

RADIOTRON

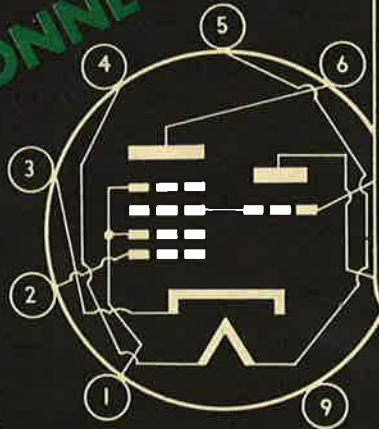
RECEIVING VALVE MANUAL

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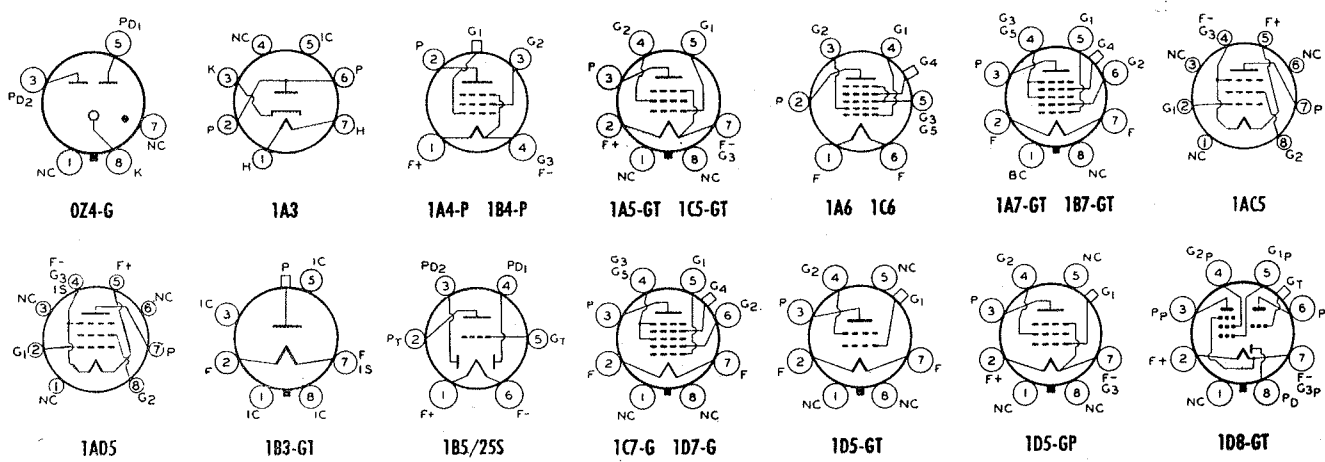
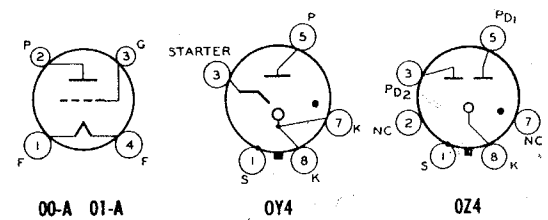
RADIOTRON RECEIVING VALVE MANUAL

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 Wats	Type
			C. T.	Volts												
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 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 \bullet . Conversion Transcond., 300 micromhos.				1A6
1A7-GT	Pentagrid Converter	C3	D.C. F	1.4 0.05	Converter	90	0	45 \clubsuit	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 \clubsuit	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 \bullet . 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 \S	720 750			1D5-GP	
1D5-GT	Remote-Cutoff Tetrode	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	

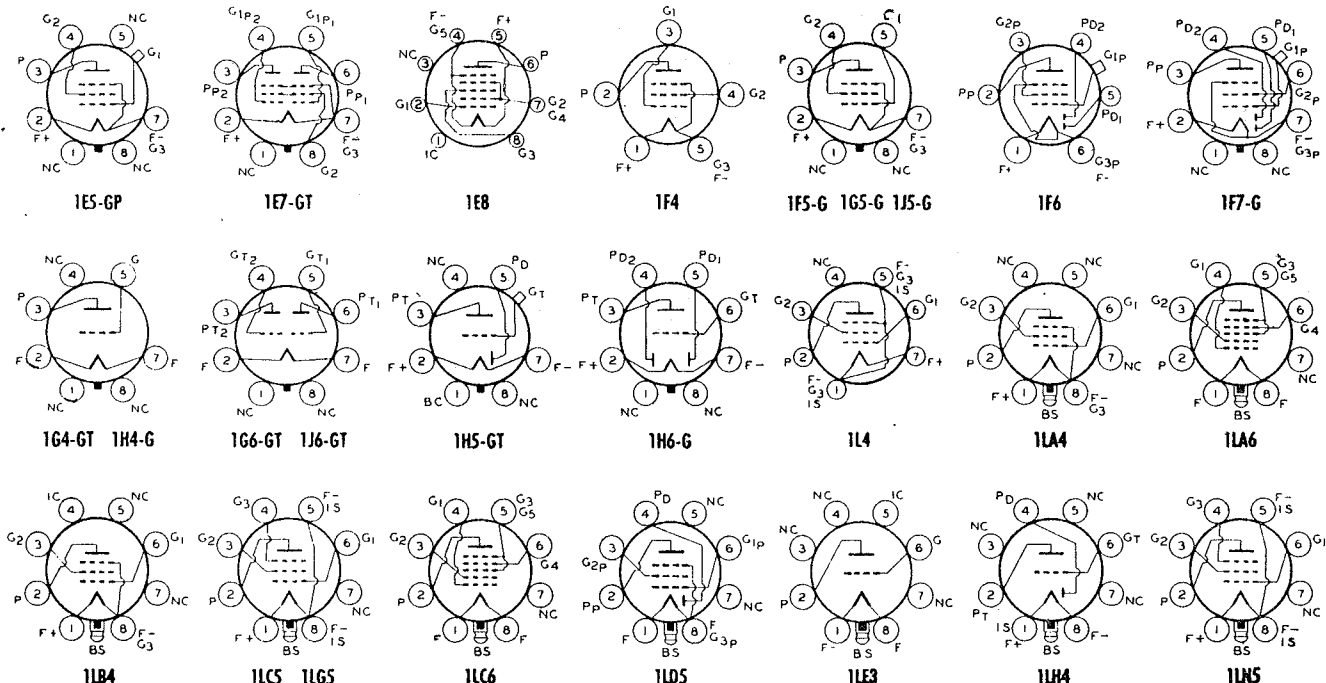
Four vertical rules before or after type No. = Subminiature type.
 Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
 Two vertical rules before or after type No. = Metal type.
 One vertical rule before or after type No. = GT or other larger glass type.
 Light Face = Discontinued type.
 For key to tube dimensions and, legend for base and envelope connection diagrams, see page 23.
 * For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.
 \bullet 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-plate) μ mhos	Amplification Factor	Load for 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	Class A Amplifier	90 180	- 3.0 - 3.0	67.5 67.5	0.7 0.6	1.6 1.7	1.0§ 1.3	600 650				1E5-GP		
1E7-GT	Twin-Pentode Power Amplifier	C2b	D.C. F	2.0	0.24	Class A Amplifier	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	Converter	30 45 67.5	0 0 0	30 45 67.5	0.8 1.1 1.5	0.3 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	Amplifier	For other characteristics, refer to Type 1F5-G.												1F4
1F5-G	Power Amplifier Pentode	D10	D.C. F	2.0	0.12	Class A Amplifier	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	D9	D.C. F	2.0	0.06	Pentode Unit as Amplifier	For other characteristics, refer to Type 1F7-G.												1F6
1F7-G	Duplex-Diode Pentode	D8	D.C. F	2.0	0.06	Pentode Unit as RF Amplifier	180	- 1.5	67.5	0.7	2.2	1.0§	650				1F7-G		
						Pentode Unit as AF Amplifier	135*	- 2.0	Screen Supply, 135 volts applied through 0.8-megohm resistor. Grid Resistor, ** 1.0 megohm. Voltage Gain, 46.										
1G4-GT	Medium-Mu Triode	C4	D.C. F	1.4	0.05	Class A Amplifier	90	- 6.0			2.3	10700	825	8.8			1G4-GT		
1G5-G	Power Amplifier Pentode	D10	D.C. F	2.0	0.12	Class A Amplifier	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	Class B Amplifier	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	Class A Amplifier	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		
						Class B Amplifier	157.5	- 15.0			1.0			8000	2.1†				
1H5-GT	Diode High-Mu Triode	C3	D.C. F	1.4	0.05	Triode Unit as Class A Amplifier	90	0			0.15	240000	275	65			1H5-GT		
1H6-G	Duplex-Diode Triode	D3	D.C. F	2.0	0.06	Triode Unit as Class A Amplifier	135	- 3.0			0.8	35000	575	20			1H6-G		
1J5-G	Power Pentode	D10	D.C. F	2.0	0.12	Class A Amplifier	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	Class B Amplifier	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	Class A Amplifier	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	Amplifier	For other characteristics, refer to Type 1A5-GT.												1LA4
1LA6	Pentagrid Converter	B5	D.C. F	1.4	0.05	Converter	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	Class A Amplifier	For other characteristics, refer to Pentode Unit of Type 1D8-GT.												1LB4
1LC5	RF Amplifier Pentode	B5	D.C. F	1.4	0.05	Class A Amplifier	45 90	0 0	45 45	0.35 0.30	1.10 1.15	700000 1.0§	750 775				1LC5		
1LC6	Pentagrid Converter	B5	D.C. F	1.4	0.05	Converter	45 90	0 0	35 35	0.75 0.75	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	Pentode Unit as Class A Amplifier	Plate Supply, 90 volts applied through 1 meg. resistor. Screen Supply, 90 volts applied through 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	Class A Amplifier	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	Class A Amplifier	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	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 1H5-GT.												1LH4
1LN5	RF Amplifier Pentode	B5	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.35	1.6	1.1§	800				1LN5		

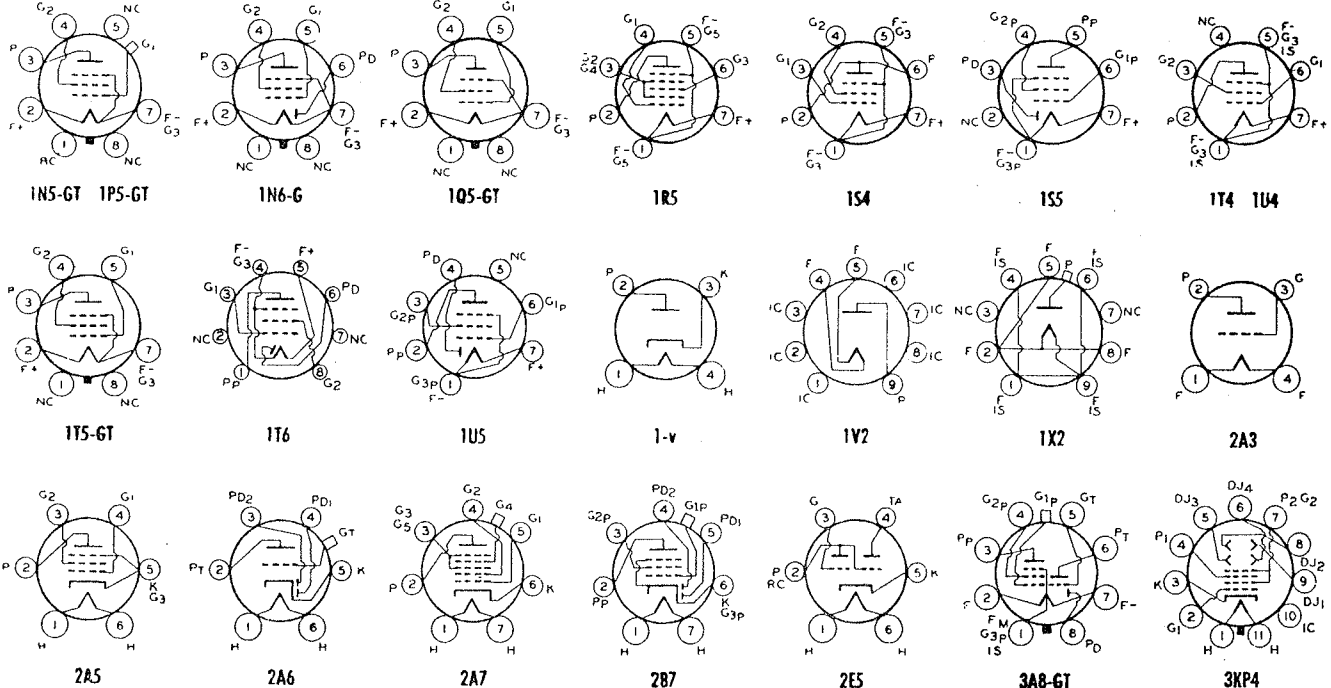
For footnotes, see preceding page



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) μmhos	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 A	B0	D.C. F	1.4	0.05	Converter	45 90	0	45 67.5	1.9 3.2	0.7 1.6	600000 600000	Grid #1 Resistor, 100000 ohms. Conversion Transcond., 300 micromhos.				1R5
1S4	Power Amplifier Pentode	B0	D.C. F	1.4	0.1	Class A Amplifier	45 90	-4.5 -7.0	45 67.5	0.8 1.4	3.3 7.4	100000 100000	1250 1575	—	8000 8000	0.065 0.27	1S4
1S5	Diode-Pentode	B0	D.C. F	1.4	0.05	Pentode Unit as AF Amplifier	Plate Supply, 90 volts applied through 1 meg. resistor. 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 90	0	45 67.5	0.7 1.4	1.7 3.5	350000 500000	700 900	—	—	—	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 45 67.5	0	30 45 67.5	0.10 0.21 0.4	0.33 0.75 1.6	500000 500000 400000	330 475 600	—	—	—	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	Plate Supply, 90 volts applied through 1 meg. resistor. Screen Supply, 90 volts applied through 3.3 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 66 approx.										1U5
1-v	Half-Wave Rectifier	D6	H	6.3	0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 325 Max. D-C Output Ma., 45 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. Peak Plate Ma., 10 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. Peak Plate Ma., 10 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	250 300 300	-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-G.										2B7
2E5	Electron-Ray Tube	D5	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 2.8	0.1 0.05	Triode Unit as Class A Amplifier Pentode Unit as Class A Amplifier	90 90	0 0	— 90	— 0.5	0.2 1.5	200000 800000	325 750	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 3/8" x 2 1/2" 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 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.										3KP4

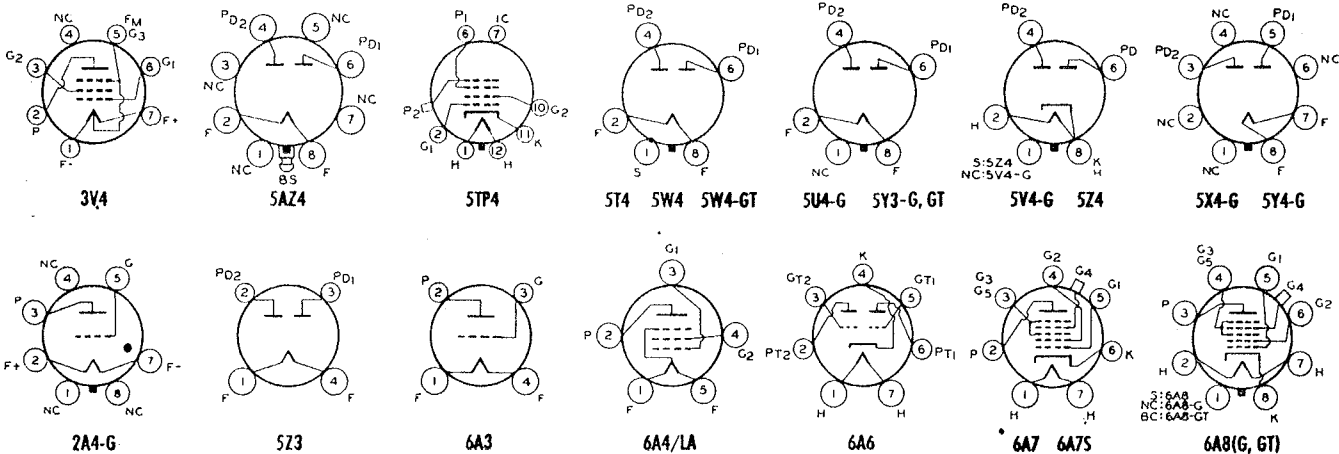
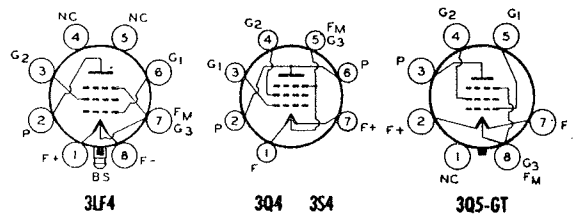
For footnotes, see following page



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.												
3L4	Beam Power Amplifier	B5	D.C. 1.4 F 2.8	0.1 0.05	Class A Amplifier												3L4
3Q4	Power Amplifier Pentode	B0	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	B0	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	B0	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.
 • 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.



