PRICE 20 CENTS

RCA Receiving Tubes

FOR AM, FM, AND TELEVISION BROADCAST

CHARACTERISTICS AND SOCKET CONNECTIONS FOR

- Power Amplifiers
- Voltage Amplifiers
- Oscillators
- Rectifiers
- Detectors
- Converters
- Mixers
- and TV Picture Tubes

RADIO CORPORATION OF AMERICA
ELECTRON TUBES HARRISON, N. J.

Form No. 1275-G

RCA Receiving Tubes

Chart I is arranged to permit quick determination of the type designations of (A) RCA picture tubes according to their envelope size, focus method, and deflection method; and (B) all other RCA receiving tubes according to their functions and filament or heater voltages. Chart II starting on page 4 lists characteristics and operating data of all RCA receiving tubes. Chart III starting on pages 24 and 25 lists characteristics and operating data of all RCA picture tubes. Both Charts II and III include RCA discontinued types.

1. RECEIVING TUBE CLASSIFICATION CHART

A—Picture Tubes

PICTURE TUBES					
Black-and-White Types					
	Approx. Envelope Diameter (Inches)		3-15	16-17	19-27
	Focusing Method	Deflection Method			
Directly Viewed	electrostatic	electrostatic	7JP4		
	electrostatic	magnetic	7DP4 14HP4	17AVP4 17AVP4-A 17GP4 17HP4 17RP4 17LP4 17VP4 17TP4 17HP4-B 17LP4-A	20HP4-D 20HP4-A/20MP4 20MP4 21ALP4-A 21ALP4-B 21AVP4/21AUP4 21AVP4-A/21AUP4-A 21ATP4 21FP4-A 21FP4-C 21MP4 21YP4 21YP4-A 24DP4-A 24YP4
	magnetic	magnetic	10BP4-A 10FP4-A 12KP4-A 12LP4-A 14EP4/14CP4	16AP4-A 16DP4-A 16GP4-B 16LP4-A 16RP4/16KP4 16RP4-A/16KP4-A 16TP4 16WP4-A 17BP4-A 17BP4-B 17CP4 17JP4 17QP4 17QP4-A	19AP4-B 20CP4 20DP4-A/20CP4-A 20DP4-C/20CP4-D 21ACP4-A 21AMP4-A 21AP4 21AWP4 21EP4-A 21EP4-B 21ZP4-A 21ZP4-B 24CP4-A 27MP4
Projection	electrostatic	magnetic	5TP4		
Color Types					
Directly Viewed	electrostatic	magnetic	15GP22		21AXP22

B—Rectifiers, Detectors, Power and Voltage Amplifiers, Converters and Mixers, Electron-Ray Tubes, Gated Amplifiers, and Shunt Voltage Regulators

Types having similar characteristics and the same filament or heater voltage are bracketed.

Filament or Heater Volts			1.25—1.4			2.0—5.0		6.3—117.0		
			Sub-miniature	*Miniature*	*Other*	*Octal*	*Other*	*Miniature*	*Octal*	*Other*
RECTIFIERS *(For rectifiers with amplifier units, see POWER AMPLIFIERS).*										
Half-Wave	vacuum	Peak Inverse Volts: Below 1500						35W4 117Z3	6AX4-GT 6W4-GT [12AX4-GT 12AX4-GTA] 25W4-GT [35Z4-GT 35Z5-GT]	1-v 35Y4 35Z3
		Above 1500		1V2 [1X2-A 1X2-B]	1B3-GT	3A3 3B2	3A2	6V3-A	6BL4 6AU4-GTA 6BY5-GA	
Full-Wave	vacuum	Peak Inverse Volts: Below 1500				5Z4 [5Y3-GT 5Y4-GT 5V4-G, 5W4-GT]	[5AZ4 80 83-v]	[6X4 12X4]	[6X5-GT] 6AX5-GT	7Y4 7Z4 84/6Z4
		Above 1500				[5AS4 5T4 5U4-G 5U4-GB 5X4-G]	[5Z3]			
	mercury-vapor	Above 1500					83			
	gas	Below 1500				Cold-Cathode Types 0Z4, 0Z4-G				
Doubler	vacuum	Peak Inverse Volts: Below 1500							[25Z6, 25Z6-GT [50Y6-GT 50Y7-GT 117Z6-GT]	[25Z5] 50X6
DIODE DETECTORS *(For diode detectors with amplifier units, see VOLTAGE AMPLIFIERS and also POWER AMPLIFIERS).*										
One Diode				1A3						
Two Diodes							3AL5	6AL5 12AL5	6H6, 12H6	7A6
Three Diodes								6BC7		
POWER AMPLIFIERS with and without Rectifiers, Diode Detectors, and Voltage Amplifiers.										
Triodes	low-mu	single unit					2A3 45 71-A		6B4-G	
	high-mu	single unit						6BC4	6AC5-GT	
		twin unit							6AQ7-GT, 6N7, 6N7-GT	
Beam Tubes	single unit				[Q5-GT [Q5-GT] 3LF4*		5AQ5	6AQ5 6AS5 6BF5 6BK5 12AB5 12AQ5 12CA5 25CA5 [35B5 35C5] [50B5 50C5]	6AU5-GT 6AV5-GT 6BG6-G, [6BQ6-GT 6BQ6-GTB/6CU6] 6CB5 6CD6-G, [6L6 6L6-G] [6V6 6V6-GT] 6W6-GT 6Y6-G 12BQ6-GTB/12CU6 12L6-GT 12V6-GT 12W6-GT 19BG6-G [25L6 25L6-GT] [25BQ6-GT 25BQ6-GTB/25CU6] 25CD6-GA 35L6-GT 50C6-G 50L6-GT	7A5 7C5 35A5 50A5
	with rectifier								[117L7/M7-GT 117P7-GT] 70L7-GT 117N7-GT	
Pentodes	single unit		1AC5	[1S4 1S4* 3Q4* 3V4*]	1A5-GT 1C5-GT 1LB4		47	6CL6 [6AK6 6AR5]	6AG7 6G6-G [6F6, 6F6-G, 6F6-GT 42] [6K6-GT 41] [25A6 43]	7B5 7AD7
	with medium-mu triode								6AD7-G	
	with diode and triode				1D8-GT					

1-56
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Type	Name	Tube Dimensions	Cathode Type and Rating C. T.	Volts	Amp.	Use	Plate Supply Volts	Grid Bias ■ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
1LD5	Diode-Pentode	B6	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier	Plate Supply, 90 v applied through 1 meg. resistor. Screen Supply, 90 v applied through 5.6 meg. resistor. Grid Bias, 0 v, Grid Resistor, 10 megohms. Voltage Gain, 101 approx.										**1LD5**
1LE3	Medium-Mu Triode	B5	D.C. F	1.4	0.05	Class A Amplifier	90 90	0 — 3	— —	— —	4.5 1.4	11200 19000	1300 760	14.5 14.5	— —	— —	**1LE3**
1LG5	Remote-Cutoff Pentode	B8	D.C. F	1.4	0.05	Class A Amplifier	90 90	0 — 1.5	45 90	0.4 0.9	1.7 3.7	1.0§ 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	Sharp-Cutoff Pentode	B5	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.35	1.6	1.1§	800	—	—	—	**1LN5**
1N5-GT	Sharp-Cutoff Pentode	C3	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.3	1.2	1.5§	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 Tube	C2b	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**

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

† Power-output is for two tubes at stated plate-to-plate load. § Megohms.

✖ Applied through plate resistor of 250000 ohms.

✖✖ For grid of following tube.

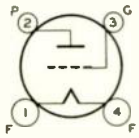
▲ Grids # 2 and # 4 are screen. Grid # 3 is signal-input control grid. ◓ 50000 ohms.

♣ Obtained preferably by using 70000-ohm voltage-dropping resistor in series with 90-volt supply.

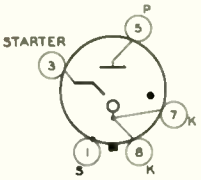
● Grids # 3 and # 5 are screen. Grid # 4 is signal-input grid.

◥ Supply voltage applied through 20000-ohm voltage-dropping resistor.

★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.



00-A 01-A



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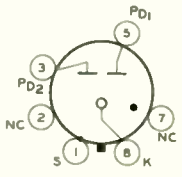

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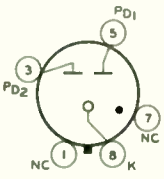
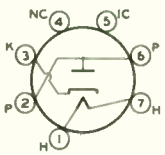


0Z4-G



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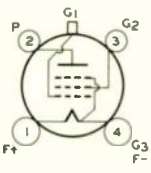
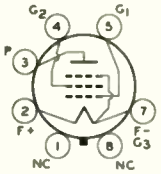


1A4-P 1B4-P



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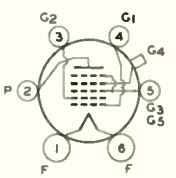
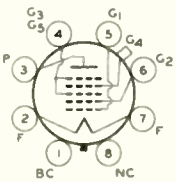


1A6 1C6



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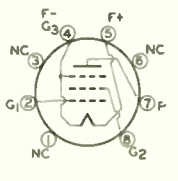

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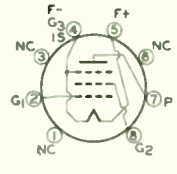
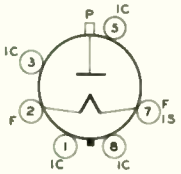
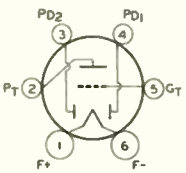


1AD5



1B3-GT



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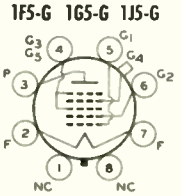
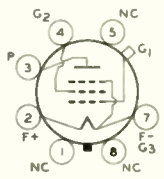
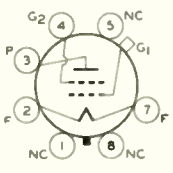


1C7-G 1D7-G

1F5-G 1G5-G 1J5-G



1D5-GP 1E5-GP



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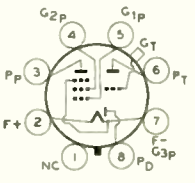

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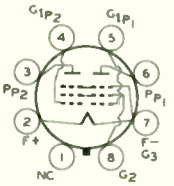

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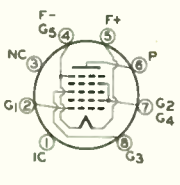

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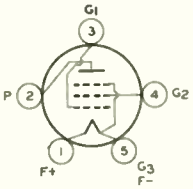

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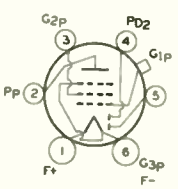

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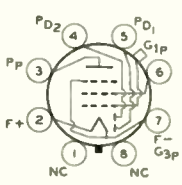

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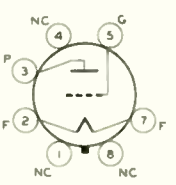
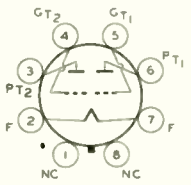


1G4-GT 1H4-G



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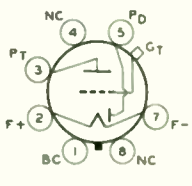

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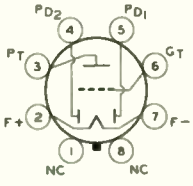

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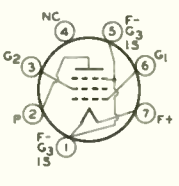

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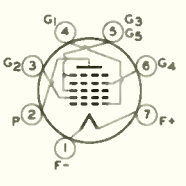

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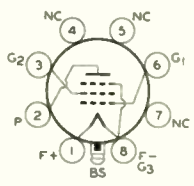

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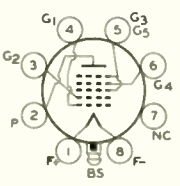
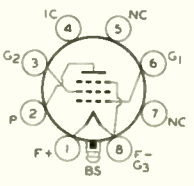


1LA6 1LC6



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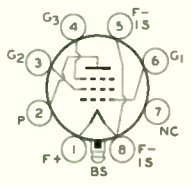

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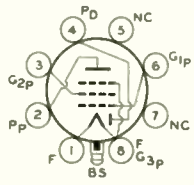

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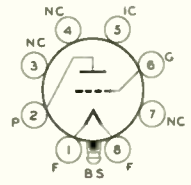

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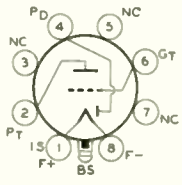

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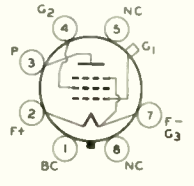
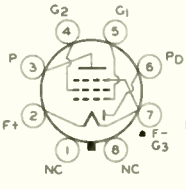
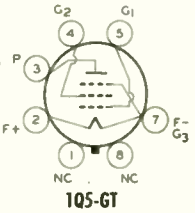


1N5-GT 1P5-GT



1N6-G



1Q5-GT

Type	Name	Tube Dimensions	Cathode Type and Rating: C.T.	Volts	Amps.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
1R5	Pentagrid Converter▲	B0	D.C. F	1.4	0.05	Converter	45 90	0 0	45 67.5	1.9 3.2	0.7 1.6	600000 600000	Grid #1 Resistor, 100000 ohms. Conversion Transcond., 300 μmhos.				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	3.8 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 v applied through 1 meg. resistor. Screen Supply, 90 v applied through 3.1 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 66 approx.										1S5
1T4	Remote-Cutoff Pentode	B0	D.C. F	1.4	0.05	Class A Amplifier	45 90	0 0	45 67.5	0.7 1.4	1.7 3.5	350000 500000	700 900	—	—	—	1T4
1T5-GT	Beam Power Tube	C2b	D.C. F	1.4	0.05	Class A Amplifier	90	−6.0	90	0.8	6.5	250000	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 0 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	Sharp-Cutoff Pentode	B0	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.50	1.0	1.0§	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 3.1 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 66 approx.										1U5
1-v	Half-Wave Rectifier	D5	H	6.3	0.3	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 325 Max. DC 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	90a	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-A	Half-Wave Rectifier	B4	F	1.25	0.2	Half-Wave Rectifier	Max. Peak Inverse Plate Volts, 18000 Max. Peak Plate Ma., 10				Max. Average Plate Ma., 1						1X2-A
1X2-B	Half-Wave Rectifier	B4	F	1.25	0.2	Pulsed-Rectifier in Scanning Systems of TV Receivers	Max. Peak Inverse Plate Volts, 22000 (Absolute Value) Max. Peak Plate Ma., 45				Max. Average Plate Ma., 0.5						1X2-B
2A3	Power Amplifier Triode	E3	F	2.5	2.5	Class A Amplifier	250	−45.0	—	—	60.0	800	5250	4.2	2500	3.5	2A3
						Push-Pull Class AB1 Amplifier	300 300	Cath. Bias, 780 ohms♠ −62 volts, fixed bias			80.0♠ 80.0♠	—	—	—	5000 3000	10.0† 15.0†	
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	D9	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
2AF4-A	UHF Oscillator Triode	B0	H	2.35	0.6	Class A Amplifier	80 100	Cath. Bias Res., 150 ohms			16 20	2270 2130	6600 7500	15 16	—	—	2AF4-A
						Oscillator at 950 Mc.	100	Grid Bias Volts, −4 Grid Res., 10000 ohms			22	Grid Current (Approx.), 400 μamp. Useful Power Output, 160 milliwatts					
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	D6	H	2.5	0.8	Visual Indicator	For other characteristics, refer to Type 6E5.										2E5
3A2	Half-Wave Rectifier	B4	H	3.15	0.22	Pulsed-Rectifier in Scanning Systems of TV Receivers	Max. Peak Inverse Plate Volts, 18000 Max. Peak Plate Ma., 80				Max. Average Plate Ma., 1.5						3A2
3A3	Half-Wave Rectifier	D2	H	3.15	0.22	Pulsed-Rectifier in Scanning Systems of TV Receivers	Max. Peak Inverse Plate Volts, 30000 Max. Peak Plate Ma., 80				Max. Average Plate Ma., 1.5						3A3
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	90	0	—	—	0.2	200000	325	65	—	—	3A8-GT
						Pentode Unit as Class A Amplifier	90	0	90	0.5	1.5	800000	750	—	—	—	
3AL5	Twin-Diode	A1	H	3.15	0.6	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma. per Plate, 54				Max. DC Output Ma. per Plate, 9 Max. Peak Heater-Cathode Volts, 330						3AL5
3AU6	Sharp-Cutoff Pentode	B0	H	3.15	0.6	Class A Amplifier	100 250	Cath. Bias	100 150	2.1 4.3	5.0 10.6	500000 1.0§	3900 5200	Cath. Bias Res., 150 ohms Cath. Bias Res., 68 ohms			3AU6
3AV6	Twin-Diode High-Mu Triode	B0	H	3.15	0.6	Triode Unit as Class A Amplifier	100 250	−1.0 −2.0	—	—	0.5 1.2	80000 62500	1250 1600	100 100	—	—	3AV6
3B2	Half-Wave Rectifier	E1a	H	3.15	0.22	Pulsed Rectifier in TV Service	Max. DC Inverse Plate Volts, 25000 Max. Peak Plate Ma. 80 Max. Average Plate Ma., 1.1							Max. Total DC and Peak Inverse Plate Volts, 35000 (Absolute)			3B2
3BC5	Sharp-Cutoff Pentode	B0	H	3.15	0.6	Class A Amplifier	250	Cath. Bias	150	2.1	7.5	800000	5700	Cath. Bias Res., 180 ohms			3BC5
3BY6	Pentagrid Amplifier	B0	H	3.15	0.6	Sync Separator and Sync Clipper	10	0	25	3.5	1.4	Grid-No. 3 Volts, 0					3BY6
3BZ6	Semiremote-Cutoff Pentode	B0	H	3.15	0.3	Class A Amplifier	200	Cath. Bias	150	2.6	11	0.6	6100	Cath. Bias Res., 180 ohms			3BZ6
3CB6	Sharp-Cutoff Pentode	B0	H	3.15	0.6	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms			3CB6
3CF6	Sharp-Cutoff Pentode	B0	H	3.15	0.6	Class A Amplifier	200	−6.5	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms			3CF6
3DT6	Sharp-Cutoff Pentode	B0	H	3.15	0.6	Class A Amplifier	150	Cath. Bias	100	2.1	1.1	150000	615	Cath. Res., 560 ohms			3DT6
						FM Detector	250	Cath. Bias	100	5.5	0.22	Grid-No. 3 Volts, −6; Cath. Resistor, 560 ohms Plate Load Resistor, 270000 ohms					
3LF4	Beam Power Tube	B5	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	For other characteristics, refer to Type 3Q5-GT.										3LF4
3Q4	Power Amplifier Pentode	B0	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	For other characteristics, refer to Type 3V4										3Q4
3Q5-GT	Beam Power Tube	C2b	D.C. F	1.4 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. F	1.4 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. F	1.4 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
4BC8	Medium-Mu Twin-Triode	B0a	H	4.2	0.6	Each Unit as Class A Amplifier	150	Cath. Res., 220 ohms			10	—	6200	35	—	—	4BC8
4BQ7-A	Medium-Mu Twin-Triode	B0a	H	4.2	0.6	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			9.0	6100	6400	39	Cutoff Volts, −10		4BQ7-A
4BZ7	Medium-Mu Twin-Triode	B0a	H	4.2	0.6	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			10	5600	6800	38	Cutoff Volts, −11		4BZ7
5AM8	Diode—Sharp-Cutoff Pentode	B0a	H	4.7	0.6	Diode Unit	Max. DC Plate Ma., 5				Max. Peak Heater-Cathode Volts, ±200 DC Volts Not to Exceed +100						5AM8
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.7	11.5	—	7000	Cath. Bias Res., 120 ohms			
5AN8	Medium-Mu Triode—Sharp-Cutoff Pentode	B0a	H	4.7	0.6	Triode Unit as Class A Amplifier	200	−6	—	—	13	5750	3300	19	—	—	5AN8
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.8	9.5	300000	6200	Cath. Bias Res., 180 ohms			
5AQ5	Beam Power Tube	B1	H	4.7	0.6	Single Tube Class A Amplifier	180 250	−8.5 −12.5	180 250	3.0 4.5	29.0 45.0	58000 52000	3700 4100	—	5500 5000	2.0 4.5	5AQ5
						Push-Pull Class AB1 Amplifier	250	−15	250	5.0♠	70♠	60000	—	—	10000	10†	
5AS4	Full-Wave Rectifier	E3a	H	4.7	3.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 300 Max. Peak Plate Ma., 1000			Min. Total Effect. Supply Imped. per Plate, 97 ohms			5AS4
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 275 Max. Peak Plate Ma., 1000			Min. Value of Input Choke, 10 henries			
5AS8	Diode—Sharp-Cutoff Pentode	B0a	H	4.7	0.6	Diode Unit	Max. Peak Inverse Plate Volts, 330 Max. Peak Plate Ma., 50							Max. Average Plate Ma., 5.0			5AS8
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.0	9.5	300000	6200	Cath. Bias Res., 180 ohms			

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

Type	Name	Tube Dimensions	Cathode Type and Rating C.T.	Volts	Amp.	Use	Plate Supply Volts	Grid Bias ■ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
5AT8	Triode—Pentode Converter	B0a	H	4.7	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma.								Plate Current, 13 Ma. Power Output (Approx.), 0.5 Watt	5AT8
						Pentode Unit as Mixer‡	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Plate Current, 6.2 Ma.				Osc. Volts at Mixer Grid-No. 1 (RMS), 2.6 Mixer Grid-No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 μmhos					
5AZ4	Full-Wave Rectifier	C2a	F	5.0	2.0	For ratings and characteristics, refer to Type 5Y3-GT.											5AZ4
5J6	Medium-Mu Twin-Triode	B0	H	4.7	0.6	Each Unit as Class A Amplifier	100	Cath. Res., 220 ohms, both units		—	8.5	7100	5300	38	—	—	5J6
						Push-Pull Class C Amplifier	150	−10	Cath. Res., 220 ohms, both units	30		Grid Current, 16 Ma. Driving Power, 0.35 Watt			—	3.5	

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.

