB ₁ Amplifier	375 375	Cath. Bias - 26.0	250 250	8.0 \clubsuit 5.0 \clubsuit	54.0 \clubsuit 34.0 \clubsuit	Cath. Bias Resistor, 340 ohms \clubsuit	10000 10000	19.0 \clubsuit 18.5 \clubsuit				
6F6-GT	Power Pentodes	C10	H	6.3	0.7	Triode Push-Pull Class AB ₁ Amplifier	350 350	Cath. Bias - 38.0	—	—	50.0 \clubsuit 48.0 \clubsuit	Cath. Bias Resistor, 730 ohms \clubsuit	10000 6000	9.0 \clubsuit 13.0 \clubsuit	6F6-GT			
						Triode Unit as Class A Amplifier	100	{ - 3.0 } min.	—	—	3.5	16000	500	8		—		
6F7	Triode-Pentode	D9	H	6.3	0.3	Pentode Unit as Class A Amplifier	100 250	{ - 3.0 } min.	100 100	1.6 1.5	6.3 6.3	290000 850000	1050 1100	—	—	6F7		
						Pentode Unit as Mixer	250	- 10.0	100	0.6	2.8	—	—	Oscillator Peak Volts = 7.0. Conversion Transcond. = 300 micromhos.				
						Each Unit as Amplifier	For other characteristics, refer to Type 6J5.											
6F8-G	Twin-Triode Amplifier	D8	H	6.3	0.6	Each Unit as Amplifier For other characteristics, refer to Type 6J5.										6F8-G		

For footnotes, see following page.



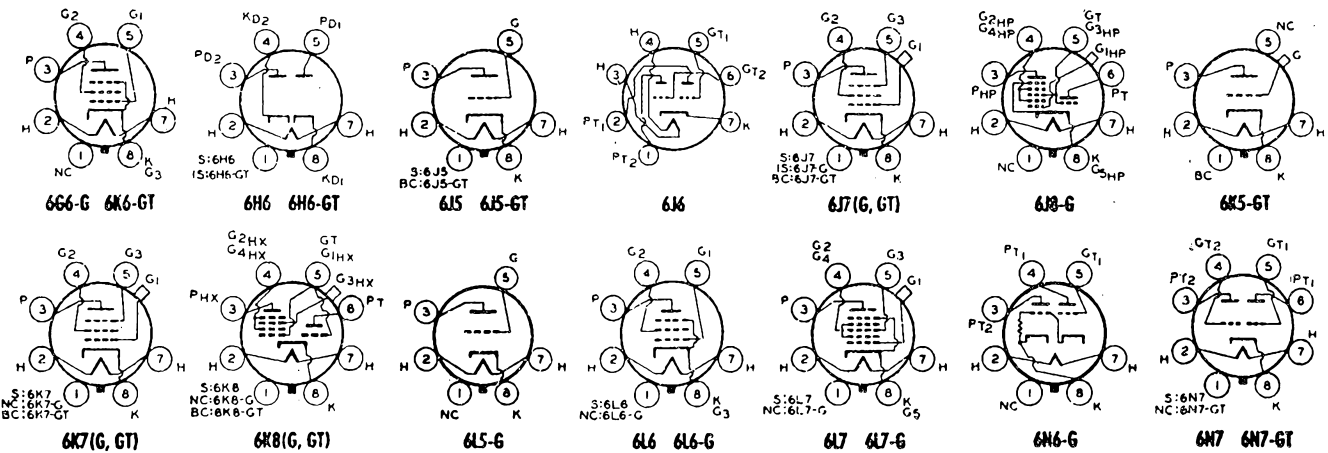
6G6-G to 6N7-GT

Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values in right gva operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type	
			C.T.	Volts	Amp.													
6G6-G	Power Amplifier Pentode	D3	H	6.3	0.15	Pentode Class A Amplifier	135	- 6.0	135	2.0	11.5	170000	2100	—	12000	0.6	6G6-G	
						Triode Class A Amplifier	180	- 9.0	130	2.5	15.0	175000	2300	—	10000	1.1		
6H6	Twin Diodes	A1a	H	6.3	0.3	Voltage Doubler	Max. A-C Supply Volts per Plate (RMS), 150										Max. D-C Output Ma., 8. min.	6H6
6H6-GT		C3				Half-Wave Rectifier	Total Effect. Plate-Supply Imped. per Plate: half-wave, 30 ohms; full-wave, 15 ohms.										Min. Total Effective Plate-Supply Impedance: up to 117 volts, 15 ohms; at 150 volts, 40 ohms.	
6J5	Medium-Mu Triodes	B2	H	6.3	0.3	Class A Amplifier	90	0	—	—	10.0	6700	3000	20	—	—	6J5	
6J5-GT		B3					250	- 8.0	—	—	9.0	7700	2600	20	—			
6J6	Medium-Mu Twin Triode	B0	H	6.3	0.45	Each Unit as Class A Amplifier	100	—	Cathode Resistor, for both units, 50 ohms		8.5	7100	5300	38	—	—	6J6	
							Push-Pull Class C Amplifier	150	- 10.0	Cath. Res., 220 ohms, both units	30.0	Grid Current, 16 ma. Driving Power, 0.35 watt.	—	—	—	3.5		
6J7	Sharp-Cutoff Pentodes	C1	H	6.3	0.3	Pentode Class A RF Amplifier	100	- 3.0	100	0.5	2.0	1.0 ϕ	1185	—	—	6J7		
6J7-G		D8				Pentode Class A AF Amplifier	250	- 3.0	100	0.5	2.0	1.0 + ϕ	1225	—	—			
6J7-GT		C3				90 \times Cath. Bias, 2600 ohms. Screen Resistor = 1.2 meg. Grid Resistor, ** Gain per stage = 85	250	- 4.3	100	0.43 ma.	—	—	—	—	—		—	0.5 megohm. Gain per stage = 140
						Triode Class A Amplifier	180	- 5.3	—	—	—	—	—	—	—		—	—
6J8-G	Triode-Heptode Converter	D8	H	6.3	0.3	Triode Unit as Oscillator	100	—	Triode-Grid Resistor, 50000 ohms		4.0	—	—	—	—	6J8-G		
						Heptode Unit as Mixer	250	- 3.0	100	3.0	1.4	900000	—	—	—		—	
6K5-GT	High-Mu Triode	C3	H	6.3	0.3	Class A Amplifier	100	- 1.5	—	—	0.35	78000	900	70	—	6K5-GT		
							250	- 3.0	—	—	1.1	50000	1400	70	—			
6K6-GT	Power Amplifier Pentode	C3	H	6.3	0.4	Single-Tube Class A Amplifier	100	- 7.0	100	1.6	9.0	104000	1500	—	12000	0.35	6K6-GT	
						250	- 18.0	250	5.5	32.0	90000	2300	—	7600	3.40			
						315	- 21.0	250	4.0	25.5	110000	2100	—	9000	4.50			
						Push-Pull Class A Amplifier	285	- 25.5	285	9.0 ϕ	55.0 ϕ	—	—	—	12000	10.5 \dagger		
6K7	Remote-Cutoff Pentodes	C1	H	6.3	0.3	Class A Amplifier	100	- 1.0	100	2.7	9.5	150000	1650	—	—	6K7		
6K7-G		D8				Mixer in Superheterodyne	250	- 3.0	125	2.6	10.5	600000	1650	—	—			
6K7-GT		C3				250	- 10.0	100	—	—	—	—	—	—	Oscillator Peak Volts = 7.0			
6K8	Triode-Hexode Converters	C1	H	6.3	0.3	Triode-Grid Resistor, 50000 ohms	100	—	—	—	3.8	—	—	—	—	6K8		
6K8-G		D8				Hexode Unit as Mixer	100	- 3.0	100	6.2	2.3	400000	—	—	—		—	
6K8-GT		C10				250	- 5.0	100	6.0	2.5	600000	—	—	—	—		—	
6L5-G	Medium-Mu Triode	O3	H	6.3	0.15	Class A Amplifier	135	- 5.0	—	—	3.5	11300	17	—	—	6L5-G		
6L6	Beam Power Amplifiers	D7	H	6.3	0.9	Single-Tube Class A Amplifier	250	- 14.0	250	5.0	72.0	—	—	—	2500	6.5	6L6	
						250	- 17.5	250	5.4	75.0	—	—	—	2500	6.5			
						Push-Pull Class A Amplifier	270	- 17.5	270	11.0 ϕ	134.0 ϕ	—	—	—	5000	17.5 \dagger		
						270	- 17.5	270	11.0 ϕ	134.0 ϕ	—	—	—	5000	18.5 \dagger			
						Push-Pull Class AB ₁ Amplifier	360	- 22.5	270	5.0 ϕ	88.0 ϕ	—	—	—	6600	26.5 \dagger		
						360	- 22.5	270	5.0 ϕ	88.0 ϕ	—	—	—	9300	24.5 \dagger			
						Push-Pull Class AB ₂ Amplifier	360	- 18.0	275	3.5 ϕ	78.0 ϕ	—	—	—	6000	31.0 \dagger		
						360	- 22.5	270	5.0 ϕ	88.0 ϕ	—	—	—	3800	47.0 \dagger			
6L7	Pentagrid Mixers	C1	H	6.3	0.3	Mixer in Superheterodyne	250	- 3.0	100	7.1	2.4	—	—	—	—	6L7		
		6L7-G				D8	Class A Amplifier	250	- 3.0 ϕ	100	6.5	5.3	600000	1100	—		—	
6N6-G	Direct-Coupled Power Triode	D10	H	6.3	0.8	Class A Amplifier	Output Triode: Plate Volts, 300; Plate Ma., 45; Load, 7000 ohms. Input Triode: Plate Volts, 300; Grid Volts, 0; A-F Signal Volts (Peak), 21; Plate Ma., 8.										4.0	6N6-G
6N7	High-Mu Twin Power Triodes	C2	H	6.3	0.8	Class A Amplifier (as Driver)*	250	- 5.0	—	—	6.0	11300	3100	35	20000	exceeds	6N7	
6N7-GT		C3				294	- 6.0	—	—	7.0	11000	3200	35	or more	0.4			

Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
 Two vertical rules before or after type No. = Metal type.
 One vertical rule before or after type No. = GT or other larger glass type.
 Light Face = Discontinued type.
 For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
 Note 1: Subscript 1 on class of amplifier service (as AB₁) indicates that grid current does not flow during any part of input cycle.
 † Power output is for two tubes at stated plate-to-plate load.

□ Grid # 2 tied to plate.
 ♦ For two tubes.
 ♣ Supply voltage applied through 20000-ohm voltage-Megohms.
 † For signal-input control-grid (#1); control-grid #3 bias, -3 volts.
 ‡ Grids # 2 and # 3 tied to plate.
 ° Both grids connected together; likewise, both plates.
 Note 2: Subscript 2 on class of amplifier service (as AB₂) indicates that grid current flows during some part of input cycle.
 A Grids # 2 and # 4 are screen. Grid # 1 is signal-input control grid.

** For grid of following tube.
 * Applied through plate resistor of 250000 ohms.
 † Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
 ‡ Applied through plate resistor of 100000 ohms.



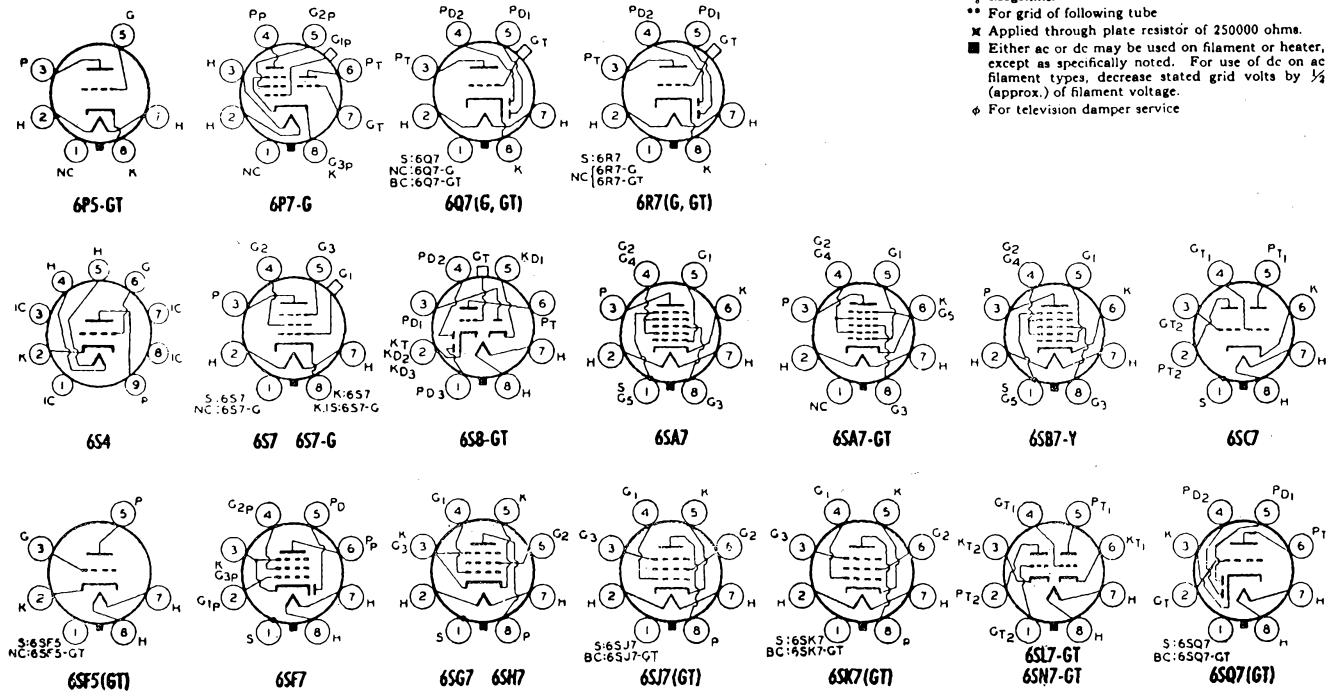
6P5-GT to 6SQ7-GT

Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts	Amp.												
6P5-GT	Medium-Mu Triode	C3	H	6.3	0.3	Amplifier Detector										6P5-GT	
6P7-G	Triode-Pentode	D8	H	6.3	0.3	Amplifier and Converter										6P7-G	
6Q7 6Q7-G 6Q7-GT	Twin-Diode High-Mu Triodes	C1 D8 C3	H	6.3	0.3	Triode Unit as Class A Amplifier										6Q7 6Q7-G 6Q7-GT	
6R7 6R7-G 6R7-GT	Twin-Diode Medium-Mu Triodes	C1 D8 C2b	H	6.3	0.3	Triode Unit as Class A Amplifier										6R7 6R7-G 6R7-GT	
6S4	Medium-Mu Triode	B3	H	6.3	0.6	Vertical Deflection Amplifier in TV Equipment										6S4	
6S7 6S7-G	Remote-Cutoff Pentodes	C1 D8	H	6.3	0.15	Class A Amplifier										6S7 6S7-G	
6S8-GT	Triode-Diode Triode	C8b	H	6.3	0.3	Triode Unit as Class A Amplifier										6S8-GT	
6SA7	Pentagrid Converter	B2	H	6.3	0.3	Mixer										6SA7	
6SA7-GT	Pentagrid Converter	C3	H	6.3	0.3	Mixer										6SA7-GT	
6SB7-Y	Pentagrid Converter	B2	H	6.3	0.3	Mixer										6SB7-Y	
6SC7	Twin-Triode Amplifier	B2	H	6.3	0.3	Each Unit as Amplifier										6SC7	
6SF5 6SF5-GT	High-Mu Triodes	B2 C3	H	6.3	0.3	Class A Amplifier										6SF5 6SF5-GT	
6SF7	Diode-Remote-Cutoff Pentode	B2	H	6.3	0.3	Pentode Unit as Class A Amplifier										6SF7	
6SG7	Remote-Cutoff Pentode	B2	H	6.3	0.3	Class A Amplifier										6SG7	
6SH7	Sharp-Cutoff Pentode	B2	H	6.3	0.3	Class A Amplifier										6SH7	
6SJ7 6SJ7-GT	Sharp-Cutoff Pentodes	B2 C3	H	6.3	0.3	Class A Amplifier										6SJ7 6SJ7-GT	
6SK7 6SK7-GT	Remote-Cutoff Pentodes	B2 C3	H	6.3	0.3	Class A Amplifier										6SK7 6SK7-GT	
6SL7-GT	Twin-Triode Amplifier	C3	H	6.3	0.3	Each Unit as Amplifier										6SL7-GT	
6SN7-GT	Twin-Triode Amplifier	C3	H	6.3	0.6	Each Unit as Amplifier										6SN7-GT	
6SQ7 6SQ7-GT	Twin-Diode High-Mu Triodes	B2 C3	H	6.3	0.3	Triode Unit as Class A Amplifier										6SQ7 6SQ7-GT	

Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
Two vertical rules before or after type No. = Metal type.
One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.

For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
† Power output is for two tubes at stated plate-to-plate load.
▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
Note 1: Subscript 1 on class of amplifier service (as AB₁) indicates that grid current does not flow during any part of input cycle.