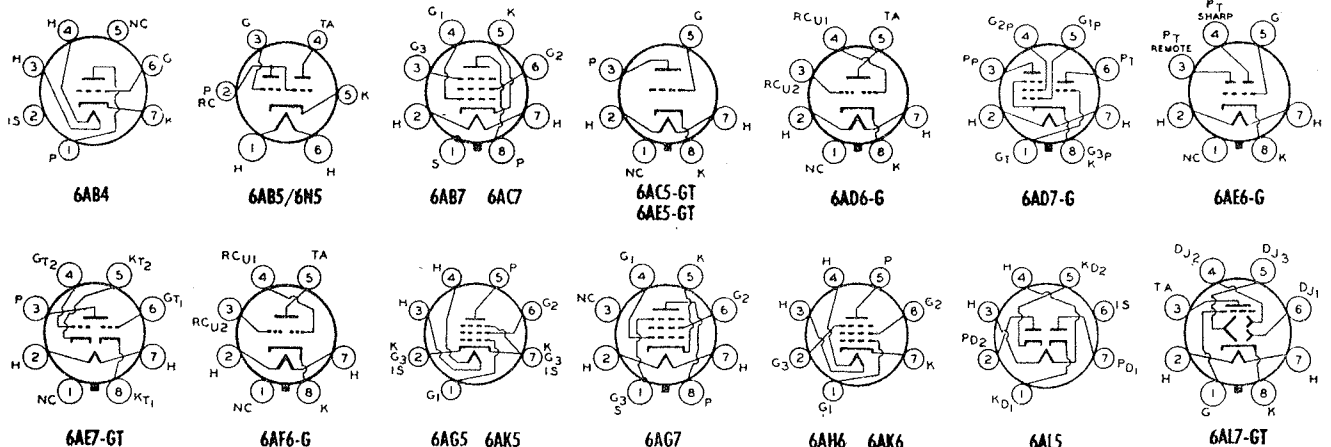
6AB4 to 6AL7-GT

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 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.												
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	Plate & Target Supply = 135 volts. Triode Plate Resistor = 0.25 meg. Target Current = 2.0 ma. Grid Bias, - 10.0 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.5 ma. Plate & Target Supply = 135 volts. Triode Plate Resistor = 1.0 meg. Target Current = 1.9 ma. Grid Bias, - 15.5 volts; Shadow Angle, 0°. Bias, 0 volts; Angle 90°; Plate Current, 0.13 ma.										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-μm Power Amplifier Triode	C3	H	6.3	0.4	Class B Amplifier Dynamic-Coupled Amplifier With 76 Driver	250	0			5.0				10000	8.0†	6AC5-GT
							Bias for both 6AC5-GT and 76 is developed in coupling circuit. Average Plate Current of Driver = 5.5 milliamperes. Average Plate Current of 6AC5-GT = 32 milliamperes.										
6AC7	Sharp-Cutoff Pentode	B2	H	6.3	0.45	Class A Amplifier	300	Cath. Bias	150	2.5	10.0	1.0‡	9000		Cathode-Bias Resistor, 160 ohms		6AC7
6AD6-G	Electron-Ray Tube Twin Indicator Type	B5a	H	6.3	0.15	Visual Indicator	Target Voltage, 100 volts. Control-Electrode Voltage, - 23 volts; Shadow Angle, 135°; Target Current, 0.8 ma. Control-Electrode Voltage, 45 volts; Angle, 0°; Target Current, 1.5 ma. Target Voltage, 150 volts. Control-Electrode Voltage, - 50 volts; Shadow Angle, 135°; Target Current, 1.2 ma. Control-Electrode Voltage, 75 volts; Angle, 0°; Target Current, 3 ma.										6AD6-G
6AD7-G	Triode-Power Amplifier Pentode	D10	H	6.3	0.85	Triode Unit as Class A Amplifier Pentode Unit as Class A Amplifier Pentode Unit With 6F6-G as Push-Pull Class AB ₁ 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	9.0†		
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 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	- 1.5			4.5	35000	950	33		6AE7-GT	
							250	- 9.5			0.01						
6AF6-G	Electron-Ray Tube Twin Indicator Type	B0c	H	6.3	0.15	Visual Indicator	Target Voltage, 125 volts. Control-Electrode Voltage, 0 volts; Shadow Angle, 95°; Target Current, 0.65 ma. Control-Electrode Voltage, 80 volts; Angle, 0°. Target Voltage, 250 volts. Control-Electrode Voltage, 0 volts; Shadow Angle, 95°; Target Current, 2.2 ma. Control-Electrode Voltage, 160 volts; Angle, 0°.										6AF6-G
							100	Cath. Bias	100	1.5	4.5	700000	4250	Cath. Bias Res., 180 ohms	6AG5		
6AG5	Sharp-Cutoff Pentode	B0	H	6.3	0.3	As Pentode Class A Amplifier As Triode Class A Amplifier	250	Bias	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	Cath. Bias			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	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma. per Plate, 54 Max. D.C. Output Ma. per Plate, 9 Max. Peak Heater Cathode Volts, 330										6AL5
6AL7-GT	Electron-Ray Tube Indicator Type	C0a	H	6.3	0.15	Visual Indicator	Target Voltage, 315 volts Grid Voltage = 0 volts Cathode Bias Res., 3300 ohms approx. Grid Voltage for Pattern Cutoff, - 7 volts approx. Deflecting Electrodes—No. 1, No. 2 and No. 3 Voltage = 0										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.

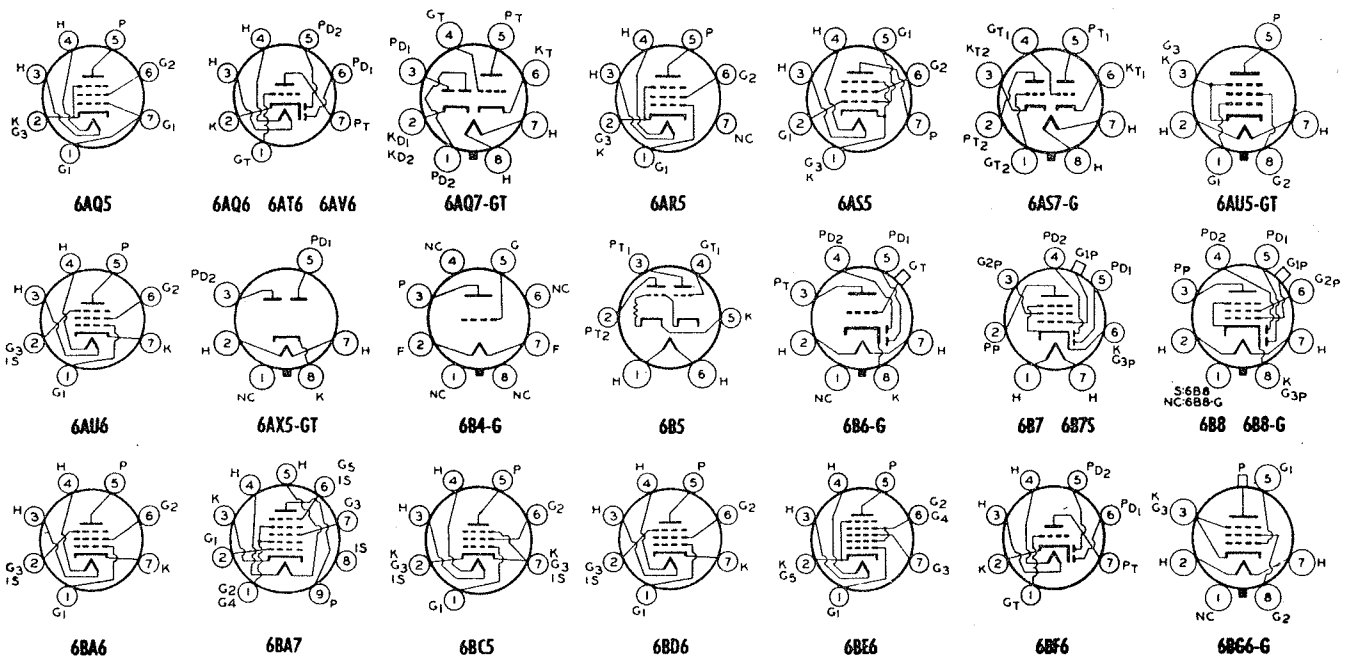
** For grid of following tube.
▲ Applied through plate resistor of 250000 ohms.
■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
▼ Applied through plate resistor of 100000 ohms.
• With tube mounted horizontally and pins No. 4 and No. 8 in a 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 mhos	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	4.5	
						250	-15.0	250	5.0	70.0	60000	---	---	10000	10.0	
6AQ6	Duplex-Diode High-Mu Triode	B0	H	6.3	0.15	100	-1.0	---	---	0.8	61000	1150	70	---	---	6AQ6
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	250	-18	250	10	32.0	68000	2300	---	7600	3.4	6AS5
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
6AT6	Duplex-Diode High-Mu Triode	B0	H	6.3	0.3	100	-1.0	---	---	0.8	54000	1300	70	---	---	6AT6
6AT6	Duplex-Diode High-Mu Triode	B0	H	6.3	0.3	250	-3.0	---	---	1.0	58000	1200	70	---	---	6AT6
6AU5-GT	Beam Power Amplifier	C2b	H	6.3	1.25	100	---	100	2.1	5.0	500000	3900	Cath. Bias Res., 150 ohms	---	---	6AU5-GT
6AU6	RF Amplifier Pentode	B0	H	6.3	0.3	250	-1.0	---	---	0.5	80000	1250	100	---	---	6AU6
6AV6	Twin-Diode High-Mu Triode	B0	H	6.3	0.3	250	-2.0	---	---	1.2	62500	1600	100	---	---	6AV6
6AX5-GT	Full-Wave Rectifier	C2b	H	6.3	1.2	250	-45.0	---	---	60.0	800	5250	4.2	2500	3.20	6AX5-GT
6B4-G	Power Amplifier Triode	E2	F	6.3	1.0	325	---	Cath. Bias, 850 ohms	---	80.0	---	---	---	5000	10.0	6B4-G
6B4-G	Power Amplifier Triode	E2	F	6.3	1.0	325	---	Cath. Bias, 850 ohms	---	80.0	---	---	---	3000	15.0	6B4-G
6B5	Direct-Coupled Power Amplifier	D12	H	6.3	0.8	---	---	---	---	---	---	---	---	---	---	6B5
6B6-G	Duplex-Diode High-Mu Triode	D8	H	6.3	0.3	---	---	---	---	---	---	---	---	---	---	6B6-G
6B7	Duplex-Diode Pentode	D9	H	6.3	0.3	---	---	---	---	---	---	---	---	---	---	6B7
6B7S	Duplex-Diode Pentode	D9	H	6.3	0.3	---	---	---	---	---	---	---	---	---	---	6B7S
6B8	Duplex-Diode Pentode	C1	H	6.3	0.3	---	---	---	---	---	---	---	---	---	---	6B8
6B8-G	Duplex-Diode Pentode	D8	H	6.3	0.3	100	-3.0	100	1.7	5.8	300000	950	---	---	---	6B8-G
6B8-G	Duplex-Diode Pentode	D8	H	6.3	0.3	250	-3.0	125	2.3	9.0	600000	1125	---	---	---	6B8-G
6BA6	RF Amplifier Pentode	B0	H	6.3	0.3	100	---	Cath. Bias, 3500 ohms	---	4.4	10.8	250000	4300	Cath. Bias Res., 68 ohms	---	6BA6
6BA7	Pentagrid Converter	D0a	H	6.3	0.3	100	-1.0	100	10.2	3.6	500000	1.0	---	---	---	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	B0	H	6.3	0.3	250	-1.5	100	7.5	2.6	400000	1.0	---	---	---	6BE6
6BF6	Duplex-Diode Triode	B0	H	6.3	0.3	250	-1.5	100	7.5	2.6	400000	1.0	---	---	---	6BF6
6BG6-G	Beam Power Amplifier	F1	H	6.3	0.9	---	---	---	---	---	---	---	---	---	---	6BG6-G

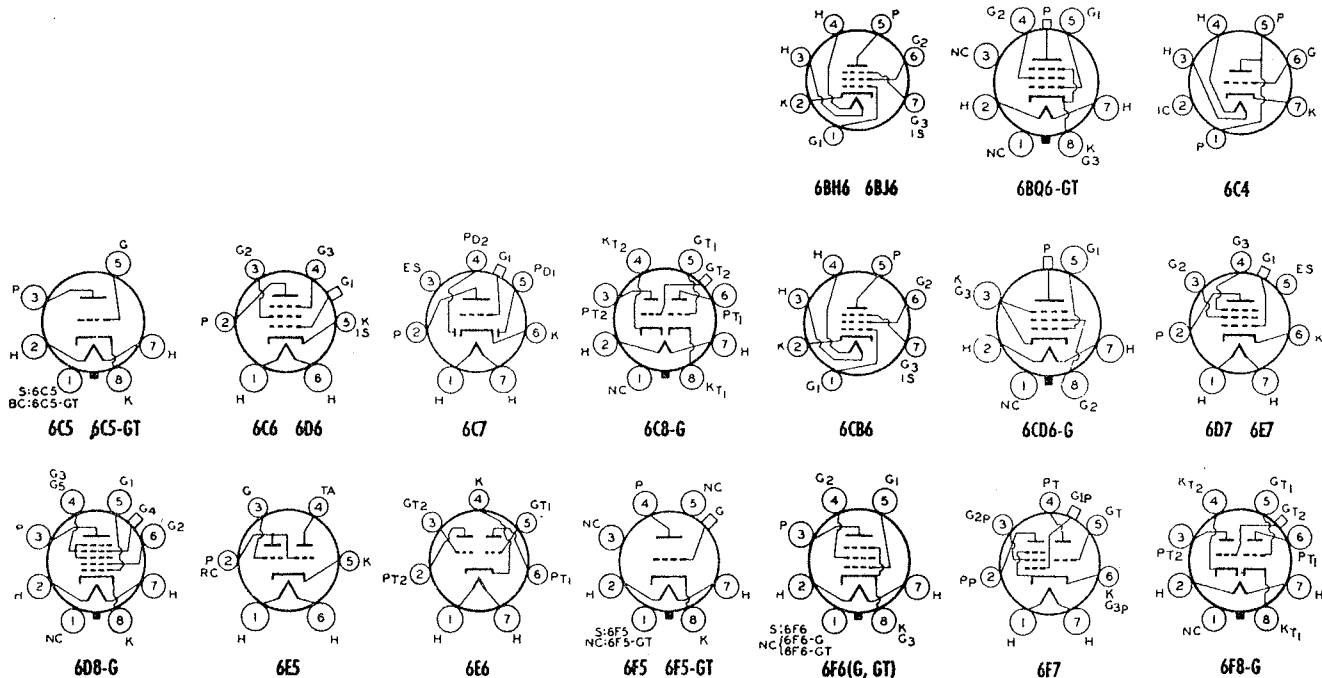
For footnotes, see preceding page.