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

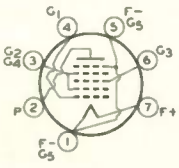
† Power output is for two tubes at stated plate-to-plate load. § Megohms.

▲ Grids # 2 and # 4 are screen. Grid # 3 is signal-input control grid.

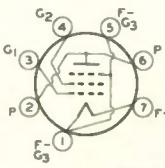
■ Grids # 3 and # 5 are screen. Grid # 4 is signal-input grid.

‡ With separate excitation and triode unit grounded.

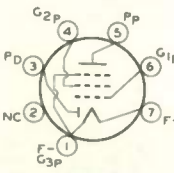
Note 1: Subscript 1 on class of amplifier service (as AB_1) indicates that grid current does not flow during any part of input cycle.



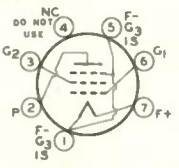
1R5



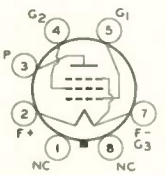
1S4



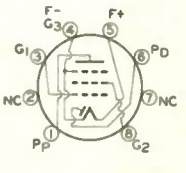
1S5



1T4 1U4



1T5-GT



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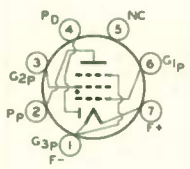
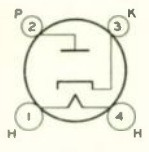
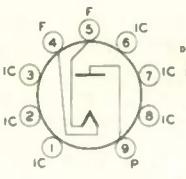


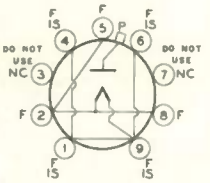
1U5



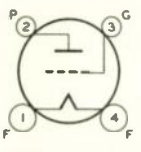
1-v



1V2



1X2-A 1X2-B



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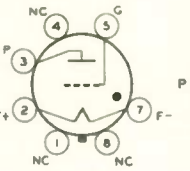
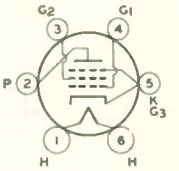


2A4-G



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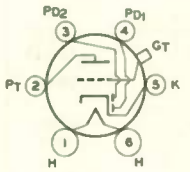

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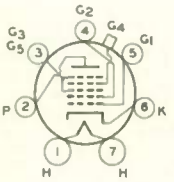

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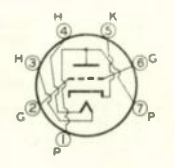

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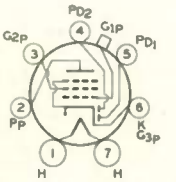

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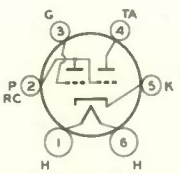

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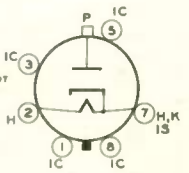
3A2



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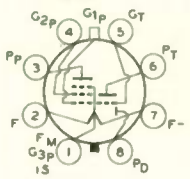

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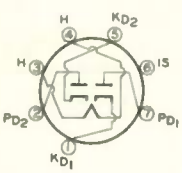

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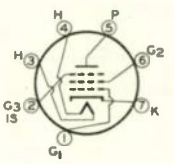

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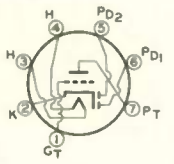

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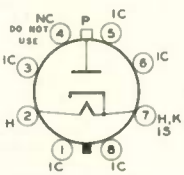

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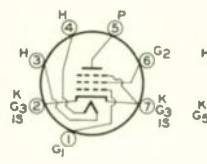
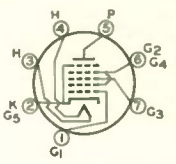


3BC5



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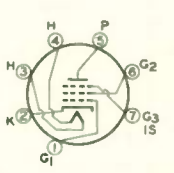
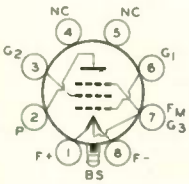


3BZ6 3CF6
3DT6●



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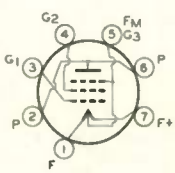
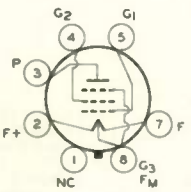


3Q4 3S4



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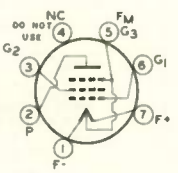

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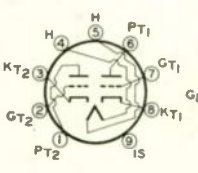
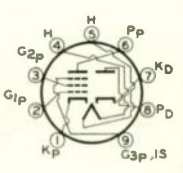


4BC8 4BQ7-A
4BZ7



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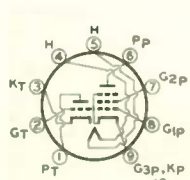

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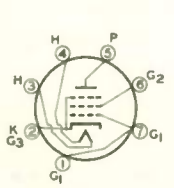

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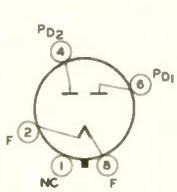

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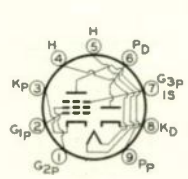

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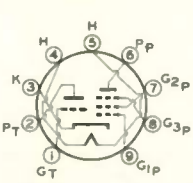

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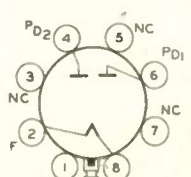

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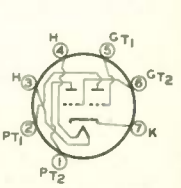


5J6

●IS is connected to Pin No. 2 instead of Pin No. 7.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
5T4	Full-Wave Rectifier	D7	F	5.0	2.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 675			Min. Total Effect. Supply Imped. per Plate, 150 ohms			**5T4**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 675			Min. Value of Input Choke, 3 henries			
5U4-G	Full-Wave Rectifier	E3a	F	5.0	3.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 675			Min. Total Effect. Supply Imped. per Plate, 170 ohms			**5U4-G**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 675			Min. Value of Input Choke, 10 henries			
5U4-GB	Full-Wave Rectifier	D12aa	H	5.0	3.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 300 Max. Peak Plate Ma., 1000			Min. Total Effect. Supply Imped. per Plate, 97 ohms			**5U4-GB**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 275 Max. Peak Plate Ma., 1000			Min. Value of Input Choke, 10 henries			
5U8	Triode—Pentode Converter	B0a	H	4.7	0.6	Triode Unit as Class A Amplifier	150	Cath. Bias	——	——	18	5000	8500	40	Cath. Res., 56 ohms		**5U8**
						Pentode Unit as Class A Amplifier	250	Cath. Bias	110	3.5	10	40000	5200	——	Cath. Res., 68 ohms		
5V4-G	Full-Wave Rectifier	D10	H	5.0	2.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 375 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 175 Max. Peak Plate Ma., 525			Min. Total Effect. Supply Imped. per Plate, 100 ohms			**5V4-G**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 175 Max. Peak Plate Ma., 525			Min. Value of Input Choke, 4 henries			
5W4 **5W4-GT**	Full-Wave Rectifiers	C2 C5	F	5.0	1.5	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 100 Max. Peak Plate Ma., 300			Min. Total Effect. Supply Imped. per Plate, 50 ohms			5W4 **5W4-GT**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 100 Max. Peak Plate Ma., 300			Min. Value of Input Choke, 6 henries			
5X4-G	Full-Wave Rectifier	E2	F	5.0	3.0	For other ratings, refer to Type 5U4-G.											**5X4-G**
5X8	Triode—Pentode Converter	B0a	H	4.7	0.6	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma.						Plate Current, 13 Ma. Power Output (Approx.), 0.5 Watt			**5X8**
						Pentode Unit as Mixer‡	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Plate Current, 6.2 Ma.						Osc. Volts at Mixer Grid-No. 1 (RMS), 2.6 Mixer Grid-No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 μmhos			
5Y3-G **5Y3-GT**	Full-Wave Rectifiers	D10 C5	F F	5.0 5.0	2.0 2.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 400			Min. Total Effect. Supply Imped. per Plate, 50 ohms			5Y3-G **5Y3-GT**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 400			Min. Value of Input Choke, 10 henries			
5Y4-G **5Y4-GT**	Full-Wave Rectifier	D10	F	5.0	2.0	For other ratings, refer to Type 5Y3-GT.											5Y4-G **5Y4-GT**
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	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375			Min. Total Effect. Supply Imped. per Plate, 50 ohms			**5Z4**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375			Min. Value of Input Choke, 5 henries			
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 6A7S	Pentagrid Converters ○	D9	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										**6A7** 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. v, 4.0 ma. Oscillator-Grid (#1) Res.●. Conversion Transcond., 550 μmhos.				**6A8** **6A8-G** **6A8-GT**
6AB4	High-Mu Triode	B0	H	6.3	0.15	Class A Amplifier	100 250	Cath. Res., 270 ohms Cath. Res., 200 ohms			3.7 10.0	15000 10900	4000 5500	60 60	—— ——	—— ——	**6AB4**
6AB5/ 6N5	Electron-Ray Tube Indicator Type	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.										**6AB5/ 6N5**
							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.										
6AB7	Remote-Cutoff Pentode	B2	H	6.3	0.45	Class A Amplifier	300	− 3.0	200	3.2	12.5	700000	5000	——	——	——	**6AB7**
						Class B Amplifier	250	0	——	——	5.0♠	——	——	——	10000	8.0†	
6AC5-GT	High-Mu Power Amplifier Triode	C2b	H	6.3	0.4	Dynamic-Coupled Amplifier With 76 Driver	250	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.							7000	3.7	**6AC5-GT**
6AC7	Sharp-Cutoff Pentode	B2	H	6.3	0.45	Class A Amplifier	300	Cath. Bias	150	2.5	10.0	1.0§	9000	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.										6AD6-G
							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.										
6AD7-G	Triode-Power Amplifier Pentode	D10	H	6.3	0.85	Triode Unit as Class A Amplifier	250	−25.0	——	——	3.7	19000	325	6	——	——	**6AD7-G**
						Pentode Unit as Class A Amplifier	250	−16.5	250	6.5	34.0	80000	2500	——	7000	3.2	
						Pentode Unit With 6F6-G as Push-Pull Class AB1 Amplifier	375	Cath. Bias	250	6.7♠	41.0♠	Cathode-Bias Resistor, 470 ohms♠			16000	9.0†	
6AE5-GT	Amplifier Triode	C5	H	6.3	0.3	Class A Amplifier	95	−15.0	——	——	7.0	3500	1200	4.2	——	——	6AE5-GT
6AE6-G	Twin-Plate Control Tube	D3	H	6.3	0.15	Remote Cutoff Triode	250 250	− 1.5 −35.0	—— ——	—— ——	6.5 0.01	25000 ——	1000 ——	25 ——	—— ——	—— ——	6AE6-G
						Remote Cutoff Triode	250 250	− 1.5 − 9.5	—— ——	—— ——	4.5 0.01	35000 ——	950 ——	33 ——	—— ——	—— ——	
						Class A Amp▲▲	250	−13.5	——	——	10.0	4650	3000	14	——	——	
6AE7-GT	Twin-Input Triode Amplifier	C2b	H	6.3	0.5	Driver For Push-Pull 6AC5-GT In Dynamic-Coupled Amplifier	250	Bias for both 6AC5-GT and 6AE7-GT developed in coupling circuit. Zero-Signal Plate Current of 6AE7-GT = 10 milliamperes. Zero-Signal Plate Current of 6AC5-GT = 64 milliamperes. Power Output is for two 6AC5-GT at stated plate-to-plate load.							10000	9.5	6AE7-GT
6AF4	UHF Oscillator Triode	B0	H	6.3	0.225	Class A Amplifier	100	Cathode Bias Res., 150 ohms			16 20	2270 2130	6600 7500	15 16	—— ——	—— ——	**6AF4**
						Oscillator at 950 Mc.	100	Grid Bias Volts, −4 Grid Res., 10000 ohms			22	Grid Current (Approx.), 400 μamp Useful Power Output, 160 milliwatts					
6AF4-A	Medium-Mu Triode	A1	H	6.3	0.225	Class A Amplifier Oscillator at 950 Mc	For other characteristics, refer to type 6AF4										**6AF4-A**
6AF6-G	Electron-Ray Tube Twin Indicator Type	B0a	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°.										**6AF6-G**
							Target Voltage, 250 volts. Control-Electrode Voltage, 0 volts; Shadow Angle, 95°; Target Current, 2.2 ma. Control-Electrode Voltage, 160 volts; Angle, 0°.										
6AG5	Sharp-Cutoff Pentode	B0	H	6.3	0.3	As Pentode Class A Amplifier	100 250	Cath. Bias	100 150	1.4 2.0	4.5 6.5	600000 800000	4500 5000	Cath. Bias Res., 180 ohms Cath. Bias Res., 180 ohms			**6AG5**
						As Triode□ Class A Amplifier	180 250	Cath. Bias	—— ——	—— ——	7.0 5.5	8000 10000	5700 3800	Cath. Bias Res., 330 ohms Cath. Bias Res., 820 ohms			
6AG7	Power Pentode	C2	H	6.3	0.65	Class A Amplifier 4-Mc. Bandwidth Video Circuit	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**

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	Use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
6AH4-GT	Medium-Mu Triode	C2b	H	6.3	0.75	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 500 Max. DC Cathode Ma., 60							Max. Peak Positive-Pulse Plate Volts, 2000 Max. Plate Dissipation, 7.5 watts			6AH4-GT
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	120 180	Cath. Bias	120 120	2.5 2.4	7.5 7.7	300000 500000	5000 5100	Cath. Res., 180 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. DC 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
6AM8	Diode—Sharp-Cutoff Pentode	B0a	H	6.3	0.45	Diode Unit	Max. DC Plate Ma., 5							Max. Peak Heater-Cathode Volts, ±200 DC Volts Not to Exceed, +100			6AM8
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.7	11.5	——	7000	Cath. Bias Res., 120 ohms			
6AN8	Triode—Sharp-Cutoff Pentode	B0a	H	6.3	0.45	Triode Unit as Class A Amplifier	200	− 6	——	——	13.0	5750	3300	19	——	——	6AN8
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	2.8	9.5	300000	6200	——	Cath. Res., 180 ohms		
6AQ5	Beam Power Tube	B1	H	6.3	0.45	Single Tube Class A Amplifier	180 250	− 8.5 −12.5	180 250	3.0 4.5	29.0 45.0	58000 52000	3700 4100	—— ——	5500 5000	2.0 4.5	6AQ5
						Push-Pull Class AB_1 Amplifier	250	−15.0	250	5.0♠	70.0♠	60000	——	——	10000	10.0†	
6AQ6	Twin-Diode High-Mu Triode	B0	H	6.3	0.15	Triode Unit as Class A Amplifier	100 250	− 1.0 − 3.0	——	——	0.8 1.0	61000 58000	1150 1200	70 70	——	——	6AQ6
6AQ7-GT	Twin-Diode High-Mu Triode	C2b	H	6.3	0.3	Triode Unit as Class A Amplifier	250	− 2	——	——	2.3	44000	1600	70	——	——	6AQ7-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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

† Power output is for two tubes at stated plate-to-plate load.

▪ Grids # 3 and # 5 are screen. Grid # 4 is signal-input grid. ≈ 50000 ohms.

◥ Supply voltage applied through 20000-ohm voltage-dropping resistor.

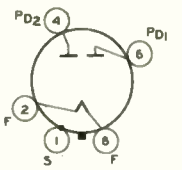
■ With tube mounted horizontally and pins No. 4 and No. 8 in a vertical plane (pin 4 on top), deflecting electrode No. 1 controls left-hand section of pattern, deflecting electrode No. 2 controls top right-hand section of pattern, deflecting electrode No. 3 controls bottom section of pattern.

□ Grid # 2 tied to plate.

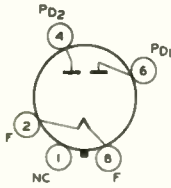
AA Both grids connected together; likewise both cathodes.

‡ With separate excitation and triode unit grounded.

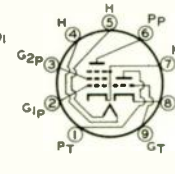
Note 1: Subscript 1 on class of amplifier service (as AB_1) indicates that grid current does not flow during any part of input cycle.