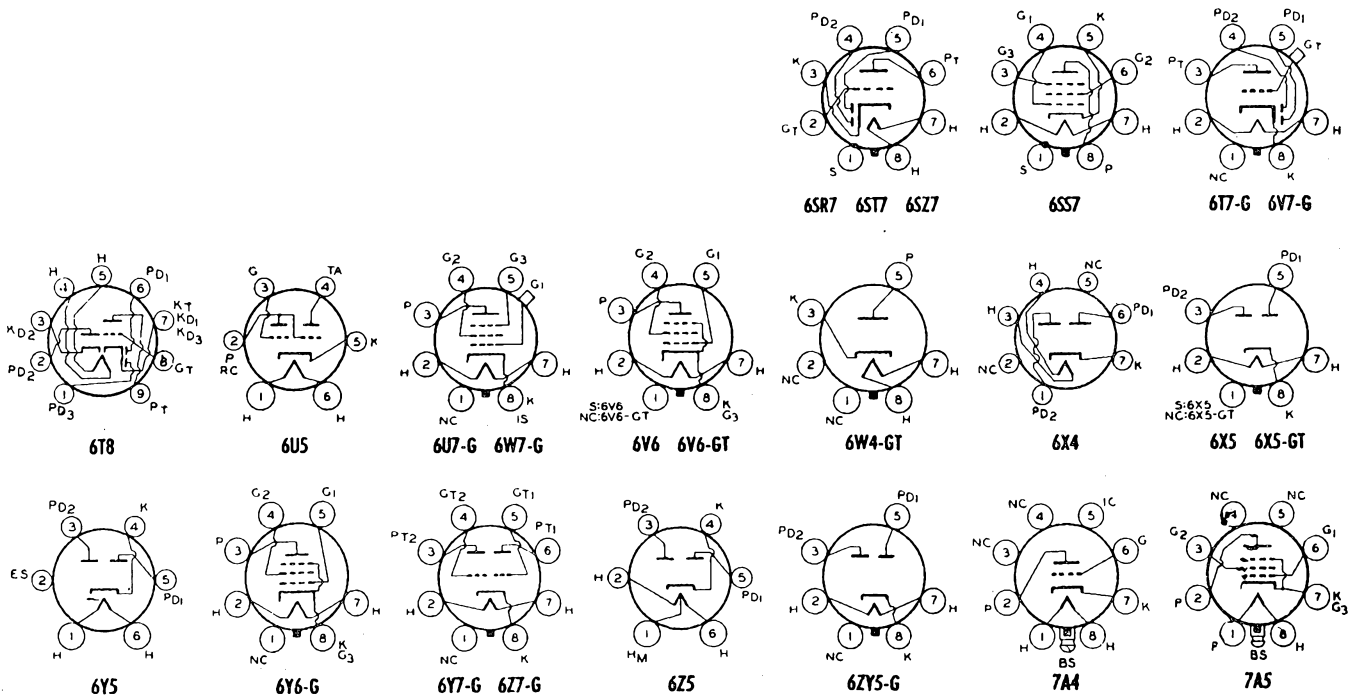
- ◆ For two tubes.
- Megohms.
- For grids of following tube
- Applied through plate resistor of 250000 ohms.
- Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
- ◇ For television damper service



6SR7 to 7A5

Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			G. T.	Volts	Amp.												
6SR7	Duplex-Diode Triode	B2	H	6.3	0.3	250	- 9.0	—	—	9.5	8500	1900	16	10000	0.3	6SR7	
6SS7	Remote-Cutoff Pentode	B2	H	6.3	0.15	100 250	- 1.0 - 3.0	100 100	3.1 2.0	12.2 9.0	120000 1.0§	1930 1850	—	—	—	6SS7	
6ST7	Duplex-Diode Triode	B2	H	6.3	0.15	For other characteristics, refer to Type 6SR7.										6ST7	
6SZ7	Duplex-Diode High-Mu Triode	B2	H	6.3	0.15	100 250	- 1.0 - 3.0	—	—	0.8 1.0	61000 58000	1150 1200	70 70	—	—	6SZ7	
6T7-G	Duplex-Diode High-Mu Triode	D8	H	6.3	0.15	135 250	- 1.5 - 3.0	—	—	0.9 1.2	65000 62000	1000 1050	65 65	—	—	6T7-G	
6T8	Triode-Diode High-Mu Triode	B0a	H	6.3	0.45	100 250	- 1 - 3	—	—	0.8 1.0	54000 58000	1300 1200	70 70	—	—	6T8	
6U5	Electron-Ray Tube	D4	H	6.3	0.3	Plate & Target Supply = 125 volts. Triode Plate Resistor = 0.5 meg. Target Current = 1.0 ma. Grid Bias, -8 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°. Plate Current, 0.19 ma. Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 4.0 ma. Grid Bias, -22 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°. Plate Current, 0.24 ma.										6U5	
6U7-G	Remote-Cutoff Pentode	D12a	H	6.3	0.3	100 250	- 3.0 - 3.0	100 100	2.2 2.0	8.0 8.2	250000 800000	1500 1600	—	—	—	6U7-G	
6V6	Beam Power Amplifier	C2	H	6.3	0.45	180 250 315	- 8.5 - 12.5 - 13.0	180 250 225	3.0 4.5 2.2	29.0 45.0 34.0	58000 52000 77000	3700 4100 3750	—	—	5500 5000 8500	2.0 4.5 5.5	6V6
6V6-GT	Beam Power Amplifier	C3	H	6.3	0.45	250 285	- 15.0 - 19.0	250 285	5.0 4.0	70.0 70.0	—	—	—	—	10000 8000	10.0 14.0	6V6-GT
6V7-G	Duplex-Diode Triode	D8	H	6.3	0.3	For other characteristics, refer to Type 85.										6V7-G	
6W4-GT	Half-Wave Rectifier	C2a	H	6.3	1.2	Max. A-C Plate Volts (RMS), 350 Max. Peak Inverse Volts 3500φ, 1250 Max. D-C Output Ma., 100 Max. Peak Plate Ma., 600 Min. Total Effect. Supply Imped. per Plate, 145 ohms.										6W4-GT	
6W7-G	Sharp-Cutoff Pentode	D8	H	6.3	0.15	250	- 3.0	100	0.5	2.0	1.5§	1225	—	—	—	6W7-G	
6X4	Full-Wave Rectifier	B3	H	6.3	0.6	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210 Min. Total Effect. Supply Imped. per Plate, 150 ohms										6X4	
6X5	Full-Wave Rectifiers	C2	H	6.3	0.6	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210 Min. Value of Input Choke, 8 henries										6X5	
6X5-GT	Full-Wave Rectifiers	C3	H	6.3	0.6	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210 Min. Total Effect. Supply Imped. per Plate, 150 ohms Min. Value of Input Choke, 8 henries										6X5-GT	
6Y5	Full-Wave Rectifier	D5	H	6.3	0.8	Max. A-C Volts per Plate (RMS), 350 Max. D-C Output Ma., 50										6Y5	
6Y6-G	Beam Power Amplifier	D10	H	6.3	1.25	135 200	- 13.5 - 14.0	135 135	3.5 2.2	58.0 61.0	9300 18300	7000 7100	—	—	2000 2600	3.6 6.0	6Y6-G
6Y7-G	Twin-Triode Amplifier	D3	H	6.3	0.6	For other characteristics, refer to Type 79.										6Y7-G	
6Z5	Full-Wave Rectifier	D5	H	6.3	0.8	Max. A-C Volts per Plate (RMS), 230 Max. D-C Output Ma., 60										6Z5	
6Z7-G	Twin-Triode Amplifier	D3	H	6.3	0.3	135 180	0	—	—	Power Output is for one tube at stated plate-to-plate load.				9000 12000	2.5 4.2	6Z7-G	
6ZY5-G	Full-Wave Rectifier	D3	H	6.3	0.3	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 40 Max. Peak Plate Ma., 120 Min. Total Effect. Supply Imped. per Plate, 225 ohms Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 40 Max. Peak Plate Ma., 120 Min. Value of Input Choke, 13.5 henries										6ZY5-G	
7A4	Medium-Mu Triode	B5	H	6.3	0.3	For other characteristics, refer to Type 6J5.										7A4	
7A5	Beam Power Amplifier	C2a	H	6.3	0.75	110 125	- 7.5 - 9.0	110 125	3.0 3.3	40.0 44.0	16000 17000	5800 6000	—	—	2500 2700	1.5 2.2	7A5

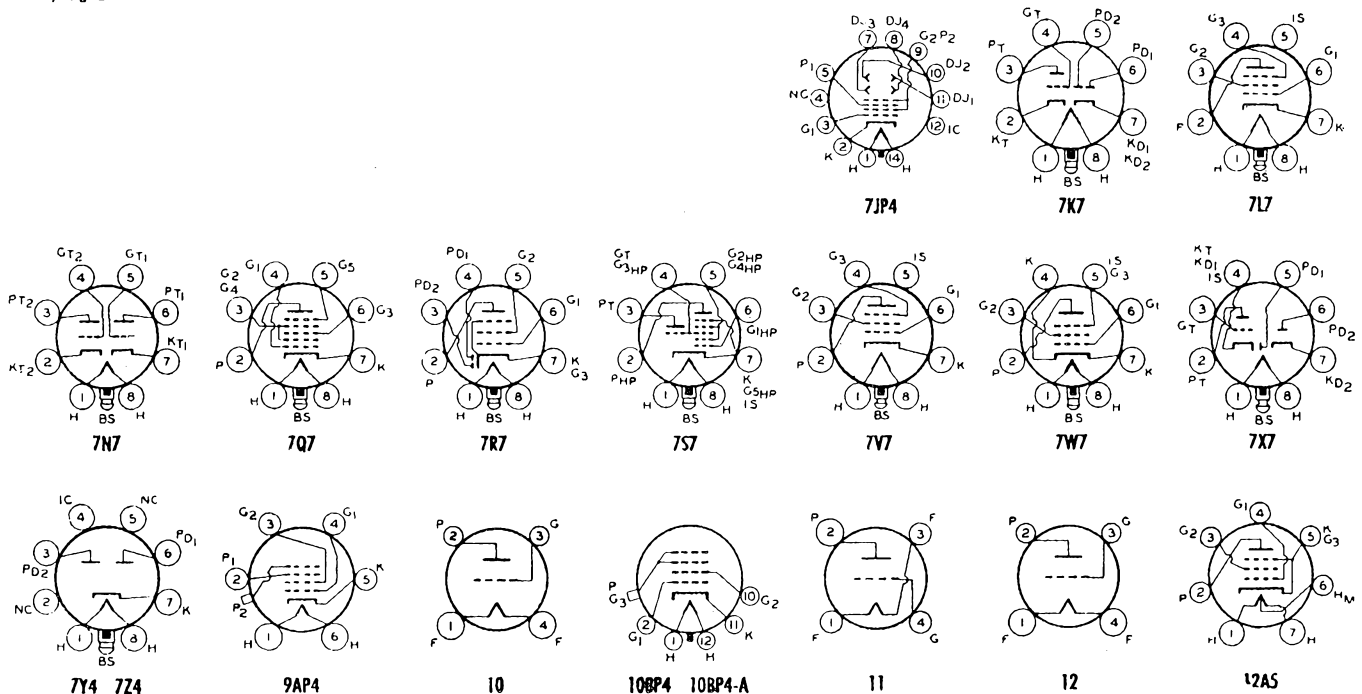
For footnotes, see preceding page



Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts	Am.												
7J4	Directly Viewed Kinescope	J	H	6.3	0.6	Picture Reproduction	Focus: Electrostatic Deflection: Electrostatic Phosphor: No. 4 Size of Picture with Rounded Ends: 4 7/8" x 6 1/2"	Anode-No. 2 and Grid-No. 2 Volts, 6000 (max.) Anode-No. 1 Volts for Focus, 1620 to 2400 (2800 max.) Anode-No. 1 Current Range, -15 to +10 microamperes Grid-No. 1 Volts for Visual Cutoff, -72 to -168 Deflection Factors: DJ, and DJ ₁ (nearer screen), 31 to 41 vdc./in./kv; DJ ₂ and DJ ₃ (nearer base), 25 to 34 vdc./in./kv								7J4	
7K7	Twin-Diode-High-Mu Triode	B8	H	6.3	0.3	Triode Unit as Class A Amplifier	250	-2.0	100	2.4	2.3	44000	1600	70		7K7	
7L7	RF Amplifier Pentode	B5	H	6.3	0.3	Class A Amplifier	100 250	-1.0 -1.5	100 100	2.4 1.5	5.5 4.5	100000 1.0 Ω	3000 3100			7L7	
7N7	Twin-Triode Amplifier	C2a	H	6.3	0.6	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SN7-GT									7N7	
7Q7	Pentagrid Converter	B5	H	6.3	0.3	Converter	100 250	-2.0 -2.0	100 100	8.5 8.5	3.3 3.5	50000 1.0 Ω	Grid #1 Resistor, 20000 ohms. Conversion Transcond., 550 micromhos.			7Q7	
7R7	Duplex-Diode Pentode	B6	H	6.3	0.3	Pentode Unit as Class A Amplifier	100 250	-1.0 -1.0	100 100	2.2 2.1	5.5 5.7	350000 1.0 Ω	3000 3200			7R7	
7S7	Triode-Heptode Converter	B5	H	6.3	0.3	Triode Unit as Oscillator Heptode Unit as Mixer	100 250	-2.0 -2.0	100 100	3.0 3.0	1.9 1.8	50000 1.25 Ω	Triode-Grid & Heptode-Grid Current, 0.3 ma. Triode-Grid & Heptode-Grid Current, 0.4 ma. Conversion Transcond., 500 micromhos. Conversion Transcond., 525 micromhos.			7S7	
7V7	RF Amplifier Pentode	B5	H	6.3	0.45	Class A Amplifier	300		150	3.9	10.0	300000	5800	Cath. Bias Res., 160 ohms		7V7	
7W7	RF Amplifier Pentode	B5	H	6.3	0.45	Class A Amplifier	For other characteristics, refer to Type 7V7.									7W7	
7X7	Twin Diode-High-Mu Triode	C2a	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	0 -1.0		1.2 1.9		85000 67000	1000 1500	85 100		7X7	
7Y4	Full-Wave Rectifier	B5	H	6.3	0.5	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250		Max. D-C Output Ma., 70 Max. Peak Plate Ma., 180		Min. Total Effect. Supply Imped. per Plate, 150 ohms					7Y4	
7Z4	Full-Wave Rectifier	C2a	H	6.3	0.9	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250		Max. D-C Output Ma., 100 Max. Peak Plate Ma., 300		Min. Total Effect. Supply Imped. per Plate, 75 ohms					7Z4	
9AP4	Directly Viewed Kinescope	O	H	2.5	2.1	Picture Reproduction	Focus: Electrostatic Deflection: Magnetic Phosphor: No. 4 Picture Size: 5 3/4" x 7 1/4"	Anode-No. 2 Volts, 7000 (max.) Anode-No. 1 Volts for Focus, 1192 to 1788 (2000 max.) Grid-No. 2 Volts, 250 (300 max.)								Grid-No. 1 Volts for Visual Cutoff, -20 to -60 Grid-No. 1 Signal Voltage, (Peak-to-Peak) value, 30 volts approx.	9AP4
10 Φ	Power Amplifier Triode	E3	F	7.5	1.25	Class A Amplifier	350 425	-32.0 -40.0			16.0 18.0	5150 5000	1550 1600	8.0 8.0	11000 10200	0.9 1.6	10 Φ
10BP4	Directly Viewed Kinescope	This type has clear glass face plate, but in other respects is same as 10BP4-A.															10BP4
10BP4-A	Directly Viewed Kinescope "With Filterglass" Face Plate	M	H	6.3	0.3	Picture Reproduction	Focus: Magnetic Deflection: Magnetic Phosphor: No. 4 Picture Size: 6 1/4" x 9 1/2"	Requires External, Double-Field, Ion-Trap Magnet								Anode Volts, 12000 max. Grid-No. 2 Volts, 250 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -27 to -63 volts Grid-No. 1-Circuit-Resistance, 1.5 megohms max.	10BP4-A
11 12	Detector* Amplifier Triode	D2a D8a	D.C. F	1.1	0.25	Class A Amplifier	90 135	-4.5 -10.5			2.5 3.0	15500 15000	425 440	6.6 6.6		11 12	
12A5	Power Amplifier Pentode	D8	H	6.3	0.6 0.3	Class A Amplifier	100 180	-15.0 -25.0	100 180	3.0 8.0	17.0 45.0	50000 35000	1700 2400		4500 3300	0.8 3.4	12A5

Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
Two vertical rules before or after type No. = Metal type.
One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.
For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.
⊖ Grids #3 and #5 are screen. Grid No. 4 is signal-input grid.

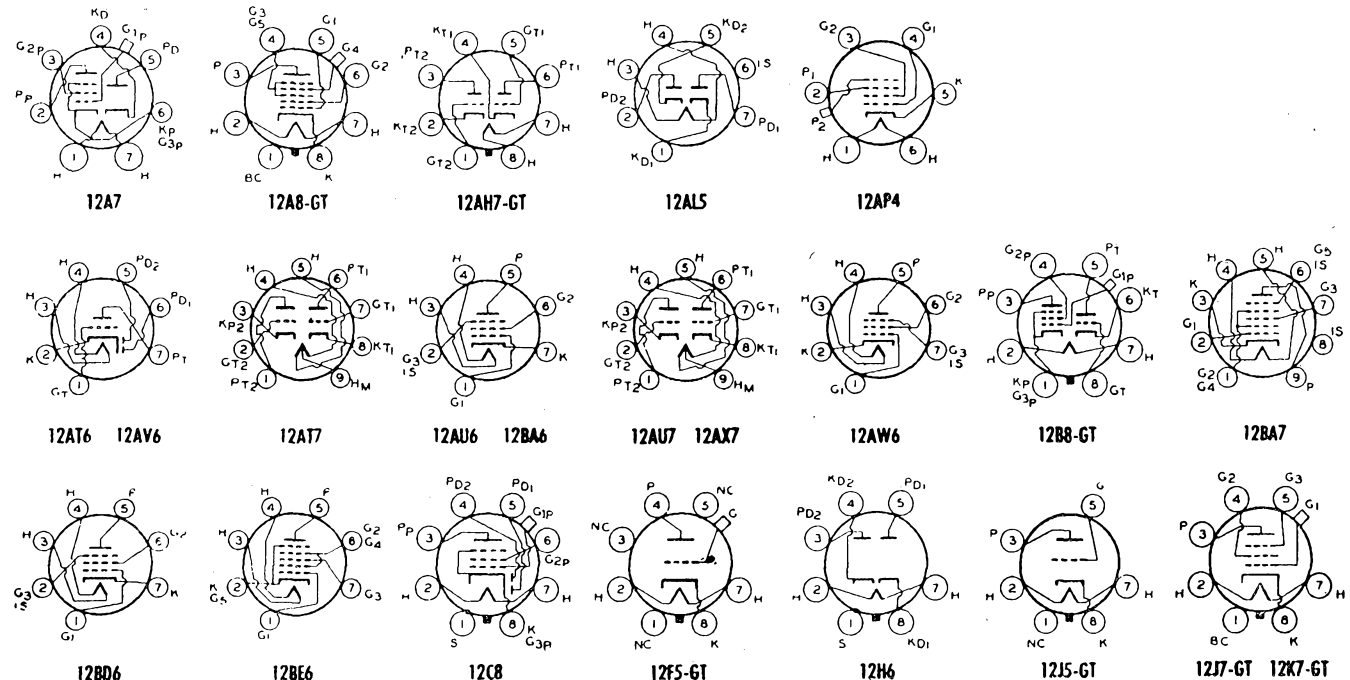
- ▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
- ▲ Supply voltage applied through 20000-ohm voltage-dropping resistor.
- ▲ 50000 ohms.
- § Megohms.
- Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
- Ⓢ Superseded by 10-Y. See Power and Gas Tubes Booklet PG-101A.