6BH6 to 6F8-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 Vmts	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	Amps.												
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 \ddagger	3400 4600	—	—	—	6BH6	
6BJ6	RF Amplifier Pentode	B0	H	6.3	0.15	100 250	- 1.0 - 1.0	100 150	3.5 3.3	9.0 9.2	250000 1.3 \ddagger	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	100 250	— - 8.5	— —	— —	11.8 10.5	6250 7700	3100 2200	19.5 17	—	—	—	6C4
						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	100 250	— - 8.0	— —	— —	8.0	10000 2000	2000 20	—	—	—	6C5	
6C5-GT		C3				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	250	- 17.0 approx.	—	—	—	—	—	—	—	—	6C6	
6CB6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	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	250	- 9.0	—	—	4.5	16000	1250	20	—	—	6C7	
6C8-G	Twin-Triode Amplifier	D8	H	6.3	0.3	250	- 4.5	—	—	3.2	22500	1600	36	—	—	6C8-G	
6CD6-G	Beam Power Amplifier	F1	H	6.3	2.5	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	For other characteristics, refer to Type 6U7-G.										6D6	
6D7	Sharp-Cutoff Pentode	D13	H	6.3	0.3	For other characteristics, refer to Type 6J7.										6D7	
6D8-G	Pentagrid Converter	D8	H	6.3	0.15	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 *. Conversion Transcond., 550 micromhos.	—	6D8-G	
6E5	Electron-Ray Tube	D4	H	6.3	0.3	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	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	For other characteristics, refer to Type 6U7-G.										6E7	
6F5	High-Mu Triode	C1	H	6.3	0.3	For other characteristics, refer to Type 6SF5.										6F5	
6F5-GT	High-Mu Triode	C2b	H	6.3	0.3	For other characteristics, refer to Type 6SF5.										6F5-GT	
6F6	Power Pentodes	C2	H	6.3	0.7	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	
						250	- 20.0	—	—	31.0	2600	2600	6.8	4000	0.85		
6F6-G	Power Pentodes	D10	H	6.3	0.7	315 315	Cath. Bias - 24.0	285 285	12.0 \clubsuit 12.0 \clubsuit	62.0 \clubsuit 62.0 \clubsuit	—	—	10000 10000	10.5 \ddagger 11.0 \ddagger	6F6-G		
375 375						Cath. Bias - 26.0	250 250	8.0 \clubsuit 5.0 \clubsuit	54.0 \clubsuit 34.0 \clubsuit	—	—	10000 10000	19.0 \ddagger 18.5 \ddagger				
6F6-GT	Power Pentodes	C10	H	6.3	0.7	350 350	Cath. Bias - 38.0	—	—	50.0 \clubsuit 48.0 \clubsuit	—	—	10000 6000	9.0 \ddagger 13.0 \ddagger	6F6-GT		
Class AB ₁ Amplifier						—	—	—	—	—	—	—	—	—		—	—
6F7	Triode-Pentode	D9	H	6.3	0.3	100	- 3.0 min.	—	—	3.5	16000	500	8	—	6F7		
						100	- 3.0 min.	100	1.6	6.3	290000	1050	—	—			
						250	- 10.0	100	1.5	6.3	850000	1100	—	—			
6F8-G	Twin-Triode Amplifier	D8	H	6.3	0.6	For other characteristics, refer to Type 6J5.										6F8-G	

For footnotes, see following page.

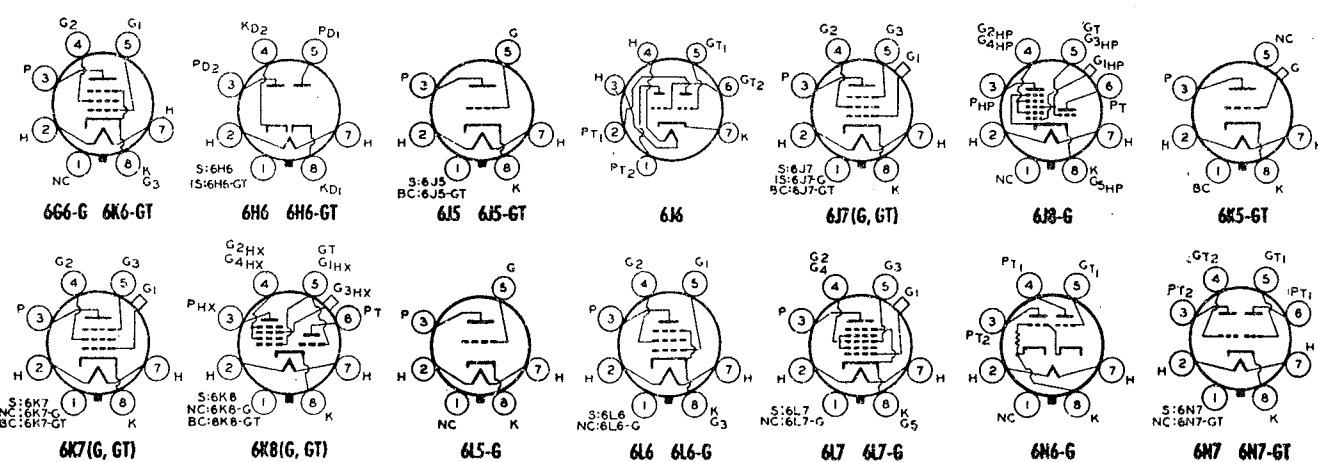


Type	Name	Tube Dimensions	Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-conductance (Grid-plate) μ mhos	Amplification 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	180	- 9.0	130	2.5	15.0	175000	2300	—	10000	1.1		
						Class A Amplifier	180	-12.0	—	—	11.0	4750	2000	9.5	12000	0.25		
6H6	Twin Diodes	A1a	H	6.3	0.3	Voltage Doubler	Max. A-C Supply Volts per Plate (RMS), 150										6H6	
6H6-GT		C3				Half-Wave Rectifier	Total Effect. Plate-Supply Imped. per Plate: half-wave, 30 ohms; full-wave, 15 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	7100	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		
6J7	Sharp-Cutoff Pentodes	C1	H	6.3	0.3	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.		—	—	6J7		
						Pentode Class A RF Amplifier	100	- 3.0	100	0.5	2.0	1.0 ϕ	1185	—	6J7-G			
						Pentode Class A AF Amplifier	250	- 3.0	100	0.5	2.0	1.0 + ϕ	1225	—				
6J7-GT	C3	Pentode Bias Detector	250	- 4.3	100	—	Cathode Current 0.43 ma.		—	Plate Resistor, ** 250000 ohms.		—	—	6J7-GT				
6J8-G	Triode-Heptode Converter	D8	H	6.3	0.3	Triode Unit as Oscillator	100	—	Triode-Grid Resistor, 50000 ohms		4.0	Triode-Grid & Heptode-Grid Current, 0.3 ma.		—	6J8-G			
						Heptode Unit as Mixer	250	- 3.0	100	3.0	1.4	900000	4.0 ϕ	Conversion Transcond., 250 micromhos.				
6K5-GT	High-Mu Triode	C3	H	6.3	0.3	Class A Amplifier	100	- 1.5	—	—	0.35	78000	900	70	—	6K5-GT		
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	
						Push-Pull Class A Amplifier	250	-18.0	250	5.5	32.0	90000	2300	—	7600	3.40		
						Class A Amplifier	315	-21.0	250	4.0	25.5	110000	2100	—	9000	4.50		
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-GT		C3				Mixer in Superheterodyne	250	- 10.0	100	—	—	—	—	600000	1650	—	—	
6K8	Triode-Hexode Converters	C1	H	6.3	0.3	Triode Unit as Oscillator	100	—	Triode-Grid Resistor, 50000 ohms		3.8	Triode-Grid & Hexode-Grid Current, 0.15 ma.		—	6K8			
6K8-GT		C10				Hexode Unit as Mixer	100	- 3.0	100	6.2	2.3	400000	Conversion Transcond., 325 micromhos.					
6L5-G	Medium-Mu Triode	D3	H	6.3	0.15	Class A Amplifier	135	- 5.0	—	—	3.5	11300	1500	17	—	6L5-G		
6L6	Beam Power Amplifiers	D7	H	6.3	0.9	Single-Tube Class A Amplifier	250	-14.0	250	5.0	74.0	—	—	—	2500	6.5	6L6	
						Push-Pull Class A Amplifier	270	-17.5	270	11.0 ϕ	134.0 ϕ	—	—	—	—	5000		17.5 ϕ
						Class A Amplifier	270	-17.5	270	11.0 ϕ	134.0 ϕ	—	—	—	—	5000		18.5 ϕ
						Push-Pull Class AB ₁ Amplifier	360	-22.5	270	5.0 ϕ	88.0 ϕ	—	—	—	—	6600		26.5 ϕ
						Class AB ₂ Amplifier	360	-22.5	270	5.0 ϕ	88.0 ϕ	—	—	—	—	9000		24.5 ϕ
						Class A Amplifier	250	-20.0	—	—	40.0	—	—	—	—	1700		4700
6L7	Pentagrid Mixers	C1	H	6.3	0.3	Mixer in Superheterodyne	250	- 3.0	100	7.1	2.4	Oscillator-Grid (#3) Bias, -10 volts. Grid #3 Peak Swing, 12 volts minimum.		—	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. 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				Class B Amplifier	294	- 6.0	—	—	—	—	7.0	11000	3200	35		or more

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-meagohms.
 ‡ 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 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.												
6P5-GT	Medium-Mu Triode	C3	H	6.3	0.3	For other characteristics, refer to Type 76.										6P5-GT	
6P7-G	Triode-Pentode	D8	H	6.3	0.3	For other characteristics, refer to Type 67.										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	100 250 90x 300x	- 1.0 - 3.0 Cath. Bias, 7600 ohms. Cath. Bias, 3000 ohms.			0.8 1.1	58000 58000	1200 1200	70 70			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	250 90x 300x	- 9.0 Cath. Bias, 4400 ohms. Cath. Bias, 3800 ohms.			9.5	8500	1900	16			6R7 6R7-G 6R7-GT
6S4	Medium-Mu Triode	B3	H	6.3	0.6	Vertical Deflection Amplifier in TV Equipment	Max. DC Plate Volts, 500 Max. DC Cathode Ma., 300 Max. Peak Positive-Pulse Plate Volts, 2000 Max. Plate Dissipation, 7.5 watts										6S4
6S7 6S7-G	Remote-Cutoff Pentodes	C1 D8	H	6.3	0.15	Class A Amplifier	135 250	- 3.0 - 3.0	67.5 100	0.9 2.0	3.7 8.5	1.0§ 1.0§	1250 1750				6S7 6S7-G
6S8-GT	Triode-Diode Triode	C9b	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	- 1.0 - 2.0			0.4 0.9	110000 91000	900 1100	100 100			6S8-GT
6SA7	Pentagrid Converter	B2	H	6.3	0.3	Mixer	100 250	Self-Excited	100 100	8.5 8.5	3.3 3.5	500000	Grid #1 Resistor, 20000 ohms. Conversion Transcond., 450 micromhos.				6SA7
6SA7-GT	Pentagrid Converter	C3	H	6.3	0.3	Mixer	For other characteristics, refer to Type 6SA7.										6SA7-GT
6SB7-Y	Pentagrid Converter	B2	H	6.3	0.3	Mixer	100 250	- 1.0 - 1.0	100 100	10.2 10.0	3.6 3.8	500000	Grid #1 Resistor, 20000 ohms Conversion Transcond., 950 micromhos				6SB7-Y
6SC7	Twin-Triode Amplifier	B2	H	6.3	0.3	Each Unit as Amplifier	250	- 2.0			2.0	53000	1325	70			6SC7
6SF5 6SF5-GT	High-Mu Triodes	B2 C3	H	6.3	0.3	Class A Amplifier	100 250 90x 300x	- 1.0 - 2.0 Cath. Bias, 8800 ohms. Cath. Bias, 3200 ohms.			0.4 0.9	85000 66000	1150 1500	100 100			6SF5 6SF5-GT
6SF7	Diode-Remote-Cutoff Pentode	B2	H	6.3	0.3	Pentode Unit as Class A Amplifier	100 250	- 1.0 - 1.0	100 100	4.3 4.1	13.5 13.9	200000 700000	1975 2050				6SF7
6SG7	Remote-Cutoff Pentode	B2	H	6.3	0.3	Class A Amplifier	100 250 250	- 1.0 - 1.0 - 2.5	100 125 150	3.2 4.4 3.4	8.2 11.8 9.2	250000 900000	4100 4700 4000				6SG7
6SH7	Sharp-Cutoff Pentode	B2	H	6.3	0.3	Class A Amplifier	100 250	- 1.0 - 1.0	100 150	2.1 4.1	5.3 10.8	350000 900000	4000 4900				6SH7
6SJ7 6SJ7-GT	Sharp-Cutoff Pentodes	B2 C3	H	6.3	0.3	Class A Amplifier	100 250 90x 300x	- 3.0 - 3.0 Cath. Bias, 1700 ohms. Cath. Bias, 860 ohms.			0.9 0.8	700000	1575 1650				6SJ7 6SJ7-GT
6SK7 6SK7-GT	Remote-Cutoff Pentodes	B2 C3	H	6.3	0.3	Class A Amplifier	100 250	- 1.0 - 3.0	100 100	4.0 2.6	13.0 9.2	120000 800000	2350 2000				6SK7 6SK7-GT
6SL7-GT	Twin-Triode Amplifier	C3	H	6.3	0.3	Each Unit as Amplifier	250	- 2.0			2.3	44000	1600	70			6SL7-GT
6SN7-GT	Twin-Triode Amplifier	C3	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.										6SN7-GT
6SQ7 6SQ7-GT	Twin-Diode High-Mu Triodes	B2 C3	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250 90x 300x	- 1.0 - 2.0 Cath. Bias, 11000 ohms. Cath. Bias, 3900 ohms.			0.5 1.1	110000 85000	925 1175	100 100			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.