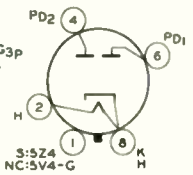
5T4 5W4(GT)



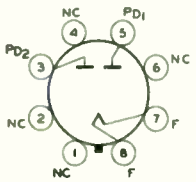
5U4-G 5U4-GB 5Y3(G, GT)



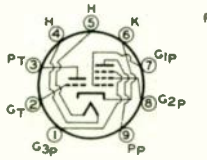
5U8



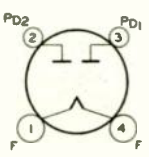
5V4-G 5Z4



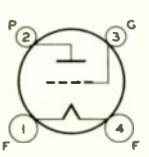
5X4-G 5Y4(G, GT)•



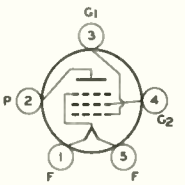
5X8



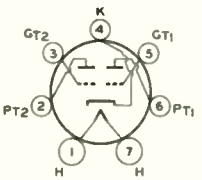
5Z3



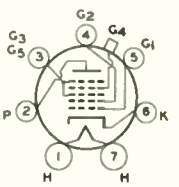
6A3



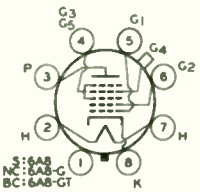
6A4/LA



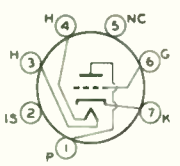
6A6



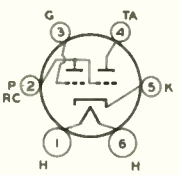
6A7 6A7S



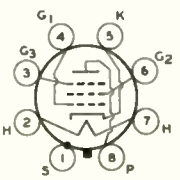
6A8(G, GT)



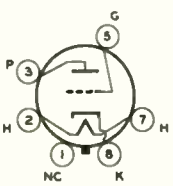
6AB4



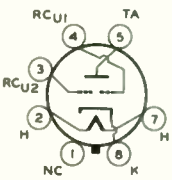
6AB5/6N5



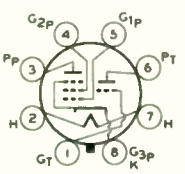
6AB7 6AC7



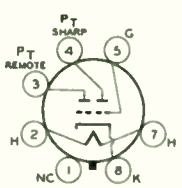
6AC5-GT 6AE5-GT



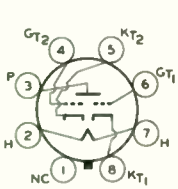
6AD6-G 6AF6-G



6AD7-G



6AE6-G



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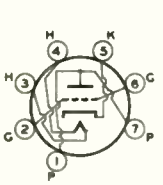
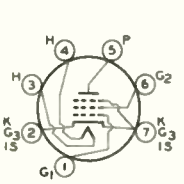
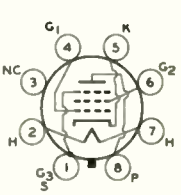


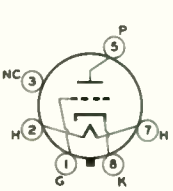
6AF4 6AF4-A



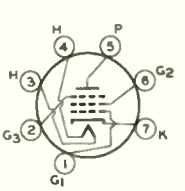
6AG5 6AK5



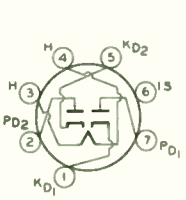
6AG7



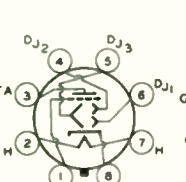
6AH4-GT



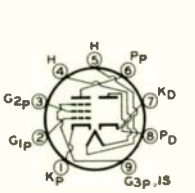
6AH6 6AK6



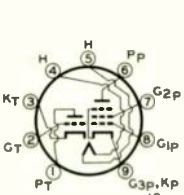
6AL5



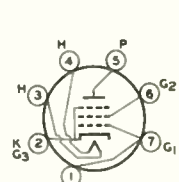
6AL7-GT



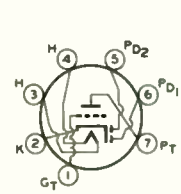
6AM8



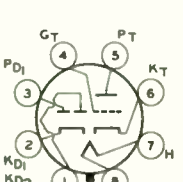
6AN8



6AQ5



6AQ6



6AQ7-GT

• 5Y4-GT does not have pins 4 and 6.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C.T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
6AR5	Power Pentode	B1	H	6.3	0.4	Class A Amplifier	250 250	−16.5 −18	250 250	5.7 5.5	34.0 32.0	65000 68000	2400 2300	— —	7000 7600	3.2 3.4	**6AR5**
6AS5	Beam Power Tube	B1	H	6.3	0.8	Class A Amplifier	150	− 8.5	110	2.0	35	—	5600	—	4500	2.2	**6AS5**
6AS8	Diode—Sharp-Cutoff Pentode	B0a	H	6.3	0.45	Diode Unit	Max. Peak Inverse Plate Volts, 330 Max. Peak Plate Ma., 50								Max. Average Plate Ma., 5.0		**6AS8**
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.0	9.5	300000	6200		Cath. Res., 180 ohms		
6AT6	Twin-Diode High-Mu Triode	B0	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	− 1.0 − 3.0	— —	— —	0.8 1.0	54000 58000	1300 1200	70 70	— —	— —	**6AT6**
6AT8	Triode—Pentode Converter	B0a	H	6.3	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 Ma.							Plate Current, 13 ma. Power Output (Approx.), 0.5 watt		**6AT8**
						Pentode Unit as Mixer‡	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Plate Current, 6.2 Ma.							Osc. Volts at Mixer Grid-No. 1 (RMS), 2.6 Mixer Grid-No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 μmhos		
6AU4-GT	Half-Wave Rectifier	C10b	H	6.3	1.8	Television Damper Service	Max. Peak Inverse Plate Volts, 4500 (Absolute) Max. Peak Plate Ma., 1050								Max. Average Plate Ma., 175 Max. Plate Dissipation 6.0 watts		**6AU4-GT**
6AU4-GTA	Half-Wave Rectifier	C10b	H	6.3	1.8	Television Damper Service	Max. Peak Inverse Plate Volts, 4500 (Absolute) Max. Peak Plate Ma., 1150								Max. Average Plate Ma., 190 Max. Plate Dissipation, 6.0 Watts		**6AU4-GTA**
6AU5-GT	Beam Power Tube	C2b	H	6.3	1.25	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550; Max. DC Cathode Ma., 110								Max. Peak Positive-Pulse Plate Volts, 5500 Absolute Max. Plate Dissipation, 10 watts		**6AU5-GT**
6AU6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	100 250	Cath. Bias	100 150	2.1 4.3	5.0 10.6	500000 1.0§	3900 5200	Cath. Bias Res., 150 ohms Cath. Bias Res., 68 ohms			**6AU6**
6AU7	Medium-Mu Twin-Triode	B0a	H	3.15 6.3	0.6 0.3	Each Unit as Class A Amplifier	100 250	0 − 8.5	— —	— —	13 10.5	6300 7950	3500 2200	22 17.5	— —	— —	6AU7
6AU8	Triode—Sharp-Cutoff Pentode	B3	H	6.3	0.6	Triode Unit as Class A Amplifier	150	Cath. Res., 150 ohms			9	8200	4900	40	—	—	**6AU8**
						Pentode Unit as Class A Amplifier	200	Cath. Bias	—	3.4	15	150000	7000	Cath. Bias Res., 82 ohms			
6AV5-GT	Beam Power Tube	C2b	H	6.3	1.2	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550; Max. DC Cathode Ma., 110								Max. Peak Positive-Pulse Plate Volts, 5500 Max. Plate Dissipation, 11 watts		**6AV5-GT**
6AV6	Twin-Diode High-Mu Triode	B0	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	− 1.0 − 2.0	— —	— —	0.5 1.2	80000 62500	1250 1600	100 100	— —	— —	**6AV6**
6AW8	High-Mu Triode—Sharp-Cutoff Pentode	B3	H	6.3	0.6	Triode Unit as Class A Amplifier	200	−2	—	—	4	17500	4000	70	—	—	**6AW8**
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3.5	13	400000	9000	Cath. Res., 180 ohms			
6AX4-GT	Half-Wave Rectifier	C2b	H	6.3	1.2	Television Damper Service	Max. Peak Inverse Plate Volts, 4000 Max. Peak Plate Ma., 750 Max. DC Plate Ma., 125								Max. Peak Heater-Cathode Volts: −4000•• +300 ••DC component must not exceed 900 volts.		**6AX4-GT**
6AX5-GT	Full-Wave Rectifier	C2b	H	6.3	1.2	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 80 Max. Peak Plate Ma., 375			Min. Total Effec. Supply Imped. per Plate, 105		**6AX5-GT**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250					Max. DC Output Ma., 125 Max. Peak Plate Ma., 375			Min. Value of Input Choke, 10 henries		
6AZ8	Medium-Mu Triode—Semiremote-Cutoff Pentode	B0a	H	6.3	0.45	Triode Unit as Class A Amplifier	200	− 6	—	—	13	5750	3300	19	—	—	**6AZ8**
						Pentode Unit as Class A Amplifier	200	Cath. Bias	150	3	9.5	300000	6000	Cath. Res., 180 ohms			
6B4-G	Power Amplifier Triode	E2	F	6.3	1.0	Class A Amplifier	250	−45.0	—	—	60.0	800	5250	4.2	2500	3.20	**6B4-G**
						Push-Pull Class AB1 Amplifier	325 325	Cath. Bias, 850 ohms◆ −68 volts, fixed bias			80.0◆ 80.0◆	—	—	—	5000 3000	10.0† 15.0†	
6B5	Direct-Coupled Power Amplifier	D12	H	6.3	0.8	Class A Amplifier	For other characteristics, refer to Type 6N6-G.										6B5
6B6-G	Twin-Diode High-Mu Triode	D8	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										6B6-G
6B7 6B7S	Twin-Diode Remote-Cutoff Pentode	D9	H	6.3	0.3	Pentode Unit as Amplifier	Input Triode: Plate Volts, 300 max; Grid Volts, 0; Plate Ma., 8; AF Signal Volts (Peak), 21 Output Triode: Plate Volts, 300 max.; Plate Ma., 45; Plate Res., 24000 ohms; Load Resistance, 7000 ohms; Power Output, 4 watts.											6B7 6B7S
6B8	Twin-Diode Pentode	C1	H	6.3	0.3	Pentode Unit as Amplifier	For other characteristics, refer to Type 12C8.										**6B8**
6B8-G	Twin Diode—Remote-Cutoff Pentode	D8	H	6.3	0.3	Pentode Unit as RF Amplifier	100 250	− 3.0 − 3.0	100 125	1.7 2.3	5.8 9.0	300000 600000	950 1125	—	—	—	6B8-G
						Pentode Unit as AF Amplifier	90■ 300■	Cath. Bias, 3500 ohms. Screen Resistor = 1.1 meg. Cath. Bias, 1600 ohms. Screen Resistor = 1.2 meg.						Grid Resistor,•• 0.5 megohm.		Gain per stage = 55 Gain per stage = 79	
6BA6	Remote-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	100 250	Cath. Bias	100 100	4.4 4.2	10.8 11.0	250000 1.0	4300 4400	Cath. Bias Res., 68 ohms Cath. Bias Res., 68 ohms			**6BA6**
6BA7	Pentagrid Converter▲	B3	H	6.3	0.3	Converter	100 250	− 1.0 − 1.0	100 100	10.2 10.0	3.6 3.8	500000 1.0§	Grid-No. 1 Resistor, 20000 ohms Conversion Transcond., 950 micromhos				**6BA7**
6BC4	Medium-Mu Triode	A1b	H	6.3	0.225	Class A Amplifier	150	Cath. Bias	—	—	14.5	4800	10000	48	Cath. Res., 100 ohms		**6BC4**
6BC5	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	250	Cath. Bias	150	2.1	7.5	800000	5700	Cath. Bias Res., 180 ohms			**6BC5**
6BC7	Triple Diode	B0a	H	6.3	0.45	DC Restorer in Color TV	Each Diode: Max. Peak Inverse Plate Volts, 300 Max. Peak Plate Ma., 54								Max. Average Plate Ma., 12		**6BC7**
6BC8	Medium-Mu Twin-Triode	B0a	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cath. Res., 220 ohms			10	—	6200	35	—	—	**6BC8**
6BD4	Sharp-Cutoff Beam Triode	E0	H	6.3	0.6	Voltage-Control	Max. DC Plate Volts, 20000 Max. Unregulated DC Supply Volts, 40000								Max. DC Plate Ma., 1.5 Max. Plate Dissipation, 20.0 watts		6BD4
6BD4-A	Sharp-Cutoff Beam Triode	E0	H	6.3	0.6	Voltage-Control	Max. DC Plate Volts, 27000 Max. Unregulated DC Supply Volts, 55000								Max. DC Plate Ma., 1.5 Max. Plate Dissipation, 25.0 watts		**6BD4-A**
6BD6	Remote-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	100 250	− 1 − 3	100 100	5.0 3.0	13.0 9.0	150000 800000	2550 2000	—	—	—	**6BD6**
6BE6	Pentagrid Converter▲	B0	H	6.3	0.3	Converter	100 250	− 1.5 − 1.5	100 100	7.0 6.8	2.6 2.9	400000 1.0§	Grid ■1 Resistor, 20000 ohms Conversion Transcond., 475 micromhos				**6BE6**
6BF5	Beam Power Tube	B1	H	6.3	1.2	Class A Amplifier	110	−7.5	110	4.0	36.0	12000	7500	—	2500	1.9	**6BF5**
						Vertical Deflection Amplifier in TV Receivers□	Max. DC Plate Volts, 250 Max. DC Cathode Ma. 40								Absolute Max. Peak Positive-Pulse Plate Volts, 900 Max. Plate Dissipation, 5 watts		
6BF6	Twin-Diode Triode	B0	H	6.3	0.3	Triode Unit as Class A Amplifier	250	− 9.0	—	—	9.5	8500	1900	16	Power Output, 300 milliwatts		**6BF6**
6BG6-G	Beam Power Tube	F1	H	6.3	0.9	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 100								Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 20 watts		**6BG6-G**
6BH6	Sharp-Cutoff Pentode	B0	H	6.3	0.15	Class A Amplifier	100 250	− 1.0 − 1.0	100 150	1.4 2.9	3.6 7.4	700000 1.4§	3400 4600	—	—	—	**6BH6**
6BH8	Triode—Sharp-Cutoff Pentode	B3	H	6.3	0.6	Triode Unit as Class A Amplifier	150	− 5	—	—	9.5	5150	3300	17	—	—	**6BH8**
						Pentode Unit as Class A Amplifier	200	Cath. Bias	125	3.4	15	150000	7000	Cath. Bias Res., 82 ohms			
6BJ6	Remote-Cutoff Pentode	B0	H	6.3	0.15	Class A Amplifier	100 250	− 1.0 − 1.0	100 100	3.5 3.3	9.0 9.2	250000 1.3§	3650 3600	—	—	—	**6BJ6**
6BK4	Sharp-Cutoff Beam Triode	E2a	H	6.3	0.2	Voltage-Control	Max. DC Plate Volts, 25000 Max. Unregulated DC Supply Volts, 55000								Max. DC Plate Ma., 1.5 Max. Plate Dissipation, 25 Watts		**6BK4**
6BK5	Beam Power Tube	B3	H	6.3	1.2	Class A Amplifier	250	− 5	250	3.5	35	100000	8500	—	6500	3.5	**6BK5**
6BK7-A	Medium-Mu Twin Triode	B0a	H	6.3	0.45	Each Unit as Class A Amplifier	150	Cathode Bias Res., 56 ohms			18	4600	9300	43	Cutoff Volts, −11		**6BK7-A**

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C.T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
6BL4	Half-Wave Rectifier	C6b	H	6.3	3.0	Television Damper Service	Max. Peak Inverse Plate Volts, 4500 (Abs.) Max. Peak Plate Ma., 1200 Max. DC Plate Ma., 200					Max. Peak Heater-Cathode Volts { −4500* (Abs.) / +300 *DC component not to exceed −900 volts					6BL4
6BL7-GT	Medium-Mu Twin Triode	C2b	H	6.3	1.5	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 500 Max. DC Cathode Ma. (Each Unit), 60					Max. Peak Positive-Pulse Plate Volts, 1800 Max. Plate Dissipation (Each Unit), 10 watts					6BL7-GT
6BQ6-GT	Beam Power Tube	C11	H	6.3	1.2	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550 Max. DC Cathode Ma., 110					Max. Peak Positive-Pulse Plate Volts, 5500 Max. Plate Dissipation, 11 watts					6BQ6-GT
6BQ6-GTB/6CU6	Beam Power Tube	C11	H	6.3	1.2	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 600 Max. DC Cathode Ma., 112.5					Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 11 Watts					6BQ6-GTB/6CU6
6BQ7	Medium-Mu Twin Triode	B9a	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			9.0	5800	6000	35	Cutoff Volts, −10		6BQ7
6BQ7-A	Medium-Mu Twin Triode	B9a	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			9.0	6100	6400	39	Cutoff Volts, −10		6BQ7-A
6BY5-GA	Full-Wave Rectifier	C11a	H	6.3	1.6	Television Damper Service	Max. Peak Inverse Plate Volts, 3000 (Abs.) Max. Peak Plate Ma., 525 Max. DC Plate Ma., 175					Peak Heater-Cathode Volts: +100 Max., −450 Max.					6BY5-GA
6BY6	Pentagrid Amplifier	B9	H	6.3	0.3	Sync Separator and Sync Clipper	10	0	25	3.5	1.4	Grid-No. 3 Volts, 0					6BY6
6BZ6	Semiremote-Cutoff Pentode	B9	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.6	11	0.6	6100	Cath. Bias Res., 180 ohms			6BZ6
6BZ7	Medium-Mu Twin-Triode	B9a	H	6.3	0.4	Each Unit as Class A Amplifier	150	Cathode Bias Res., 220 ohms			10	5600	6800	38	Cutoff Volts, −11		6BZ7

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

† Power output is for two tubes at stated plate-to-plate load. § Megohms.

¤ Applied through plate resistor of 250000 ohms.

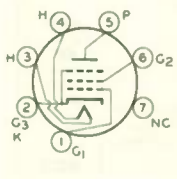
** For grid of following tube.

▲ Grids # 2 and # 4 are screen. Grid # 3 is signal-input control grid.

‡ With separate excitation and triode unit grounded.

□ Grid # 2 tied to plate.

Note 1: Subscript 1 on class of amplifier service (as AB_1) indicates that grid current does not flow during any part of input cycle.



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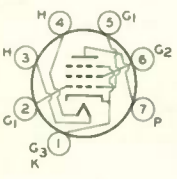

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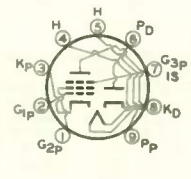

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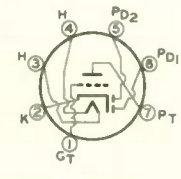
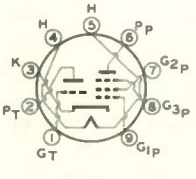


6AT6 6AV6 6BF6



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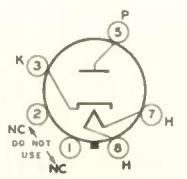
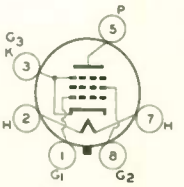


6AU4-GT* 6AU4-GTA* 6AX4-GT*



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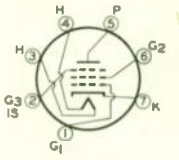

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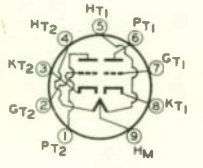

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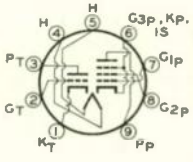

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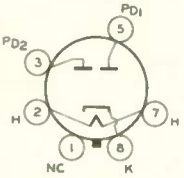

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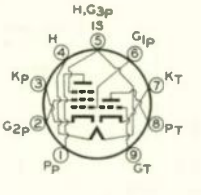

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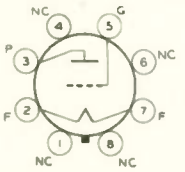

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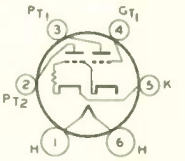

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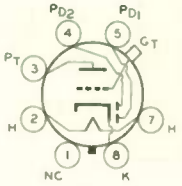

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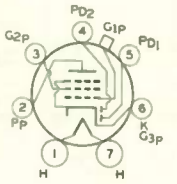

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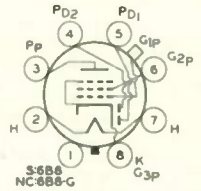

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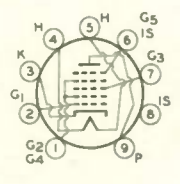

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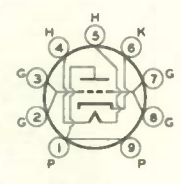

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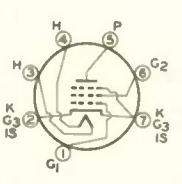

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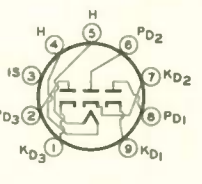

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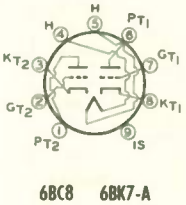

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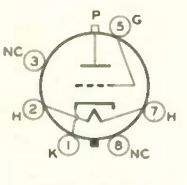

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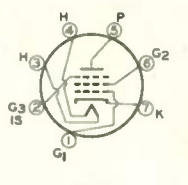

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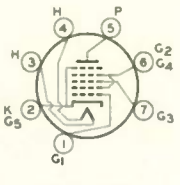

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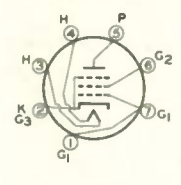

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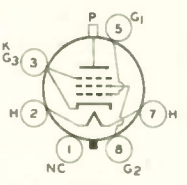

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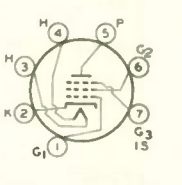

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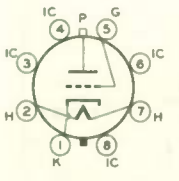

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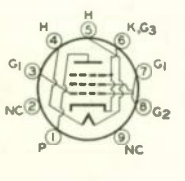

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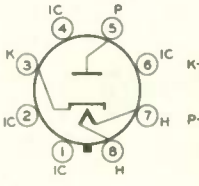

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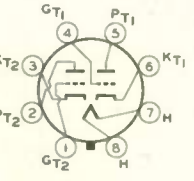
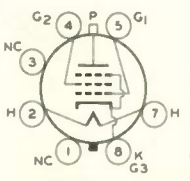
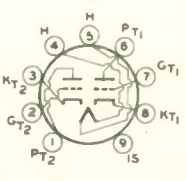


6BL7-GT



6BQ6-GT♯ 6BQ6-GTB/6CU6♯



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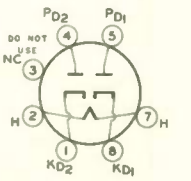


6BY5-GA

♯ On the 6-pin bases pin 1 as well as pin 6 is omitted.