12A7 to 12K7-GT

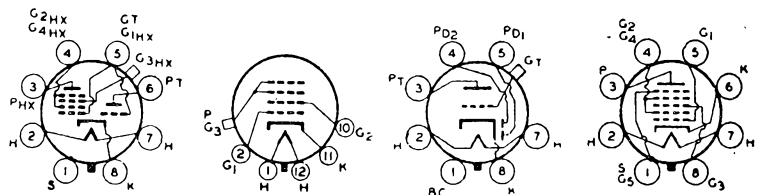
Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts	App.												
12A7	Rectifier-Pentode	D9	H	12.6	0.3												12A7
12A8-GT	Pentagrid Converter	C3	H	12.6	0.15												12A8-GT
12A7-GT	Twin Triode	C0a	H	12.6	0.15												12A7-GT
12AL5	Twin-Diode	A1	H	12.6	0.15												12AL5
12AP4	Directly Viewed Kinescope	Q	H	2.5	2.1												12AP4
12AT6	Duplex-Diode High-Mu Triode	B0	H	12.6	0.15												12AT6
12A77	High-Mu Twin Triode	B0a	H	6.3	0.3												12A77
12AU6	RF Amplifier Pentode	B0	H	12.6	0.15												12AU6
12AU7	Twin-Triode Amplifier	B0a	H	6.3	0.3												12AU7
12AV6	Twin-Diode High-Mu Triode	B0	H	12.6	0.15												12AV6
12AW6	RF Amplifier Pentode	B0	H	12.6	0.15												12AW6
12AX7	High-Mu Twin Triode	B0a	H	6.3	0.3												12AX7
12B8-GT	Triode-Pentode	C10a	H	12.6	0.3												12B8-GT
12BA6	RF Amplifier Pentode	B0	H	12.6	0.15												12BA6
12BA7	Pentagrid Converter	B0a	H	12.6	0.15												12BA7
12BD6	Remote-Cutoff Pentode	B0	H	12.6	0.15												12BD6
12BE6	Pentagrid Converter	B0	H	12.6	0.15												12BE6
12C8	Duplex-Diode Pentode	C1	H	12.6	0.15												12C8
12F5-GT	High-Mu Triode	C2b	H	12.6	0.15												12F5-GT
12H6	Twin-Diode	A1a	H	12.6	0.15												12H6
12J5-GT	Medium-Mu Triode	C3	H	12.6	0.15												12J5-GT
12J7-GT	Sharp-Cutoff Pentode	C3	H	12.6	0.15												12J7-GT
12K7-GT	Remote-Cutoff Pentode	C3	H	12.6	0.15												12K7-GT

For footnotes, see following page.

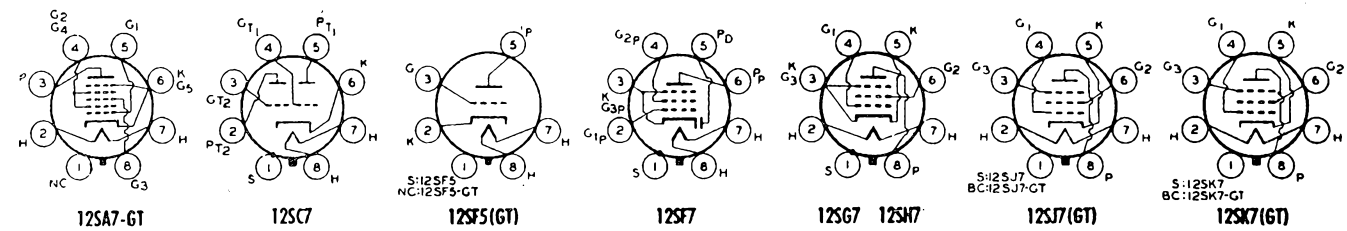


Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type		
			C. T.	Volts	Amp.														
12K8	Triode-Hexode Converter	C1	H	12.6	0.15	Oscillator Mixer	For other characteristics, refer to Type 6K8										12K8		
12LP4	Directly Viewed Kinescope	This type has clear glass face plate, but in other respects is same as 12LP4-A														12LP4			
12LP4-A	Directly Viewed Kinescope With "Filterglass" Face Plate	N	H	6.3	0.6	Picture Reproduction	Focus: Magnetic Deflection: Magnetic Deflection Angle: 57° Phosphor: No. 4 Size of Picture with Rounded Ends: 8 1/2" x 11 1/8"			Requires External Double-Field Ion-Trap Magnet		Anode Volts, 12000 max Grid-No. 2 Volts, 250 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -27 to -63 volts Grid-No. 1—Circuit Resistance, 1.5 megohms max.			12LP4-A				
12Q7-GT	Duplex-Diode High-Mu Triode	C3	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6Q7.										12Q7-GT		
12SA7	Pentagrid Converter	B2	H	12.6	0.15	Mixer	For other characteristics, refer to Type 6SA7										12SA7		
12SA7-GT	Pentagrid Converter	C3	H	12.6	0.15	Mixer	For other characteristics, refer to Type 6SA7.										12SA7-GT		
12SC7	Twin-Triode Amplifier	B2	H	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SC7.										12SC7		
12SF5	High-Mu Triode	B2	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SF5.										12SF5		
12SF5-GT	High-Mu Triode	C3	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SF5.										12SF5-GT		
12SF7	Diode-Remote-Cutoff Pentode	B2	H	12.6	0.15	Pentode Unit as Amplifier	For other characteristics, refer to Type 6SF7.										12SF7		
12SG7	Semi-Remote-Cutoff Pentode	B2	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SG7										12SG7		
12SH7	Sharp-Cutoff Pentode	B2	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SH7										12SH7		
12SJ7	Sharp-Cutoff Pentodes	B2	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7.										12SJ7		
12SJ7-GT	Sharp-Cutoff Pentodes	C3	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7.										12SJ7-GT		
12SK7	Remote-Cutoff Pentodes	B2	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SK7.										12SK7		
12SK7-GT	Remote-Cutoff Pentodes	C3	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SK7.										12SK7-GT		
12SL7-GT	Twin-Triode Amplifier	C3	H	12.6	0.15	Each Unit as Amplifier	For other characteristics, refer to Type 6SL7-GT										12SL7-GT		
12SN7-GT	Twin-Triode Amplifier	C3	H	12.6	0.3	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.										12SN7-GT		
12SQ7	Duplex-Diode High-Mu Triode	B2	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										12SQ7		
12SQ7-GT	Duplex-Diode High-Mu Triode	C3	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										12SQ7-GT		
12SR7	Duplex-Diode Triode	B2	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.										12SR7		
12SR7-GT	Duplex-Diode Triode	C3	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.										12SR7-GT		
12S8-GT	Triple-Diode-High-Mu Triode	C8s	H	12.6	0.15	Triode Unit as Class A Amplifier With Capacitive-Input Filter	100 250	-1 -2	—	—	0.4 0.9	110000 91000	900 1100	100 100	—	—	—	—	12S8-GT
12Z3	Half-Wave Rectifier	D8	H	12.6	0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Max. D-C Output Ma., 55 Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 235 volts, 75 ohms.										12Z3		
14A4	Medium-Mu Triode	B5	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6J5.										14A4		
14A5	Beam Power Amplifier	B5	H	12.6	0.15	Class A Amplifier	250	-12.5	250	3.5	30	70000	3000	—	7500	2.8	—	14A5	
14A7	Remote-Cutoff Pentode	B5	H	12.6	0.15	Class A Amplifier	100 250	-1.0 -3.0	100 100	4.0 2.6	13.0 9.2	120000 800000	2350 2000	—	—	—	—	14A7	

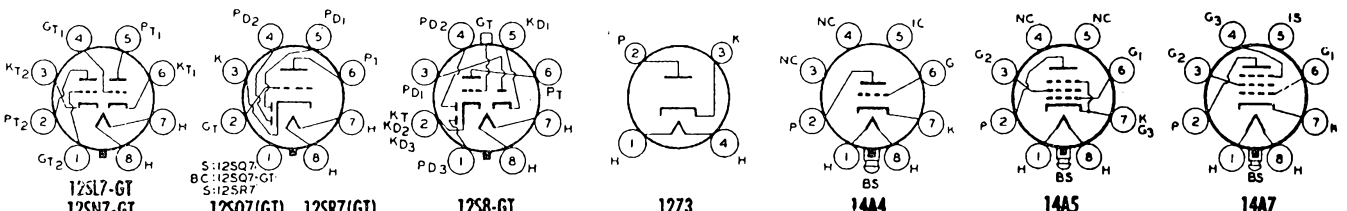
Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
 Two vertical rules before or after type No. = Metal type.
 One vertical rule before or after type No. = GT or other larger glass type.
 Light Face = Discontinued type.
 For key to tube dimensions and legend for base and envelope connection diagrams, see page 23.
 • Grids #3 and #5 are screen. Grid No. 4 is signal-input grid.
 □ Grid #2 tied to plate
 ▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
 ** For grid of following tube.
 ■ Applied through plate resistor of 250000 ohms.
 ■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.



12K8 12LP4 12LP4-A 12Q7-GT 12SA7



12SA7-GT 12SC7 12SF5(GT) 12SF7 12SG7 12SH7 12SJ7(GT) 12SK7(GT)



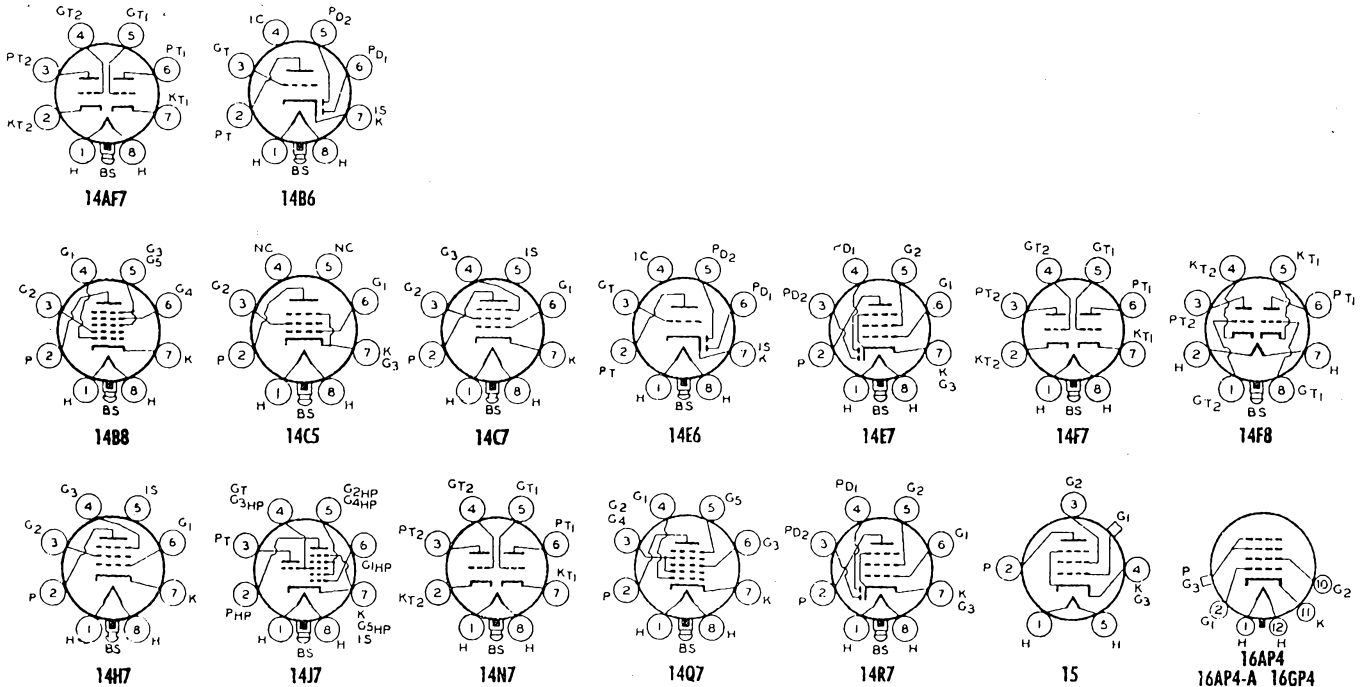
12SL7-GT 12SN7-GT 12SQ7(GT) 12SR7(GT) 12S8-GT 12Z3 14A4 14A5 14A7

14AF7 to 16GP4

Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current mA	Plate Current mA	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C. Y.	Volts	Amp.												
14AF7	Medium-Mu Twin Triode	85	H	12.6	0.15	For other characteristics, refer to Type 7AF7.										14AF7	
14B6	Duplex-Diode High-Mu Triode	85	H	12.6	0.15	For other characteristics, refer to Type 6SQ7.										14B6	
14B8	Pentagrid Converter	85	H	12.6	0.15	For other characteristics, refer to Type 6A8.										14B8	
14C5	Beam Power Amplifier	C2a	H	12.6	0.225	180 315	- 8.5 -13	180 225	3.0 2.2	29.0 34.0	58000 77000	3700 3750	5500 8500	2 5.5	14C5		
14C7	Sharp-Cutoff Pentode	85	H	12.6	0.15	For other characteristics, refer to Type 6SJ7.										14C7	
14E6	Duplex-Diode Triode	85	H	12.6	0.15	For other characteristics, refer to Type 6SR7.										14E6	
14E7	Twin-Diode-Remote-Cutoff Pentode	85	H	12.6	0.15	100 250	- 1 - 3	100 100	2.7 1.6	10.0 7.5	150000 700000	1600 1300			14E7		
14F7	Twin-Triode Amplifier	85	H	12.6	0.15	For other characteristics, refer to Type 6SL7-GT.										14F7	
14F8	Medium-Mu Twin Triode	80b	H	12.6	0.15	250	Cathode-Bias Res., 500 ohms			6.0		3300	48		14F8		
14H7	Remote-Cutoff Pentode	85	H	12.6	0.15	For other characteristics, refer to Type 7H7.										14H7	
14J7	Triode-Heptode Converter	85	H	12.6	0.15	For other characteristics, refer to Type 7J7.										14J7	
14N7	Twin-Triode Amplifier	C2a	H	12.6	0.3	For other characteristics, refer to Type 6SN7-GT.										14N7	
14Q7	Pentagrid Converter	85	H	12.6	0.15	For other characteristics, refer to Type 6SA7.										14Q7	
14R7	Duplex-Diode Pentode	85	H	12.6	0.15	For other characteristics, refer to Type 7R7.										14R7	
15	RF Amplifier Pentode	09	D.C. H	2.0	0.22	67.5 135	- 1.5 - 1.5	67.5 67.5	0.3 0.3	1.85 1.85	630000 800000	710 750			15		
16AP4	Directly Viewed Kinescope	P	H	6.3	0.6	Except for its clear glass face plate, 27-inch face plate radius, and maximum overall length of 22 $\frac{3}{8}$ " this type is same as 16AP4-A										16AP4	
16AP4-A	Directly Viewed Kinescope	P0	H	6.3	0.6	Picture Reproduction		Focus: Magnetic Deflection: Magnetic Deflection Angle: 53° Phosphor: No. 4 Size of Picture with Rounded Ends: 11" x 14 $\frac{3}{8}$ "			Requires External, Double-Field, Ion-Trap Magnet		Anode Volts, 14000 max. Grid-No. 2 Volts, 300 (410 max.) Grid-No. 1 Volts for Visual Cutoff, -33 to -77 volts Grid-No. 1—Circuit Resistance, 1.5 megohms max.			16AP4-A	
16GP4	Directly Viewed Kinescope	L	H	6.3	0.6	Picture Reproduction		Focus: Magnetic Deflection: Magnetic Deflection Angle: 70° Phosphor: No. 4 Size of Picture with Rounded Ends: 11" x 14 $\frac{3}{8}$ "			Requires External, Single-Field, Ion-Trap Magnet		Anode Volts, 14000 max. Grid-No. 2 Volts, 300 (410 max.) Grid-No. 1 Volts, for Visual-Cutoff, -33 to -77 volts Grid-No. 1—Circuit Resistance, 1.5 megohms max.			16GP4	

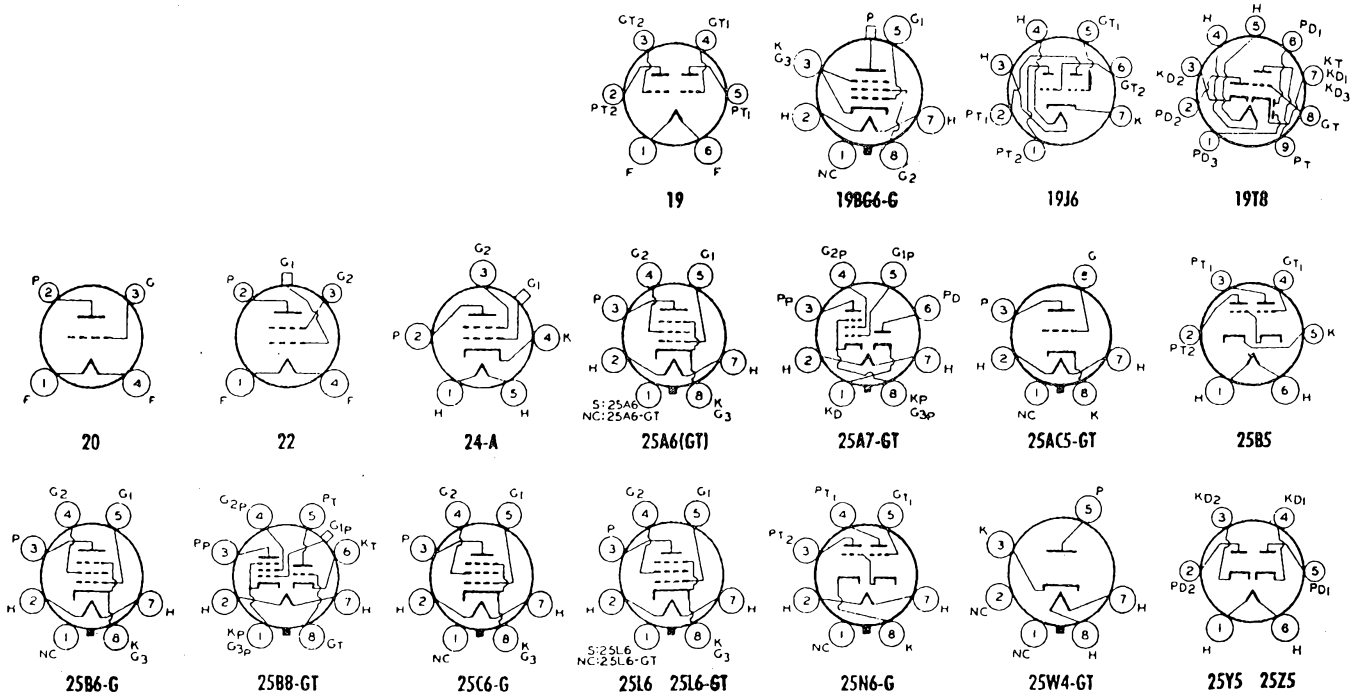
Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
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One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.
For key to tube dimensions and legend for base and envelope connection diagrams, see page 23.
Grids #3 and #5 are screen. Grid No. 4 is signal-input grid.

▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
◆ For two tubes.
✱ Applied through plate resistor of 250000 ohms.
■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
* Maximum.
Value is for both units operating at the specified conditions.



Type	Name	Tube Dimensions	Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type					
			C.T.	Volts													Amp.				
19	Twin-Triode Amplifier	D5	D.C. F	2.0	0.26	For other characteristics, refer to Type 1J6-G.										19					
19BG6-G	Beam Power Amplifier	F1	H	18.9	0.3	Horizontal Deflection Amplifier in TV Equipment					Max. DC Plate Volts, 500 Max. DC Plate Current, 100 ma.					Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 20 watts					19BG6-G
19J6	Medium-Mu Twin Triode	B0	H	18.9	0.15	Each Unit as Class A Amplifier		Cathode-Bias Res., 50 ω ohms		For other characteristics, refer to Type 6T8.						19J6					
19T8	Triple-Diode High-Mu Triode	B0a	H	18.9	0.15	Triode Unit as Class A Amplifier		For other characteristics, refer to Type 6T8.										19T8			
20	Power Amplifier Triode	D1	D.C. F	3.3	0.132	Class A Amplifier		90 135	-16.5 -22.5	—	—	3.0 6.5	8000 6300	415 525	3.3 3.3	9600 6500	0.045 0.110	20			
22	RF Amplifier Tetrode	E1	D.C. F	3.3	0.132	Screen-Grid RF Amplifier		135 135	-1.5 -1.5	45 67.5	0.6* 1.3*	1.7 3.7	725000 325000	375 500	—	—	—	22			
24-A	RF Amplifier Tetrode	E1	H	2.5	1.75	Screen-Grid RF Amplifier		180 250	-3.0 -3.0	90 90	1.7* 1.7*	4.0 4.0	400000 600000	1000 1050	—	—	—	24-A			
25A6	Power Amplifier Pentode	C2	H	25.0	0.3	Class A Amplifier		95 160	-15.0 -18.0	95 120*	4.0 6.5	20.0 33.0	45000 42000	2000 2375	—	4500 5000	0.9 2.2	25A6			
25A6-GT	Power Amplifier Pentode	C3	H	25.0	0.3	Class A Amplifier		For other characteristics, refer to Type 25A6.										25A6-GT			
25A7-GT	Rectifier Pentode	C3	H	25.0	0.3	Pentode Unit as Class A Amplifier		100	-15.0	100	4.0	20.5	50000	1800	—	4500	0.77	25A7-GT			
25AC5-GT	High-Mu Power Amplifier Triode	C3	H	25.0	0.3	Half-Wave Rectifier		Max. A-C Plate Volts (RMS), 117		Max. D-C Output Ma., 75		Max. D-C Output Ma., 75		Min. Total Effect Supply Impedance, 15 ohms.		2000	2.0	25AC5-GT			
						Class B Amplifier		Max. Peak Inverse Volts, 350		Max. Peak Plate Ma., 450		4.0 ϕ		4800					6.0		
25B5	Direct-Coupled Power Amplifier	D0a	H	25.0	0.3	Class B Amplifier		Bias for both 25AC5-GT and 6AE5-GT developed in circuit. Average Plate Current of Driver = 7 milliamperes. Average Plate Current of 25AC5-GT = 45 milliamperes.										25B5			
25B6-G	Power Amplifier Pentode	D10	H	25.0	0.3	Class A Amplifier		105 200	-16.0 -23.0	105 135	2.0 1.8	48.0 62.0	15500 18000	4800 5000	—	1700 2500	2.4 7.1	25B6-G			
25B8-GT	Triode-Pentode	C3	H	25.0	0.15	Triode Unit as Class A Amplifier		100	-1.0	—	—	0.6	75000	1500	112	—	—	25B8-GT			
25C6-G	Beam Power Amplifier	D10	H	25.0	0.3	Class A Amplifier		100		-3.0	100	2.0	7.6	185000	2000	—	—	25C6-G			
25L6	Beam Power Amplifier	C2	H	25.0	0.3	Class A Amplifier		110 200	-7.5 -8.0	110 110	4.0 2.0	49.0 50.0	13000 30000	9000 9500	—	2000 3000	2.1 4.3	25L6			
25L6-GT	Beam Power Amplifier	C3	H	25.0	0.3	Class A Amplifier		For other characteristics, refer to Type 50L6-GT.										25L6-GT			
25N6-G	Direct-Coupled Power Amplifier	D0	H	25.0	0.3	Class A Amplifier		Output Triode: Plate Volts, 180; Plate Ma., 46; Load, 4000 ohms. Triode: Plate Volts, 100; Grid Volts, 0; A-F Signal Volts (Peak), 29.7; Plate Ma., 5.8.							3.8	25N6-G					
25W4-GT	Half-Wave Rectifier	C2b	H	25.0	0.3	For other characteristics, refer to Type 6W4-GT.										25W4-GT					
25Y5	Rectifier-Doubler	D8	H	25.0	0.3	Half-Wave Rectifier		Max. A-C Volts per Plate (RMS), 235 Max. D-C Output Ma. per Plate, 75							Min. Total Effective Plate-Supply Impedance per Plate, 0 ohms.		25Y5				
25Z5	Rectifier-Doubler	D8	H	25.0	0.3	For other ratings, refer to Type 25Z6.										25Z5					

For footnotes, see preceding page.

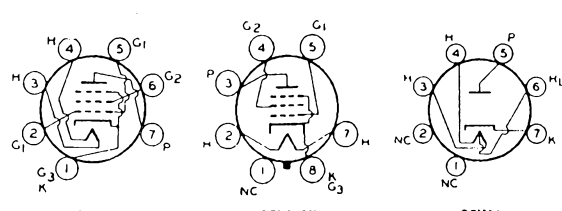
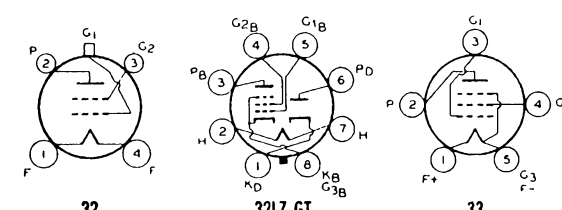
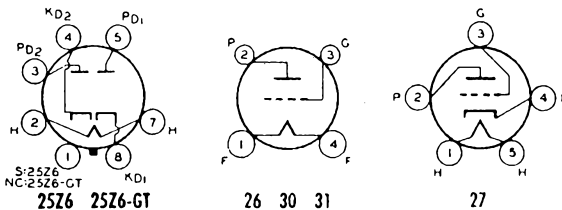


25Z6 to 35Z5-GT

Type	Name	Tube Dimensions	Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type	
			C.T.	Volts													Amp.
25Z6 25Z6-GT	Vacuum Rectifier-Doublers	C2 C3	H	25.0	0.3	Voltage Doubler		Max. A-C Volts per Plate (RMS), 117 Max. D-C Output Ma., 75							25Z6		
						Half-Wave Rectifier		Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms.								25Z6-GT	
26	Amplifier Triode	D12	F	1.5	1.05	Class A Amplifier	90 180	- 7.0 - 14.5	—	—	2.9 6.2	8900 7300	935 1150	8.3 8.3	—		26
27	Detector* Amplifier Triode	D5	H	2.5	1.75	Class A Amplifier	135 250	- 9.0 - 21.0	—	—	4.5 5.2	9000 9250	1000 975	9.0 9.0	—	27	
						Bias Detector	250	{ - 30.0 } [approx.]	Plate current to be adjusted to 0.2 milliampere with no signal.								
30	Medium-Mu Triode	D5	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1H4-G.									30	
31	Power Amplifier Triode	D5	D.C. F	2.0	0.13	Class A Amplifier	135 180	- 22.5 - 30.0	—	—	8.0 12.3	4100 3600	925 1050	3.8 3.8	7000 5700	0.185 0.375	31
						Screen-Grid RF Amplifier	135 180	- 3.0 - 3.0	67.5 67.5	0.4 0.4	1.7 1.7	950000 1.0+§	640 650	—	—	—	
32	RF Amplifier Tetrode	E1	D.C. F	2.0	0.06	Class A Amplifier	90 180	- 5.0 - 7.0	90 90	3.0 2.0	38.0 27.0	15000 17000	6000 4800	—	2600 2600	0.8 1.0	32
						Bias Detector	180	{ - 6.0 } [approx.]	67.5	Plate current to be adjusted to 0.2 milliampere with no signal.							
32L7-GT	Rectifier-Beam Power Amplifier	C3	H	32.5	0.3	Amplifier Unit as Class A Amplifier	90 90	- 5.0 - 7.0	90 90	3.0 2.0	38.0 27.0	15000 17000	6000 4800	—	2600 2600	0.8 1.0	32L7-GT
						Half-Wave Rectifier	Maximum A-C Plate Voltage 125 Volts, RMS Maximum D-C Output Current 60 Milliamperes.										
33	Power Amplifier Pentode	D12	D.C. F	2.0	0.26	Class A Amplifier	180	- 18.0	180	5.0	22.0	55000	1700	—	6000	1.5	33
34	Supercontrol RF Amplifier Pentode	E1	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	{ - 3.0 } [min.]	67.5 67.5	1.0 1.0	2.8 2.8	600000 1.0§	600 620	—	—	34	
						Screen-Grid RF Amplifier	180 250	{ - 3.0 } [min.]	90 90	2.5* 2.5*	6.3 6.5	300000 400000	1020 1050	—	—		
35A5	Beam Power Amplifier	C2a	H	35.0	0.15	Single-Tube Class A Amplifier	For other characteristics, refer to Type 35L6-GT.									35A5	
35B5	Beam Power Amplifier	B3	H	35.0	0.15	Class A Amplifier	For other characteristics, refer to Type 35C5.									35B5	
35C5	Beam Power Amplifier	B3	H	35.0	0.15	Class A Amplifier	110	- 7.5	110	3.0	40.0	13000	5800	—	2500	1.5	35C5
35L6-GT	Beam Power Amplifier	C3	H	35.0	0.15	Single-Tube Class A Amplifier	110 200	- 7.5 - 8.0	110 125	3.0 2.0	40.0 43.0	14000 34000	5800 6100	—	2500 5000	1.5 3.3	35L6-GT
						With Capacitive-Input Filter	Max A-C Plate Volts (RMS), 117 Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100										
35W4	Half-Wave Rectifier Heater Tap for Pilot	B3	H	35.0	0.15	With Capacitive-Input Filter	For other characteristics, refer to Type 35W4.									35W4	
35Y4	Half-Wave Rectifier	C2a	H	35.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z4-GT.									35Y4	
35Z3	Half-Wave Rectifier	C2a	H	35.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z4-GT.									35Z3	
35Z4-GT	Half-Wave Rectifier	C3	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Max. D-C Output Ma., 100		Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms.							35Z4-GT	
35Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C3	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.		Min. Total Effective Plate-Supply Imped.: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms. Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.							35Z5-GT	

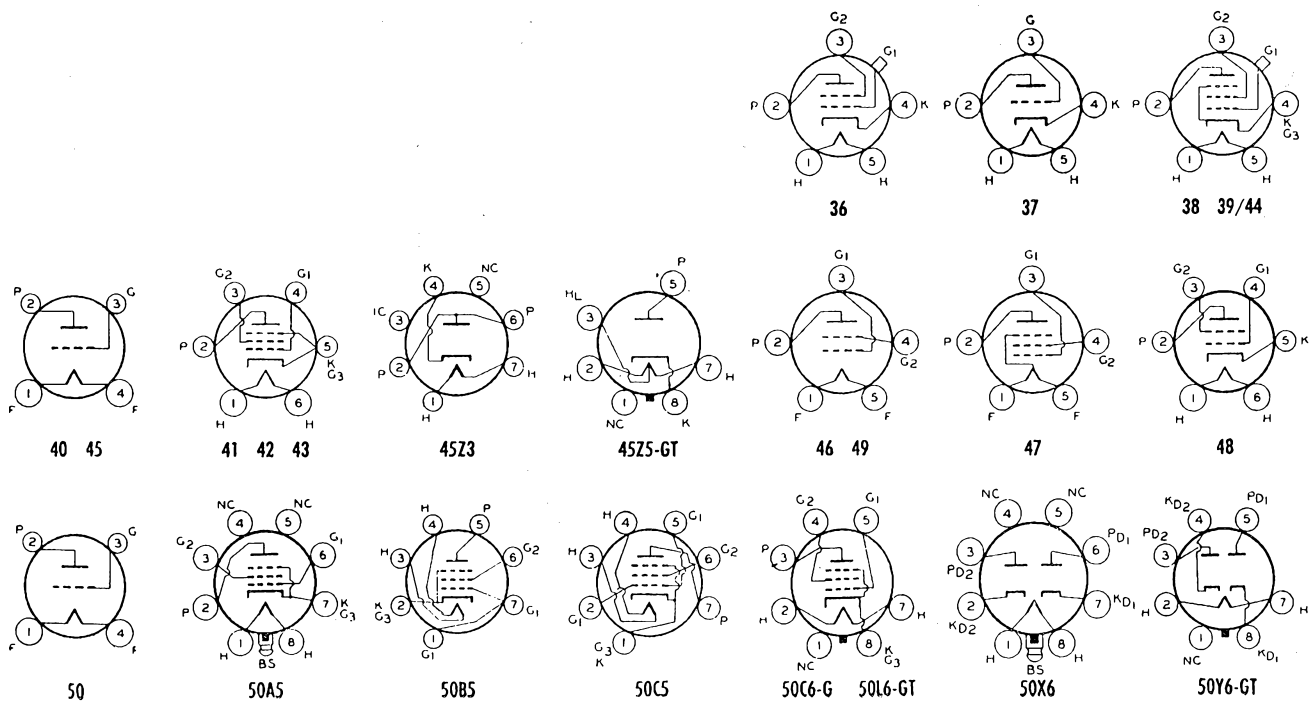
Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
Two vertical rules before or after type No. = Metal type.
One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.
For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.
† Power output is for two tubes at stated plate-to-plate load.
□ Grid # 2 tied to plate.
◆ For two tubes

§ Megohms.
Note 2: Subscript 2 on class of amplifier service (as AB₂) indicates that grid current flows during some part of input cycle.
** For grid of following tube.
✱ Applied through plate resistor of 250000 ohms.
■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
♥ Applied through plate resistor of 100000 ohms.
♦ Grids # 1 and # 2 tied together.
‡ Panel lamp section is between pins 2 and 7.
• Maximum.



Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ hos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C. T.	Yells	Amp.												
36	RF Amplifier Tetrode	D9	H	6.3	0.3	Screen-Grid RF Amplifier	100 - 1.5	55	1.7*	1.8	550000	850	—	—	—	36	
						Bias Detector	250 - 3.0	90	3.2	550000	1080	Grid-bias values are approximate. Plate current to be adjusted to 0.1 milliampere with no signal.					
37	Detector* Amplifier Triode	D5	H	6.3	0.3	Class A Amplifier	90 - 6.0	—	—	2.5	11500	800	9.2	—	37		
						Bias Detector	250 - 18.0	—	—	7.5	8400	1100	9.2	Grid-bias values are approximate. Plate current to be adjusted to 0.2 milliampere with no signal.			
38	Power Amplifier Pentode	D9	H	6.3	0.3	Class A Amplifier	90 - 5.0	100	1.2	7.0	140000	875	—	15000	0.27	38	
250 - 25.0	250	3.8	22.0	100000	1200	10000	2.50	—	—	—	—	—					
39/44	Remote-Cutoff Pentode	D9	H	6.3	0.3	Class A Amplifier	90 { - 3.0 } 250 { min. }	90	1.6	5.6	400000	1000	—	—	39/44		
250	90	1.4	5.8	1.05	1050	—	—	—	—	—	—	—					
40	Medium-Mu Triode	D12	D.C. F	5.0	0.25	Class A Amplifier	135* - 1.5	—	—	0.2	150000	200	30	—	40		
180*	180*	—	—	0.2	150000	200	30	—	—	—	—	—					
41	Power Amplifier Pentode	D5	H	6.3	0.4	Amplifier	For other characteristics, refer to Type 6K6-GT.										41
42	Power Amplifier Pentode	D12	H	6.3	0.7	Amplifier	For other characteristics, refer to Type 6F6-G.										42
43	Power Amplifier Pentode	D12	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 25A6.										43
45	Power Amplifier Triode	D12	F	2.5	1.5	Class A Amplifier	180 - 31.5	—	—	31.0	1650	2125	3.5	2700	0.82	45	
						275 - 56.0	275	36.0	1700	2050	3.5	4600	2.00				
45Z3	Half-Wave Rectifier	B0	H	45.0	0.075	Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117		Max. D-C Output Ma., 65		Min. Total Effect. Plate-Supply Imped., 15 ohms.		Max. Peak Inverse Volts, 350		Max. Peak Plate Ma., 390		45Z3
45Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C3	H	45.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z5-GT.										45Z5-GT
46	Dual-Grid Power Amplifier	E3	F	2.5	1.75	Class A Amplifier	250 - 33.0	—	—	22.0	2380	2350	5.6	6400	1.25	46	
						Class B Amplifier	300 0	—	—	8.0	—	—	—	5200	16.0		
47	Power Amplifier Pentode	E3	F	2.5	1.75	Class A Amplifier	250 - 16.5	250	6.0	31.0	60000	2500	—	7000	2.7	47	
48	Power Amplifier Tetrode	E3	D.C. H	30.0	0.4	Tetrode Class A Amplifier	96 - 19.0	96	9.0	52.0	—	3800	—	1500	2.0		
48	Power Amplifier Tetrode	E3	D.C. H	30.0	0.4	Tetrode Class A Amplifier	125 - 20.0	100	9.5	56.0	—	3900	—	1500	2.5	48	
49	Dual-Grid Power Amplifier	D12	D.C. F	2.0	0.12	Tetrode Push-Pull Class A Amplifier	125 - 20.0	100	—	100.0	—	—	—	3000	5.0		
49	Dual-Grid Power Amplifier	D12	D.C. F	2.0	0.12	Class A Amplifier	135 - 20.0	—	—	6.0	4175	1125	4.7	11000	0.17	49	
						Class B Amplifier	180 0	—	—	4.0	—	—	—	12000	3.5		
50	Power Amplifier Triode	F1a	F	7.5	1.25	Class A Amplifier	300 - 54.0	—	—	35.0	2000	1900	3.8	4600	1.6	50	
						400 - 70.0	—	—	55.0	1800	2100	3.8	3670	3.4			
450	450	—	—	55.0	1800	2100	3.8	4350	4.6	—	—	—	—	—			
50A5	Beam Power Amplifier	C2a	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50L6-GT.										50A5
50B5	Beam Power Amplifier	B3	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50C5.										50B5
50C5	Beam Power Amplifier	B3	H	50.0	0.15	Class A Amplifier	110 - 7.5	110	4.0	49.0	10000	7500	—	2500	1.9	50C5	
50C6-G	Beam Power Amplifier	D10	H	50.0	0.15	Single-Tube Class A Amplifier	135 - 13.5	135	3.5	58.0	9300	7000	—	2000	3.6		
50C6-G	Beam Power Amplifier	D10	H	50.0	0.15	Single-Tube Class A Amplifier	200 - 14.0	135	2.2	61.0	18300	7100	—	2600	6.0	50C6-G	
50L6-GT	Beam Power Amplifier	C3	H	50.0	0.15	Single-Tube Class A Amplifier	110 - 7.5	110	4.0	49.0	13000	8000	—	2000	2.1		
50L6-GT	Beam Power Amplifier	C3	H	50.0	0.15	Single-Tube Class A Amplifier	200 0	125	2.2	46.0	28000	8000	—	4000	3.8	50L6-GT	
50X6	Rectifier-Doubler	C2a	H	50.0	0.15	Rectifier-Doubler	Max. A-C Volts per Plate (RMS), 117 Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms.										50X6
50X6	Rectifier-Doubler	C3	H	50.0	0.15	Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235 Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms.										
50Y6-GT	Rectifier-Doubler	C3	H	50.0	0.15	Rectifier-Doubler	For other ratings, refer to Type 25Z6.										50Y6-GT

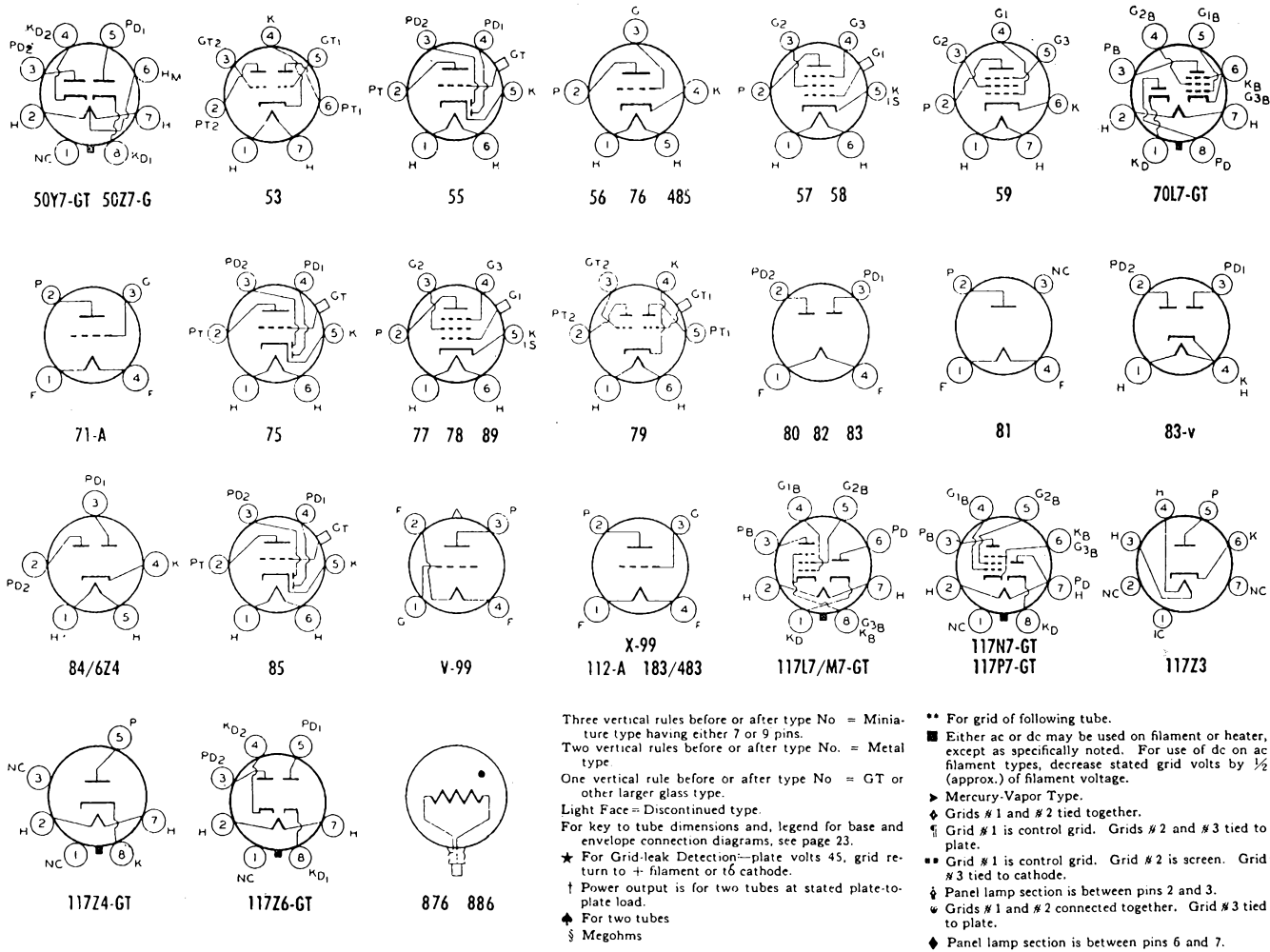
For footnotes, see preceding page.



50Y7-GT to 886

Type	Name	Tube Dimensions	Cathode Type and Rating		Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type	
			C. T.	Volts													Amp.
50Y7-GT	Rectifier-Doubler Heater Tap for Pilot	C2b	H	50.0	0.15	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117 Max. D-C Output ma., 65									Min. Total Effective Plate-Supply Impedance per Plate, 15 ohms	50Y7-GT
							Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235 Max. D-C Output ma. per Plate, 65									
50Z7-G	Rectifier-Doubler Heater Tap for Pilot	D3	H	50.0	0.15	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117 Max. D-C Output Ma., 65									Min. Total Effective Plate-Supply Impedance: 15 ohms.	50Z7-G
							Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235 Max. D-C Output Ma. per Plate, 65									
53	Twin-Triode Amplifier	D12	H	2.5	2.0	For other characteristics, refer to Type 6N7-GT.									53		
55	Duplex-Diode Triode	D0	H	2.5	1.0	For other characteristics, refer to Type 85.									55		
56	Medium-Mu Triode*	D5	H	2.5	1.0	For other characteristics, refer to Type 76.									56		
57	Sharp-Cutoff Pentode	D13	H	2.5	1.0	For other characteristics, refer to Type 6J7.									57		
58	Remote-Cutoff Pentode	D13	H	2.5	1.0	For other characteristics, refer to Type 6U7-G.									58		
59	Triple-Grid Power Amplifier	E3	H	2.5	2.0	Triode*	250	-28.0	—	—	26.0	2300	2600	6.0	5000	1.25	59
						Pentode**	250	-18.0	250	9.0	35.0	55000	2500	—	6000	3.0	
						Class A Amplifier	300	0	—	—	20.0	—	—	—	4600	15.0†	
						Class B Amplifier	400	0	—	—	26.0	—	—	—	6000	20.0†	
70L7-GT	Rectifier-Beam Power Amplifier	C10	H	70.0	0.15	Amplifier Unit as Class A Amplifier	110	-7.5	110	3.0	40.0	15000	7500	—	2000	1.8	70L7-GT
						Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350									Max. D-C Output Ma., 70 Max. Peak Plate Ma., 420	
71-A	Power Amplifier Triode	D12	F	5.0	0.25	Class A Amplifier	90	-16.5	—	—	10.0	2170	1400	3.0	3000	0.125	71-A
75	Duplex-Diode High-Mu Triode	D0	H	6.3	0.3	Amplifier	180	-40.5	—	—	20.0	1750	1700	3.0	4800	0.790	
76	Detector Amplifier Triode*	D5	H	6.3	0.3	Class A Amplifier	250	-13.5	—	—	5.0	9500	1450	13.8	—	—	76
77	Triple-Grid Detector Amplifier	D0	H	6.3	0.3	Bias Detector	250	{ -20.0 } { approx. }	—	—	—	—	—	—	—	—	
77	Triple-Grid Detector Amplifier	D0	H	6.3	0.3	Class A Amplifier	100	-1.5	60	0.4	1.7	600000	1100	—	—	—	77
						Bias Detector	250	-3.0	100	0.5	2.3	1.0+‡	1250	—	—	—	
78	Remote-Cutoff Pentode	D0	H	6.3	0.3	Amplifier Mixer	250	-1.95	50	Cathode current 0.65 ma.	—	—	—	—	—	Plate Resistor, 250000 ohms. Grid Resistor, ** 250000 ohms.	78
79	Twin-Triode Amplifier	D0	H	6.3	0.6	Class B Amplifier	180	0	—	—	Power Output is for one tube at stated plate-to-plate load.			7000	5.5	79	
80	Full-Wave Rectifier	D12	F	5.0	2.0	For other ratings, refer to Type 5Y3-GT.									80		
81	Half-Wave Rectifier	F1a	F	7.5	1.25	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 700 Max. Peak Inverse Volts, 2000				Max. D-C Output Ma., 85 Max. Peak Plate Ma., 500				81		
82	Full-Wave Rectifier	D12	F	2.5	3.0	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. D-C Output Ma., 115 Max. Peak Plate Ma., 600				Min. Total Effect. Supply Imped. per Plate, 50 ohms.	82	
						With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. D-C Output Ma., 115 Max. Peak Plate Ma., 600				Min. Value of Input Choke, 6 henries		
83	Full-Wave Rectifier	E3	F	5.0	3.0	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. D-C Output Ma., 225 Max. Peak Plate Ma., 1000				Min. Total Effect. Supply Imped. per Plate, 50 ohms.	83	
						With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. D-C Output Ma., 225 Max. Peak Plate Ma., 1000				Min. Value of Input Choke, 3 henries		
83-v	Full-Wave Rectifier	D12	H	5.0	2.0	For other ratings, refer to Type 5V4-G.									83-v		
84/6Z4	Full-Wave Rectifier	D0	H	6.3	0.5	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. D-C Output Ma., 60 Max. Peak Plate Ma., 180				Min. Total Effect. Supply Imped. per Plate, 15 ohms.	84/6Z4	
						With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. D-C Output Ma., 60 Max. Peak Plate Ma., 180				Min. Value of Input Choke, 10 henries		
85	Duplex-Diode Triode	D0	H	6.3	0.3	Triode Unit as Class A Amplifier	135	-10.5	—	—	3.7	11000	750	8.3	25000	0.075	85
						As Triode*	250	-20.0	—	—	8.0	7500	1100	8.3	20000	0.350	
89	Triple-Grid Power Amplifier	D0	H	6.3	0.4	As Triode*	160	-20.0	—	—	17.0	3300	1425	4.7	7000	0.30	89
						Class A Amplifier	250	-31.0	100	—	32.0	2600	1800	4.7	5500	0.90	
						As Pentode**	100	-10.0	100	1.6	9.5	104000	1200	—	10700	0.33	
						Class A Amplifier	250	-25.0	250	5.0	32.0	70000	1800	—	6750	3.40	
V-99 X-99	Detector* Amplifier Triodes	C4 D1	D.C. F	3.3	0.063	Class A Amplifier	90	-4.5	—	—	2.5	15500	425	6.6	—	—	V-99 X-99
						As Triode*	180	0	—	—	6.0	—	—	—	13600	2.50†	
112-A	Detector* Amplifier Triode	D12	D.C. F	5.0	0.25	Class A Amplifier	90	-4.5	—	—	5.0	5400	1575	8.5	—	—	112-A
						As Triode*	180	-13.5	—	—	7.7	4700	1800	8.5	—	—	
117L7/ M7-GT	Rectifier-Beam Power Amplifier	C5b	H	117	0.09	Amplifier Unit as Class A Amplifier	105	-5.2	105	4.0	43.0	17000	5300	—	4000	0.85	117L7/ M7-GT
						Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350									Max. D-C Output Ma., 75 Max. Peak Plate Ma., 450	
117N7-GT	Rectifier-Beam Power Amplifier	C5b	H	117	0.09	Amplifier Unit as Class A Amplifier	100	-6.0	100	5.0	51.0	16000	7000	—	3000	1.2	117N7-GT
						Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350									Max. D-C Output Ma., 75 Max. Peak Plate Ma., 450	
117P7-GT	Rectifier-Beam Power Amplifier	C5b	H	117	0.09	Amplifier Unit as Class A Amplifier	For other characteristics, refer to Type 117L7/M7-GT.									117P7-GT	
						Half-Wave Rectifier	For other ratings, refer to Type 117L7/M7-GT.										
117Z3	Half-Wave Rectifier	B1a	H	117	0.04	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 330				Max. D-C Output Ma., 90 Max. Peak Plate Ma., 540				Min. Total Effect. Plate-Supply Imped., 15 ohms	117Z3	
117Z4-GT	Half-Wave Rectifier	C0	H	117.0	0.04	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. D-C Output ma., 90 Max. Peak Plate ma., 540				Min. Total Effect. Plate-Supply Imped., 30 ohms	117Z4-GT	
117Z6-GT	Rectifier-Doubler	C3	H	117	0.075	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117 Max. D-C Output Ma., 60									Min. Total Effective Plate-Supply Impedance per Plate: Half-Wave, 30 ohms; Full-Wave, 15 ohms.	117Z6-GT
						Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235 Max. D-C Output Ma. per Plate, 60										
183/ 483	Power Amplifier Triode	D12	F	5.0	1.25	Class A Amplifier	250	-60.0	—	—	30.0	1750	1700	3.0	5000	1.8	183/ 483
485	Detector Amplifier Triode	D3	H	3.0	1.25	Class A Amplifier	180	-9.0	—	—	5.8	8900	1400	12.5	—	—	485
876	Current Regulator	Q1	F	—	—	Voltage Range.....40 to 60 Volts					Operating Current.....1.7 Amperes					876	
886	Current Regulator	Q1	F	—	—	Voltage Range.....40 to 60 Volts					Operating Current.....2.05 Amperes					886	

For footnotes, see following page



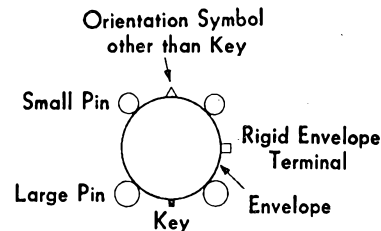
LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

Bottom Views

KEY TO TERMINAL DESIGNATIONS

Subscripts B, D, HP, HX, P, T, and TR indicate, respectively, beam unit, diode unit, heptode unit, hexode unit, pentode unit, triode unit, and tetrode unit in multi-unit types.