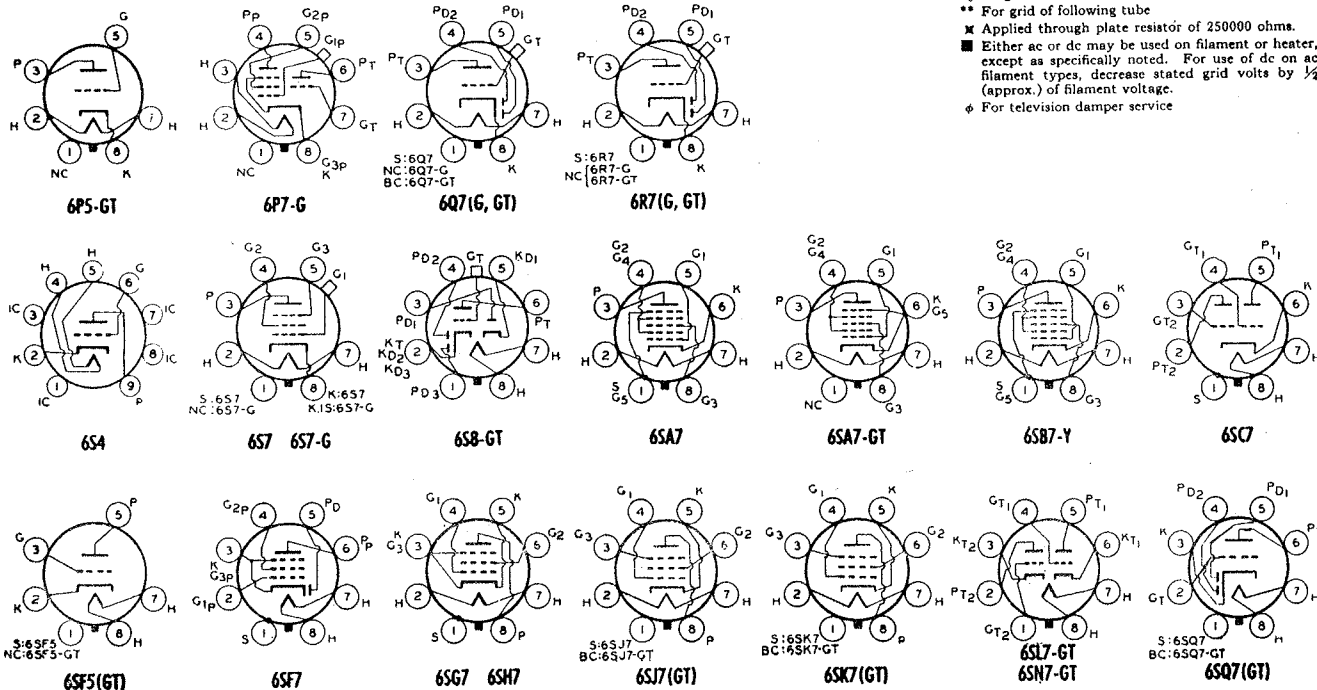
§ Megohms.

** For 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.

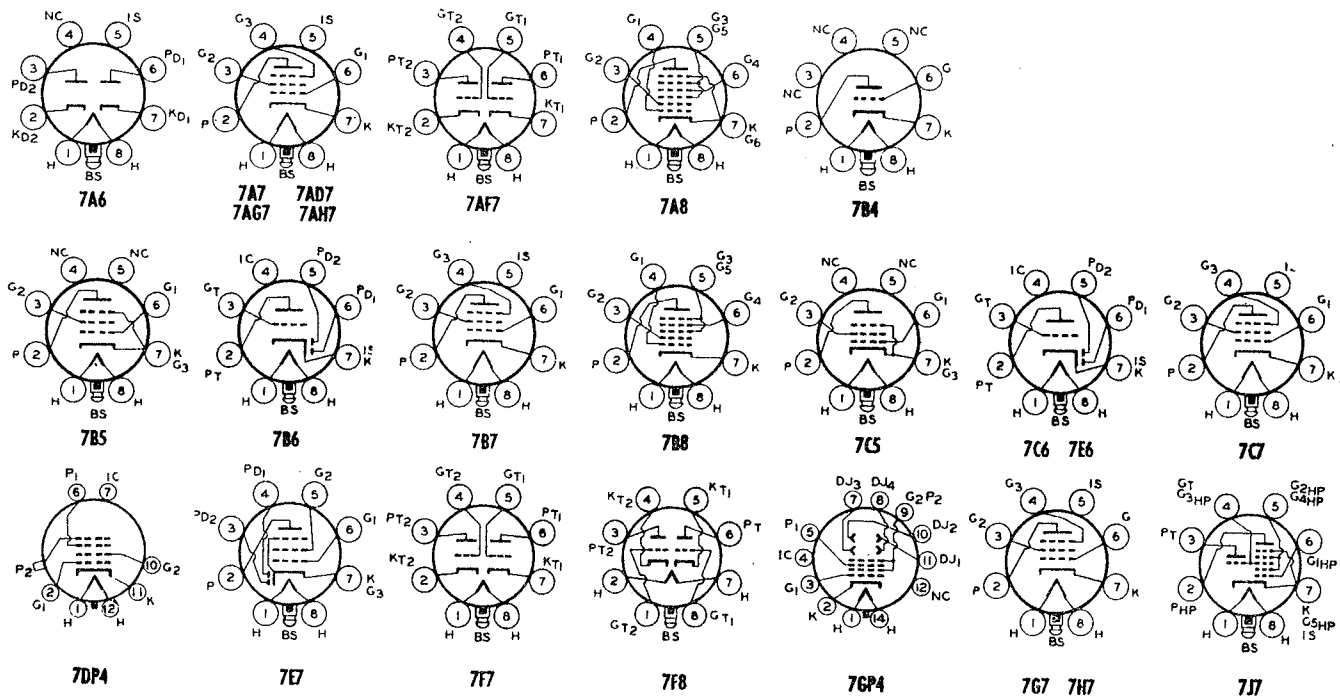
φ For television damper service



7A6 to 7J7

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	Transconductance (Grid-plate) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts	Amp.												
7A6	Twin Diode	B5	H	6.3	0.15	Detector Rectifier										7A6	
7A7	Remote-Cutoff Pentode	B5	H	6.3	0.3	Class A Amplifier										7A7	
7AD7	Power Pentode	C2a	H	6.3	0.6	Class A Amplifier										7AD7	
7AF7	Medium-Mu Twin Triode	B5	H	6.3	0.3	Each Unit as Class A Amplifier										7AF7	
7AG7	Sharp-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier										7AG7	
7AH7	Sharp-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier										7AH7	
7A8	Octode Converter	B5	H	6.3	0.15	Converter										7A8	
7B4	High-Mu Triode	B5	H	6.3	0.3	Amplifier										7B4	
7B5	Power Amplifier Pentode	C2a	H	6.3	0.4	Class A Amplifier										7B5	
7B6	Duplex-Diode High-Mu Triode	B5	H	6.3	0.3	Triode Unit as Amplifier										7B6	
7B7	Remote-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier										7B7	
7B8	Pentagrid Converter	B5	H	6.3	0.3	Converter										7B8	
7C5	Beam Power Amplifier	C2a	H	6.3	0.45	Class A Amplifier										7C5	
7C6	Duplex-Diode High-Mu Triode	B5	H	6.3	0.15	Triode Unit as Class A Amplifier										7C6	
7C7	Sharp-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier										7C7	
7DP4	Directly Viewed Kinescope	I1	H	6.3	0.6	Picture Reproduction										7DP4	
7E6	Duplex-Diode Triode	B5	H	6.3	0.3	Triode Unit as Amplifier										7E6	
7E7	Duplex-Diode Pentode	B5	H	6.3	0.3	Pentode Unit as Class A Amplifier										7E7	
7F7	Twin-Triode Amplifier	B5	H	6.3	0.3	Each Unit as Amplifier										7F7	
7F8	Twin-Triode Amplifier	B5	H	6.3	0.3	Each Unit as Class A Amplifier										7F8	
7G7	Sharp-Cutoff Pentode	B5	H	6.3	0.45	Class A Amplifier										7G7	
7GP4	Directly Viewed Kinescope	K	H	6.3	0.6	Picture Reproduction										7GP4	
7H7	Sharp-Cutoff Pentode	B5	H	6.3	0.3	Class A Amplifier										7H7	
7J7	Triode-Heptode Converter	B5	H	6.3	0.3	Triode Unit as Oscillator										7J7	

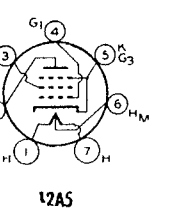
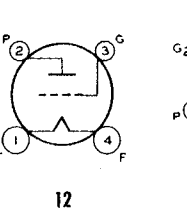
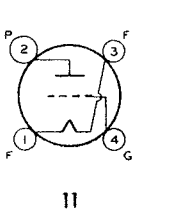
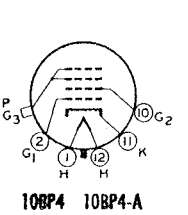
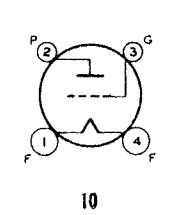
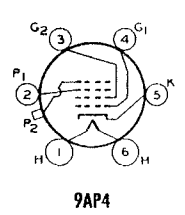
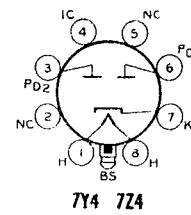
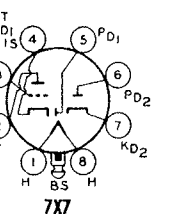
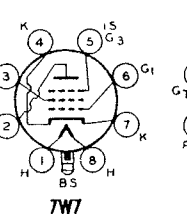
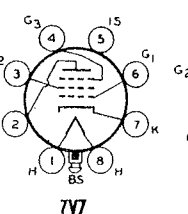
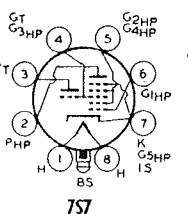
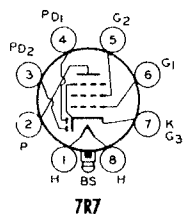
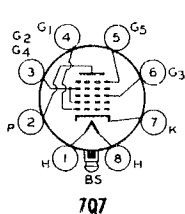
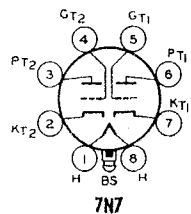
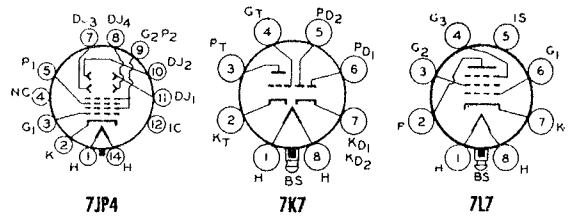
For footnotes, see following page.



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.												
7JP4	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 -12 microamperes Grid-No. 1 Volts for Visual Cutoff, -72 to -168 Deflection Factors: DJ ₁ and DJ ₂ (nearer screen), 31 to 41 vdc/in./kv; DJ ₂ and DJ ₁ (nearer base), 25 to 34 vdc. in./kv										7JP4
7K7	Twin-Diode-High-Mu Triode	B5	H	6.3	0.3	Triode Unit as Class A Amplifier	250	-2	—	—	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§	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	500000 1.0§	Grid #1 Resistor, 20000 ohms. Conversion Transcond., 550 micromhos.				7Q7
7R7	Duplex-Diode Pentode	B5	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§	3000	—	—	—	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	500000 1.25§	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 Min. Total Effect. Supply Imped. per Plate, 150 ohms. Max. Peak Plate Ma., 180 Min. Value of Input Choke, 10 henries										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 Min. Total Effect. Supply Imped. per Plate, 75 ohms Max. Peak Plate Ma., 300 Min. Value of Input Choke, 6 henries										7Z4
9AP4	Directly Viewed Kinescope	O	H	2.5	2.1	Picture Reproduction	Focus: Electrostatic Deflection: Magnetic Phosphor: No. 4 Picture Size: 5 3/8" 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@	Power Amplifier Triode	E3	F	7.5	1.25	Class A Amplifier	350 425	-32.0 -40.0	—	—	16.0	5150 5000	1550 1600	8.0 8.0	11000 10200	0.9 1.6	10@
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 Deflection Angle: 57° Phosphor: No. 4 Size of Picture with Rounded Ends: 6 7/8" x 9 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.										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	D5	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.