• Socket terminals 1, 2, 4 and 6 should not be used as tie points.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C.T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
6C4	RF Power Triode	B0	H	6.3	0.15	Class A Amplifier	100 250	0 − 8.5	——	——	11.8 10.5	6250 7700	3100 2200	19.5 17	——	——	**6C4**
						Class C Amplifier	300	−27.0	——	——	25.0	Grid Current, 7 ma. Driving Power, 0.35 watt			——	5.5	
6C5 **6C5-GT**	Medium-Mu Triodes	B2 C3	H	6.3	0.3	Class A Amplifier	90▼ 300▼	Cath. Bias, 6400 ohms. Cath. Bias, 5300 ohms.		Grid Resistor,** 0.25 megohm.	8.0	10000	2000	20	——	Gain per stage = 11 Gain per stage = 13	**6C5** **6C5-GT**
						Bias Detector	250	−17.0 approx.	Plate current to be adjusted to 0.2 milliampere with no signal.								
6C6	Sharp-Cutoff Pentode	D13	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.										**6C6**
6C7	Twin-Diode Triode	D9	H	6.3	0.3	Triode Unit as Class A Amplifier	250	− 9.0	——	——	4.5	16000	1250	20	——	——	6C7
6C8-G	Twin-Triode Amplifier	D8	H	6.3	0.3	Each Unit as Amplifier	250	− 4.5	——	——	3.2	22500	1600	36	——	——	**6C8-G**
6CB5	Beam Power Tube	E0a	H	6.3	2.5	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 200					Max. Peak Positive-Pulse Plate Volts, 6800 (Abs.) Max. Plate Dissipation, 23 Watts					**6CB5**
6CB6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms			**6CB6**
6CD6-G	Beam Power Tube	F1	H	6.3	2.5	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 170					Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 15 watts					**6CD6-G**
6CF6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	200	− 6.5	150	2.8	9.5	600000	6200	Cath. Bias Res., 180 ohms			**6CF6**
6CG7	Medium-Mu Twin-Triode	B3	H	6.3	0.6	Horizontal Deflection Oscillator in TV Receivers	Max. DC Plate Volts, 300 Max. Peak Neg.-Pulse Grid Volts, 600					Max. Peak Cathode Ma., 300 Max. DC Cathode Ma., 20		Dissipation Watts either plate, 3.5; both plates, 5.			**6CG7**
						Vertical Deflection Oscillator in TV Receivers	Max. DC Plate Volts, 300 Max. Peak Neg.-Pulse Grid Volts, 400					Max. Peak Cathode Ma., 70 Max. DC Cathode Ma., 20		Dissipation Watts either plate, 3.5; both plates, 5.			
6CL6	Power Pentode	B3	H	6.3	0.65	Class A Amplifier 4-Mc. Bandwidth Video Circuit	300	− 2	300	7.0	30.0	Load Resistor, 3900 ohms Peak-to-Peak Grid-No. 1 Signal Volts, 3 Peak-to-Peak Output Volts, 132 approx.					**6CL6**
6CM7	Medium-Mu Dual Triode With Dissimilar Units	B3	H	6.3	0.6	Vertical Deflection Oscillator in TV Receivers	Unit No. 1: Max. DC Plate Volts, 500 Max. Peak Neg.-Pulse Grid Volts, 200					Max. Peak Cathode Ma., 70 Max. DC Cathode Ma., 15		Max. Plate Dissipation Watts, 1.25			**6CM7**
						Vertical Deflection Amplifier in TV Receivers	Unit No. 2: Max. DC Plate Volts, 500 Max. Peak Positive-Pulse Plate Volts, 2200 (Abs.)							Max. Peak Neg.-Pulse Grid Volts, 200 Max. Peak Cathode Ma., 70			
6CS6	Pentagrid Amplifier	B0	H	6.3	0.3	Sync Separator and Sync Clipper	10	0	30	4.1	1.2	Grid-No. 3 Volts = 0					**6CS6**
6D6	Remote-Cutoff Pentode	D13	H	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6U7-G.										**6D6**
6D7	Sharp-Cutoff Pentode	D13	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.										6D7
6D8-G	Pentagrid Converter ●	D8	H	6.3	0.15	Converter	135 250	− 3.0 − 3.0	67.5 100	1.7 2.6	1.5 3.5	600000 400000	Anode-Grid (#2): 250▲ max. volts, 4.3 ma. Oscillator-Grid (#1) Resistor ●, Conversion Transcond., 550 micromhos.				6D8-G
6DC6	Semiremote-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	3.0	9.0	500000	5500	Cath. Res., 180 ohms			**6DC6**
6DE6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	200	Cath. Bias	150	2.8	9.5	0.6	6200	Cath. Bias Res., 180 ohms			**6DE6**
6DT6	Sharp-Cutoff Pentode	B0	H	6.3	0.3	Class A Amplifier	150	Cath. Bias	100	2.1	1.1	150000	615	Cath. Res., 560 ohms			**6DT6**
						FM Detector	250	Cath. Bias	100	5.5	0.22	Grid-No. 3 Volts, −6; Cath. Res., 560 ohms Plate Load Resistor, 270000 ohms					
6E5	Electron-Ray Tube	D4	H	6.3	0.3	Visual Indicator	Plate & Target Supply = 125 volts. Triode Plate Resistor = 1.0 meg. Target Current = 0.8 ma. Grid Bias, −4.0 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.1 ma.										**6E5**
							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.										
6E6	Twin-Triode Power Amplifier	D12	H	6.3	0.6	Push-Pull Class A Amplifier	180 250	−20.0 −27.5	——	——	Power Output is for one tube at stated plate-to-plate load.				15000 14000	0.75 1.60	6E6
6E7	Remote-Cutoff Pentode	D13	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6U7-G.										6E7
6F5	High-Mu Triode	C1	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.										**6F5**
6F5-GT	High-Mu Triode	C2b	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.										**6F5-GT**
6F6	Power Pentodes	C2	H	6.3	0.7	Pentode Class A Amplifier	250 285	−16.5 −20.0	250 285	6.5 7.0	34.0 38.0	80000 78000	2500 2550	——	7000 7000	3.2 4.8	**6F6**
						Triode Class A Amplifier	250	−20.0	——	——	31.0	2600	2600	6.8	4000	0.85	
6F6-G		D10				Pentode Push-Pull Class A Amplifier	315 315	Cath. Bias −24.0	285 285	12.0♠ 12.0♠	62.0♠ 62.0♠	Cath. Bias Resistor, 320 ohms♠			10000 10000	10.5† 11.0†	**6F6-G**
6F6-GT		C10				Pentode Push-Pull Class AB1 Amplifier	375 375	Cath. Bias −26.0	250 250	8.0♠ 5.0♠	54.0♠ 34.0♠	Cath. Bias Resistor, 340 ohms♠			10000 10000	19.0† 18.5†	**6F6-GT**
						Triode Push-Pull Class AB1 Amplifier	350 350	Cath. Bias −38.0	——	——	50.0♠ 48.0♠	Cath. Bias Resistor, 730 ohms♠			10000 6000	9.0† 13.0†	
6F7	Triode—Remote-Cutoff Pentode	D9	H	6.3	0.3	Triode Unit as Class A Amplifier	100	− 3.0 min.	——	——	3.5	16000	500	8	——	——	**6F7**
						Pentode Unit as Class A Amplifier	100 250	− 3.0 min.	100 100	1.6 1.5	6.3 6.3	290000 850000	1050 1100	——	——	——	
						Pentode Unit as Mixer	250	−10.0	100	0.6	2.8	Oscillator Peak Volts = 7.0. Conversion Transcond. = 300 micromhos.					
6F8-G	Twin-Triode Amplifier	D8	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.										**6F8-G**
6G6-G	Power Amplifier Pentode	D9	H	6.3	0.15	Pentode Class A Amplifier	135 180	− 6.0 − 9.0	135 180	2.0 2.5	11.5 15.0	170000 175000	2100 2300	——	12000 10000	0.6 1.1	**6G6-G**
						Triode□ Class A Amplifier	180	−12.0	——	——	11.0	4750	2000	9.5	12000	0.25	
6H6 6H6-GT	Twin Diodes	A1a C3	H	6.3	0.3	Voltage Doubler	Max. AC Supply Volts per Plate (RMS), 150 Min. Total Effect. Plate-Supply Imped. per Plate: half-wave, 30 ohms; full-wave, 15 ohms.							Max. DC Output Ma., 8			**6H6**
						Half-Wave Rectifier	Max. AC Plate Volts (RMS), 150 Max. DC Output Ma., 8 per Plate					Min. Total Effective Plate-Supply Impedance: up to 117 volts, 15 ohms; at 150 volts, 40 ohms.					6H6-GT
6J5 **6J5-GT**	Medium-Mu Triodes	B2 C3	H	6.3	0.3	Class A Amplifier	90 250	0 − 8.0	——	——	10.0 9.0	6700 7700	3000 2600	20 20	——	——	**6J5** **6J5-GT**
6J6	Medium-Mu Twin Triode	B9	H	6.3	0.45	Each Unit as Class A Amplifier	100	Cathode Resistor, for both units, 50 ohms			8.5	7100	5300	38	——	——	**6J6**
						Push-Pull Class C Amplifier	150	−10.0	Cath. Res., 220 ohms, both units		30.0	Grid Current, 16 ma. Driving Power, 0.35 watt.			——	3.5	
6J7 6J7-G **6J7-GT**	Sharp-Cutoff Pentodes	C1 D9 C3	H	6.3	0.3	Pentode Class A RF Amplifier	100 250	− 3.0 − 3.0	100 100	0.5 0.5	2.0 2.0	1.0§ 1.0 + §	1185 1225	——	——	——	**6J7** 6J7-G **6J7-GT**
						Pentode Class A AF Amplifier	90 ▣ Cath. Bias, 2600 ohms. Screen Resistor = 1.2 meg. 300 ▣ Cath. Bias, 1200 ohms. Screen Resistor = 1.2 meg.					Grid Resistor,** 0.5 megohm.			Gain per stage = 85 Gain per stage = 140		
						Pentode Bias Detector	250	− 4.3	100	Cathode Current 0.43 ma.	——	Plate Resistor, 500000 ohms. Grid Resistor,** 250000 ohms.					
						Triode+ Class A Amplifier	180 250	− 5.3 − 8.0	——	——	5.3 6.5	11000 10500	1800 1900	20 20	——	——	
6J8-G	Triode-Heptode Converter	D8	H	6.3	0.3	Triode Unit as Oscillator	100 250 ▲	Triode-Grid Resistor, 50000 ohms			4.0 5.8	Triode-Grid & Heptode-Grid Current, 0.3 ma. Triode-Grid & Heptode-Grid Current, 0.4 ma.					6J8-G
						Heptode Unit as Mixer	100 250	− 3.0 − 3.0	100 100	3.0 2.9	1.4 1.3	900000 4.0§	Conversion Transcond., 260 micromhos. Conversion Transcond., 290 micromhos.				
6K5-GT	High-Mu Triode	C3	H	6.3	0.3	Class A Amplifier	100 250	− 1.5 − 3.0	——	——	0.35 1.1	78000 50000	900 1400	70 70	——	——	6K5-GT

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating C. T.	Volts	Amp.	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	Transconductance (Grid-plate) µmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
6K6-GT	Power Pentode	C2b	H	6.3	0.4	Single-Tube Class A Amplifier	100 250 315	− 7.0 −18.0 −21.0	100 250 250	1.6 5.5 4.0	9.0 32.0 25.5	104000 90000 110000	1500 2300 2100	——	12000 7600 9000	0.35 3.40 4.50	6K6-GT
						Push-Pull Class A Amplifier	285 285	−25.5 Cath. Bias	285 285	9.0♠ 9.0♠	55.0♠ 55.0♠	—— / Cath. Bias Resistor, 400 ohms.♠	——	——	12000 12000	10.5† 9.8†	
‖ 6K7 6K7-G 6K7-GT	Remote-Cutoff Pentodes	C1 D8 C3	H	6.3	0.3	Class A Amplifier	100 250	− 1.0 − 3.0	100 125	2.7 2.6	9.5 10.5	150000 600000	1650 1650	——	——	——	6K7 ‖ 6K7-G 6K7-GT
						Mixer in Superheterodyne	250	−10.0	100	——	——	Oscillator Peak Volts = 7.0					
‖ 6K8 6K8-G 6K8-GT	Triode-Hexode Converters	C1 D8 C10	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-G 6K8-GT
						Hexode Unit as Mixer	100 250	− 3.0 − 3.0	100 100	6.2 6.0	2.3 2.5	400000 600000	Conversion Transcond., 325 micromhos. Conversion Transcond., 350 micromhos.				
6L5-G	Medium-Mu Triode	D3	H	6.3	0.15	Class A Amplifier	135 250	− 5.0 − 9.0	—— ——	—— ——	3.5 8.0	11300 9000	1500 1900	17 17	——	——	6L5-G
‖ 6L6	Beam Power Tubes	D7	H	6.3	0.9	Single-Tube Class A Amplifier	250 250	−14.0 Cath. Bias	250 250	5.0 5.4	72.0 75.0	—— / Cath. Bias Resistor, 170 ohms.	——	——	2500 2500	6.5 6.5	6L6 ‖
						Push-Pull Class A Amplifier	270 270	−17.5 Cath. Bias	270 270	11.0♠ 11.0♠	134.0♠ 134.0♠	—— / Cath. Bias Resistor, 125 ohms.♠	——	——	5000 5000	17.5† 18.5†	
						Push-Pull Class AB_1 Amplifier	360 360	−22.5 Cath. Bias	270 270	5.0♠ 5.0♠	88.0♠ 88.0♠	—— / Cath. Bias Resistor, 250 ohms.♠	——	——	6600 9000	26.5† 24.5†	
6L6-G		E2				Push-Pull Class AB_2 Amplifier	360 360	−18.0 −22.5	225 270	3.5♠ 5.0♠	78.0♠ 88.0♠	——	——	——	6000 3800	31.0† 47.0†	6L6-G
						Single Triode□ Class A Amplifier	250 250	−20.0 Cath. Bias	——	——	40.0 40.0	1700 / Cath. Bias Resistor, 490 ohms.	4700	8.0	5000 6000	1.4 1.3	

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

† Power output is for two tubes at stated plate-to-plate load. § Megohms.

⌘ Applied through plate resistor of 250000 ohms.

** For grid of following tube.

⊕ Grids # 3 and # 5 are screen. Grid # 4 is signal-input grid. ⊕ 50000 ohms.

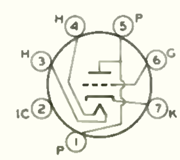
⊗ Supply voltage applied through 20000-ohm voltage-dropping resistor.

♥ Applied through plate resistor of 100000 ohms.

□ Grid # 2 tied to plate.

⊹ Grids # 2 and # 3 tied to plate.

Note: 2 Subscript 2 on class of amplifier service (as AB_2) indicates that grid current flows during some part of input cycle.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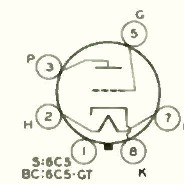
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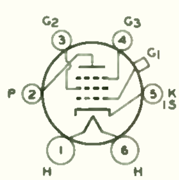
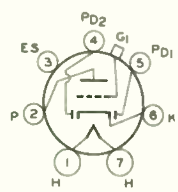

6C6 6D6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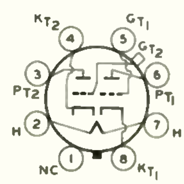
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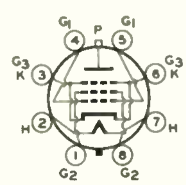
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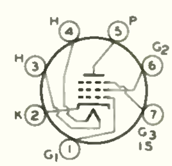
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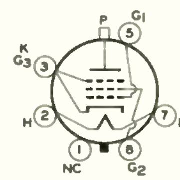
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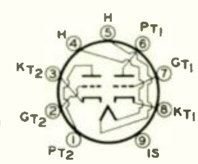
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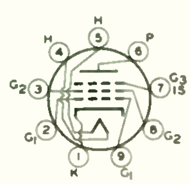
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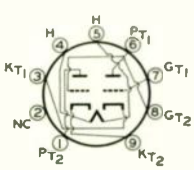
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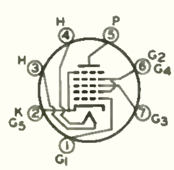
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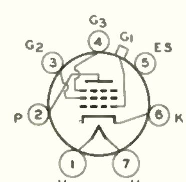
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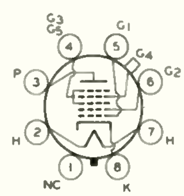
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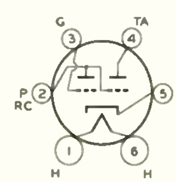
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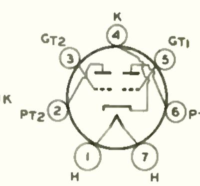
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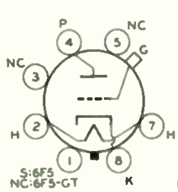
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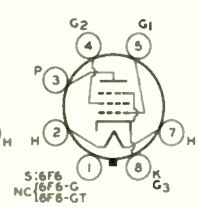
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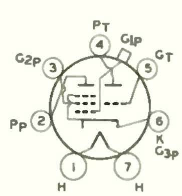
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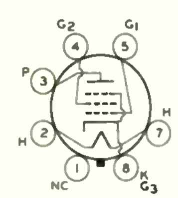
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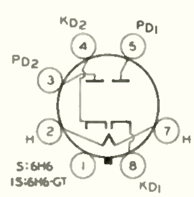
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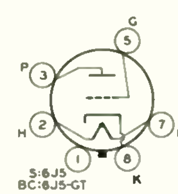
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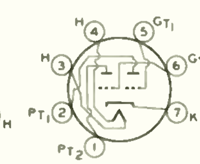
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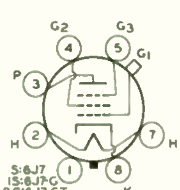
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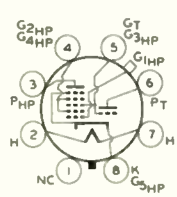
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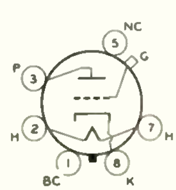
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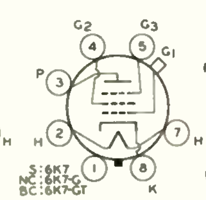
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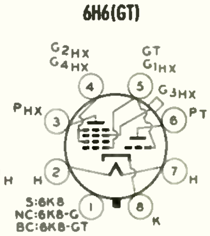
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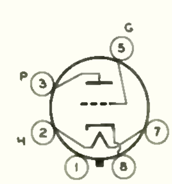
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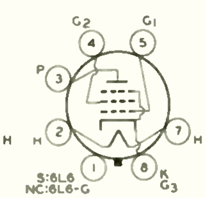

6L6(G)