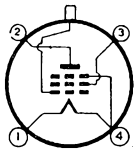
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|-----------------------------------|--|----------------------------|
| BC = Base Sleeve | H = Heater | K = Cathode |
| BS = Base Shell | H _L = Heater Tap for Panel Lamp | NC = No Connection |
| DJ = Deflecting Electrode | H _M = Heater Mid-Tap | P = Plate (Anode) |
| ES = External Shield | IC = Internal Connection-Do Not Use | RC = Ray-Control Electrode |
| F = Filament | IS = Internal Shield | S = Shell |
| F _M = Filament Mid-Tap | ● = Gas-Type Tube | TA = Target |
| G = Grid | | U = Unit |



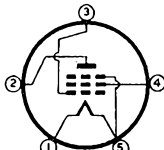
KEY TO TUBE DIMENSIONS

Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter
A	1 1/2" x 3/8"	B5	2 3/8" x 1 1/8"	C10	3 7/8" x 1 9/16"	D9	4 17/32" x 1 9/16"	G1a	1 1/2" x 2 1/2"
A1	1 1/2" x 3/8"	B5a	2 1/2" x 1 1/8"	C10a	3 9/16" x 1 9/16"	D9a	4 3/8" x 1 13/16"	H1	1 1/2" x 5 1/8"
A1o	1 1/2" x 1 1/8"	C0	3" x 1 1/8"	C11	3 3/8" x 1 3/8"	D10	4 3/8" x 1 13/16"	I1	1 4/16" x 7 1/8"
B0	2 1/8" x 3/8"	C0a	3 1/8" x 1 1/8"	D1	4" x 1 3/8"	D12	4 1/8" x 1 13/16"	J	1 4/16" x 7 1/8"
B0a	2 1/8" x 3/8"	C1	3 1/8" x 1 1/8"	D2	4 1/8" x 1 3/8"	D12a	4 1/8" x 1 9/16"	K	1 4/16" x 7 1/8"
B0b	2 3/8" x 1 1/8"	C2	3 1/8" x 1 1/8"	D2a	4 1/8" x 1 3/8"	D13	4 15/16" x 1 13/16"	L	1 7/16" x 1 10"
B0c	2 3/8" x 1 1/8"	C2a	3 1/8" x 1 1/8"	D3	4 1/8" x 1 9/16"	E1	5 3/8" x 1 13/16"	M	1 8" x 1 10 1/2"
B1	2 1/8" x 3/8"	C2b	3 3/8" x 1 1/8"	D4	4 1/8" x 1 3/8"	E2	5 3/8" x 1 10"	N	1 9 1/8" x 1 12 1/8"
B1a	2 1/8" x 4"	C3	3 3/8" x 1 3/8"	D5	4 1/8" x 1 10"	E3	5 3/8" x 1 10"	O	2 1/8" x 9"
B2	2 1/8" x 1 1/8"	C5	3 1/8" x 1 3/8"	D7	4 1/8" x 1 9/16"	F1	5 1/8" x 2 1/8"	P	2 1/2" x 1 6"
B3	2 1/8" x 7/8"	C5a	3 1/8" x 1 3/8"	D8	4 3/8" x 1 10"	F1a	6 1/8" x 2 1/8"	P0	2 1/2" x 1 6"
B4	2 1/8" x 7/8"	C9a	3 1/8" x 1 3/8"	D8a	4 1/8" x 1 10"	G1	8" x 2 1/8"	Q	2 5/8" x 1 12 1/8"

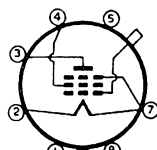
TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING			USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
1C4	REMOTE CUT-OFF PENTODE	4 1/8" x 1 3/8"	D.C. F.	2.0	0.12	Amplifier	135 135 135	0 0 -3.0	45 67.5 90	0.5 0.9 0.5	1.25 2.5 1.5	1,560,000 800,000 1,850,000	780 1,000 700	—	—	—
ID4	POWER PENTODE	4 1/8" x 1 1/8"	D.C. F.	2.0	0.24	Class A Amplifier	135 157.5 180	-4.5 -4.5 -6.0	135 157.5 180	1.5 2.2 2.3	6.0 9.0 9.5	150,000 125,000 137,000	2,150 2,400 2,400	—	15,000 15,000 15,000	0.35 0.55 0.75
1K4	SHARP CUT-OFF PENTODE	4 1/8" x 1 1/8"	D.C. F.	2.0	0.12	Amplifier	For other characteristics refer to Type 1K5-G below.									
1K5-G	SHARP CUT-OFF PENTODE	4 3/8" x 1 3/8"	D.C. F.	2.0	0.12	R-F Amplifier	90 135 135	0 0 0	67.5 45 67.5	0.95 0.48 0.93	2.48 1.25 2.50	750,000 1,750,000 1,000,000	1,020 820 1,050	—	—	—
						A-F Amplifier (Resistance Coupled) Plate load 0.25 meg.	135 135 180 180	-1.5 -1.5 -1.5 -1.5	Fol. Grid Resistor 0.5 meg., Voltage Gain, 62.5 Fol. Grid Resistor 1.0 meg., Voltage Gain, 75.0		Screen fed from 135 volts through 0.75 meg. resistor.					
						Class A Triode Amplifier Grid No. 2 tied to plate	90 135 180	-3.0 -4.5 -6.0	—	—	1.5 3.5 5.9	14,800 10,700 9,000	1,000 1,400 1,700	14.8 15.0 15.3	30,000 15,000 10,000	.013 .05 0.1
						Fol. Grid Resistor 0.5 meg., Voltage Gain, 74.0 Fol. Grid Resistor 1.0 meg., Voltage Gain, 88.5		Screen fed from 180 volts through 1.0 meg resistor.								
1K6	DUO-DIODE PENTODE	4 1/8" x 1 3/8"	D.C. F.	2.0	0.12	Amplifier	For other characteristics refer to Type 1K7-G below.									
1K7-G	DUO-DIODE PENTODE	4 3/8" x 1 3/8"	D.C. F.	2.0	0.12	Pentode Unit as R-F Amplifier	135 135 135	0 0 -4.5	45 67.5 135	0.35 0.7 0.5	0.9 1.8 1.5	2,000,000 1,250,000 1,400,000	620 800 700	—	—	—
						Pentode Unit as A-F Amplifier (Resistance Coupled) Plate load 0.25 meg.	135 135 180 180	-1.5 -1.5 -1.5 -1.5	Fol. Grid Resistor 0.5 meg., Voltage Gain, 63.0 Fol. Grid Resistor 1.0 meg., Voltage Gain, 76.0		Screen fed from 135 volts through 1.0 meg. resistor.					
						Class A Triode Amplifier Grid No. 2 tied to plate	135 180	-4.5 -6.0	—	—	2.0 3.5	16,500 15,000	900 1,000	15 15	30,000 40,000	.038 .06
						Fol. Grid Resistor 0.5 meg., Voltage Gain, 69.0 Fol. Grid Resistor 1.0 meg., Voltage Gain, 83.0		Screen fed from 180 volts through 1.0 meg. resistor.								
1L5-G	POWER PENTODE	4 1/8" x 1 1/8"	D.C. F.	2.0	0.24	Class A Amplifier	135 157.5 180	-4.5 -4.5 -6.0	135 157.5 180	1.5 2.2 2.3	6.0 9.0 9.5	150,000 125,000 137,000	2,150 2,400 2,400	—	15,000 15,000 15,000	0.35 0.55 0.75
1M5-G	REMOTE CUT-OFF PENTODE	4 3/8" x 1 3/8"	D.C. F.	2.0	0.12	Class A Amplifier	135 135 135	0 0 -3.0	45 67.5 90	0.5 0.9 0.5	1.25 2.5 1.5	1,560,000 800,000 1,850,000	780 1,000 700	—	—	—
2D21	THYRATRON TETRODE	2 1/8" x 3"	H.	6.3	0.6	Relay Tube and Grid-Controlled Rectifier	Max. Peak Inverse Volts, 1,300 Max. Peak Forward Volts, 650 Max. Peak Cathode Ma., 500 Average Cathode Ma., 100									
3A4	POWER AMPLIFIER PENTODE	2 1/8" x 3"	D.C. F.	1.4 2.8	0.2 0.1	Class A Amplifier	135 150	-7.5 -8.4	90 90	2.6 2.2	14.8 13.3	90,000 100,000	1,900 1,900	—	8,000 8,000	0.6 0.7
						R-F Power Amplifier	150	—	135	6.5	18.3	Grid Resistor, 0.2 megohm Grid Current, 0.13 ma.		—	1.2 at 10 Mc	
3A5	H-F TWIN TRIODE	2 1/8" x 3"	D.C. F.	1.4 2.8	0.22 0.11	Each Unit as Class A Amplifier	90	-2.5	—	—	3.7	8,300	1,800	15	—	—
						Push-Pull Class C Amplifier	135	-20.0	from Grid resistor, 4,000 ohms		30.0	Grid Current, 5 ma. Driving Power, 0.2 watt		—	2.0 at 40 Mc	
5R4-GY	FULL-WAVE RECTIFIER	5 3/16" x 2 1/16"	F.	5.0	2.0	With Choke Input Filter	Peak Inverse Voltage = 2800 max. volts Peak Plate Current per Plate = 650 max. mA.		R.M.S. Voltage per Plate = 1,000 max. volts. D-C Output Current = 175 max. mA. Choke Inductance = 10.0 min. henrys.							
						With Condenser Input Filter	R.M.S. Voltage per Plate = 1,000 max. volts. D-C Output Current = 150 max. mA. Filter-Input Condenser = 4 max. microfarads. Total Plate Supply Impedance per Plate = 575 min. ohms.									



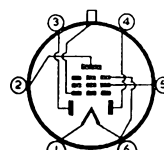
1C4, 1K4



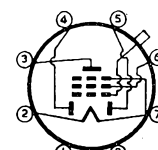
ID4



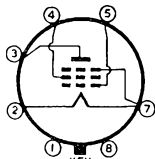
1K5-G, 1M5-G



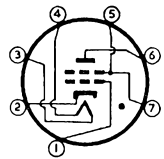
1K6



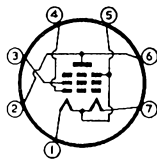
1K7-G



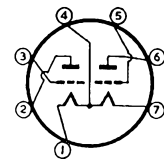
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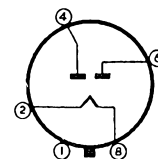
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3A4

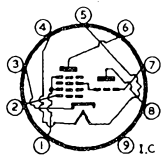


3A5

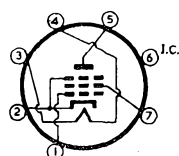


5R4-GY

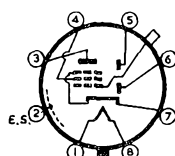
TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ. mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts		
			C.T.	Volts	Amp.													
6AE8	TRIODE-HEXODE CONVERTER	2 1/8" x 7/8"	H.	6.3	0.3	Converter	250	-2	85	3.2	9.5	2 meg.	500/MA	10.7	1150	0.45 MA.		
6AM5	POWER PENTODE	2 1/8" x 3/4"	H.	6.3	0.2	Class A Amplifier	250	-13.5	250	2.4	16	150,000	2,600	390	16,000	1.4		
6AR7-GT	DUO-DIODE REMOTE CUT-OFF PENTODE	3 3/8" x 1 1/16"	H.	6.3	0.3	Pentode Unit as A-F Amplifier	250	-2	100	1.8	7.0	1 meg.	2,500	2,500	—	—		
6B7S	DUO-DIODE REMOTE CUT-OFF PENTODE	4 3/8" x 1 1/16"	Electrically identical to Type 6G8-G below,															
6BJ5	POWER PENTODE	2 3/4" x 3/4"	H.	6.3	0.64	Class A Amplifier	250	-5	250	5.5	35	40,000	10,500	420	7,000	4.0		
6BQ7	TWIN-TRIODE	2 3/8" x 7/8"	H.	6.3	0.4	Single Section Class A Amplifier	150	-2	—	—	10	5,800	6,000	35	—	—		
6G8-G	DUO-DIODE REMOTE CUT-OFF PENTODE	4 1/2" x 1 1/16"	H.	6.3	0.3	Pentode Unit as R-F Amplifier	250	-3.0	100	1.5	6.5	850,000	1,100	900	—	—		
							250	-3.0	125	2.2	9.5	510,000	1,210	600	—	—		
							135	Fol. Grid Resistor 0.5 meg., Voltage Gain 63.5									Cathode Bias Resistor = 2,000 ohms.	
							135	Fol. Grid Resistor 1.0 meg., Voltage Gain 75.0									Screen-Supply Voltage Divider Network: -1.0 megohm to B + max.	
							250	Fol. Grid Resistor 0.5 meg., Voltage Gain 77.0									and 0.25 megohm to Earth.	
							250	Fol. Grid Resistor 1.0 meg., Voltage Gain 93.0										
6J7-G /1620	LOW-NOISE PENTODE	4 1/2" x 1 1/16"	H.	6.3	0.3	Low-Noise Amplifier	For other characteristics refer to Type 6J7-G, see page 9.											
6J8-GA	TRIODE-HEPTODE CONVERTER	4 1/2" x 1 1/16"	H.	6.3	0.45	Heptode Unit as Mixer	250	-3.0	100	2.9	1.3	4,000,000	290	Triode Plate fed from 250 max. volts through 20,000 ohms, Current = 5.0 mA. Oscillator (triode) Grid Resistor 50,000 ohms, Current 0.4 mA.				
							100	0	—	—	7.0	10,600	1,600	17	—	—		
6U5-G	TUNING INDICATOR	4 5/8" x 1 3/16"	H.	6.3	0.3	Tuning Indicator	Plate and Target Supply = 100 volts. Triode Plate Resistor = 0.5 meg. Target Current = 1.0 mA. Grid Bias, -8 volts; Shadow Angle, 0°. Bias, 0 volts; Angle 90°; Plate Current, 0.19 mA.											
							Plate and Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 4.0 mA. Grid Bias, -22 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.24 mA.											
6X8	TRIODE-PENTODE CONVERTER	2 3/8" x 7/8"	H.	6.3	0.45	Converter	150	-3.5	150	1.8	6.2	—	2,100	—	—	—		
16RP4	DIRECTLY VIEWED KINESCOPE	19 1/8" x 16 1/16"	H.	6.3	0.6	Picture Reproduction	Focus. Magnetic Deflect.: Magnetic Deflect.: Angle, 70° Phosphor: P4 Picture Size: 10 1/2" x 13 1/2"				Requires External, Single Field, Iron-Trap Magnet		Anode Volts, 16,000 max. Grid-No. 2 Volts, 300 (410 max.) Grid-No. 1 Volts for Visual Cut-off -33 to -77 volts Grid-No. 1 Circuit Resistance, 1.5 megohms max.					
16TP4	DIRECTLY VIEWED KINESCOPE	18 1/2" x 16 3/16"	H.	6.3	0.6	Picture Reproduction	As above				As above		As above, except Anode Volts: 14,000 max.					
17BP4-A	DIRECTLY VIEWED KINESCOPE	19 5/8" x 16 3/4"	H.	6.3	0.6	Picture Reproduction	As above, except Picture Size: 11 1/16" x 14 1/2"				As above		As 16RP4					



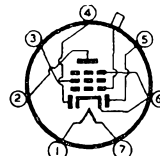
6AE8



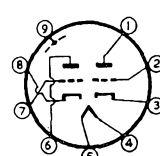
6AM5, 6BJ5



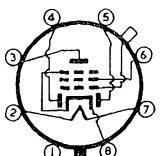
6AR7-GT



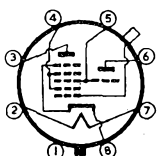
6B7-S



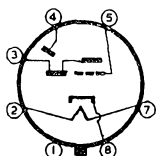
6BQ7



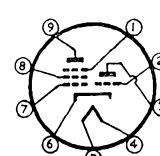
6G8-G



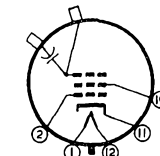
6J8-GA



6U5-G



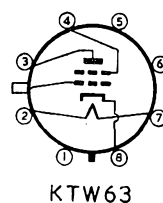
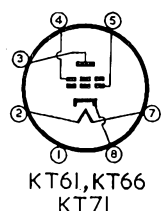
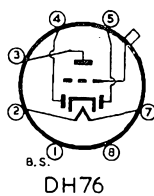
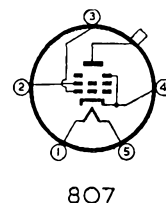
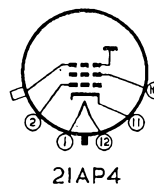
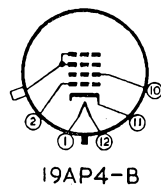
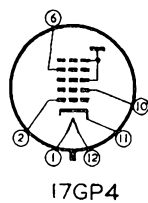
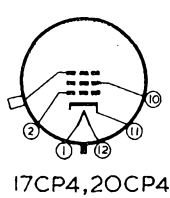
6X8