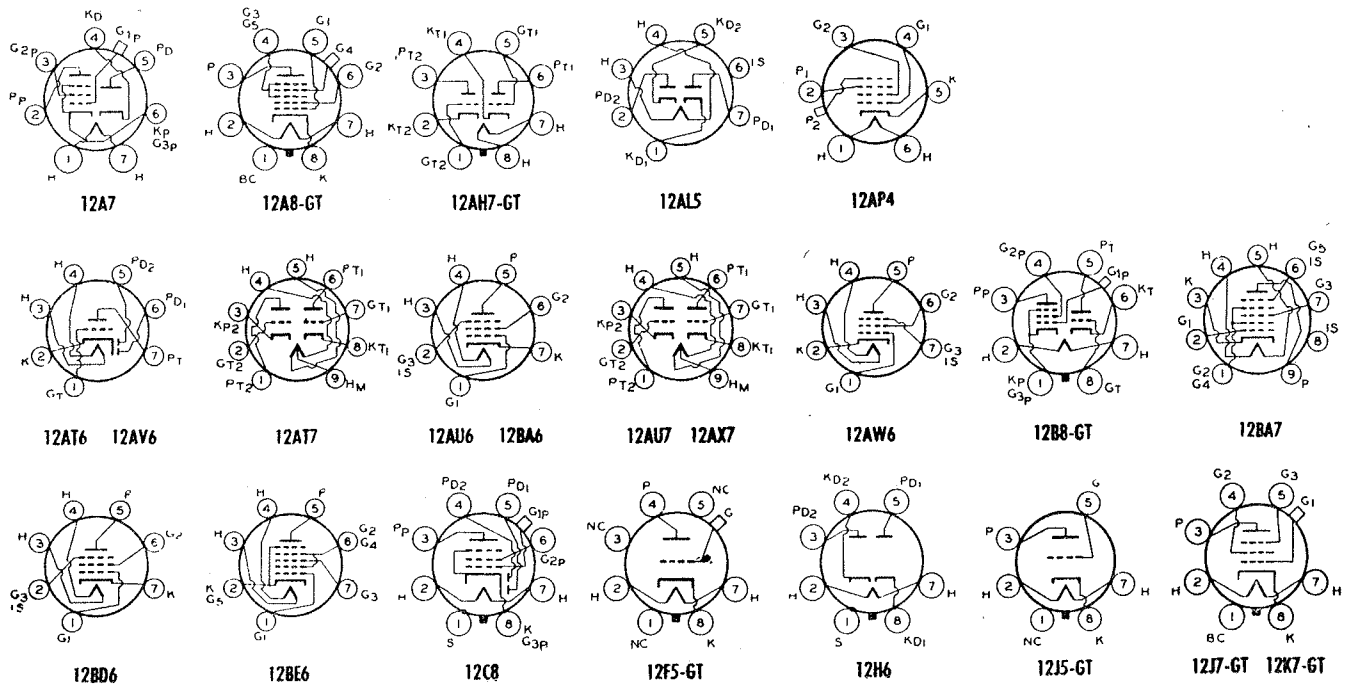
▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
▲ Supply voltage applied through 20000-ohm voltage-dropping resistor.
▲ 50000 ohms.
▲ Megohms.
■ Either ac or dc may be used on filament or heater, except as specifically noted. For use of dc on ac filament types, decrease stated grid 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) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts												
12A7	Rectifier-Pentode	D9	H	12.6 0.3	Pentode Unit as Class A Amplifier Half-Wave Rectifier	135	-13.5	135	2.5	9.0	102000	975	125 Volts, RMS 30 Milliampères	13500	0.55	12A7
12A8-GT	Pentagrid Converter	C3	H	12.6 0.15	Converter	For other characteristics, refer to Type 6A8.										12A8-GT
12A7-GT	Twin Triode	C0a	H	12.6 0.15	Each Unit as Class A Amplifier	100 180	-3.6 -6.5	—	—	3.7 7.6	10300 8400	1550 1900	16 16	—	—	12A7-GT
12AL5	Twin-Diode	A1	H	12.6 0.15	Detector Rectifier	For other characteristics, refer to Type 6AL5.										12AL5
12AP4	Directly Viewed Kinescope	Q	H	2.5 2.1	Picture Reproduction	Focus: Electrostatic Deflection: Magnetic Phosphor: No. 4 Picture Size: 7 7/8" x 9 3/4"		Anode-No. 2 Volts, 7000 (max.) Anode-No. 1 Volts for Focus, 1192 to 1788 (2000 max.) Grid-No. 2 Volts 250 (300 max.) approx.		Grid-No. 1 Volts for Visual Cutoff, -20 to -60 Grid-No. 1 Signal Voltage, (Peak-to-Peak) value, 30 volts approx.						12AP4
12AT6	Duplex-Diode High-Mu Triode	B0	H	12.6 0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6AT6.										12AT6
12AT7	High-Mu Twin Triode	B0a	H	6.3 0.3 12.6 0.15	Each Unit as Class A Amplifier	100 250	—	—	—	3.7 10.0	15000 10900	4000 5500	60 60	—	—	12AT7
12AU6	RF Amplifier Pentode	B0a	H	12.6 0.15	Class A Amplifier	For other characteristics, refer to Type 6AU6.										12AU6
12AU7	Twin-Triode Amplifier	B0a	H	6.3 0.3 12.6 0.15	Each Unit as Class A Amplifier	100 250	0 -8.5	—	—	11.8 10.5	6500 7700	3100 2200	20 17	—	—	12AU7
12AV6	Twin-Diode High-Mu Triode	B0	H	12.6 0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6AV6.										12AV6
12AW6	RF Amplifier Pentode	B0	H	12.6 0.15	As Pentode Class A Amplifier As Triode Class A Amplifier	For other characteristics, refer to Type 6AG5.										12AW6
12AX7	High-Mu Twin Triode	B0a	H	6.3 0.3 12.6 0.15	Each Unit as Class A Amplifier	100 250	-1.0 -2.0	—	—	0.5 1.2	80000 62500	1250 1600	100 100	—	—	12AX7
12B8-GT	Triode-Pentode	C10a	H	12.6 0.3	Triode Unit as Class A Amplifier Pentode Unit as Class A Amplifier	90 90	0 -3.0	—	—	2.8 2.0	37000 200000	2400 1800	90	—	—	12B8-GT
12BA6	RF Amplifier Pentode	B0	H	12.6 0.15	Class A Amplifier	For other characteristics, refer to Type 6BA6.										12BA6
12BA7	Pentagrid Converter	B0a	H	12.6 0.15	Converter	For other characteristics, refer to Type 6BA7.										12BA7
12BD6	Remote-Cutoff Pentode	B0	H	12.6 0.15	Class A Amplifier	For other characteristics, refer to Type 6BD6.										12BD6
12BE6	Pentagrid Converter	B0	H	12.6 0.15	Converter	For other characteristics, refer to Type 6BE6.										12BE6
12C8	Duplex-Diode Pentode	C1	H	12.6 0.15	Pentode Unit as RF Amplifier Pentode Unit as AF Amplifier	250	-3.0	125	2.3	10.0	600000	1325	—	—	—	12C8
12F5-GT	High-Mu Triode	C2b	H	12.6 0.15	Amplifier	For other characteristics, refer to Type 6SF5.										12F5-GT
12H6	Twin-Diode	A1a	H	12.6 0.15	Detector Rectifier	For other ratings, refer to Type 6H6.										12H6
12J5-GT	Medium-Mu Triode	C3	H	12.6 0.15	Amplifier	For other characteristics, refer to Type 6J5.										12J5-GT
12J7-GT	Sharp-Cutoff Pentode	C3	H	12.6 0.15	Amplifier	For other characteristics, refer to Type 6J7.										12J7-GT
12K7-GT	Remote-Cutoff Pentode	C3	H	12.6 0.15	Amplifier	For other characteristics, refer to Type 6K7.										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 Pleture 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	
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	C3	H	12.6	0.15	Triode Unit as Class A Amplifier	100 250	-1 -2	—	—	0.4 0.9	110000 91000	900 1100	100 100	—	—	—	12S8-GT
12Z3	Half-Wave Rectifier	D5	H	12.6	0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235 Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 235 volts, 75 ohms. Max. D-C Output Ma., 55										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.

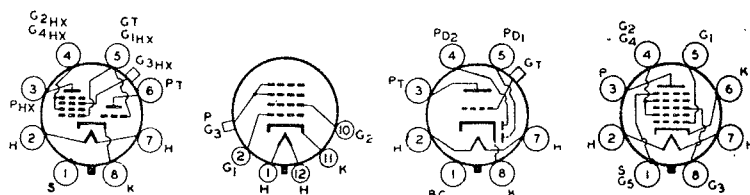
Grid #2 tied to plate.

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.



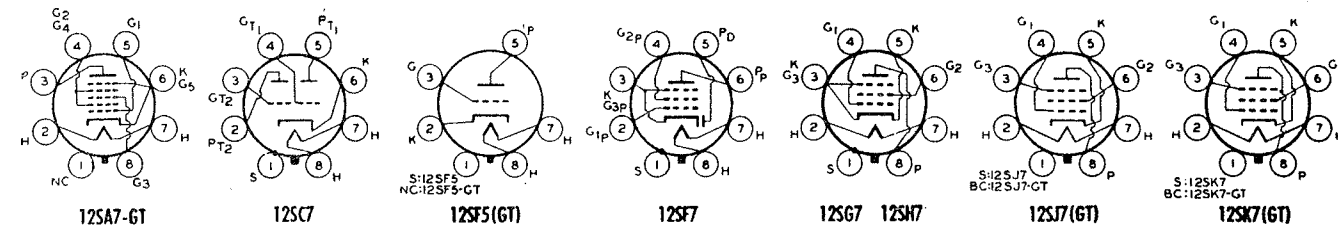
12K8

12LP4

12LP4-A

12Q7-GT

12SA7



12SA7-GT

12SC7

12SF5(GT)

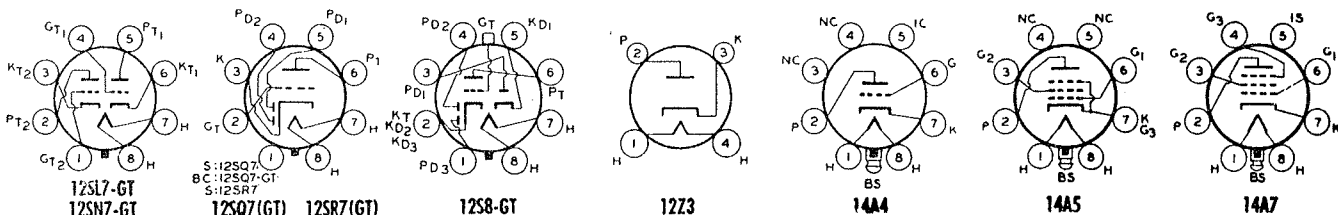
12SF7

12SG7

12SH7

12SJ7(GT)

12SK7(GT)



12SL7-GT

12SN7-GT

12SQ7(GT)

12SR7(GT)

12S8-GT

12Z3

14A4

14A5

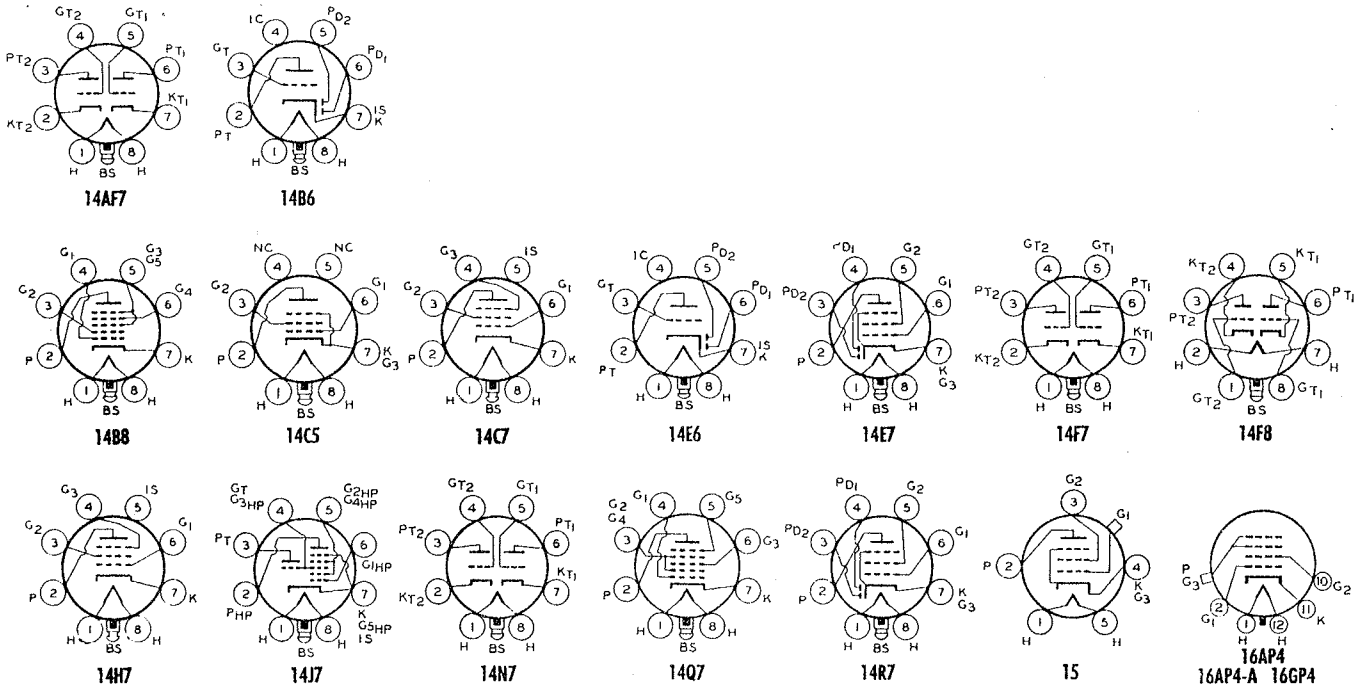
14A7

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) μ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C.T.	Volts	Amp.												
14AF7	Medium-Mu Twin Triode	B5	H	12.6	0.15												14AF7
14B6	Duplex-Diode High-Mu Triode	B5	H	12.6	0.15												14B6
14B8	Pentagrid Converter	B5	H	12.6	0.15												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	B5	H	12.6	0.15												14C7
14E6	Duplex-Diode Triode	B5	H	12.6	0.15												14E6
14E7	Twin-Diode-Remote-Cutoff Pentode	B5	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	B5	H	12.6	0.15												14F7
14F8	Medium-Mu Twin Triode	B0b	H	12.6	0.15	250					Cathode-Bias Res., 500 ohms		6.0	3300	48		14F8
14H7	Remote-Cutoff Pentode	B5	H	12.6	0.15												14H7
14J7	Triode-Heptode Converter	B5	H	12.6	0.15												14J7
14N7	Twin-Triode Amplifier	C2a	H	12.6	0.3												14N7
14Q7	Pentagrid Converter	B5	H	12.6	0.15												14Q7
14R7	Duplex-Diode Pentode	B5	H	12.6	0.15												14R7
15	RF Amplifier Pentode	D9	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												16AP4
16AP4-A	Directly Viewed Kinescope	P0	H	6.3	0.6												16AP4-A
16GP4	Directly Viewed Kinescope	L	H	6.3	0.6												16GP4

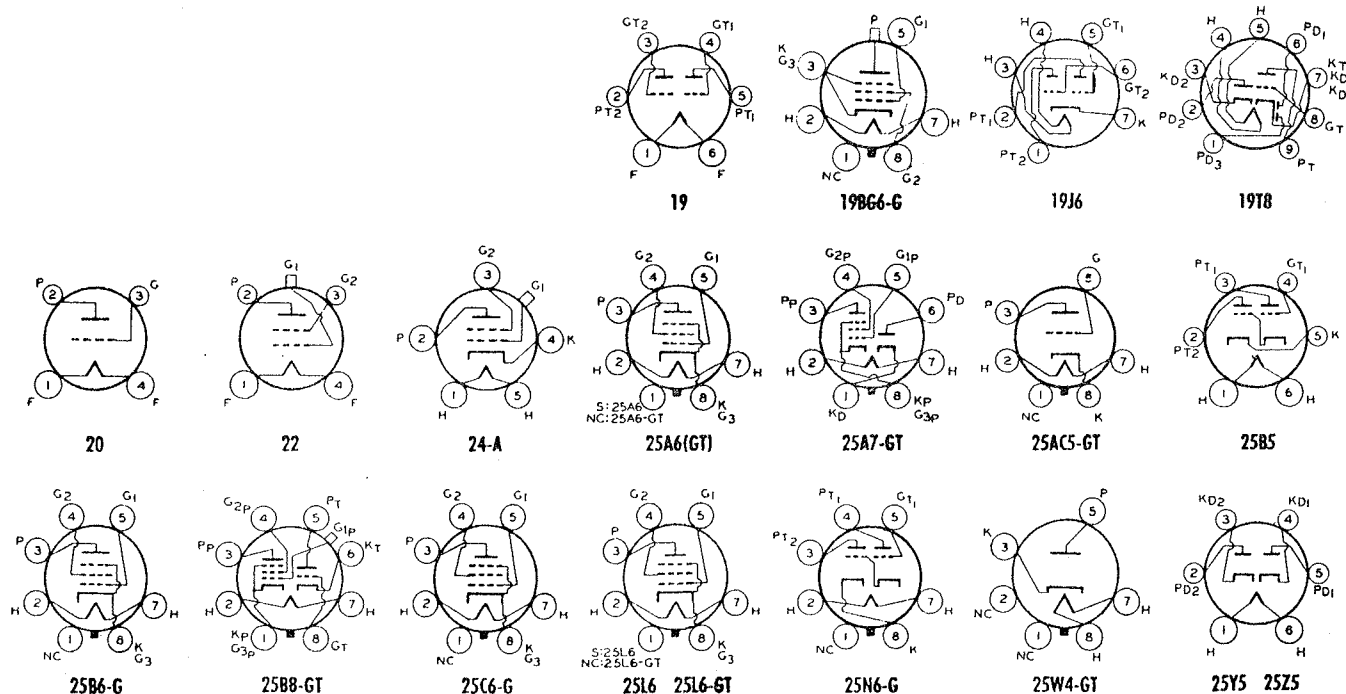
Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
Two vertical rules before or after type No. = Metal type.
One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.
For key to tube dimensions and legend for base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