●IS is connected to Pin No. 2 instead of Pin No. 7.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
6L7 6L7-G	Pentagrid Mixer▲	C1 D8	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. Conversion Transcond., 375 micromhos.					**6L7** 6L7-G
						Class A Amplifier	250	− 3.0◊	100	6.5	5.3	600000	1100	—	—	—	
6N6-G	Direct-Coupled Power Triode	D10	H	6.3	0.8	Class A Amplifier	Output Triode: Plate Volts, 300; Plate Ma., 45; Load, 7000 ohms. Input Triode: Plate Volts, 300; Grid Volts, 0; A-F Signal Volts (Peak), 21; Plate Ma., 8.									4.0	6N6-G
6N7 **6N7-GT**	High-Mu Twin Power Triodes	C2 C2b	H	6.3	0.8	Class A Amplifier (as Driver)*	250 294	− 5.0 − 6.0	—	—	6.0 7.0	11300 11000	3100 3200	35 35	20000 or more	exceeds 0.4	**6N7**
						Class B Amplifier	300	0	—	—	Power Output is for one tube at stated plate-to-plate load.				8000	10.0	**6N7-GT**
6P5-GT	Medium-Mu Triode	C2b	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 76.										6P5-GT
6P7-G	Triode-Pentode	D8	H	6.3	0.3	Amplifier and Converter	For other characteristics, refer to Type 6F7.										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	− 1.0 − 3.0	—	—	0.8 1.1	58000 58000	1200 1200	70 70	—	—	**6Q7** 6Q7-G
							90✕ 300✕	Cath. Bias, 7600 ohms. Cath. Bias, 3000 ohms.			Grid Resistor,** 0.5 megohm.				Gain per stage = 32 Gain per stage = 45		**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	− 9.0	—	—	9.5	8500	1900	16	—	—	**6R7**
							90▼ 300▼	Cath. Bias, 5400 ohms. Cath. Bias, 5000 ohms.			Grid Resistor,** 0.22 megohm.				Gain per stage = 11 Gain per stage = 12		6R7-G 6R7-GT
6S4	Medium-Mu Triode	B3	H	6.3	0.6	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 500 Max. DC Cathode Ma., 30					Max. Peak Positive-Pulse Plate Volts, 2000 Max. Plate Dissipation, 7.5 watts					**6S4**
6S4-A	Medium-Mu Triode	B3	H	6.3	0.6	Vertical Deflection Amplifier in TV Receivers	For other characteristics, refer to Type 6S4.										**6S4-A**
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	Triple-Diode Triode	C9a	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 1.0§	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 1.0§	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 C2b	H	6.3	0.3	Class A Amplifier	100 250	− 1.0 − 2.0	—	—	0.4 0.9	85000 66000	1150 1500	100 100	—	—	**6SF5**
							90✕ 300✕	Cath. Bias, 8800 ohms. Cath. Bias, 3200 ohms.			Grid Resistor,** 0.5 megohm.				Gain per stage = 43 Gain per stage = 63		**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 1.0+§	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	− 3.0 − 3.0	100 100	0.9 0.8	2.9 3.0	700000 1.0+§	1575 1650	—	—	—	**6SJ7**
							90 ✕ 300 ✕	Cath. Bias, 1700 ohms. Cath. Bias, 860 ohms.			Grid Resistor,** 0.5 megohm.				Gain per stage = 93 Gain per stage = 167		**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	High-Mu Twin Triode	C2b	H	6.3	0.3	Each Unit as Class A Amplifier	250	− 2.0	—	—	2.3	44000	1600	70	—	—	**6SL7-GT**
6SN7-GT	Medium-Mu Twin Triode	C2b	H	6.3	0.6	Each Unit as Class A Amplifier	90 250	0 − 8.0	—	—	10.0 9.0	6700 7700	3000 2600	20 20	—	—	**6SN7-GT**
6SN7-GTA	Medium-Mu Twin Triode	C2b	H	6.3	0.6	Each Unit as Class A Amplifier	90 250	0 − 8.0	—	—	10.0 9.0	6700 7700	3000 2600	20 20	—	—	**6SN7-GTA**
						Vertical Deflection Amplifier in TV Receivers +	Max. DC Plate Volts, 450 Max. Peak Cathode Ma., 70					Max. Peak Positive Pulse Plate Volts, 1500 Max. Plate Dissipation: 5 watts either plate; 7.5 watts both plates.					
6SN7-GTB	Medium-Mu Twin-Triode	C2b	H	6.3	0.6	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SN7-GTA										**6SN7-GTB**
6SQ7 **6SQ7-GT**	Twin-Diode High-Mu Triodes	B2 C3	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	− 1.0 − 2.0	—	—	0.5 1.1	110000 85000	925 1175	100 100	—	—	**6SQ7**
							90✕ 300✕	Cath. Bias, 11000 ohms. Cath. Bias, 3900 ohms.			Grid Resistor, ** 0.5 megohm.				Gain per stage = 40 Gain per stage = 53		**6SQ7-GT**
6SR7	Duplex-Diode Triode	B2	H	6.3	0.3	Triode Unit as Class A Amplifier	250	− 9.0	—	—	9.5	8500	1900	16	10000	0.3	**6SR7**
6SS7	Remote-Cutoff Pentode	B2	H	6.3	0.15	Class A Amplifier	100 250	− 1.0 − 3.0	100 100	3.1 2.0	12.2 9.0	120000 1.0§	1930 1850	—	—	—	**6SS7**
6ST7	Duplex-Diode Triode	B2	H	6.3	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.										**6ST7**
6SZ7	Twin-Diode High-Mu Triode	B2	H	6.3	0.15	Triode Unit as Class A Amplifier	100 250	− 1.0 − 3.0	—	—	0.8 1.0	61000 58000	1150 1200	70 70	—	—	**6SZ7**
6T7-G	Twin-Diode High-Mu Triode	D8	H	6.3	0.15	Triode Unit as Class A Amplifier	135 250	− 1.5 − 3.0	—	—	0.9 1.2	65000 62000	1000 1050	65 65	—	—	6T7-G
							90✕ 300✕	Cath. Bias, 8300 ohms. Cath. Bias, 4580 ohms.			Grid Resistor,** 0.5 megohm.				Gain per stage = 30 Gain per stage = 40		
6T8	Triple-Diode High-Mu Triode	B9a	H	6.3	0.45	Triode Unit as Class A Amplifier	100 250	− 1 − 3	—	—	0.8 1.0	54000 58000	1300 1200	70 70	—	—	**6T8**
6U5	Electron-Ray Tube	D4	H	6.3	0.3	Visual Indicator	Plate & Target Supply = 200 volts. Triode Plate Resistor = 1.0 meg. Target Current = 3.0 ma. Grid Bias, −18.5 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.19 ma.										**6U5**
							Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 4.0 ma. Grid Bias, −22 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°; Plate Current, 0.24 ma.										
6U7-G	Remote-Cutoff Pentode	D12a	H	6.3	0.3	Class A Amplifier	100 250	− 3.0 − 3.0	100 100	2.2 2.0	8.0 8.2	250000 800000	1500 1600	—	—	—	6U7-G
						Mixer in Superheterodyne	100 250	−10.0 −10.0	100 100	—	—	Oscillator Peak Volts = 7.0					
6U8	Triode—Pentode Converter	B9a	H	6.3	0.45	Triode Unit as Class A Amplifier	150	Cath. Bias	—	—	18	5000	8500	40	Cath. Res., 56 ohms		**6U8**
						Pentode Unit as Class A Amplifier	250	Cath. Bias	110	3.5	10	40000	5200	—	Cath. Res., 68 ohms		
6V3-A	Half-Wave Rectifier	B4a	H	6.3	1.75	Television Damper Service	Max. Peak Inverse Plate Volts, 6000 (Abs.) Max. Peak Plate Ma., 800 Max. DC Plate Ma., 135					Max. Peak Heater-Cathode Volts { −6750* (Abs.) +300 *DC component not to exceed −750 volts					**6V3-A**
6V6 **6V6-GT**	Beam Power Tubes	C2 C2b	H	6.3	0.45	Single-Tube Class A Amplifier	180 250 315	− 8.5 −12.5 −13.0	180 250 225	3.0 4.5 2.2	29.0 45.0 34.0	50000 50000 80000	3700 4100 3750	—	5500 5000 8500	2.0 4.5 5.5	**6V6**
						Push-Pull Class AB_1 Amplifier	250 285	−15.0 −19.0	250 285	5.0◆ 4.0◆	70.0◆ 70.0◆	60000 70000	3750 3600	—	10000 8000	10.0† 14.0†	**6V6-GT**
6V7-G	Duplex-Diode Triode	D8	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 85.										6V7-G

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

6W4-GT to 6Y5

Type	Name	Tube Dimensions	Cathode Type and Rating C. T.	Volts	Amp.	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	Transconductance (Grid-plate) µmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
6W4-GT	Half-Wave Rectifier	C2b	H	6.3	1.2	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 350 Max. Peak Inverse Volts 3500◆, 1250				Max. DC Output Ma., 125 Max. Peak Plate Ma., 600		Min. Total Effect. Supply Imped. per Plate, 145 ohms.				**6W4-GT**
6W6-GT	Beam Power Amplifier	C2b	H	6.3	1.2	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 300 Max. Plate Dissipation, 7.5 watts					Max. Peak Positive-Pulse Plate Volts, 1200 Max. Peak Negative-Pulse Grid Volts, 250					**6W6-GT**
6W7-G	Sharp-Cutoff Pentode	D8	H	6.3	0.15	Class A Amplifier	250	− 3.0	100	0.5	2.0	1.5§	1225	——	——	——	6W7-G
6X4	Full-Wave Rectifier	B1	H	6.3	0.6	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 70 Max. Peak Plate Ma., 210		Total Effect. Supply Imped. per Plate, 520 ohms				**6X4**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 70 Max. Peak Plate Ma., 210		Min. Value of Input Choke, 10 henries				
6X5 **6X5-GT**	Full-Wave Rectifiers	C2 C2b	H	6.3	0.6	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 70 Max. Peak Plate Ma., 210		Min. Total Effect. Supply Imped. per Plate, 520 ohms				6X5 **6X5-GT**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 70 Max. Peak Plate Ma., 210		Min. Value of Input Choke, 10 henries				
6X8	Triode-Pentode Converter	B0a	H	6.3	0.45	Triode Unit as 250-Mc. Oscillator	150	Grid Resistor, 2700 ohms Grid Current, 3.6 ma.			Plate Current, 13 ma. Power Output (Approx.), 0.5 watt						**6X8**
						Pentode Unit as Mixer‡	150	Grid-No. 2 Volts, 150 Mixer Grid-No. 1 Supply Volts, −3.5 Plate Current, 6.2 ma.					Osc. Volts at Mixer Grid No. 1 (RMS), 2.6 Mixer Grid-No. 1 Resistor, 120000 ohms Conversion Transconductance, 2100 µmhos				
6Y5	Full-Wave Rectifier	D8	H	6.3	0.8	With Capacitive-Input Filter					Max. AC Volts per Plate (RMS), 350 Max. DC Output Ma., 50						6Y5

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 pages 26 and 27.

† Power output is for two tubes at stated plate-to-plate load.

§ 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 ½ (approx.) of filament voltage.

♠ For two tubes.

◖ For signal-input control grid (# 1); control grid # 3 bias, −3 volts.

•• For grid of following tube.

▲ Grids # 2 and # 4 are screen. Grid # 3 is signal-input control grid.

+ Each unit.

✖ Applied through plate resistor of 250000 ohms.

◆ For television damper service.

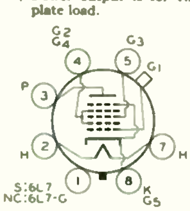
A Grids # 2 and # 4 are screen. Grid # 1 is signal-input control grid.

° Both grids connected together; likewise, both plates.

♥ Applied through plate resistor of 100000 ohms.

‡ With separate excitation and triode unit grounded.

Note 1: Subscript 1 on class of amplifier service (as AB_1) indicates that grid current does not flow during any part of input cycle.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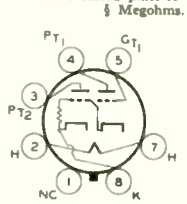
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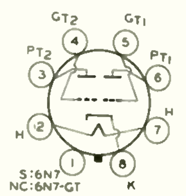
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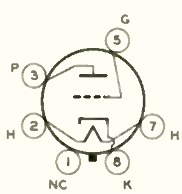
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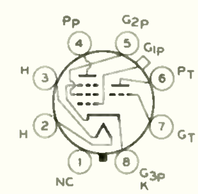
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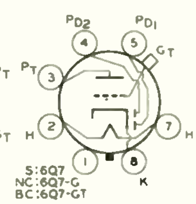
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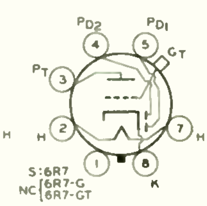
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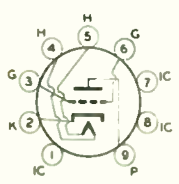
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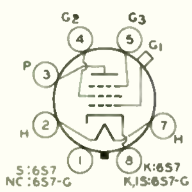
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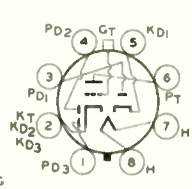
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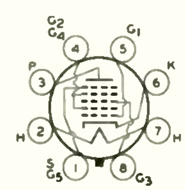
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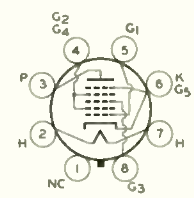
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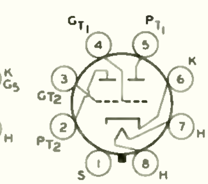
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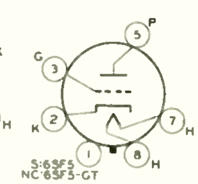
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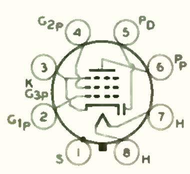
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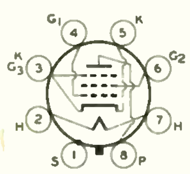
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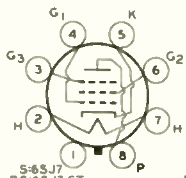
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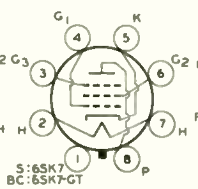
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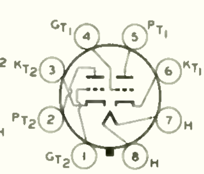
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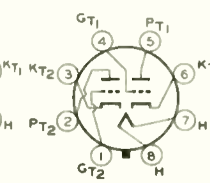
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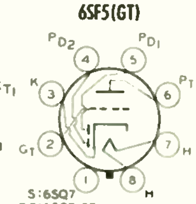
6SN7-GTB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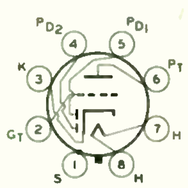
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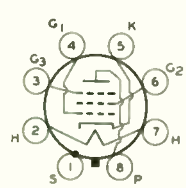
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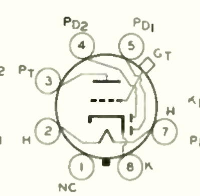
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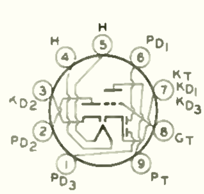
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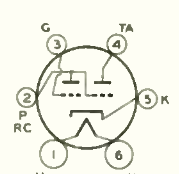
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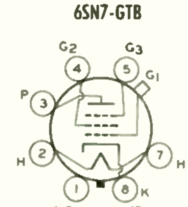
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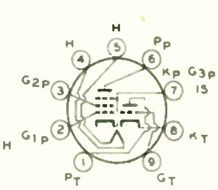
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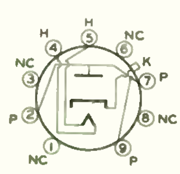
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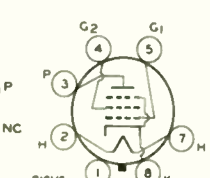
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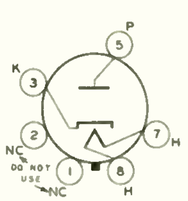
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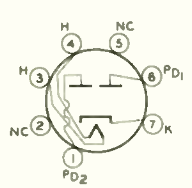
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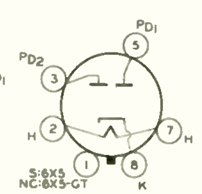
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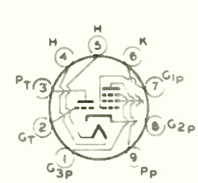
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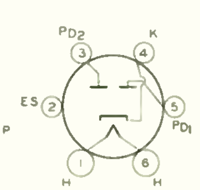