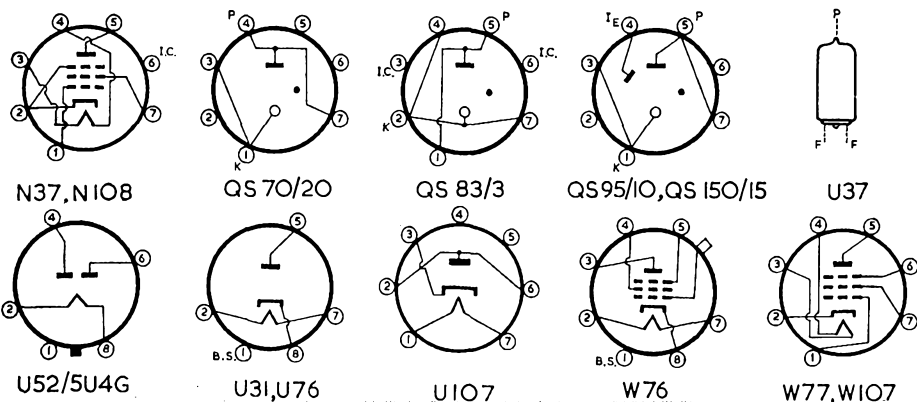
16RP4, 16TP4
17BP4-A

17CP4 to L77

TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts	
			C.T.	Volts	Amp.												
17CP4	DIRECTLY VIEWED KINESCOPE	18 $\frac{1}{16}$ " x 17"	H.	6.3	0.6	Picture Reproduction	As 16RP4, except Picture Size: 11" x 14 $\frac{1}{8}$ "		As 16RP4		As 16RP4						
17GP4	DIRECTLY VIEWED KINESCOPE	18 $\frac{1}{2}$ " x 17"	H.	6.3	0.6	Picture Reproduction	As 17CP4, except Focus: Electrostatic		As above		As 16RP4, except Grid-No. 2 Volts, 300 (500 max.)						
19AP4-B	DIRECTLY VIEWED KINESCOPE	22" x 18 $\frac{1}{2}$ "	H.	6.3	0.6	Picture Reproduction	Focus: Magnetic Deflect.: Magnetic Deflect. Angle: 66° Phosphor: P4 Picture Size: 11 $\frac{1}{2}$ " x 15 $\frac{1}{8}$ "		As above		Anode Volts: 19,000 max. Grid-No. 2 Volts, 300 (410 max.) Grid-No. 1 Volts for Visual Cut-off —33 to —77 volts Grid-No. 1 Circuit Resistance, 1.5 megohms max.						
20CP4	DIRECTLY VIEWED KINESCOPE	21 $\frac{1}{16}$ " x 20 $\frac{1}{16}$ "	H.	6.3	0.6	Picture Reproduction	As above, except Deflect. Angle: 70° Picture Size: 13 $\frac{1}{4}$ " x 17 $\frac{1}{4}$ "		As above		As above, except Anode Volts: 18,000 max.						
21AP4	DIRECTLY VIEWED KINESCOPE	22 $\frac{1}{16}$ " x 21"	H.	6.3	0.6	Picture Reproduction	As 20CP4, except Picture Size: 13 $\frac{1}{8}$ " x 18 $\frac{1}{2}$ "		As above		As 20CP4, except Grid-No. 2 Volts, 300 (500 max.)						
161	BARRETTER	3 $\frac{1}{8}$ " x 1 $\frac{3}{16}$ "	F.	—	0.16	Current Regulator	Voltage Range, 100-200 volts. Edison Screw Base.										
302	BARRETTER	5 $\frac{1}{2}$ " x 2 $\frac{5}{8}$ "	F.	—	0.3	Current Regulator	Voltage Range, 112-195 volts. Edison Screw Base.										
807	POWER TETRODE	5 $\frac{3}{8}$ " x 2 $\frac{1}{16}$ "	H.	6.3	0.9	Class A Amplifier	275	—15	275	6.2	86	21,500	6,300	135	2,380	8.25	
B36	TWIN-TRIODE	3 $\frac{5}{8}$ " x 1 $\frac{1}{8}$ "	Electrically interchangeable with Type 12SN7-GT.														
B65	TWIN-TRIODE	3 $\frac{7}{8}$ " x 1 $\frac{1}{8}$ "	Electrically interchangeable with Type 6SN7-GT.														
B63	DUO-DIODE	3 $\frac{1}{16}$ " x 1 $\frac{1}{16}$ "	Electrically interchangeable with Type 6H6-G.														
D77	DUO-DIODE	Identical to Type 6AL5.															
DH63	DUO-DIODE HIGH-MU TRIODE	4 $\frac{3}{16}$ " x 1 $\frac{1}{8}$ "	Electrically interchangeable with Type 6Q7-GT.														
DH76	DUO-DIODE HIGH-MU TRIODE	4 $\frac{3}{8}$ " x 1 $\frac{1}{2}$ "	H.	13.0	0.16	Triode Unit as Class A Amplifier	250	—3	—	—	1.0	58,000	1,200	70	—	—	
DH77	DUO-DIODE HIGH-MU TRIODE	Identical to Type 6AT6.															
DH107	DUO-DIODE HIGH-MU TRIODE		H.	19.0	0.1	Other electrical characteristics identical to Type 12AT6.											
KT61	POWER TETRODE	4 $\frac{1}{8}$ " x 1 $\frac{3}{4}$ "	H.	6.3	0.95	Class A Amplifier	250	—4.3	250	7.5	40	75,000	10,500	790	6,000	4.3	
KT63	POWER TETRODE	Identical to Type 6F6-G.															
KT66	POWER TETRODE	5 $\frac{1}{16}$ " x 2 $\frac{1}{16}$ "	H.	6.3	1.27	Class A Amplifier	250	—15	250	6.3	85	22,500	6,300	142	2,200	7.25	
KT71	POWER TETRODE	4 $\frac{1}{8}$ " x 1 $\frac{3}{16}$ "	H.	48.0	0.16	Class A Amplifier	175	—9.8	175	12.0	70	—	—	—	2,500	5.0	
KTW63	REMOTE CUT-OFF TETRODE	4 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	Similar to Types 6K7-G and 6U7-G.														
L63	MEDIUM-MU TRIODE	3 $\frac{1}{8}$ " x 1 $\frac{1}{8}$ "	Electrically interchangeable with Type 6J5-GT.														
L77	MEDIUM-MU TRIODE	Identical to Type 6C4.															

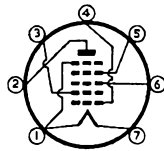


TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING			USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
N17	POWER PENTODE					Identical to Type 354.										
N18	POWER PENTODE					Identical to Type 3Q4.										
N19	POWER PENTODE					Identical to Type 3V4.										
N37	POWER PENTODE	2 1/4" x 3/4"	H.	13.0	0.3	<i>Class A Amplifier</i>	165	-8	165	7	54.5	28,500	10,000	285	3,000	4.0
N77	POWER PENTODE					Identical to Type 6AM5.										
N78	POWER PENTODE					Identical to Type 6BJ5.										
N108	POWER PENTODE		H.	40.0	0.1	Other electrical characteristics identical to Type N37.										
QS.70/20	VOLTAGE REGULATOR	2 1/4" x 3/4"	—	—	—	<i>Voltage Regulator</i>	Min. D-C Starting Volts, 105. D-C Operating Volts, 70. D-C Operating Current, 20 mA. max., 2 mA. min.									
QS.83/3	VOLTAGE REFERENCE VALVE	2 1/8" x 3/4"	—	—	—	<i>Voltage Reference Valve</i>	Voltage Stability, 0.1%. Min. D-C Starting Volts, 130. D-C Operating Volts, 83. D-C Operating Current Range, 1-5 mA.									
QS.95/10	VOLTAGE REGULATOR	2 1/8" x 3/4"	—	—	—	<i>Voltage Regulator</i>	Min. Ignition Electrode Volts, 150. Min. D-C Starting Volts, 110. D-C Operating Volts, 95. D-C Operating Current, 10 mA. max., 2 mA. min.									
QS.150/15	VOLTAGE REGULATOR	2 1/8" x 3/4"	—	—	—	<i>Voltage Regulator</i>	Min. Ignition Electrode Volts, 240. Min. D-C Starting Volts, 170. D-C Operating Volts, 150. D-C Operating Current, 15 mA. max., 2 mA. min.									
U31	HALF-WAVE RECTIFIER	4 1/2" x 1 1/2"	H.	26.0	0.3	<i>With Condenser Input Filter</i>	Max. A-C Plate Volts (R.M.S.), 250. Max. D-C Output mA., 120. Max. Peak Inverse Volts, 700. Max. Peak Plate mA., 750.									
U37	HIGH VOLTAGE RECTIFIER	1 7/8" x 1 1/2"	F.	1.4	0.14	<i>Half Wave Rectifier</i>	Peak Inverse Voltage, 15,000. D-C Output Current, 2 mA. Peak Plate Current, 12 mA. Surge Plate Current, 40 mA.									
U52 /5U4-G	FULL-WAVE RECTIFIER	5 5/16" x 2 1/16"	F.	5.0	2.25	<i>With Choke Input Filter</i> <i>With Condenser Input Filter</i>	Peak Inverse Voltage, 1430 max. volts. R.M.S. Voltage per Plate, 500 max. volts. D-C Output: Current, 250 max. mA. Choke Inductance, 3.0 min. henrys. Peak Plate Current per Plate, 770 max. mA. R.M.S. Voltage per Plate, 500 max. volts. D-C Output: Current, 250 max. mA. Filter-Input Condenser, 8 max. microfarads. Total Plate Supply Impedance per Plate, 150 min. ohms.									
U76	HALF-WAVE RECTIFIER	3 3/8" x 1 1/32"	H.	30.0	0.16	<i>With Condenser Input Filter</i>	Max. A-C R.M.S. Plate, 250 volts. Max. D-C Output, 100 mA. Max. Peak Inverse, 700 volts. Max. Peak Plate Current, 500 mA. Plate Supply Impedance, 100 ohms. Filter Input Condenser, 32 max. microfarads.									
U78	FULL-WAVE RECTIFIER					Identical to Type 6X4.										
U107	HALF-WAVE RECTIFIER	2 3/4" x 3/4"	H.	40.0	0.1	<i>With Condenser Input Filter</i>	Max. A-C Plate Volts (R.M.S.), 250. Max. D-C Output mA., 90. Max. Peak Inverse Volts, 700. Max. Peak Plate mA., 540.									
W17	REMOTE CUT-OFF PENTODE					Identical to Type 1T4.										
W76	REMOTE CUT-OFF PENTODE	4 3/16" x 1 1/32"	H.	13.0	0.16	<i>Class A Amplifier</i>	175	-2-3	100	1.7	8.5	500,000	1,500	750	—	—
W77	REMOTE CUT-OFF PENTODE	2 1/8" x 3/4"	H.	6.3	0.2	<i>Class A Amplifier</i>	200	-2.5	200	2.0	8.0	500,000	2,500	1,250	—	—
W107	REMOTE CUT-OFF PENTODE	2 1/8" x 3/4"	H.	12.6	0.1	Other electrical characteristics identical to Type W77.										

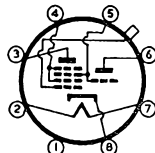


X17 to ZD17

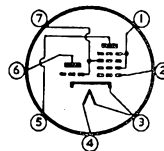
TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
X17	PENTAGRID CONVERTER	Identical to Type 1R5.														
X18	PENTAGRID CONVERTER	2 1/4" x 3/4"	D.C. F.	1.4	0.05	Converter	90	0	45	—	—	—	300	Anode-Grid Voltage, 70 max.		
X61M	TRIODE-HEXODE CONVERTER	4 1/2" x 1 1/8"	H.	6.3	0.3	Converter	250	-3	100	2.8	3.7	700,000	620	Current, 3.5 mA.		
							Oscillator Plate fed from 250 volts through 30,000 ohms. Oscillator Grid Resistor, 50,000 ohms. Current, 0.3 mA.									
X63	PENTAGRID CONVERTER	Similar to Type 6A8-G.														
X76M	TRIODE-HEXODE CONVERTER	4 1/8" x 1 1/2"	H.	13.0	0.16	Converter	250	-3	100	2.8	3.7	700,000	620	Current, 3.5 mA.		
							Oscillator Plate fed from 250 volts through 30,000 ohms. Oscillator Grid Resistor, 50,000 ohms. Current, 0.3 mA.									
X78	TRIODE-HEXODE CONVERTER	2 1/4" x 3/4"	Identical to Type 6AE8, except for basing.													
X79	TRIODE-HEXODE CONVERTER	Identical to Type 6AE8.														
X109	TRIODE-HEXODE CONVERTER		H.	19.0	0.1	Other electrical characteristics identical to Type 6AE8.										
Y61	TUNING INDICATOR	Identical to Type 6U5-G.														
Z63	SHARP CUT-OFF PENTODE	4 1/2" x 1 1/8"	Electrically interchangeable with Type 6J7-G.													
Z77	R-F AMPLIFIER PENTODE	2 1/8" x 3/4"	H.	6.3	0.3	Class A Amplifier	250	-2	250	2.5	10	300 000	7,500	Cathode Bias Res., 160 ohms.		
							Triode									
							250 -2 - - - 12.5 10,000 7,500 75 Cathode Bias Res., 160 ohms.									
ZD17	DIODE-PENTODE	Identical to Type 1S5.														



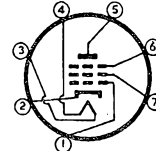
X18



X61M, X76M



X78



Z77

9375

OTHER MANUFACTURERS' TYPES

1A6 to 6AG6-G

TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
1A6	PENTAGRID CONVERTER	2 1/4" x 3/4"	F.	1.4	0.025	Converter	85	0	64	0.17	0.65	1 meg.	300	—	—	—
1A6	PENTAGRID CONVERTER	2 1/8" x 3/4"	F.	1.4	0.05	Converter	85	0	60	0.14	0.65	1 meg.	325	—	—	—
1A5	DIODE PENTODE	2 1/4" x 3/4"	F.	1.4	0.025	Class A Amplifier	85	10 meg.	85	Plate Load Resistance, 1 meg. Voltage Gain, 62. Screen Feed Resistance, 3.3 meg.						
1E3	H-F TRIODE	2 3/8" x 7/8"	F.	1.25	0.22	Class A Amplifier	150	-3.5	—	—	20	4,000	3,500	14	—	—
3C4	POWER PENTODE	2 1/4" x 3/4"	F.	1.4	0.025	Class A Amplifier	85	-5.2	85	1.1	5.0	125,000	1,350	169	—	0.2
6AB8	TRIODE-POWER PENTODE	2 3/8" x 7/8"	H.	6.3	0.3	Triode	100	-2.3	—	—	4.0	12,500	1,400	17	—	—
						Pentode	170	-6.3	170	2.8	15.0	150,000	3,300	495	11,000	1.0
6AD8	DUO-DIODE PENTODE	2 3/8" x 7/8"	H.	6.3	0.3	Class A Amplifier	250	-2	85	2.3	6.7	1 meg.	1,100	1,100	—	—
6AG6-G	POWER PENTODE	5 5/16" x 2 1/8"	H.	6.3	1.2	Class A Amplifier	250	-6	250	6.0	32.0	60,000	10,000	600	9,000	3.75

RADIOTRON LIST OF EQUIPMENT TYPES

JANUARY, 1952

CLASSIFICATIONS		Current Receiver Equipment Types					Additional Types for Miscell. Application	
		Battery		A.C.		A.C./D.C.	Miniature	Octal
		Miniature	Octal	Miniature	Octal	Miniature		
Frequency Converters	Pentagrids	1R5	1C7-G	6BE6	6A8-G	12BE6		
	Triode-Hexodes			6AE8	X61M			
R-F Pentodes. Remote Cut-Off		1T4	1M5-G	6BA6	6U7-G	12BA6		
R-F & A-F Pentodes. Sharp Cut-Off			1K5-G	6AU6		12AU6	Z77	6J7-G/1620
Double-Diode R-F Pentodes			1K7-G		6AR7-GT 6B8-GT			
Diode A-F Pentodes		1S5						
Double-Diode Triodes				6AV6	6SQ7-GT	12AT6		
Double-Diodes							6AL5	
Double-Triodes							6J6 12AT7 12AU7 12AX7	6SN7-GT
Triodes							6C4	
Output Tetrodes & Pentodes		3S4 3V4	1L5-G	6AQ5 6BJ5	6V6-GT	50C5		KT66
Half-Wave Rectifiers						35W4		
Full-Wave Rectifiers				6X4	5Y3-GT 6X5-GT			U52/5U4-G

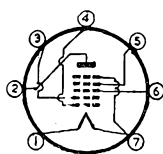
N.B.—Recommended types are shown in bold face.

This list of types is presented to assist equipment manufacturers in planning for future production of broadcast receivers and similar equipment.

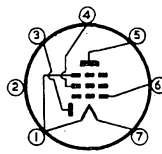
By using types shown on this list in bold face, manufacturers will tend to reap the benefits of better availability, lower cost and better quality.

These types are in general made in Australia, and are intended to satisfy the main requirements of receiver manufacturers.

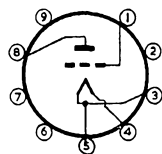
To extend the advantage of standardisation to valves for miscellaneous applications, a number of other types are included on the list, and these are shown in ordinary type. A list of specific T.V. types is not given, as developments in this field are at present so rapid. Advice on the best choice of T.V. types will be given on enquiry.



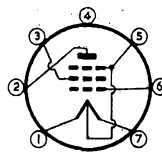
IAB6, IAC6



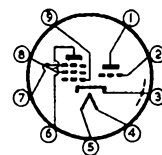
IAH5



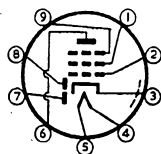
IE3



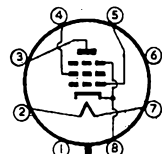
3C4



6AB8



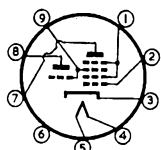
6AD8



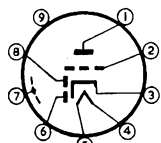
6AG6-G

6AM6 to 6R4

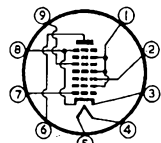
TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
6AM6	SHARP CUT-OFF PENTODE		Similar to Type Z77.													
6AN7	TRIODE-HEXODE CONVERTER	2 5/8" x 7/8"	H.	6.3	0.23	Converter	250	-2	85	3.0	3.0	1.6 meg.	750	70	—	—
6BD7	DUO-DIODE TRIODE	2 5/8" x 7/8"	H.	6.3	0.23	Class A Amplifier	250	-3	—	—	1.0	58,000	1,200	70	—	—
6BE7	F-M LIMITER DETECTOR	2 5/8" x 7/8"	H.	6.3	0.2	Detector	250	-4.5	20	1.5	0.25	5 meg.	—	—	—	—
6BH5	REMOTE CUT-OFF PENTODE	2 5/8" x 7/8"	H.	6.3	0.2	Class A Amplifier	250	-2.5	100	1.7	6.0	1 meg.	2,200	2,200	—	—
6BR7	LOW-NOISE SHARP CUT-OFF PENTODE	2 1/8" x 7/8"	H.	6.3	0.15	Class A Amplifier	250	-3	100	0.6	2.1	2.5 meg.	1,250	3,120	—	—
6BS7	LOW-NOISE SHARP CUT-OFF PENTODE	2 3/8" x 7/8"					Electrically identical to Type 6BR7.									
6BW6	POWER PENTODE	2 5/8" x 7/8"					Electrically identical to Type 6V6-GT.									
6BX6	SHARP CUT-OFF PENTODE	2 5/8" x 7/8"	H.	6.3	0.3	Class A Amplifier	170	-2	170	2.5	10.0	400,000	7,200	2,890	—	—
6CH6	POWER PENTODE	2 5/8" x 7/8"	H.	6.3	0.75	Class A Amplifier	250	-4.5	250	6.0	40.0	50,000	11,000	550	6,000	—
6CJ6	POWER PENTODE	3 1/8" x 7/8"	H.	6.3	1.05	Class A Amplifier	250	-38.5	250	2.4	32	15,000	4,600	69	8,000	—
6CK6	POWER PENTODE	3 1/8" x 7/8"	H.	6.3	0.71	Class A Amplifier	250	-5.5	250	5	36	130,000	10,000	1,300	7,000	—
6M5	POWER PENTODE	3 1/8" x 7/8"	H.	6.3	0.71	Class A Amplifier	250	-7	250	5.2	36	40,000	10,000	400	7,000	—
6N8	DUO-DIODE PENTODE	2 5/8" x 7/8"	H.	6.3	0.3	Class A Amplifier	250	-1.5	85	1.75	5	1.6 meg.	2,200	3,520	—	—
6Q4	H-F TRIODE	2 5/8" x 7/8"	H.	6.3	0.48	Class A Amplifier	250	-1.5	—	—	15	6,600	12,000	80	—	—
6R4	H-F TRIODE	2 5/8" x 7/8"	H.	6.3	0.2	Class A Amplifier	150	-2	—	—	30	2,900	5,500	16	—	—