▲ 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	-16.5	—	—	3.0	8000	415	3.3	9600	0.045	20
22	RF Amplifier Tetrode	E1	D.C. F	3.3	0.132	Screen-Grid RF Amplifier		135	-1.5	45	0.6*	1.7	725000	375	—	—	—	22
24-A	RF Amplifier Tetrode	E1	H	2.5	1.75	Screen-Grid RF Amplifier		135	-1.5	67.5	1.3*	3.7	325000	500	—	—	—	24-A
24-A	RF Amplifier Tetrode	E1	H	2.5	1.75	Bias Detector		180	-3.0	90	1.7*	4.0	400000	1000	—	—	—	24-A
24-A	RF Amplifier Tetrode	E1	H	2.5	1.75	Bias Detector		250	-3.0	90	1.7*	4.0	600000	1050	—	—	—	24-A
25A6	Power Amplifier Pentode	C2	H	25.0	0.3	Class A Amplifier		95	-15.0	95	4.0	20.0	45000	2000	—	4500	0.9	25A6
25A6	Power Amplifier Pentode	C2	H	25.0	0.3	Class A Amplifier		160	-18.0	120	6.5	33.0	42000	2375	—	5000	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
25A7-GT	Rectifier Pentode	C3	H	25.0	0.3	Half-Wave Rectifier		Max. A-C Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350					Max. D-C Output Ma., 75 Min. Total Effect. Supply Impedance, 15 ohms.					25A7-GT
25A7-GT	Rectifier Pentode	C3	H	25.0	0.3	Half-Wave Rectifier		180	0	—	—	4.0 ϕ	—	—	—	4800	6.0	25A7-GT
25AC5-GT	High-Mu Power Amplifier Triode	C3	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.										25AC5-GT
25AC5-GT	High-Mu Power Amplifier Triode	C3	H	25.0	0.3	Dynamic-Coupled Amp. With Type 6AE5-GT Driver		110	—	—	—	—	—	—	—	2000	2.0	25AC5-GT
25B5	Direct-Coupled Power Amplifier	D0a	H	25.0	0.3	Amplifier		For other characteristics, refer to Type 25N6-G.										25B5
25B6-G	Power Amplifier Pentode	D10	H	25.0	0.3	Class A Amplifier		105	-16.0	105	2.0	48.0	15500	4800	—	1700	2.4	25B6-G
25B6-G	Power Amplifier Pentode	D10	H	25.0	0.3	Class A Amplifier		200	-23.0	135	1.8	62.0	18000	5000	—	2500	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
25B8-GT	Triode-Pentode	C3	H	25.0	0.15	Pentode Unit as Class A Amplifier		100	-3.0	100	2.0	7.6	185000	2000	—	—	—	25B8-GT
25C6-G	Beam Power Amplifier	D10	H	25.0	0.3	Class A Amplifier		For other characteristics, refer to Type 6Y6-G.										25C6-G
25L6	Beam Power Amplifier	C2	H	25.0	0.3	Amplifier		110	-7.5	110	4.0	49.0	13000	9000	—	2000	2.1	25L6
25L6	Beam Power Amplifier	C2	H	25.0	0.3	Amplifier		200	-8.0	110	2.0	50.0	30000	9500	—	3000	4.3	25L6
25L6-GT	Beam Power Amplifier	C3	H	25.0	0.3	Amplifier		For other characteristics, refer to Type 50L6-GT.										25L6-GT
25N6-G	Direct-Coupled Power Amplifier	D9	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	D5	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	D5	H	25.0	0.3	Rectifier-Doubler		For other ratings, refer to Type 25Z6.										25Z5

For footnotes, see preceding page.

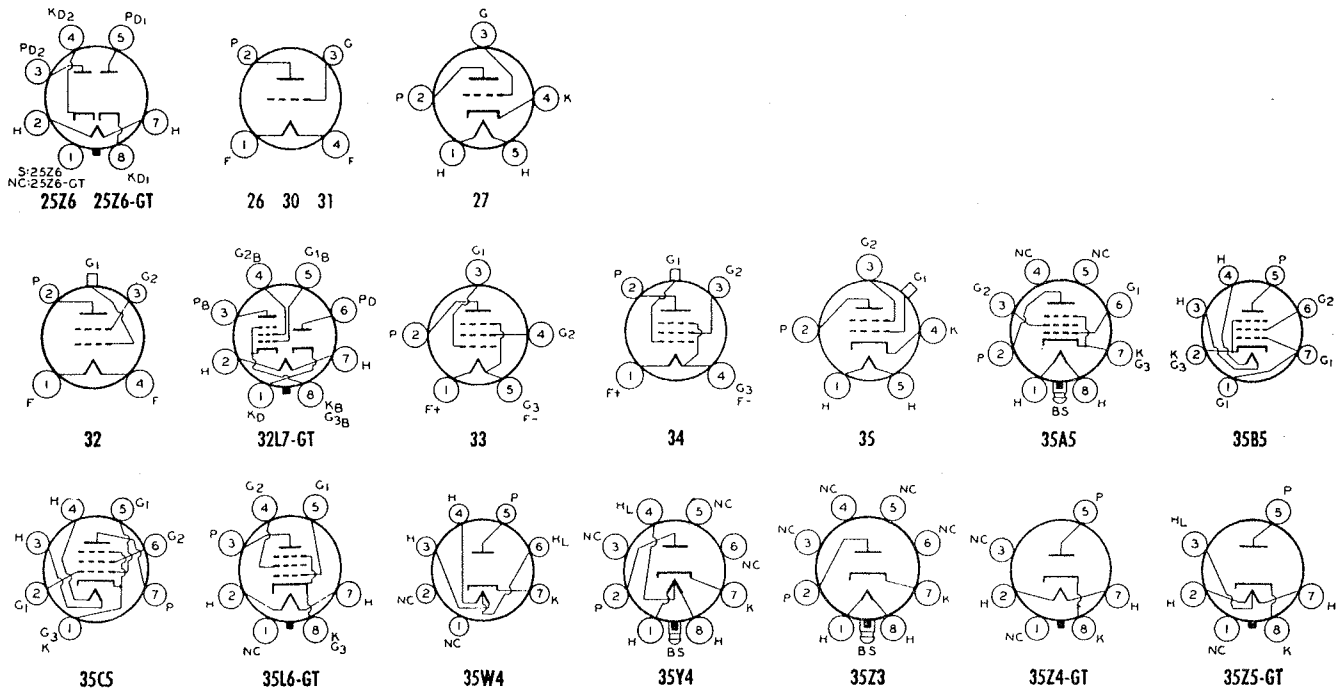


25Z6 to 35Z5-GT

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 Ma	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			Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms.			25Z6				
						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.				25Z6-GT			
26	Amplifier Triode	D12	F	1.5	1.05	Class A Amplifier	90	-7.0	—	—	2.9	8900	935	8.3	—	—	26
27	Detector* Amplifier Triode	D5	H	2.5	1.75	Class A Amplifier	135	-9.0	—	—	4.5	9000	1000	9.0	—	—	27
						Bias Detector	250	-21.0	—	—	5.2	9250	975	9.0	—	—	
30	Medium-Mu Triode	D5	D.C.	2.0	0.06	Amplifier	For other characteristics, refer to Type 1H4-G.										30
31	Power Amplifier Triode	D5	D.C.	2.0	0.13	Class A Amplifier	135	-22.5	—	—	8.0	4100	925	3.8	7000	0.185	31
						Screen-Grid RF Amplifier	180	-30.0	—	—	12.3	3600	1050	3.8	5700	0.375	
32	RF Amplifier Tetrode	E1	D.C.	2.0	0.06	Screen-Grid RF Amplifier	135	-3.0	67.5	0.4	1.7	950000	640	—	—	32	
						Bias Detector	180	-6.0	67.5	—	1.7	1.0-1.5	650	—	—		
32L7-GT	Rectifier-Beam Power Amplifier	C3	H	32.5	0.3	Amplifier Unit as Class A Amplifier	90	-5.0	90	3.0	38.0	15000	6000	—	2600	0.8	32L7-GT
						Half-Wave Rectifier	90	-5.0	90	2.0	27.0	17000	4800	—	2600	1.0	
33	Power Amplifier Pentode	D12	D.C.	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.	2.0	0.06	Screen-Grid RF Amplifier	135	-3.0	67.5	1.0	2.8	600000	600	—	—	34	
						Bias Detector	180	-3.0	67.5	1.0	2.8	1.0	620	—	—		
35	Supercontrol RF Amplifier Tetrode	E1	H	2.5	1.75	Screen-Grid RF Amplifier	180	-3.0	90	2.5*	6.3	300000	1020	—	—	35	
						Bias Detector	250	-3.0	90	2.5*	6.5	400000	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	-7.5	110	3.0	40.0	14000	5800	—	2500	1.5	35L6-GT
						With Capacitive-Input Filter	200	-8.0	125	2.0	43.0	34000	6100	—	5000	3.3	
35W4	Half-Wave Rectifier Heater Tap for Pilot	B3	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 117			Min. Total Effect. Plate-Supply Impedance, 15 ohms			Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100			35W4	
35Y4	Half-Wave Rectifier	C2a	H	35.0	0.15	With Capacitive-Input Filter	For other characteristics, refer to Type 35W4.										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			Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms.			Max. D-C Output Ma.: 100			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			Min. Total Effect. 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	

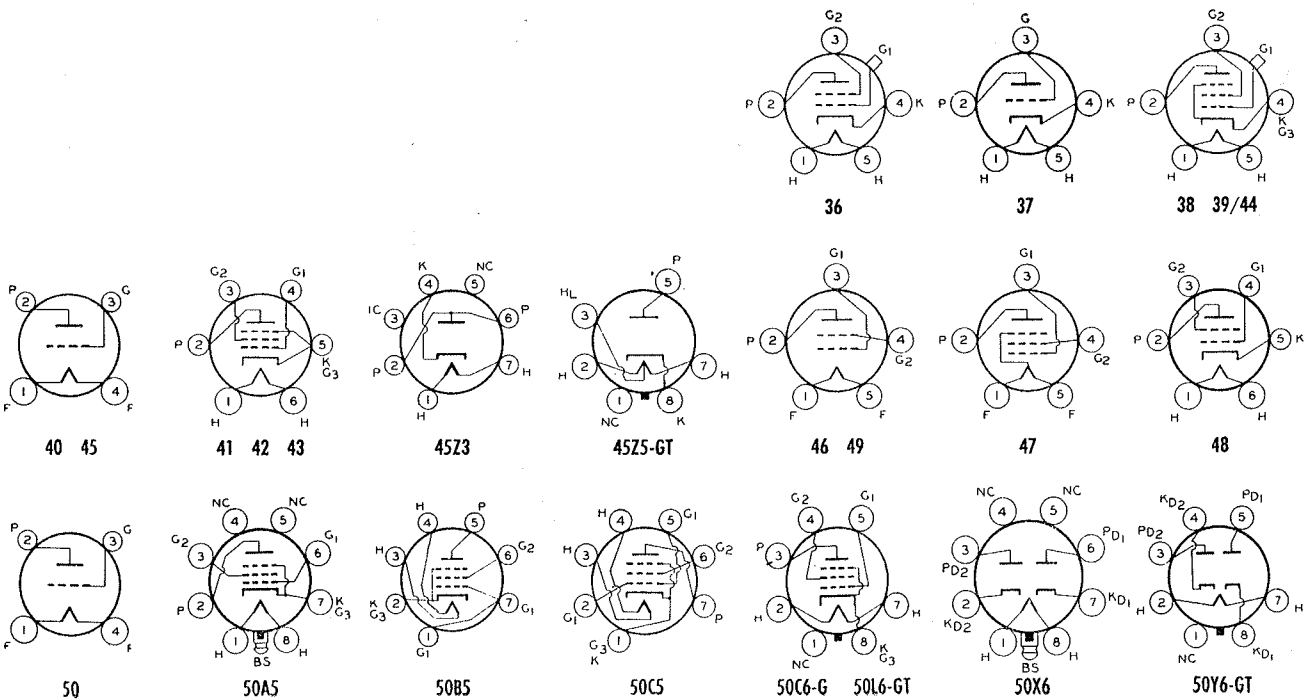
Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.
Two vertical rules before or after type No. = Metal type.
One vertical rule before or after type No. = GT or other larger glass type.
Light Face = Discontinued type.
For key to tube dimensions and, legend for base 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 3.
* Maximum.