6Y5

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
6Y6-G	Beam Power Tube	D10	H	6.3	1.25	Single-Tube Class A Amplifier	135 200	−13.5 −14.0	135 135	3.5 2.2	58.0 61.0	9300 18300	7000 7100	— —	2000 2600	3.6 6.0	**6Y6-G**
6Y7-G	Twin-Triode Amplifier	D3	H	6.3	0.6	Class B Amplifier	For other characteristics, refer to Type 79.										6Y7-G
6Z5	Full-Wave Rectifier	D6	H	6.3 12.6	0.8 0.4	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 230 Max. DC Output Ma., 60										6Z5
6Z7-G	Twin-Triode Amplifier	D3	H	6.3	0.3	Class B Amplifier	135 180	0 0	—	—	Power Output is for one tube at stated plate-to-plate load.				9000 12000	2.5 4.2	6Z7-G
6ZY5-G	Full-Wave Rectifier	D3	H	6.3	0.3	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 40 Max. Peak Plate Ma., 120			Min. Total Effect. Supply Imped. per Plate, 225 ohms			6ZY5-G
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 40 Max. Peak Plate Ma., 120			Min. Value of Input Choke, 13.5 henries			
7A4	Medium-Mu Triode	B5	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6J5.										**7A4**
7A5	Beam Power Tube	C2a	H	6.3	0.75	Class A Amplifier	110 125	− 7.5 − 9.0	110 125	3.0 3.3	40.0 44.0	16000 17000	5800 6000	—	2500 2700	1.5 2.2	**7A5**
7A6	Twin Diode	B5	H	6.3	0.15	Detector Rectifier	Maximum AC Voltage per Plate.....150 Volts, RMS Maximum DC Output Current per plate.....8 Milliamperes										**7A6**
7A7	Remote-Cutoff Pentode	B5	H	6.3	0.3	Class A Amplifier	For other characteristics, refer to Type 6SK7.										**7A7**
7A8	Octode Converter	B5	H	6.3	0.15	Converter	100 250	− 3.0 − 3.0	75 100	2.7 3.2	1.8 3.0	650000 700000	Anode-Grid (#2): 250 max. volts, 4.2 ma. Oscillator-Grid (#1) Resistor ■. Conversion Transcond., 550 micromhos.				**7A8**
7AD7	Power Pentode	C2a	H	6.3	0.6	Class A Amplifier	300	Cath. Bias	150	7.0	28.0	300000	9500	Cath. Res., 68 ohms			**7AD7**
7AF7	Medium-Mu Twin Triode	B5	H	6.3	0.3	Each Unit as Class A Amplifier	250 100	−10 Cath. Bias	—	—	9.0 10.8	7600 6500	2100 2600	16 17	— Cath. Res., 600 ohms	—	**7AF7**
7AG7	Sharp-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier	250	Cath. Bias	250	2.0	6.0	1 meg.	4200	Cathode-Bias Resistor, 250 ohms			**7AG7**
7AH7	Sharp-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier	250	Cath. Bias	250	1.9	6.8	1 meg.	3300	Cath. Res., 250 ohms			**7AH7**
7AU7	Medium-Mu Twin-Triode	B9a	H	3.5 7.0	0.6 0.3	Each Unit as Class A Amplifier	100 250	0 − 8.5	—	—	13.0 10.5	6300 7950	3500 2200	22 17.5	—	—	**7AU7**
7B4	High-Mu Triode	B5	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.										**7B4**
7B5	Power Amplifier Pentode	C2a	H	6.3	0.4	Class A Amplifier	For other characteristics, refer to Type 6K6-GT.										**7B5**
7B6	Twin-Diode High-Mu Triode	B5	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										**7B6**
7B7	Remote-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier	250	− 3.0	100	1.7	8.5	750000	1750	—	—	—	**7B7**
7B8	Pentagrid Converter●	B5	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										**7B8**
7C5	Beam Power Tube	C2a	H	6.3	0.45	Class A Amplifier	For other characteristics, refer to Type 6V6-GT.										**7C5**
7C6	Twin-Diode High-Mu Triode	B5	H	6.3	0.15	Triode Unit as Class A Amplifier	250	− 1.0	—	—	1.3	100000	1000	100	—	—	**7C6**
7C7	Sharp-Cutoff Pentode	B5	H	6.3	0.15	Class A Amplifier	100 250	− 3.0 − 3.0	100 100	0.4 0.5	1.8 2.0	1.2§ 2.0§	1225 1300	—	—	—	**7C7**
7E6	Twin-Diode Triode	B5	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6R7.										7E6
7E7	Twin-Diode Pentode	B5	H	6.3	0.3	Pentode Unit as Class A Amplifier	100 250	Cath. Bias	100 100	2.7 1.6	10.0 7.5	150000 700000	1600 1300	Cath. Res., 800 ohms Cath. Res., 330 ohms			**7E7**
7F7	Twin-Triode Amplifier	B5	H	6.3	0.3	Each Unit as Amplifier	For other characteristics, refer to Type 6SL7-GT.										**7F7**
7F8	Twin-Triode Amplifier	B9b	H	6.3	0.3	Each Unit as Class A Amplifier	250	Cathode-Bias Res., 500 ohms			6.0	—	3300	48	—	—	**7F8**
7G7	Sharp-Cutoff Pentode	B5	H	6.3	0.45	Class A Amplifier	250	− 2.0	100	2.0	6.0	800000	4500	—	—	—	**7G7**
7H7	Sharp-Cutoff Pentode	B5	H	6.3	0.3	Class A Amplifier	100 250	− 1.5 △	100 150	2.6 3.2	7.5 10.0	350000 800000	4000 4000	— —	— —	— —	**7H7**
7J7	Triode-Heptode Converter	B5	H	6.3	0.3	Triode Unit as Oscillator	100 250	Triode-Grid Resistor, 50000 ohms			3.2 5.0	Triode-Grid & Heptode-Grid Current, 0.3 ma. Triode-Grid & Heptode-Grid Current, 0.4 ma.					**7J7**
						Heptode Unit as Mixer	100 250	− 3.0 − 3.0	100 100	2.6 2.8	1.5 1.4	500000 1.5§	Conversion Transcond., 280 μmhos. Conversion Transcond., 290 μmhos.				
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 μmhos.				**7Q7**
7R7	Twin-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 3200	— —	— —	— —	**7R7**
7S7	Triode-Heptode Converter	B5	H	6.3	0.3	Triode Unit as Oscillator	100 250	Triode-Grid Resistor, 50000 ohms			3.0 5.0	Triode-Grid & Heptode-Grid Current, 0.3 ma. Triode-Grid & Heptode-Grid Current, 0.4 ma.					7S7
						Heptode Unit as Mixer	100 250	− 2.0 − 2.0	100 100	3.0 3.0	1.9 1.8	500000 1.25§	Conversion Transcond., 500 μmhos. Conversion Transcond., 525 μmhos.				
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	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 70 Max. Peak Plate Ma., 180			Min. Total Effect. Supply Imped. per Plate, 150 ohms.			**7Y4**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 70 Max. Peak Plate Ma., 180			Min. Value of Input Choke, 10 henries			
7Z4	Full-Wave Rectifier	C2a	H	6.3	0.9	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 100 Max. Peak Plate Ma., 300			Min. Total Effec. Supply Imped. per Plate, 75 ohms			**7Z4**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 100 Max. Peak Plate Ma., 300			Min. Value of Input Choke, 6 henries			
10●	Power Amplifier Triode	E3	F	7.5	1.25	Class A Amplifier	350 425	−32.0 −40.0	—	—	16.0 18.0	5150 5000	1550 1600	8.0 8.0	11000 10200	0.9 1.6	10●
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	D6	H	6.3 12.6	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
12A7	Rectifier-Pentode	D8	H	12.6	0.3	Pentode Unit as Class A Amplifier	135	−13.5	135	2.5	9.0	102000	975	—	13500	0.55	12A7
						Half-Wave Rectifier	Maximum AC Plate Voltage.....125 Volts, RMS Maximum DC Output Current.....30 Milliamperes										
12A8-GT	Pentagrid Converter ▫	G3	H	12.6	0.15	Converter	For other characteristics, refer to Type 6A8.										**12A8-GT**
12AB5	Beam Power Tube	B3	H	10.0 to 15.9	0.225 approx.	Single-Tube Class A Amplifier	250	Cath. Bias	200	1.6	33.5	Cath. Bias Res., 270 ohms			6000	3.3	**12AB5**
						Push-Pull Class AB_1 Amplifier	250	−15.0	250	5.0♠	70.0♠	60000	3750	—	10000	10.0†	

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
12AH7-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	——	——	12AH7-GT
12AL5	Twin-Diode	A1	H	12.6	0.15	Detector Rectifier	For other characteristics, refer to Type 6AL5.										12AL5
12AQ5	Beam Power Tube	B1	H	12.6	0.225	Amplifier	For other characteristics, refer to Type 6V6.										12AQ5
12AT6	Twin-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 12.6	0.3 0.15	Each Unit as Class A Amplifier	100 250	Cath. Res., 270 ohms Cath. Res., 200 ohms			3.7 10.0	15000 10900	4000 5500	60 60	—— ——	—— ——	12AT7
12AU6	Sharp-Cutoff Pentode	B0	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6AU6.										12AU6
12AU7	Twin-Triode Amplifier	B0a	H	6.3 12.6	0.3 0.15	Each Unit as Class A Amplifier	100 250	0 − 8.5	—— ——	—— ——	11.8 10.5	6500 7700	3100 2200	20 17.5	—— ——	—— ——	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
12AV7	Medium-Mu Twin Triode	B0a	H	6.3 12.6	0.45 0.225	Each Unit as Class A Amplifier	150	Cathode Bias Res., 56 ohms			18	48000	8500	41	Cutoff Volts, −12		12AV7
12AW6	Sharp-Cutoff 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

Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.

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 pages 26 and 27.

▲ Grids # 2 and # 4 are screen. Grid # 3 is signal-input control grid. ▫ 50000 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 ½ (approx.) of filament voltage. ♠ For two tubes.

▫ Grids # 3 and # 5 are screen. Grid # 4 is signal-input grid.

♠ Supply voltage applied through 20000-ohm voltage-dropping resistor.

† Power output is for two tubes at stated plate-to-plate load. § Megohms.

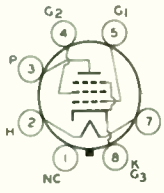
● Superseded by 10-Y. See Power and Gas Tubes Booklet PG-101B.

□ Grid # 2 tied to plate.

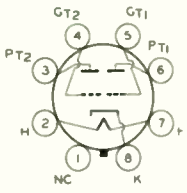
△ Cathode-bias resistor, 180 ohms.

★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.

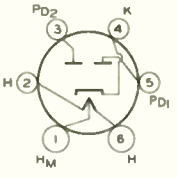
Note 1: Subscript 1 on class of amplifier service (as AB_1) indicates that grid current does not flow during any part of input cycle.



6Y6-G



6Y7-G 6Z7-G



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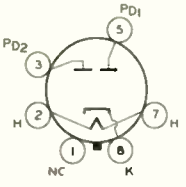

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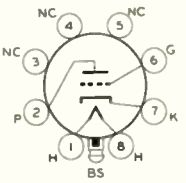
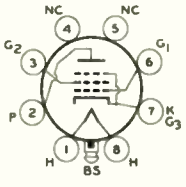


7A4 7B4



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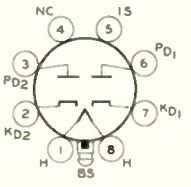

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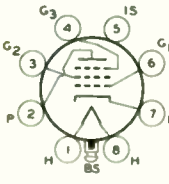
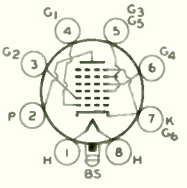


7A7 7AD7
7AG7 7AH7 7B7



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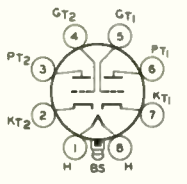
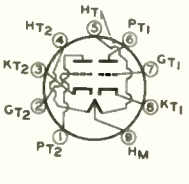


7AF7 7F7 7N7



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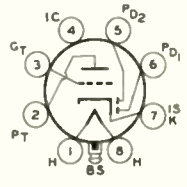
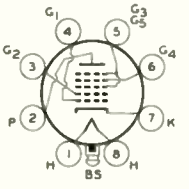


7B6 7C6 7E6



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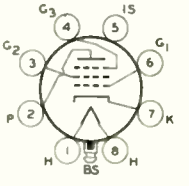

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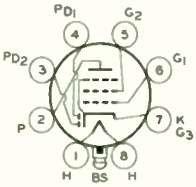
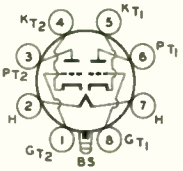


7E7 7R7



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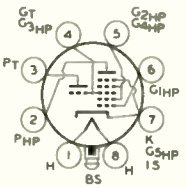
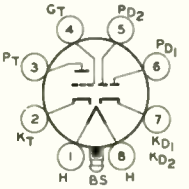


7J7 7S7



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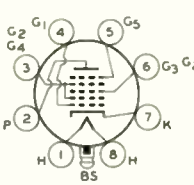

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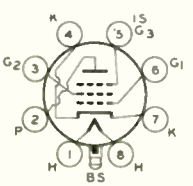

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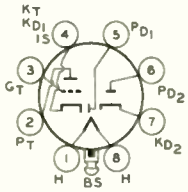

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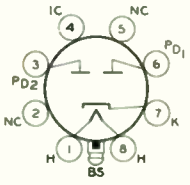
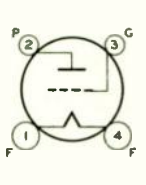


7Y4 7Z4



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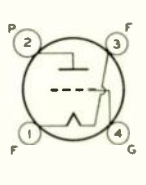

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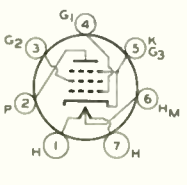

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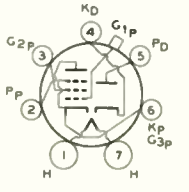

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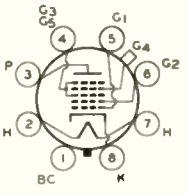

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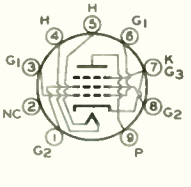

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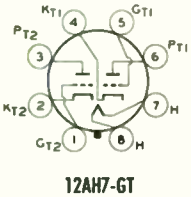

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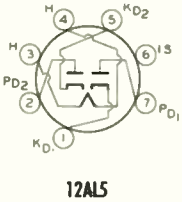
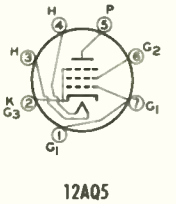


12AL5



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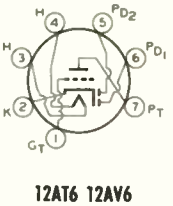
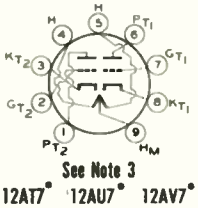
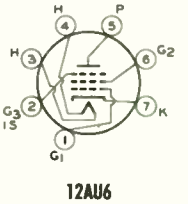


12AT6 12AV6



See Note 3
12AT7• 12AU7• 12AV7•



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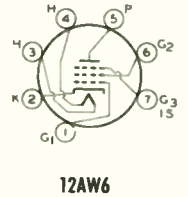


12AW6

• Heater for section 2 between pins 4 and 9; for section 1 between pins 5 and 9.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
12AX4-GT	Half-Wave Rectifier	C2b	H	12.6	0.6	Television Damper Service	Max. Peak Inverse Plate Volts, 4000 Max. Peak Plate Ma., 600 Max. DC Plate Ma., 125					Max. Peak Heater-Cathode Volts: −4000** +100 **DC component must not exceed 900 volts					12AX4-GT
12AX4-GTA	Half-Wave Rectifier	C2b	H	12.6	0.6	Television Damper Service	For other characteristics, refer to Type 12AX4-GT.										12AX4-GTA
12AX7	High-Mu Twin Triode	B0a	H	6.3 12.6	0.3 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
12AZ7	High-Mu Twin-Triode	B0a	H	6.3 12.6	0.45 0.225	Each Unit as Class A Amplifier	100 250	Cath. Bias Res., 270 ohms Cath. Bias Res., 200 ohms			3.7 10.0	15000 10900	4000 5500	60 60	—	—	12AZ7
12B4-A	Low-Mu Triode	B3	H	6.3 12.6	0.6 0.3	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 550 Max. Peak Positive-Pulse Plate Volts, 1000 (Abs.) Max. Peak Dissipation, 5.5 Watts						Max. Peak Neg.-Pulse Grid Volts, 250 Max. Peak Cathode Ma., 105 Max. Average Cathode Ma., 30				12B4-A
12B8-GT	Triode-Pentode	C10a	H	12.6	0.3	Triode Unit as Class A Amplifier	90	0	—	—	2.8	37000	2400	90	—	—	12B8-GT
						Pentode Unit as Class A Amplifier	90	− 3.0	90	2.0	7.0	200000	1800	—	—	—	
12BA6	Remote-Cutoff Pentode	B0	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6BA6.										12BA6
12BA7	Pentagrid Converter▲	B3	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
12BF6	Twin-Diode Triode	B0	H	12.6	0.15	Triode Unit as Class A Amplifier	250	− 9.0	—	—	9.5	8500	1900	16	Power Output, 300 milliwatts		12BF6
12BH7	Medium-Mu Twin Triode	B3	H	6.3 12.6	0.6 0.3	Vertical Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 450 Max. DC Plate Ma., 20					Absolute Max. Peak Positive-Pulse Plate Volts, 1500 Max. Plate Dissipation (Each Unit), 3.5 watts					12BH7
12BH7-A	Medium-Mu Twin-Triode	B3	H	6.3 12.6	0.6 0.3	Vertical Deflection Amplifier in TV Receivers	For other characteristics, refer to Type 12BH7.										12BH7-A
12BQ6-GTB/12CU6	Beam Power Tube	C11	H	12.6	0.6	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 600 Max. DC Cathode Ma., 112.5					Max. Peak Positive-Pulse Plate Volts, 6000 (Abs.) Max. Plate Dissipation, 11 Watts					12BQ6-GTB/12CU6
12BY7	Sharp-Cutoff Pentode	B3	H	6.3 12.6	0.6 0.3	Class A Amplifier	250	Cath. Bias	150	6	25	110000	12000	Cath. Res., 68 ohms			12BY7
12BY7-A	Sharp-Cutoff Pentode	B3	H	6.3 12.6	0.6 0.3	Class A Amplifier	For other characteristics, refer to Type 12BY7										12BY7-A
12C8	Twin-Diode Pentode	C1	H	12.6	0.15	Pentode Unit as RF Amplifier	250	− 3.0	125	2.3	10.0	600000	1325	—	—	—	12C8
						Pentode Unit as AF Amplifier	90 ■ Cath. Bias, 3500 ohms. Screen Resistor = 1.1 meg. Grid Resistor,** 0.5 megohm. Gain per stage = 55 300 ■ Cath. Bias, 1600 ohms. Screen Resistor = 1.2 meg. Gain per stage = 79										
12CA5	Beam Power Tube	B1	H	12.6	0.6	Class A Amplifier	110 125	− 4 − 4.5	110 125	3.5 4.0	32 37	16000 15000	8100 9200	—	3500 4500	1.1 1.5	12CA5
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
12K8	Triode-Hexode Converter	C1	H	12.6	0.15	Oscillator Mixer	For other characteristics, refer to Type 6K8.										12K8
12L6-GT	Beam Power Tube	C2b	H	12.6	0.6	Class A Amplifier	110 200	− 7.5 △	110 125	4.0 2.2	49 46	13000 28000	8000 8000	—	2000 4000	2.1 3.8	12L6-GT
12Q7-GT	Twin-Diode High-Mu Triode	C3	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6Q7.										12Q7-GT
12S8-GT	Triple-Diode-High-Mu Triode	C9a	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
12SA7	Pentagrid Converter▲	B2	H	12.6	0.15	Mixer	For other characteristics, refer to Type 6SA7.										12SA7
12SA7-GT	Pentagrid Converter▲	C2b	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	C2b	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	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 12SJ7-GT	Sharp-Cutoff Pentodes	B2 C3	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7.										12SJ7 12SJ7-GT
12SK7 12SK7-GT	Remote-Cutoff Pentodes	B2 C3	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SK7.										12SK7 12SK7-GT
12SL7-GT	Twin-Triode Amplifier	C2b	H	12.6	0.15	Each Unit as Amplifier	For other characteristics, refer to Type 6SL7-GT.										12SL7-GT
12SN7-GT	Twin-Triode Amplifier	C2b	H	12.6	0.3	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.										12SN7-GT
12SQ7	Twin-Diode High-Mu Triode	B2	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										12SQ7
12SQ7-GT	Twin-Diode High-Mu Triode	C3	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										12SQ7-GT
12SR7 12SR7-GT	Duplex-Diode Triode	B2 C2b	H	12.6	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.										12SR7 12SR7-GT
12V6-GT	Beam Power Amplifier	C2b	H	12.6	0.225	Amplifier	For other characteristics, refer to Type 6V6.										12V6-GT
12W6-GT	Beam Power Tube	C2b	H	12.6	0.6	Vertical Deflection Amplifier in TV Receivers	Triode Connection: Max. DC Plate Volts, 300 Max. DC Cathode Ma., 40					Absolute Max. Peak Positive-Pulse Plate Volts, 1200 Max. Plate Dissipation, 7.5 Watts					12W6-GT
12X4	Full-Wave Rectifier	B1	H	12.6	0.225	Rectifier	For other characteristics, refer to Type 6X4.										12X4
12Z3	Half-Wave Rectifier	D5	H	12.6	0.3	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 235 Max. DC Output Ma., 55					Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 235 volts, 75 ohms.					12Z3
14A4	Medium-Mu Triode	B5	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6J5.										14A4
14A5	Beam Power Tube	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
14AF7	Medium-Mu Twin Triode	B5	H	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 7AF7.										14AF7

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
14B6	Duplex-Diode High-Mu Triode	B6	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6SQ7.										**14B6**
14B8	Pentagrid Converter ●	B5	H	12.6	0.15	Converter	For other characteristics, refer to Type 6A8.										14B8
14C5	Beam Power Tube	C2a	H	12.6	0.225	Class A Amplifier	180 315	— 8.5 —13	180 225	3.0 2.2	29.0 34.0	50000 77000	3700 3750	——	5500 8500	2 5.5	14C5
14C7	Sharp-Cutoff Pentode	B5	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 6SJ7.										**14C7**
14E6	Twin-Diode Triode	B8	H	12.6	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6SR7.										14E6
14E7	Twin-Diode-Remote-Cutoff Pentode	B5	H	12.6	0.15	Pentode Unit as Class A Amplifier	100 250	Cath. Bias	100 100	2.7 1.6	10.0 7.5	150000 700000	1600 1300	Cath. Res., 80 ohms Cath. Res., 330 ohms			14E7

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage.

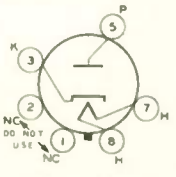
※ Applied through plate resistor of 250000 ohms.

●● For grid of following tube.

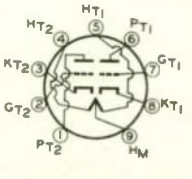
▲ Grids ※ 2 and ※ 4 are screen. Grid ※ 3 is signal-input control grid.

● Grids ※ 3 and ※ 5 are screen. Grid ※ 4 is signal-input grid.

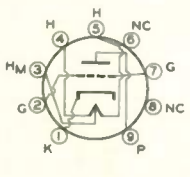
△ Cathode-bias resistor, 180 ohms.