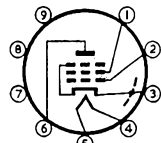
6AN7



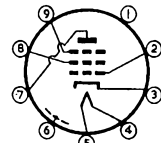
6BD7



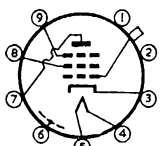
6BE7



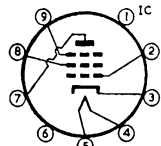
6BH5



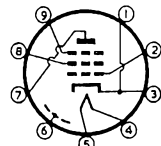
6BR7



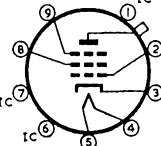
6BS7



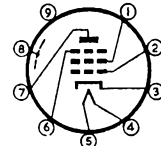
6BW6, 6CH6



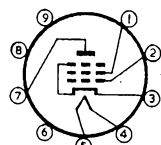
6BX6



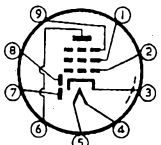
6CJ6



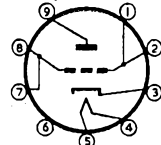
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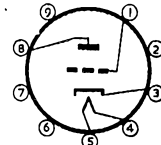
6M5



6N8

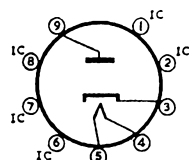


6Q4

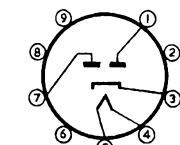


6R4

TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts	
			C.T.	Volts	Amp.												
6U3	HALF-WAVE RECTIFIER	3 1/16" x 7/8"	H	6.3	0.9	Rectifier	Max. Peak Inverse Volts, 4,000. Max. Peak Plate Current, 400 mA.									Max. D.C. Output Current, 180 mA.	
6V4	FULL-WAVE RECTIFIER	3 1/16" x 7/8"	H.	6.3	0.6	Rectifier	Max. A.C. Plate Volts, 350. Max. D.C. Output Current, 90mA									Max. Input Condenser, 50mF.	
6X2	HALF-WAVE RECTIFIER	2" x 5/8"	H.	6.3	0.08	Rectifier	Max. Peak Inverse Volts, 15,000. Max. D.C. Output Current, 0.5 mA.									Min. Limiting Resistance, 0.1 meg. Max. Input Condenser, 0.1 mF.	
7D9	POWER PENTODE						Identical to Type 6AM5.										
7D10	POWER PENTODE						Identical to Type 6CH6.										
8D3	SHARP CUT-OFF PENTODE						Similar to Type Z77.										
8D5	LOW-NOISE PENTODE						Identical to Type 6BR7.										
8D6	SHARP CUT-OFF PENTODE						Similar to Type 6BX6.										
8D7	LOW-NOISE PENTODE						Identical to Type 6BS7.										
9D6	REMOTE CUT-OFF PENTODE						Identical to Type W77.										
12AH8	TRIODE-HEPTODE CONVERTER	2 3/8" x 7/8"	H.	6.3 12.6	0.3 0.15	Converter	250	-3	100	4.4	2.6	1.5 meg.	550				
12AY7	LOW-NOISE TWIN TRIODE	2 3/16" x 7/8"	H.	6.3 12.6	0.3 0.15	Single Section Class A Amplifier	250	-4			3.0	23,500	1,700	40			
15A6	POWER PENTODE	3 1/8" x 7/8"	H.	15.0	0.3	Class A Amplifier	180	-2.9	180	4.0	36.0	100,000	10,000	1,000	5,000		
16A5	POWER PENTODE	3 1/16" x 7/8"	H.	16.5	0.3	Class A Amplifier	200	-13.9	200	8.5	45.0	24,000	7,600	182	4,000	4.2	
19AQ5	POWER PENTODE		H.	19.0	0.15		Other electrical characteristics identical to Type 6AQ5.										
19X3	HALF-WAVE RECTIFIER	3 1/16" x 7/8"	H.	19.0	0.3		Other electrical characteristics identical to Type 6U3.										
19Y3	HALF-WAVE RECTIFIER	3 1/16" x 7/8"	H.	19.0	0.3	Rectifier	Max. Peak Inverse Volts, 700. Max. D.C. Output Current, 180 mA.										
20D3	TRIODE-HEXODE CONVERTER	2 3/16" x 7/8"	H.	6.3 12.6	0.3 0.15	Converter	250	-3	100	4.6	3.6	700,000	690				
21A6	POWER PENTODE	3 1/4" x 7/8"	H.	21.5	0.3	Class A Amplifier	180	-23	180	3.0	45.0		6,500				
85A2	VOLTAGE REFERENCE	2 1/8" x 3/4"				Voltage Regulator	Striking Volts, 125. Regulated Volts, 85. Current Range, 1-10mA.										
6005	POWER PENTODE						Ruggedized version of Type 6AQ5.										
6057	TWIN-TRIODE						Ruggedized version of Type 12AX7.										
6058	TWIN-DIODE						Ruggedized version of Type 6AL5.										
6059	LOW-NOISE PENTODE						Ruggedized version of Type 6BR7.										
6060	TWIN-TRIODE						Ruggedized version of Type 12AT7.										
6061	POWER PENTODE						Ruggedized version of Type 6BW6.										
6063	FULL-WAVE RECTIFIER						Ruggedized version of Type 6X4.										



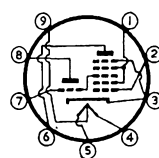
6U3, 19Y3
19X3



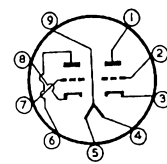
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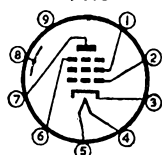
6X2



12AH8



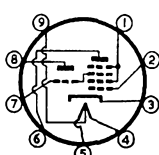
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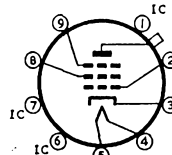
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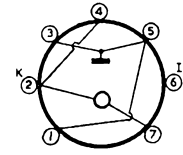
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20D3



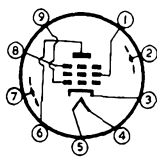
21A6



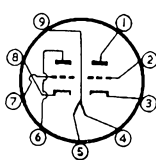
85A2

6064 to EB91

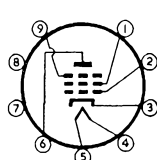
TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING			USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCT. (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
6064	SHARP CUT-OFF PENTODE		Ruggedized version of Type Z77.													
6065	REMOTE CUT-OFF PENTODE		Ruggedized version of Type W77.													
6066	TWIN-DIODE TRIODE		Ruggedized version of Type 6AT6.													
6067	TWIN-TRIODE		Ruggedized version of Type 12AU7.													
6073	VOLTAGE REGULATOR		Ruggedized version of Type OA2.													
6074	VOLTAGE REGULATOR		Ruggedized version of Type OB2.													
6084	LONG-LIFE SHARP CUT-OFF PENTODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.3	Class A Amplifier	250	-2	100	0.55	3.0	1.8 meg.	1,850	3,300	—	—
6085	LONG-LIFE DOUBLE TRIODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.6	Single Section Class A Amplifier	250	-5.5	—	—	6.0	11,100	2,700	30	—	—
6086	POWER PENTODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	18.0	0.1	Class A Amplifier	210	-1.8	120	1.7	8.3	440,000	8,200	3,600	20,000	0.66
DA90	H-F DIODE		Identical to Type 1A3.													
DAF91	DIODE-PENTODE		Identical to Type 1S5.													
DAF96	DIODE PENTODE		Identical to Type 1AH5.													
DC80	H-F TRIODE		Identical to Type 1E3.													
DCC90	TWIN-TRIODE		Identical to Type 3A5.													
DF91	REMOTE CUT-OFF PENTODE		Identical to Type 1T4.													
DF92	SHARP CUT-OFF PENTODE		Identical to Type 1L4.													
DF96	REMOTE CUT-OFF PENTODE	2 $\frac{1}{4}$ " x $\frac{3}{4}$ "	F.	1.4	0.025	Class A Amplifier	90	0	90	0.5	1.65	1.4 meg.	850	1,200	—	—
DK91	PENTAGRID CONVERTER		Identical to Type 1R5.													
DK92	PENTAGRID CONVERTER		Identical to Type 1AC6.													
DK96	PENTAGRID CONVERTER		Identical to Type 1AB6.													
DL91	POWER PENTODE		Identical to Type 1S4.													
DL92	POWER PENTODE		Identical to Type 3S4.													
DL93	POWER PENTODE		Identical to Type 3A4.													
DL94	POWER PENTODE		Identical to Type 3V4.													
DL95	POWER PENTODE		Identical to Type 3Q4.													
DL96	POWER PENTODE		Identical to Type 3C4.													
DY30	HALF-WAVE RECTIFIER		Identical to Type 1B3-GT.													
EAC91	H-F DIODE-TRIODE	2 $\frac{5}{8}$ " x $\frac{3}{4}$ "	H.	6.3	0.3	Class A Amplifier	200	-2.8	—	—	7.5	12,800	2,800	36	—	—
EB34	DUO-DIODE	3 $\frac{1}{4}$ " x 1 $\frac{7}{16}$ "	H.	6.3	0.2	Other electrical characteristics similar to Type 6H6-G.										
EB91	DUO-DIODE		Identical to Type 6AL5.													



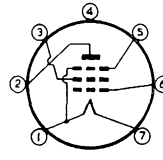
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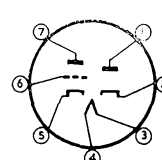
6085



6086

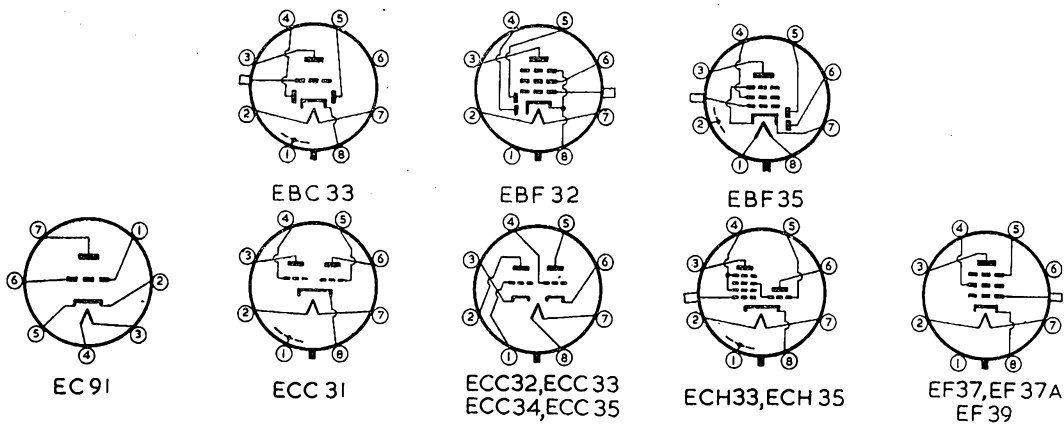


DF96



EAC91

TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts
			C.T.	Volts	Amp.											
EBC33	DUO-DIODE TRIODE	4" x 1 1/4"	H.	6.3	0.2	Class A Amplifier	250	-5.5	—	—	5.0	15,000	2,000	30	—	—
EBF32	DUO-DIODE PENTODE	4 7/16" x 1 5/16"	H.	6.3	0.2	Class A Amplifier	250	-2.0	100	1.6	5.0	1.3 meg.	1,800	2,340	—	—
EBF35	DUO-DIODE PENTODE	Identical to Type EBF32, except for basing.														
EBF80		Identical to Type 6N8.														
EC80		Identical to Type 6Q4.														
EC81		Identical to Type 6R4.														
EC91	H-F TRIODE	2 1/8" x 3/4"	H.	6.3	0.3	Class A Amplifier	250	-1.5	—	—	10.0	12,000	8,500	100	—	—
ECC31	TWIN-TRIODE	4 3/16" x 1 1/8"	H.	6.3	0.95	Single Section Class A Amplifier	250	-4.6	—	—	6.0	14,000	2,300	32	—	—
ECC32	TWIN-TRIODE	4 3/16" x 1 1/8"	Identical to Type ECC31, except that ECC32 has separate Cathodes.													
ECC33	TWIN-TRIODE	3 1/4" x 1 5/16"	H.	6.3	0.4	Single Section Class A Amplifier	250	-4.0	—	—	9.0	9,700	3,600	35	—	—
ECC34	TWIN-TRIODE	4 3/16" x 1 1/8"	H.	6.3	0.95	Single Section Class A Amplifier	250	-16	—	—	10.0	5,200	2,200	11.5	—	—
ECC35	TWIN-TRIODE	3 1/4" x 1 5/16"	H.	6.3	0.4	Single Section Class A Amplifier	250	-2.5	—	—	2.3	34,000	2,000	68	—	—
ECC81	TWIN-TRIODE	Identical to Type 12AT7.														
ECC91	TWIN-TRIODE	Identical to Type 6J6.														
ECH33	TRIODE-HEXODE CONVERTER	4 1/2" x 1 7/16"	H.	6.3	0.2	Other electrical characteristics identical to ECH35.										
ECH35	TRIODE-HEXODE CONVERTER	4 1/2" x 1 7/16"	H.	6.3	0.3	Converter	250	-2	100	3.0	3.0	1.3 meg.	650	—	—	—
ECL80		Identical to Type 6AB8.														
EF37	SHARP CUT-OFF PENTODE	4" x 1 1/4"	H.	6.3	0.2	Class A Amplifier	250	-2	100	0.8	3.0	2.5 meg.	1,800	4,500	—	—
EF37A	LOW-NOISE PENTODE	Identical to Type EF37.														
EF39	REMOTE CUT-OFF PENTODE	4" x 1 1/4"	H.	6.3	0.2	Class A Amplifier	250	-2.5	100	1.7	6.0	1.25 meg.	2,200	2,750	—	—
EF80		Identical to Type 6BX6.														
EF91	HIGH-SLOPE R-F PENTODE	Identical to Type Z77.														
EF92	REMOTE CUT-OFF PENTODE	Identical to Type W77.														
EF93	REMOTE CUT-OFF PENTODE	Identical to Type 6BA6.														
EF95	H-F PENTODE	Identical to Type 6AK5.														



EL33 to UBF80

TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts				
			C.T.	Volts	Amp.															
EL33	POWER PENTODE	5" x 1 1/8"	Electrically identical to Type 6AG6-G. $P_o = 4.5W$																	
EL35	POWER PENTODE	5 1/8" x 1 1/8"	H.	6.3	1.35	Class A Amplifier	250	-15.5	250	8.0	72.0	15,500	5,000	77.5	2,500	6.0				
EL37	POWER PENTODE	5 3/8" x 2 1/8"	H.	6.3	1.4	Class A Amplifier	250	-13.5	250	13.5	100.0	13,500	11,000	148	2,500	10.5				
EL81	POWER PENTODE	Identical to Type 6CJ6.																		
EL83	POWER PENTODE	Identical to Type 6CK6.																		
EL91	POWER PENTODE	Identical to Type 6AM5.																		
EM34	TUNING INDICATOR	3 1/2" x 1 1/4"	H.	6.3	0.2	Tuning Indicator	250	-5 to -16	—	—	0.75	—	—	—	—	—				
EQ80	F.M. LIMITER DETECTOR	Identical to Type 6BE7.																		
EY51	HALF-WAVE RECTIFIER	Identical to Type 6X2.																		
EY80	FULL-WAVE RECTIFIER	Identical to Type 6U3.																		
EY91	HALF-WAVE RECTIFIER	2 1/8" x 3/4"	H.	6.3	0.2	Rectifier	Max. Peak Inverse Plate Volts, 750.		Max. Peak Plate Current, 375 mA.								Max. D.C. Output Current, 75mA.		Max. Input Condenser, 32mF.	
EZ35	FULL-WAVE RECTIFIER	Identical to Type 6X5-GT.																		
EZ82	FULL-WAVE RECTIFIER	Derated 6Y4.																		
GZ32	FULL-WAVE RECTIFIER	Similar to Type 5V4-G.																		
PL21	THYRATRON	Identical to Type 2D21.																		
PL33	POWER PENTODE	5" x 1 1/8"	H.	19.0	0.3	Class A Amplifier	225	-5.3	225	3.4	32	50,000	9,000	450	7,000	3.3				
PL38	POWER PENTODE	5 1/8" x 2 1/8"	H.	30.0	0.3	Class A Amplifier	200	-5.5	200	9.0	75	20,000	13,500	270	—	—				
PL81	POWER PENTODE	Identical to Type 21A6.																		
PL82	POWER PENTODE	Identical to Type 16A5.																		
PL83	POWER PENTODE	Identical to Type 15A6.																		
PY80	HALF-WAVE RECTIFIER	Identical to Type 19X3.																		
PY82	HALF-WAVE RECTIFIER	Identical to Type 19Y3.																		
PZ30	FULL-WAVE RECTIFIER	4 1/2" x 1 1/2"	H.	52.0	0.3	Rectifier	Max. D.C. Plate Volts, 240 r.m.s.		Max. D.C. Plate Current, 400mA.											
U30	BARRETTTER	4 7/8" x 1 1/8"	F.	—	0.1	Current Regulator	Voltage Range, 70-122.5.													
UBF80	DUO-DIODE PENTODE	2 1/8" x 7/8"	H.	17.0	0.1	Other electrical characteristics identical to Type 6N8.														