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) μ hos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
			C. T.	Volts	Amp.												
36	RF Amplifier Tetrode	D9	H	6.3	0.3	Screen-Grid RF Amplifier	100 - 1.5	55	—	1.8	550000	850	—	—	—	36	
						Bias Detector	250 - 3.0	90	—	3.2	550000	1080	—	—			
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	—			
38	Power Amplifier Pentode	D9	H	6.3	0.3	Class A Amplifier	90 - 10.0	—	—	—	—	—	—	—	38		
						Bias Detector	250 - 28.0	—	—	—	—	—	—	—			
39/44	Remote-Cutoff Pentode	D9	H	6.3	0.3	Class A Amplifier	90 - 3.0	—	—	7.0	140000	875	—	—	39/44		
						Bias Detector	250 - 10.0	—	—	22.0	100000	1200	—	—			
40	Medium-Mu Triode	D12	D.C. F	5.0	0.25	Class A Amplifier	135* - 1.5	—	—	0.2	150000	200	30	—	40		
						Bias Detector	180* - 3.0	—	—	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	
						Push-Pull Class AB ₂ Amplifier	275 - 56.0	—	—	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.		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	
						Tetrode	96 - 19.0	96	9.0	52.0	—	3800	—	1500	2.0		
48	Power Amplifier Tetrode	E3	D.C. H	30.0	0.4	Class A Amplifier	125 - 20.0	100	9.5	56.0	—	3900	—	1500	2.5	48	
						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	
						Bias Detector	400 - 70.0	—	—	55.0	1800	2100	3.8	3670	3.4		
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	
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		
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
						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

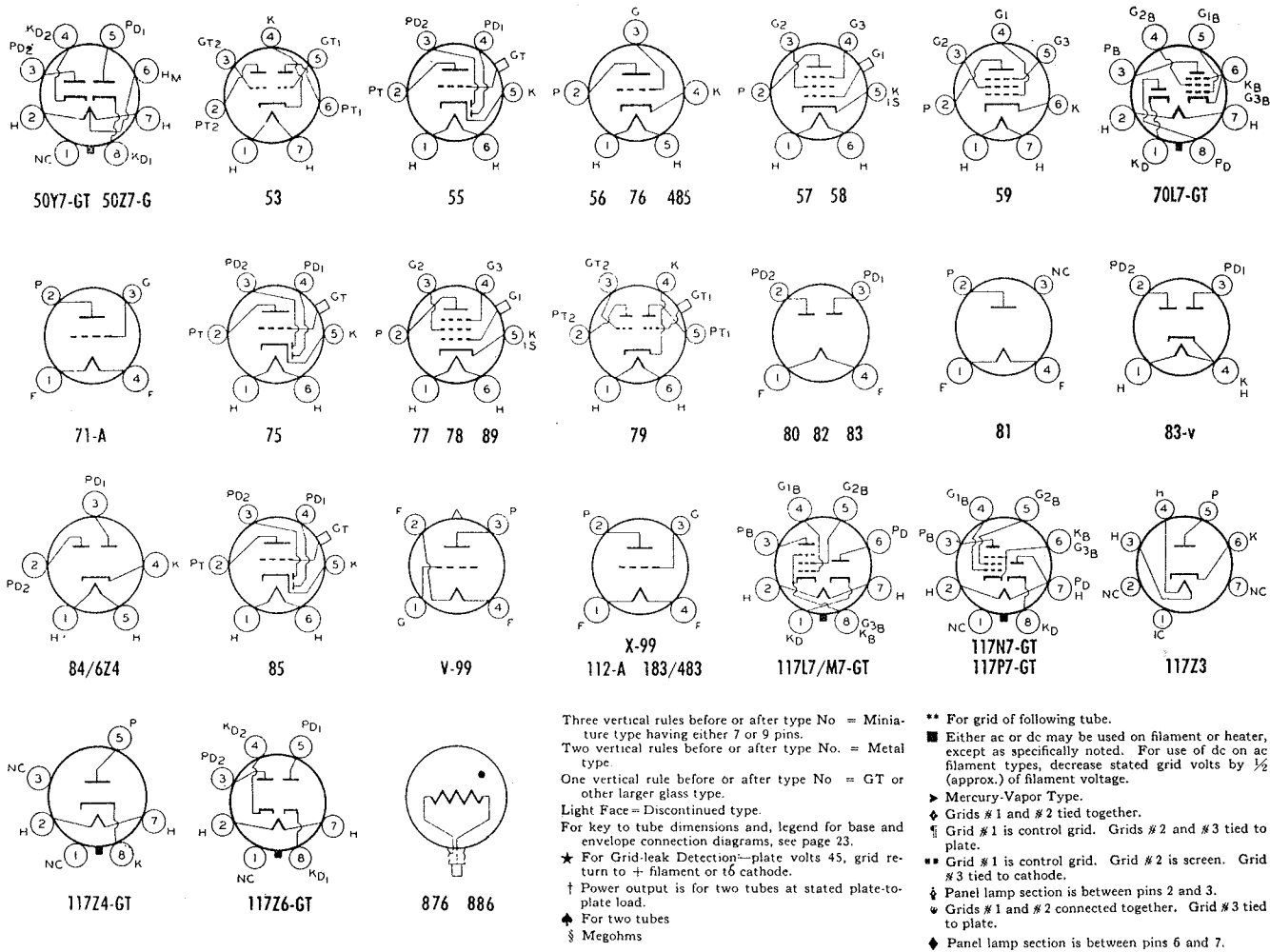
For footnotes, see preceding page.



50Y7-GT to 886

Type	Name	Tube Dimensions	Cathode Type and Rating		Use 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.	
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		Min. Total Effective Plate-Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms								
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		Min. Total Effective Plate-Supply Impedance per Plate: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms.								
53	Twin-Triode Amplifier	D12	H	2.5	2.0	For other characteristics, refer to Type 6N7-GT.										53		
55	Duplex-Diode Triode	D9	H	2.5	1.0	For other characteristics, refer to Type 85.										55		
56	Medium-Mu Triode*	D6	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* Class A Amplifier		250	-28.0	—	—	26.0	2300	2600	6.0	5000	1.25	59
						Pentode** Class A Amplifier		250	-18.0	250	9.0	35.0	55000	2500	—	6000	3.0	
						Triode* Class B Amplifier		300	0	—	—	20.0	—	—	—	4600	15.0†	
						Amplifier Unit as Class A Amplifier		400	0	—	—	26.0	—	—	—	6000	20.0†	
70L7-GT	Rectifier-Beam Power Amplifier	C10	H	70.0	0.15	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		Min. Total Effect. Plate-Supply Imped., 15 ohms				70L7-GT		
						Class A Amplifier		90	-16.5	—	—	10.0	2170	1400	3.0		3000	0.125
71-A	Power Amplifier Triode	D12	F	5.0	0.25	Class A Amplifier		180	-40.5	—	—	10.0	2170	1400	3.0	3000	0.125	71-A
75	Duplex-Diode High-Mu Triode	D9	H	6.3	0.3	For other characteristics, refer to Type 6SQ7.												
76	Detector Amplifier Triode*	D5	H	6.3	0.3	Class A Amplifier		250	-13.5	—	—	5.0	9500	1450	13.8	—	76	
				Bias Detector		250	(-20.0 approx.)	Plate current to be adjusted to 0.2 milliamperes with no signal.										
77	Triple-Grid Detector Amplifier	D9	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	D9	H	6.3	0.3	Amplifier Mixer				Cathode current 0.65 ma.		Plate Resistor, 250000 ohms. Grid Resistor, ** 250000 ohms.				78		
79	Twin-Triode Amplifier	D9	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		
						250	0					14000	8.0					
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.						
						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.						
						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	D5	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, 150 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	D9	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* Class A Amplifier		250	-20.0	—	—	8.0	7500	1100	8.3	20000	0.350	
89	Triple-Grid Power Amplifier	D9	H	6.3	0.4	As Triode* Class A Amplifier		160	-20.0	—	—	17.0	3300	1425	4.7	7000	0.30	89
						As Pentode** Class A Amplifier		250	-31.0	—	—	32.0	2600	1800	4.7	5500	0.90	
						As Triode* Class A Amplifier		100	-10.0	100	1.6	9.5	104000	1200	—	10700	0.33	
						As Triode* Class B 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	
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	
						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		Min. Total Effect. Plate-Supply Imped., 15 ohms.						
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		Min. Total Effect. Plate-Supply Impedance 15 ohms.						
117P7-GT	Rectifier-Beam Power Amplifier	C5b	H	117	0.09	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		Min. Total Effect. Supply Imped. per Plate: Up to 117 volts, 15 ohms; at 150 volts, 40 ohms; at 235 volts, 100 ohms.								
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	G1	F	—	—	Voltage Range.....40 to 60 Volts				Operating Current.....1.7 Amperes				876				
886	Current Regulator	G1	F	—	—	Voltage Range.....40 to 60 Volts				Operating Current.....2.05 Amperes				886				

Footnotes, see following page



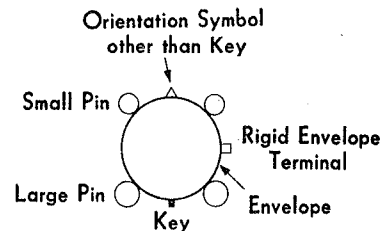
LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

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.

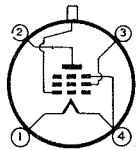
- | | | |
|-----------------------------------|--|----------------------------|
| BC = Base Sleeve | H = Heater | K = Cathode |
| BS = Base Shell | H _L = Heater Tap for Panel Lamp | NC = No Connection |
| DJ = Deflecting Electrode | H _M = Heater Mid-Tap | P = Plate (Anode) |
| ES = External Shield | 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 |



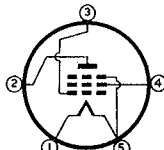
KEY TO TUBE DIMENSIONS

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 3/8"	D9	4 17/32" x 1 9/16"	G1a	1 1/2" x 2 1/8"
A1	1 1/2" x 3/8"	B5a	2 3/8" x 1 1/8"	C10a	3 7/8" x 1 3/8"	D9a	4 3/8" x 1 9/16"	H1	1 1/2" x 5 1/8"
A1o	1 1/2" x 1 1/8"	C0	3" x 1 1/8"	C11	3 7/8" x 1 3/8"	D10	4 3/8" x 1 13/16"	I1	1 1/2" 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 11/16" x 1 13/16"	J	1 1/2" x 7 1/8"
B0a	2 3/8" 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 1/2" 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 7/8" x 1 16"
B0c	2 3/8" x 1 3/8"	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 3/8"
B1	2 1/8" x 3/8"	C2b	3 3/8" x 1 3/8"	D4	4 3/8" x 1 3/8"	E2	5 3/8" x 1 11/16"	N	1 9 1/8" x 1 12 1/8"
B1a	2 3/8" x 4"	C3	3 3/8" x 1 3/8"	D5	4 1/8" x 1 11/16"	E3	5 3/8" x 2 1/16"	O	2 1/8" x 1 9 1/8"
B2	2 1/8" x 1 1/8"	C5	3 1/8" x 1 3/8"	D7	4 1/8" x 1 5/8"	F1	5 1/8" x 2 1/16"	P	2 1/8" x 1 16"
B3	2 1/8" x 7/8"	C5a	3 1/8" x 1 3/8"	D8	4 3/8" x 1 11/16"	F1a	6 1/8" x 2 1/16"	P0	2 1/8" x 1 16"
B4	2 1/8" x 7/8"	C9a	3 1/8" x 1 3/8"	D8a	4 1/8" x 1 11/16"	G1	8" x 2 1/16"	Q	2 5/8" x 1 12 3/8"

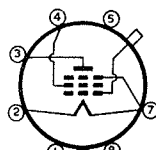
TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING			USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY <i>Volts</i>	GRID BIAS <i>Volts</i>	SCREEN SUPPLY <i>Volts</i>	Screen Current <i>mA.</i>	PLATE CURRENT <i>mA.</i>	A-C PLATE RESISTANCE <i>Ohms</i>	TRANS-CONDUCTANCE (or conv. cond.) <i>μ mhos</i>	Amplification Factor	LOAD For Stated Power Output <i>Ohms</i>	POWER OUTPUT <i>Watts</i>
			C.T.	Volts	Amp.											
1C4	REMOTE CUT-OFF PENTODE	4 1/16" x 1 3/16"	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	—	—	—
1D4	POWER PENTODE	4 1/16" x 1 1/16"	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 1/16" x 1 3/16"	D.C. F.	2.0	0.12	Amplifier	For other characteristics refer to Type 1K5-G below.									
1K5-G	SHARP CUT-OFF PENTODE	4 3/16" x 1 3/16"	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 Fol. Grid Resistor 0.5 meg., Voltage Gain, 74.0 Fol. Grid Resistor 1.0 meg., Voltage Gain, 88.5				Screen fed from 135 volts through 0.75 meg. resistor. Screen fed from 180 volts through 1.0 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	15.0 15.0 15.3	30,000 15,000 10,000	.013 .05 0.1
1K6	DUO-DIODE PENTODE	4 1/16" x 1 3/16"	D.C. F.	2.0	0.12	Amplifier	For other characteristics refer to Type 1K7-G below.									
1K7-G	DUO-DIODE PENTODE	4 3/16" x 1 3/16"	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 Fol. Grid Resistor 0.5 meg., Voltage Gain, 69.0 Fol. Grid Resistor 1.0 meg., Voltage Gain, 83.0				Screen fed from 135 volts through 1.0 meg. resistor. Screen fed from 180 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
1L5-G	POWER PENTODE	4 3/16" x 1 1/16"	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 3/16" x 1 3/16"	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 3/4"	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 3/4"	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 3/4"	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 7/16"	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.					



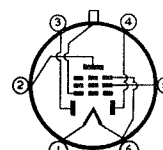
1C4, 1K4



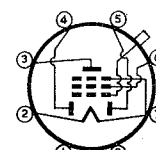
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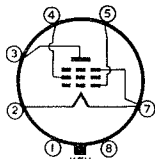
1K5-G, 1M5-G



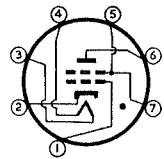
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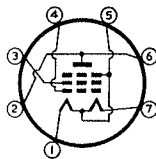
1K7-G



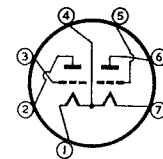
1L5-G



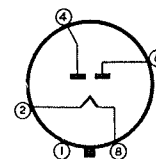
2D21



3A4

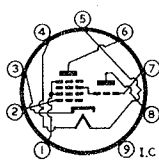


3A5

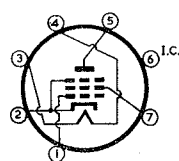


5R4-GY

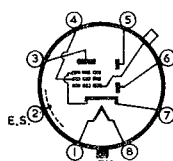
TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING		USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (or conv. cond.) μ mhos	Amplification Factor	LOAD For Stated Power Output Ohms	POWER OUTPUT Watts	
			C.J.	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.	0.6	150,000	1.4	
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 1/2" 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	—	—
						Pentode Unit as A-F Amplifier (Resistance Coupled) Plate load 0.25 meg.	250	-3.0	125	2.2	9.5	510,000	1,210	600	—	—
						Cathode Bias Resistor = 2,000 ohms. Screen-Supply Voltage Divider Network: -1.0 megohm to B + max. and 0.25 megohm to Earth.										
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.		
						Triode Unit	100	0	—	—	7.0	10,600	1,600	17	—	—
6U5-G	TUNING INDICATOR	4 3/8" x 1 1/16"	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 5/16"	H.	6.3	0.6	Picture Reproduction	Focus. Magnetic Deflect.: Magnetic Deflect.: Angle, 70° Phosphor: P4 Picture Size: 10 1/8" 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 5/16"	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 1/8" x 16 3/4"	H.	6.3	0.6	Picture Reproduction	As above, except Picture Size: 11 1/8" x 14 3/8"			As above		As 16RP4				



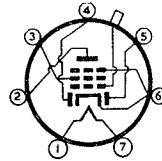
6AE8



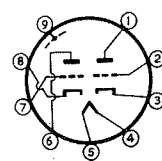
6AM5, 6BJ5



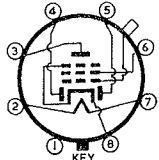
6AR7-GT



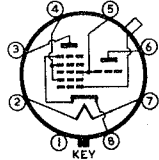
6B7-S



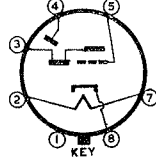
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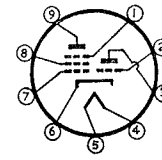
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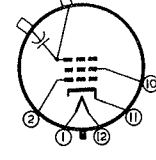
6J8-GA



6U5-G



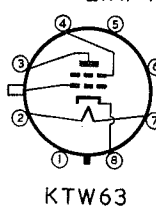
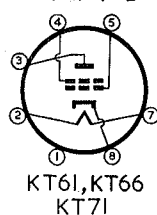
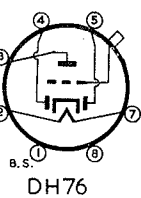
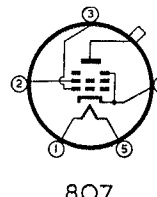
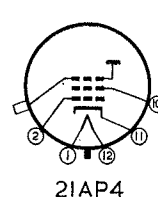
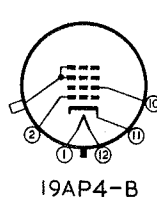
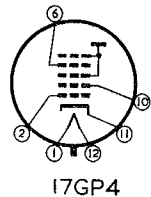
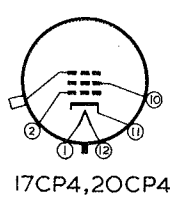
6X8