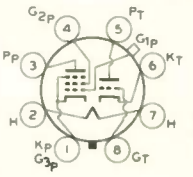
12AX4(GT-GTA)●●



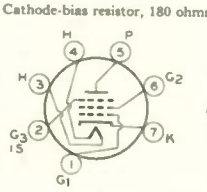
12AX7♯ 12AZ7♯ 12BH7♯ 12BH7-A♯



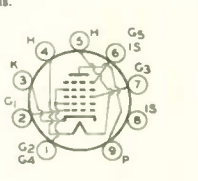
12B4-A



12B8-GT



12BA6



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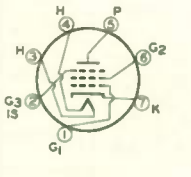
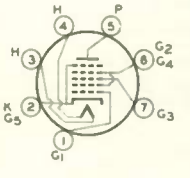
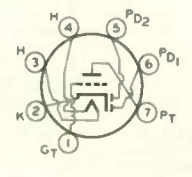


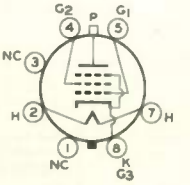
12BD6



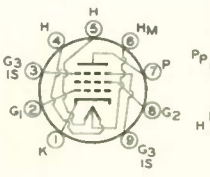
12BE6



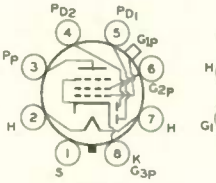
12BF6



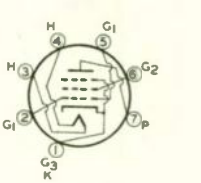
12BQ6-GTB/12CU6●



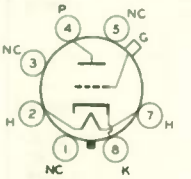
12BY7(A)



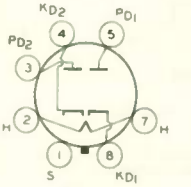
12C8



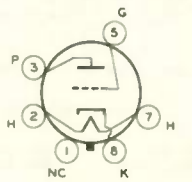
12CA5



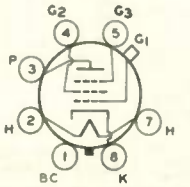
12F5-GT



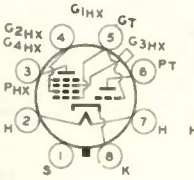
12H6



12J5-GT



12J7-GT 12K7-GT



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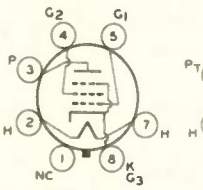
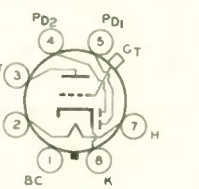


12L6-GT 12V6-GT 12W6-GT



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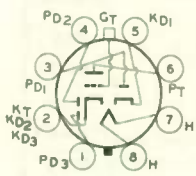

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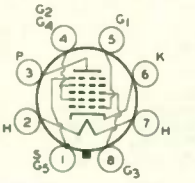

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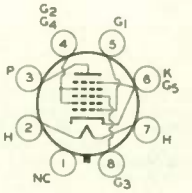

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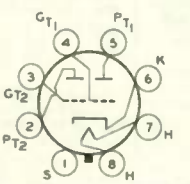

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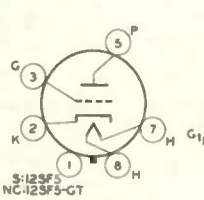

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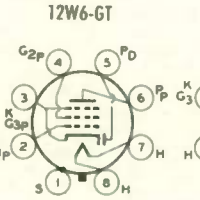

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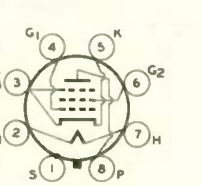
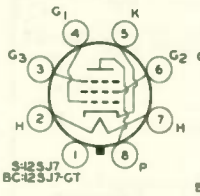


12SG7 12SH7



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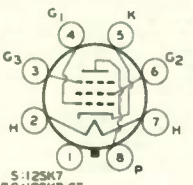

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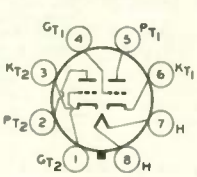
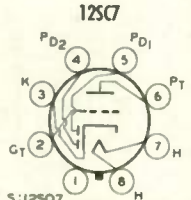


12SL7-GT 12SN7-GT



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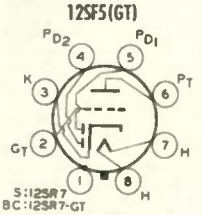

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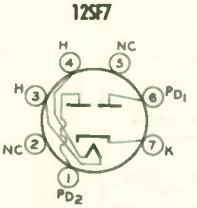
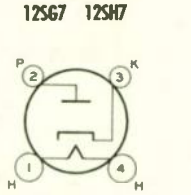


12X4



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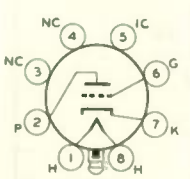
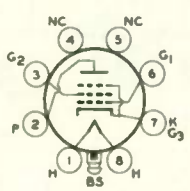
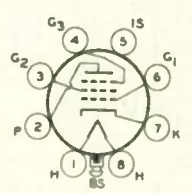


14A4



14A5 14C5



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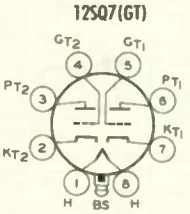

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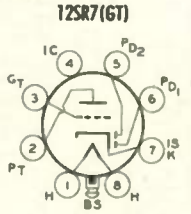
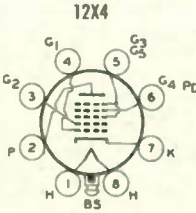


14B6 14E6



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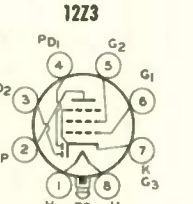


14E7

● *On the 6-pin bases pin 1 as well as pin 6 is omitted.*

♯ *Heater for section 2 between pins 4 and 9; for section 1 between pins 5 and 9.*

●● *On the 5-pin bases, pin 1 as well as pins 4 and 6 is omitted.*

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C. T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
14F7	Twin-Triode Amplifier	B5	H	12.6	0.15	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6SL7-GT.										**14F7**
14F8	Medium-Mu Twin Triode	B6b	H	12.6	0.15	Each Unit as Class A Amplifier	250	Cathode-Bias Res., 500 ohms			6.0	——	3300	48	——	——	**14F8**
14H7	Remote-Cutoff Pentode	B5	H	12.6	0.15	Class A Amplifier	For other characteristics, refer to Type 7H7.										14H7
14J7	Triode-Heptode Converter	B5	H	12.6	0.15	Converter	For other characteristics, refer to Type 7J7.										14J7
14N7	Twin-Triode Amplifier	C2a	H	12.6	0.3	Each Unit as Class A Amplifier	For other characteristics, refer to Type 6J5.										14N7
14Q7	Pentagrid Converter▲	B5	H	12.6	0.15	Converter	For other characteristics, refer to Type 6SA7.										**14Q7**
14R7	Twin-Diode Pentode	B5	H	12.6	0.15	Pentode Unit as Class A Amplifier	For other characteristics, refer to Type 7R7.										**14R7**
15	RF Amplifier Pentode	D6	D.C. H	2.0	0.22	Class A Amplifier	67.5 135	− 1.5 − 1.5	67.5 67.5	0.3 0.3	1.85 1.85	630000 800000	710 750	——	——	——	15
19	Twin-Triode Amplifier	D5	D.C. F	2.0	0.26	Amplifier	For other characteristics, refer to Type 1J6-G.										19
19BG6-G	Beam Power Tube	F1	H	18.9	0.3	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 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	B6	H	18.9	0.15	Each Unit as Class A Amplifier	100	Cathode-Bias Res., 50# ohms			8.5	7100	5300	38	——	——	**19J6**
19T8	Triple-Diode High-Mu Triode	B8a	H	18.9	0.15	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 6T8.										**19T8**
19X8	Triode-Pentode Converter	B8a	H	18.9	0.15		For characteristics, refer to Type 6X8.										**19X8**
20	Power Amplifier Triode	D1	D.C. F	3.3	0.132	Class A Amplifier	90 135	−16.5 −22.5	——	——	3.0 6.5	8000 6300	415 525	3.3 3.3	9600 6500	0.045 0.110	20
22	RF Amplifier Tetrode	E1	D.C. F	3.3	0.132	Screen-Grid RF Amplifier	135 135	− 1.5 − 1.5	45 67.5	0.6● 1.3●	1.7 3.7	725000 325000	375 500	——	——	——	22
24-A	RF Amplifier Tetrode	E1	H	2.5	1.75	Screen-Grid RF Amplifier	180 250	− 3.0 − 3.0	90 90	1.7● 1.7●	4.0 4.0	400000 600000	1000 1050	——	——	——	**24-A**
						Bias Detector	250■	(− 5.0 approx.)	20 to 45	——	Plate current to be adjusted to 0.1 milliampere with no signal.						
25A6	Power Amplifier Pentode	C2	H	25.0	0.3	Class A Amplifier	95 160	−15.0 −18.0	95 120	4.0 6.5	20.0 33.0	45000 42000	2000 2375	——	4500 5000	0.9 2.2	**25A6**
25A6-GT	Power Amplifier Pentode	C3	H	25.0	0.3	Class A Amplifier	For other characteristics, refer to Type 25A6.										25A6-GT
25A7-GT	Rectifier Pentode	C3	H	25.0	0.3	Pentode Unit as Class A Amplifier	100	−15.0	100	4.0	20.5	50000	1800	——	4500	0.77	25A7-GT
						Half-Wave Rectifier	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 75 Max. Peak Plate Ma., 450		Min. Total Effect. Supply Impedance, 15 ohms.				
25AC5-GT	High-Mu Power Amplifier Triode	C3	H	25.0	0.3	Class B Amplifier	180	0	——	——	4.0◆	——	——	——	4800	6.0	25AC5-GT
						Dynamic-Coupled Amp. With Type 6AE5-GT Driver	110	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.							2000	2.0	
25B5	Direct-Coupled Power Amplifier	D8a	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	105 200	−16.0 −23.0	105 135	2.0 1.8	48.0 62.0	15500 18000	4800 5000	——	1700 2500	2.4 7.1	25B6-G
25B8-GT	Triode-Pentode	C3	H	25.0	0.15	Triode Unit as Class A Amplifier	100	− 1.0	——	——	0.6	75000	1500	112	——	——	25B8-GT
						Pentode Unit as Class A Amplifier	100	− 3.0	100	2.0	7.6	185000	2000	——	——	——	
25BQ6-GT	Beam Power Tube	C11	H	25.0	0.3	Horizontal Deflection Amplifier in TV Receivers	For characteristics, refer to Type 6BQ6-GT.										**25BQ6-GT**
25BQ6-GTB/25CU6	Beam Power Tube	C11	H	25.0	0.3	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 600 Max. DC Cathode Ma., 112.5					Absolute Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 11 Watts					**25BQ6-GTB/25CU6**
25C6-G	Beam Power Tube	D10	H	25.0	0.3	Class A Amplifier	For other characteristics, refer to Type 6Y6-G.										25C6-G
25CD6-GA	Beam Power Tube	F1	H	25	0.6	Horizontal Deflection Amplifier in TV Receivers	Max. DC Plate Volts, 700 Max. DC Plate Ma., 170					Max. Peak Positive-Pulse Plate Volts, 6000 Max. Plate Dissipation, 15 Watts					**25CD6-GA**
25L6	Beam Power Tube	C2	H	25.0	0.3	Amplifier	110 200	− 7.5 − 8.0	110 110	4.0 2.0	49.0 50.0	13000 30000	9000 9500	——	2000 3000	2.1 4.3	**25L6**
25L6-GT	Beam Power Tube	C2b	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 50L6-GT.										**25L6-GT**
25N6-G	Direct-Coupled Power Amplifier	D8	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	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 350 Max. Peak Inverse Volts, 2000 ♦, 1250				Max. DC Output Ma., 125 Max. Peak Plate Ma., 600		Min. Total Effect. Supply Imped. per Plate, 145 ohms				**25W4-GT**
25Y5	Rectifier-Doubler	D6	H	25.0	0.3	Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 75					Min. Total Effective Plate-Supply Impedance per Plate, 0 ohms.					25Y5
25Z5	Rectifier-Doubler	D6	H	25.0	0.3	Rectifier-Doubler	For other ratings, refer to Type 25Z6.										**25Z5**
25Z6	Vacuum Rectifier-Doublers	C2	H	25.0	0.3	Voltage Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC Output Ma., 75				Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms.						25Z6
25Z6-GT		C2b				Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 75				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	90 180	− 7.0 −14.5	——	——	2.9 6.2	8900 7300	935 1150	8.3 8.3	——	——	26
27	Detector★ Amplifier Triode	D6	H	2.5	1.75	Class A Amplifier	135 250	− 9.0 −21.0	——	——	4.5 5.2	9000 9250	1000 975	9.0 9.0	——	——	**27**
						Bias Detector	250	(−30.0 approx.)	——	——	Plate current to be adjusted to 0.2 milliampere with no signal.						
30	Medium-Mu Triode	D5	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1H4-G.										30
31	Power Amplifier Triode	D6	D.C. F	2.0	0.13	Class A Amplifier	135 180	−22.5 −30.0	——	——	8.0 12.3	4100 3600	925 1050	3.8 3.8	7000 5700	0.185 0.375	31
32	RF Amplifier Tetrode	E1	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	− 3.0 − 3.0	67.5 67.5	0.4 0.4	1.7 1.7	950000 1.0+§	640 650	——	——	——	32
						Bias Detector	180♥	(− 6.0 approx.)	67.5	——	Plate current to be adjusted to 0.2 milliampere with no signal.						
32L7-GT	Rectifier-Beam Power Amplifier	C3	H	32.5	0.3	Amplifier Unit as Class A Amplifier	90 90	− 5.0 − 7.0	90 90	3.0 2.0	38.0 27.0	15000 17000	6000 4800	——	2600 2600	0.8 1.0	32L7-GT
						Half-Wave Rectifier	Maximum AC Plate Voltage ..... 125 Volts, RMS Maximum DC Output Current ..... 60 Milliamperes.										
33	Power Amplifier Pentode	D12	D.C. F	2.0	0.26	Class A Amplifier	180	−18.0	180	5.0	22.0	55000	1700	——	6000	1.5	33
34	Remote-Cutoff Pentode	E1	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	(− 3.0 min.)	67.5 67.5	1.0 1.0	2.8 2.8	600000 1.0§	600 620	——	——	——	34
35	Remote-Cutoff Tetrode	E1	H	2.5	1.75	Screen-Grid RF Amplifier	180 250	(− 3.0 min.)	90 90	2.5● 2.5●	6.3 6.5	300000 400000	1020 1050	——	——	——	35
35A5	Beam Power Tube	C2a	H	35.0	0.15	Single-Tube Class A Amplifier	For other characteristics, refer to Type 35L6-GT.										**35A5**
35B5	Beam Power Tube	B1	H	35.0	0.15	Class A Amplifier	For other characteristics, refer to Type 35C5.										**35B5**
35C5	Beam Power Tube	B1	H	35.0	0.15	Class A Amplifier	110	− 7.5	110	3.0	40.0	13000	5800	——	2500	1.5	**35C5**

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C.T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
35L6-GT	Beam Power Tube	C2b	H	35.0	0.15	Single-Tube Class A Amplifier	110 200	− 7.5 △	110 125	3.0 2.0	40.0 43.0	14000 34000	5800 6100	——	2500 5000	1.5 3.0	35L6-GT
35W4	Half-Wave Rectifier Heater Tap for Pilot	B1	H	35.0	0.15	With Capacitive-Input Filter	Max AC Plate Volts (RMS), 117. Min. Total Effect. Plate-Supply Impedance, 15 ohms. Max. DC Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.										35W4
	Pilot Between Pins 4 and 6																
35Y4	Half-Wave Rectifier Heater Tap for Pilot	C2a	H	35.0	0.15	With Capacitive-Input Filter	For other characteristics, refer to Type 35W4.										35Y4
	Pilot Between Pins 1 and 4																
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	C2b	H	35.0	0.15	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 235 Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms. Max. DC Output Ma., 100										35Z4-GT
35Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C2b	H	35.0	0.15	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 235. Min. Total Effect. Plate-Supply Imped.: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms. Max. DC Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.										35Z5-GT
	Pilot Between Pins 2 and 3																
36	RF Amplifier Tetrode	D9	H	6.3	0.3	Screen-Grid RF Amplifier	100 250	− 1.5 − 3.0	55 90	—— 1.7*	1.8 3.2	550000 550000	850 1080	—— ——	—— ——	—— ——	36
						Bias Detector	100 250	− 5.0 − 8.0	55 90	——	Grid-bias values are approximate. Plate current to be adjusted to 0.1 milliampere with no signal.						

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

✖ Applied through plate resistor of 250000 ohms.

▲ Grids # 2 and # 4 are screen. Grid # 3 is signal-input control grid. § Megohms.

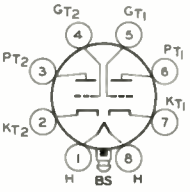
* Value is for both units operating at the specified conditions.

△ Cathode-bias resistor, 180 ohms.

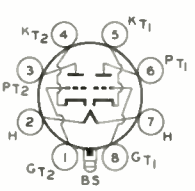
★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.

♥ Applied through plate resistor of 100000 ohms

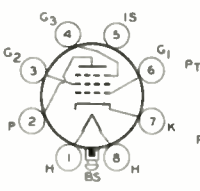
◆ For television damper service. • Maximum.



14F7 14N7



14F8



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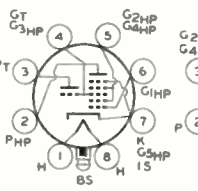

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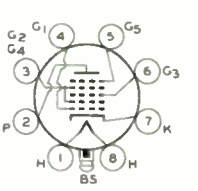

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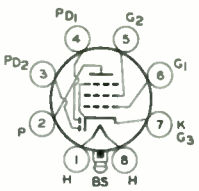

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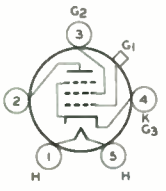

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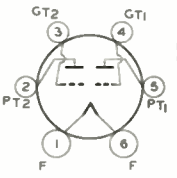

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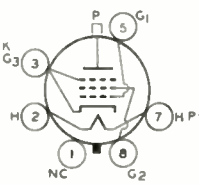
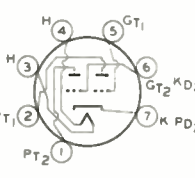


19BG6-G 25CD6-GA



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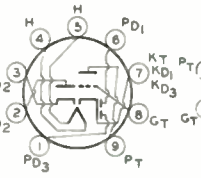
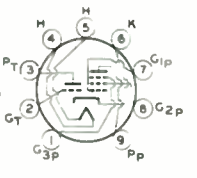


19T8



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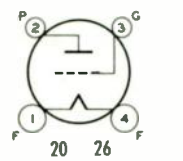

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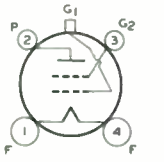

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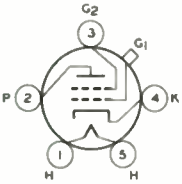
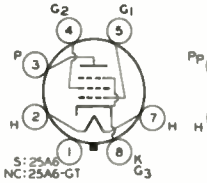


24-A 35 36



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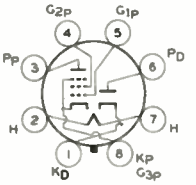

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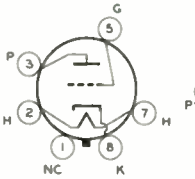

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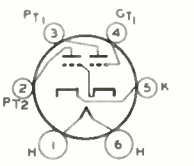

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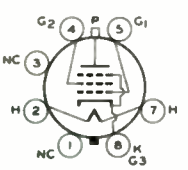

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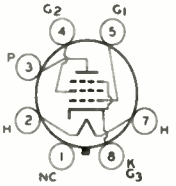
25BQ6-GTB/25CU6•



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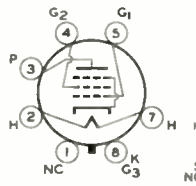

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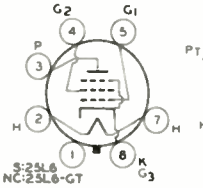

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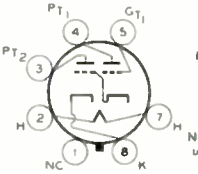

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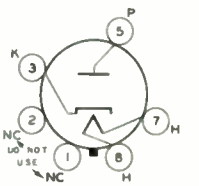

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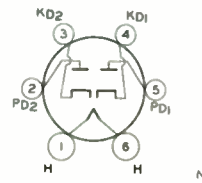
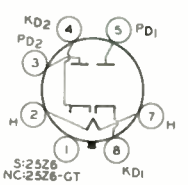


25Y5 25Z5



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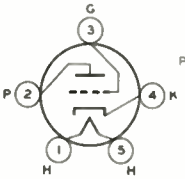