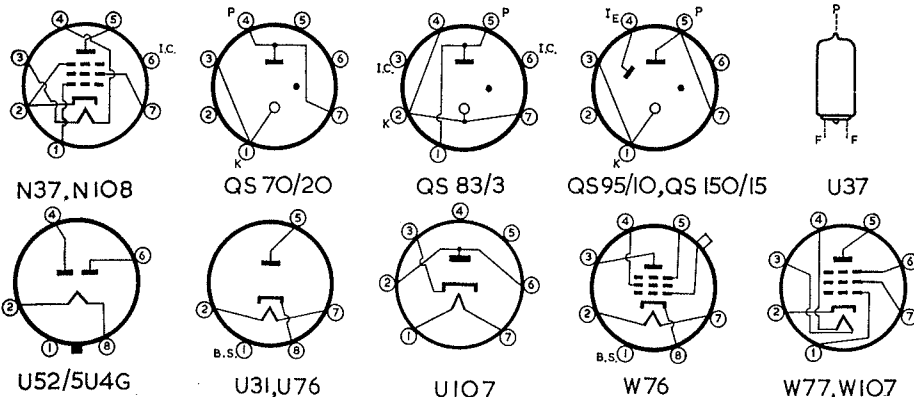
16RP4, 16TP4
17BP4-A

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 $\frac{5}{8}$ "		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 $\frac{3}{4}$ "	H.	6.3	0.6	Picture Reproduction	Focus: Magnetic Deflect.: Magnetic Deflect. Angle: 66° Phosphor: P4 Picture Size: 11 $\frac{3}{4}$ " x 15 $\frac{3}{8}$ "		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 $\frac{5}{16}$ "	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 $\frac{3}{8}$ "		As above		As 20CP4, except Grid-No. 2 Volts, 300 (500 max.)					
161	BARRETTTER	3 $\frac{1}{8}$ " x 1 $\frac{1}{16}$ "	F.	—	0.16	Current Regulator	Voltage Range, 100-200 volts. Edison Screw Base.									
302	BARRETTTER	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 $\frac{3}{4}$ " 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 $\frac{1}{8}$ " 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 $\frac{3}{16}$ " x 1 $\frac{1}{16}$ "	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 $\frac{11}{16}$ " 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 $\frac{1}{4}$ " x 1 $\frac{1}{16}$ "	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.														

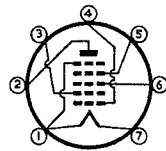


TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING			USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	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 3/8" x 3/4"	H.	13.0	0.3	Class A Amplifier	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 1/8" x 3/4"	—	—	—	Voltage Regulator	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"	—	—	—	Voltage Reference Valve	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"	—	—	—	Voltage Regulator	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"	—	—	—	Voltage Regulator	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 3/8" x 1 3/8"	H.	26.0	0.3	With Condenser Input Filter	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 1/2"	F.	1.4	0.14	Half Wave Rectifier	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	With Choke Input Filter With Condenser Input Filter	Peak Inverse Voltage, 1430 max. volts. Peak Plate Current per Plate, 770 max. mA. R.M.S. Voltage per Plate, 500 max. volts. Choke Inductance, 3.0 min. henrys. D-C Output Current, 250 max. mA. Filter-Input Condenser, 8 max. microfarads. Total Plate Supply Impedance per Plate, 150 min. ohms. R.M.S. Voltage per Plate, 500 max. volts. D-C Output Current, 250 max. mA.									
U76	HALF-WAVE RECTIFIER	3 7/8" x 1 11/32"	H.	30.0	0.16	With Condenser Input Filter	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 3/8" x 3/4"	H.	40.0	0.1	With Condenser Input Filter	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 11/32"	H.	13.0	0.16	Class A Amplifier	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	Class A Amplifier	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.										

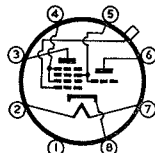


X17 to ZD17

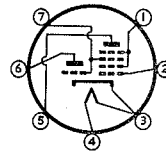
TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (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	2½" x ¾"	D.C. F.	1.4	0.05	Converter	90	0	45	—	—	—	300	Anode-Grid Voltage, 70 max.		
X61M	TRIODE-HEXODE CONVERTER	4½" x 1½"	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	4½" x 1½"	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	2½" x ¾"	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	4½" x 1½"	Electrically interchangeable with Type 6J7-G.													
Z77	R-F AMPLIFIER PENTODE	2½" x ¾"	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.														



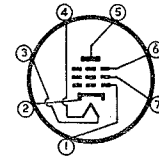
X18



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	2½" x ¾"	F.	1.4	0.025	Converter	85	0	64	0.17	0.65	1 meg.	300	—	—	—
1A6	PENTAGRID CONVERTER	2½" x ¾"	F.	1.4	0.05	Converter	85	0	60	0.14	0.65	1 meg.	325	—	—	—
1A5	DIODE PENTODE	2½" x ¾"	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	2½" x ¾"	F.	1.25	0.22	Class A Amplifier	150	-3.5	—	—	20	4,000	3,500	14	—	—
3C4	POWER PENTODE	2½" x ¾"	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	2½" x ¾"	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	2½" x ¾"	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	5½" x 2½"	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	777	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

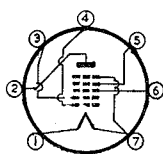
N.B.—Recommended types are shown in bold face.

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

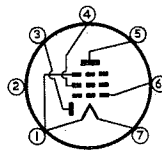
By using types shown on this list in bold face, manufacturers will tend to reap the benefits of better availability, lower cost and better quality.

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

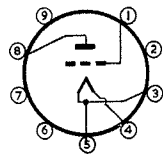
To extend the advantage of standardisation to valves for miscellaneous applications, a number of other types are included on the list, and these are shown in ordinary type. A list of specific T.V. types is not given, as developments in this field are at present so rapid. Advice on the best choice of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



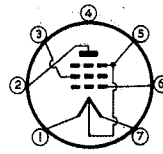
IAB6, IAC6



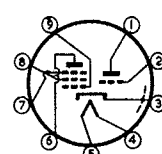
IAHS



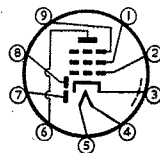
IE3



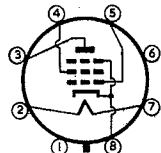
3C4



6AB8



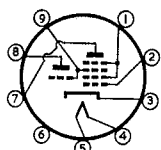
6AD8



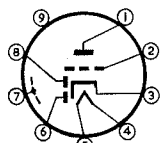
6AG6-G

6AM6 to 6R4

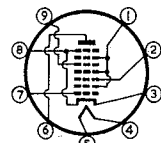
TYPE	NAME	DIMENSIONS Maximum Overall Length x Diam.	CATHODE TYPE AND RATING			USE Values to right give operating conditions and characteristics for indicated typical use	PLATE SUPPLY Volts	GRID BIAS Volts	SCREEN SUPPLY Volts	Screen Current mA.	PLATE CURRENT mA.	A-C PLATE RESISTANCE Ohms	TRANS-CONDUCTANCE (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 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.23	Converter	250	-2	85	3.0	3.0	1.6 meg.	750	70	—	—
6BD7	DUO-DIODE TRIODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.23	Class A Amplifier	250	-3	—	—	1.0	58,000	1,200	70	—	—
6BE7	F-M LIMITER DETECTOR	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.2	Detector	250	-4.5	20	1.5	0.25	5 meg.	—	—	—	—
6BH5	REMOTE CUT-OFF PENTODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	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 $\frac{5}{8}$ " x $\frac{7}{8}$ "	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 $\frac{3}{8}$ " x $\frac{7}{8}$ "					Electrically identical to Type 6BR7.									
6BW6	POWER PENTODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "					Electrically identical to Type 6V6-GT.									
6BX6	SHARP CUT-OFF PENTODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.3	Class A Amplifier	170	-2	170	2.5	10.0	400,000	7,200	2,830	—	—
6CH6	POWER PENTODE	2 $\frac{5}{8}$ " x $\frac{7}{8}$ "	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 $\frac{1}{16}$ " x $\frac{7}{8}$ "	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 $\frac{1}{16}$ " x $\frac{7}{8}$ "	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 $\frac{1}{16}$ " x $\frac{7}{8}$ "	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 $\frac{5}{8}$ " x $\frac{7}{8}$ "	H.	6.3	0.3	Class A Amplifier	250	-2	85	1.75	5	1.6 meg.	2,200	3,520	—	—
6Q4	H-F TRIODE	2 $\frac{1}{2}$ " x $\frac{7}{8}$ "	H.	6.3	0.48	Class A Amplifier	250	-1.5	—	—	15	6,600	12,000	80	—	—
6R4	H-F TRIODE	2 $\frac{1}{2}$ " x $\frac{7}{8}$ "	H.	6.3	0.2	Class A Amplifier	150	-2	—	—	30	2,900	5,500	16	—	—



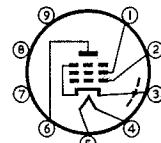
6AN7



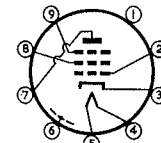
6BD7



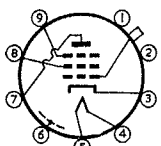
6BE7



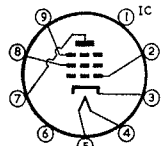
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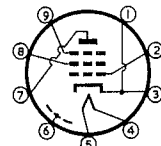
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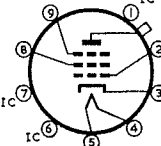
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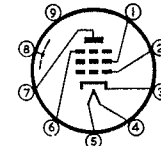
6BW6, 6CH6



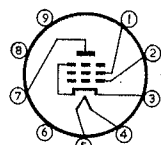
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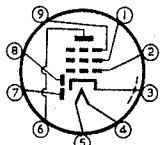
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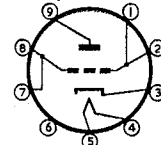
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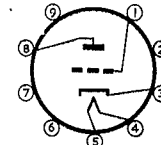
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6N8

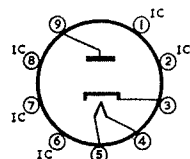


6Q4

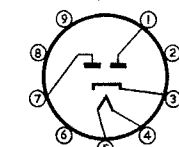


6R4

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 7/8"	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 5/8" 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 5/16" 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	
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 5/16" 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.	



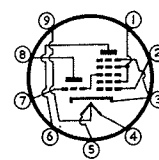
6U3, 19Y3
19X3



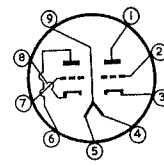
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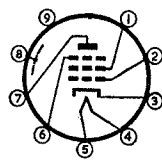
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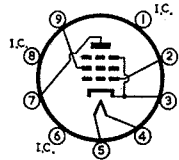
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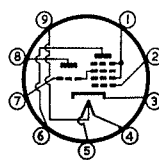
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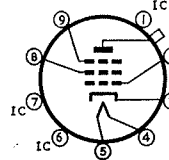
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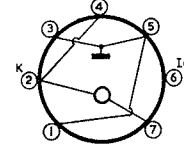
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20D3



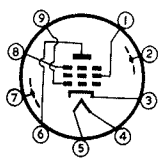
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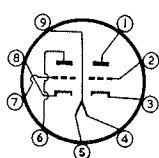
85A2

6064 to EB91

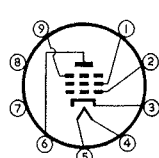
TYPE	NAME	DIMENSIONS <i>Maximum Overall Length x Diam.</i>	CATHODE TYPE AND RATING			USE <i>Values to right give operating conditions and characteristics for indicated typical use</i>	PLATE SUPPLY <i>Volts</i>	GRID BIAS <i>Volts</i>	SCREEN SUPPLY <i>Volts</i>	Screen Current <i>mA.</i>	PLATE CURRENT <i>mA.</i>	A-C PLATE RESISTANCE <i>Ohms</i>	TRANS-CONDUCT. (or conv. cond.) <i>μ mhos</i>	Amplification Factor	LOAD For Stated Power Output <i>Ohms</i>	POWER OUTPUT <i>Watts</i>
			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 5/8" x 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 5/8" x 7/8"	H.	6.3 12.6	0.6 0.3	Single Section Class A Amplifier	250	-5.5	—	—	6.0	11,100	2,700	30	—	—
6086	POWER PENTODE	2 5/8" x 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 1/4" x 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 1/8" x 3/4"	H.	6.3	0.3	Class A Amplifier	200	-2.8	—	—	7.5	12,800	2,800	36	—	—
EB34	DUO-DIODE	3 1/2" x 1 7/16"	H.	6.3	0.2											
						Other electrical characteristics similar to Type 6H6-G.										
EB91	DUO-DIODE															
						Identical to Type 6AL5.										



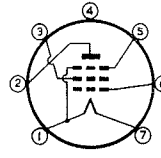
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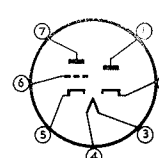
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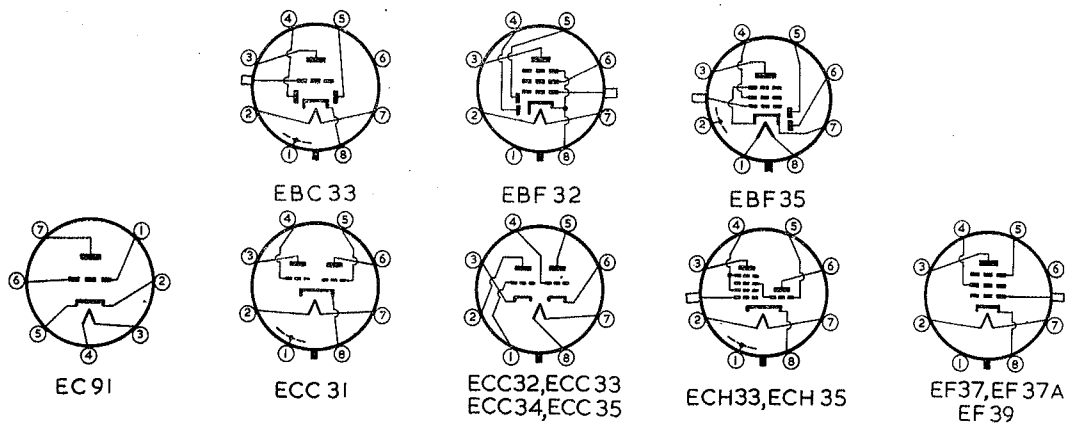


DF96



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 5/16" 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 13/16"	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 13/16"	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 13/16"	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 5/16" x 1 7/8"	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 5/16" 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 1/8"	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 3/8" x 3/4"	H.	6.3	0.42	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 6V4.																		
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 5/16" 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 3/4" x 1 1/8"	H.	52.0	0.3	Rectifier	Max. D.C. Plate Volts, 240 r.m.s.		Max. D.C. Plate Current, 400mA.											
U30	BARRETTOR	4 7/8" x 1 5/8"	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.														