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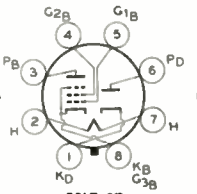

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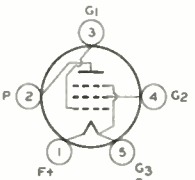

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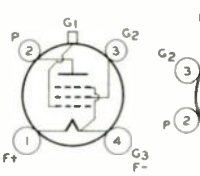

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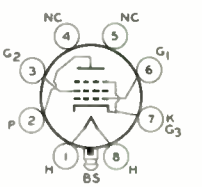

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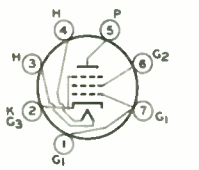

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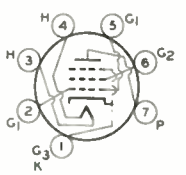

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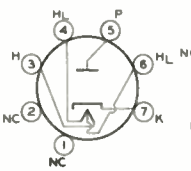

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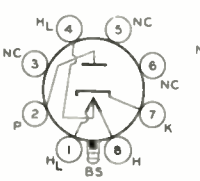

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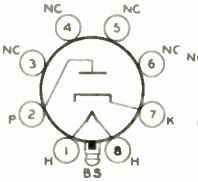

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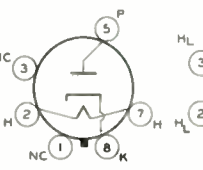

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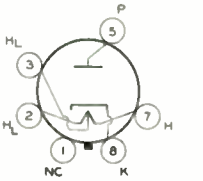


35Z5-GT

• On the 6-pin bases pin 1 as well as pin 6 is omitted.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating: C.T.	Volts	Amp.	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	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
37	Detector★ Amplifier Triode	D5	H	6.3	0.3	Class A Amplifier	90 250	− 6.0 −18.0	——	——	2.5 7.5	11500 8400	800 1100	9.2 9.2	——	——	37
						Bias Detector	90 250	−10.0 −28.0	——	——	Grid-bias values are approximate. Plate current to be adjusted to 0.2 milliampere with no signal.						
38	Power Amplifier Pentode	D9	H	6.3	0.3	Class A Amplifier	100 250	− 9.0 −25.0	100 250	1.2 3.8	7.0 22.0	140000 100000	875 1200	——	15000 10000	0.27 2.50	38
39/44	Remote-Cutoff Pentode	D9	H	6.3	0.3	Class A Amplifier	90 250	− 3.0 min.	90 90	1.6 1.4	5.6 5.8	400000 1.0§	1000 1050	——	——	——	39/44
40	Medium-Mu Triode	D12	D.C. F	5.0	0.25	Class A Amplifier	135✖ 180✖	− 1.5 − 3.0	——	——	0.2 0.2	150000 150000	200 200	30 30	——	——	40
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	180 275	−31.5 −56.0	——	——	31.0 36.0	1650 1700	2125 2050	3.5 3.5	2700 4600	0.82 2.00	45
						Push-Pull Class AB_1 Amplifier	275 275	Cath. Bias, 775 ohms◆ −68.0 volts, fixed bias			36.0◆ 28.0◆	——	——	——	5060 3200	12.0† 18.0†	
45Z3	Half-Wave Rectifier	B6	H	45.0	0.075	Half-Wave Rectifier	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 65 Max. Peak Plate Ma., 390				Min. Total Effect. Plate-Supply Imped., 15 ohms.		45Z3
45Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C2b	H	45.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z5-GT.										45Z5-GT
		Pilot Between Pins 2 and 3															
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◆	300 400	0 0	——	——	8.0◆ 12.0◆	——	——	——	5200 5800	16.0† 20.0†	
47	Power Amplifier Pentode	E3	F	2.5	1.75	Class A Amplifier	250	−16.5	250	6.0	31.0	60000	2500	——	7000	2.7	47
48	Power Amplifier Tetrode	E3	D.C. H	30.0	0.4	Tetrode Class A Amplifier	96 125	−19.0 −20.0	96 100	9.0 9.5	52.0 56.0	——	3800 3900	——	1500 1500	2.0 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	300 400 450	−54.0 −70.0 −84.0	——	——	35.0 55.0 55.0	2000 1800 1800	1900 2100 2100	3.8 3.8 3.8	4600 3670 4350	1.6 3.4 4.6	50
50A5	Beam Power Tube	C2a	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50L6-GT.										50A5
50B5	Beam Power Tube	B1	H	50.0	0.15	Class A Amplifier	For other characteristics, refer to Type 50C5.										50B5
50C5	Beam Power Tube	B1	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 Tube	D10	H	50.0	0.15	Single-Tube Class A Amplifier	135 200	−13.5 −14.0	135 135	3.5 2.2	58.0 61.0	9300 18300	7000 7100	——	2000 2600	3.6 6.0	50C6-G
50L6-GT	Beam Power Tube	C2b	H	50.0	0.15	Single-Tube Class A Amplifier	100 200	− 7.5 △	110 125	4.0 2.2	49.0 46.0	13000 28000	8000 8000	——	2000 4000	2.1 3.8	50L6-GT
50X6	Rectifier-Doubler	C2a	H	50.0	0.15	Rectifier-Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC Output Ma., 75				Min. Total Effective Plate-Supply Impedance: Half-Wave, 30 ohms; Full-Wave, 15 ohms.						50X6
						Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output Ma. per Plate, 75				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	C2b	H	50.0	0.15	Rectifier-Doubler	For other ratings, refer to Type 25Z6.										50Y6-GT
50Y7-GT	Rectifier-Doubler Heater Tap for Pilot	C2b	H	50.0	0.15	Voltage Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC Output ma., 65				Min. Total Effective Plate-Supply Impedance per Plate, 15 ohms						50Y7-GT
		Pilot Between Pins 6 and 7				Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC Output ma. per Plate, 65				Min. Total Effec. 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. AC Volts per Plate (RMS), 117 Max. DC Output Ma., 65				Min. Total Effective Plate-Supply Impedance: 15 ohms.						50Z7-G
		Pilot Between Pins 6 and 7				Half-Wave Rectifier	Max. AC Volts per Plate (RMS), 235 Max. DC 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	Amplifier	For other characteristics, refer to Type 6N7-GT.										53
55	Duplex-Diode Triode	D9	H	2.5	1.0	Triode Unit as Amplifier	For other characteristics, refer to Type 85.										55
56	Medium-Mu Triode★	D6	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 76.										56
57	Sharp-Cutoff Pentode	D13	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 6J7.										57
58	Remote-Cutoff Pentode	D13	H	2.5	1.0	Amplifier Mixer	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	300 400	0 0	——	——	20.0◆ 26.0◆	——	——	——	4600 6000	15.0† 20.0†	
70L7-GT	Rectifier-Beam Power Amplifier	C10	H	70.0	0.15	Amplifier Unit as Class A Amplifier	110	− 7.5	110	3.0	40.0	15000	7500	——	2000	1.8	70L7-GT
						Half-Wave Rectifier	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 70 Max. Peak Plate Ma., 420				Min. Total Effect. Plate-Supply Imped., 15 ohms		
71-A	Power Amplifier Triode	D12	F	5.0	0.25	Class A Amplifier	90 180	−16.5 −40.5	——	——	10.0 20.0	2170 1750	1400 1700	3.0 3.0	3000 4800	0.125 0.790	71-A
75	Twin-Diode High-Mu Triode	D9	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SQ7.										75
76	Detector Amplifier Triode★	D6	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 milliampere with no signal.						
77	Triple-Grid Detector Amplifier	D9	H	6.3	0.3	Class A Amplifier	100 250	− 1.5 − 3.0	60 100	0.4 0.5	1.7 2.3	600000 1.0+§	1100 1250	——	——	——	77
						Bias Detector	250	− 1.95	50	Cathode current 0.65 ma.	——		Plate Resistor, 250000 ohms. Grid Resistor,▪▪ 250000 ohms.				
78	Remote-Cutoff Pentode	D9	H	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6K7.										78
79	Twin-Triode Amplifier	D9	H	6.3	0.6	Class B Amplifier	180 250	0 0	——	——	Power Output is for one tube at stated plate-to-plate load.				7000 14000	5.5 8.0	79
80	Full-Wave Rectifier	D12	F	5.0	2.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375				Min. Total Effect. Supply Imped. per Plate, 50 ohms		80
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 500 Max. Peak Inverse Volts, 1400				Max. DC Output Ma., 125 Max. Peak Plate Ma., 375				Min. Value of Input Choke, 10 henries		
81	Half-Wave Rectifier	F1a	F	7.5	1.25	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 700 Max. Peak Inverse Volts, 2000				Max. DC Output Ma., 85 Max. Peak Plate Ma., 500						81
82	Full-Wave● Rectifier	D12	F	2.5	3.0	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 115 Max. Peak Plate Ma., 600				Min. Total Effect. Supply Imped. per Plate, 50 ohms.		82
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC 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. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550				Max. DC Output Ma., 225 Max. Peak Plate Ma., 1000				Min. Total Effect. Supply Imped. per Plate, 50 ohms.		83
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 550 Max. Peak Inverse Volts, 1550				Max. DC 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

For data on RCA Picture Tubes see pages 24, 25, 26, and 27.

RCA Type	Name	Tube Dimensions	Cathode Type and Rating C.T.	Volts	Amp.	Use	Plate Supply Volts	Grid Bias ■ Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Transconductance (Grid-plate) μmhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type
84/6Z4	**Full-Wave Rectifier**	D6	H	6.3	0.5	With Capacitive-Input Filter	Max. AC Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 60 Max. Peak Plate Ma., 180				Min. Total Effect. Supply Imped. per Plate, 150 ohms.		**84/6Z4**
						With Inductive-Input Filter	Max. AC Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250				Max. DC Output Ma., 60 Max. Peak Plate Ma., 180				Min. Value of Input Choke, 10 henries		
85	Twin-Diode Triode	D9	H	6.3	0.3	Triode Unit as Class A Amplifier	135 250	−10.5 −20.0	·	——	3.7 8.0	11000 7500	750 1100	8.3 8.3	25000 20000	0.075 0.350	85
89	Triple-Grid Power Amplifier	D8	H	6.3	0.4	As Triode¶ Class A Amplifier	160 250	−20.0 −31.0	——	——	17.0 32.0	3300 2600	1425 1800	4.7 4.7	7000 5500	0.30 0.90	
						As Pentode■■ Class A Amplifier	100 250	−10.0 −25.0	100 250	1.6 5.0	9.5 32.0	104000 70000	1200 1800	——	10700 6750	0.33 3.40	89
						As Triode● Class B Amplifier	180	0	——	——	6.0♠	——	——	——	13600 9400	2.50† 3.50†	
117L7/ M7-GT	**Rectifier-Beam Power Tube**	C10	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. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 75 Max. Peak Plate Ma., 450			Min. Total Effect. Plate-Supply Imped., 15 ohms.			
117N7-GT	**Rectifier-Beam Power Tube**	C10	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. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output Ma., 75 Max. Peak Plate Ma., 450			Min. Total Effect. Plate-Supply Impedance, 15 ohms.			
117P7-GT	**Rectifier-Beam Power Tube**	C10	H	117	0.09	Amplifier Unit as Class A Amplifier	For other characteristics, refer to Type 117L7/M7-GT.										**117P7-GT**
						Half-Wave Rectifier	For other ratings, refer to Type 117L7/M7-GT.										
117Z3	**Half-Wave Rectifier**	B1a	H	117	0.04	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 330				Max. DC Output Ma., 90 Max. Peak Plate Ma., 540			Min. Total Effect. Plate-Supply Imped., 20 ohms			**117Z3**
117Z4-GT	**Half-Wave Rectifier**	C0	H	117.0	0.04	With Capacitive-Input Filter	Max. AC Plate Volts (RMS), 117 Max. Peak Inverse Volts, 350				Max. DC Output ma., 90 Max. Peak Plate ma., 540			Min. Total Effect. Plate-Supply Imped., 30 ohms			117Z4-GT
117Z6-GT	**Rectifier-Doubler**	C2b	H	117	0.075	Voltage Doubler	Max. AC Volts per Plate (RMS), 117 Max. DC 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. AC Volts per Plate (RMS), 235 Max. DC 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.						

Three vertical rules before or after type No. = Miniature type having either 7 or 9 pins.

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 pages 26 and 27.

■ 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 ½ (approx.) of filament voltage. ♠ For two tubes.

† Power output is for two tubes at stated plate-to-plate load. § Megohms.

✖ Applied through plate resistor of 250000 ohms.

** For grid of following tube.

□ Grid # 2 tied to plate.

△ Cathode-bias resistor, 180 ohms.

★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.

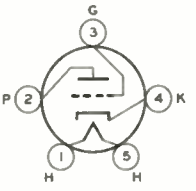
■■ Grid # 1 is control grid. Grid # 2 is screen. Grid # 3 tied to cathode. ➢ Mercury-Vapor Type.

¶ Grid # 1 is control grid. Grids # 2 and # 3 tied to plate.

● Grids # 1 and # 2 connected together. Grid # 3 tied to plate.

♦ Grids # 1 and # 2 tied together.

Note: 2 Subscript 2 on class of amplifier service (as AB_2) indicates that grid current flows during some part of input cycle.



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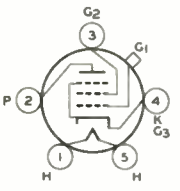
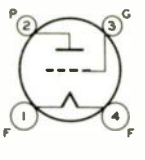


38 39/44



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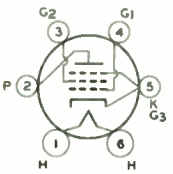
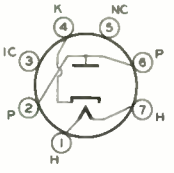


41 42 43



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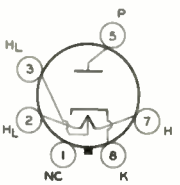
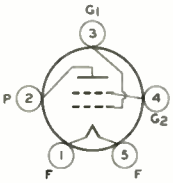


45Z5-GT



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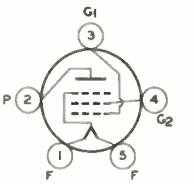

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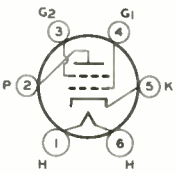

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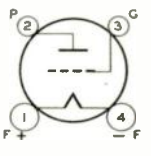
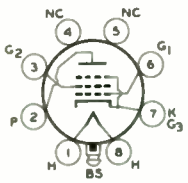


71-A



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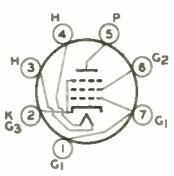

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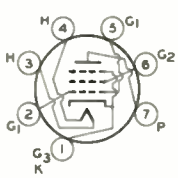

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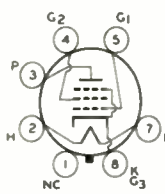
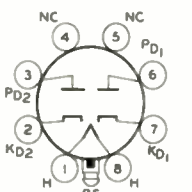


50C6-G 50L6-GT



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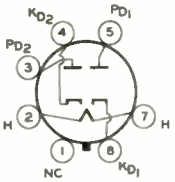
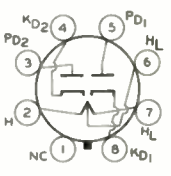
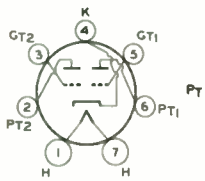


50Y6-GT 117Z6-GT



50Y7-GT 50Z7-G



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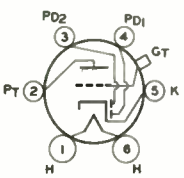

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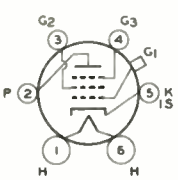

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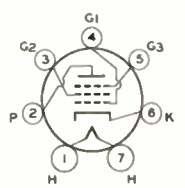

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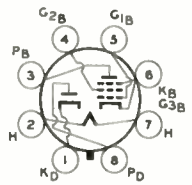

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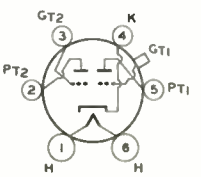

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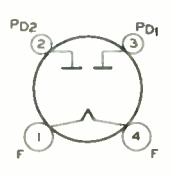
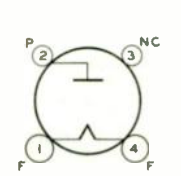


80 82● 83●



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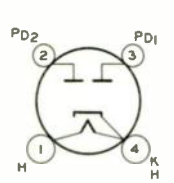
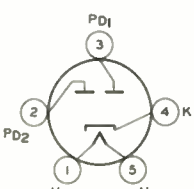
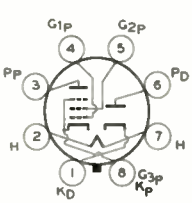


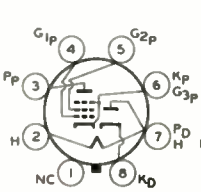
83-V



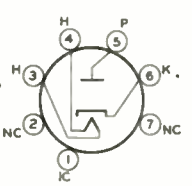
84/6Z4



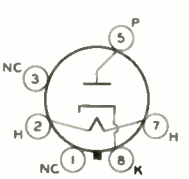
117L7/M7-GT



117N7-GT 117P7-GT

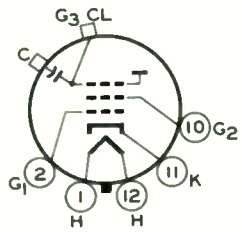


117Z3

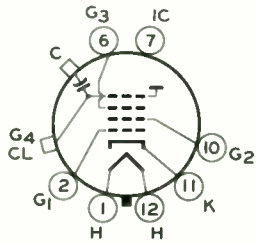


117Z4-GT

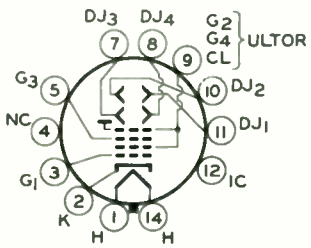
● 82 and 83 are mercury-vapor types.



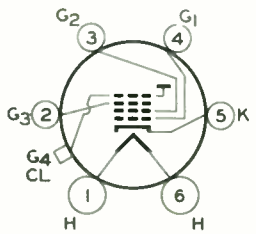
A
ULTOR = G_3 + CL



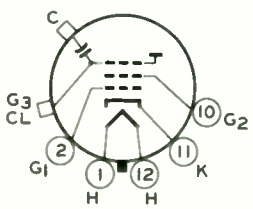
B
ULTOR = G_4 + CL
FOCUSING ELECTRODE = G_3



C
ULTOR = G_2 + G_4 + CL
FOCUSING ELECTRODE = G_3



D
ULTOR = G_4 + CL
FOCUSING ELECTRODE = G_3



E
ULTOR = G_3 + CL

For legend to base and envelope connection diagrams, see page 26.

Type	Envelope	Aluminized Screen (Asterisk (*) denotes "Silverama" type)	Faceplate ◊	External Conductive Coating Max. μμf	External Conductive Coating Min. μμf	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees Diag.	Horiz.	Vert.	Maximum Dimensions Inches Overall Length	Envelope Dia. or Diagonal	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types																
5TP4*	Ⓖ	Yes	CL	500	100	E	M	—	50	—	12 1/16	5 1/16	—	—	7 1/2	4 1/2 Dia.
7DP4	Ⓖ	No	CL	1500	400	E	M	—	50	—	14 7/16	7 5/16	—	—	8 1/16	6 Dia.
7JP4	Ⓖ	No	CL	None	None	E	E⊙	—	—	—	14 7/8	7 1/8	—	—	—	6 Dia.
9AP4	Ⓖ	No	CL	None	None	E	M	—	40	—	21 3/8	9 1/16	—	—	10	7 7/16 Dia.
10BP4	Ⓖ	No	Same as 10BP4-A, except has clear glass faceplate.													
10BP4-A	Ⓖ	No	FG	2500	500	M	M	—	52	—	18	10 5/16	—	—	8 1/16	9 1/16 Dia.
10FP4-A	Ⓖ	*Yes	FG	2500	500	M	M	—	50	—	18	10 5/16	—	—	8 1/16	9 1/16 Dia.
12AP4	Ⓖ	No	CL	None	None	E	M	—	40	—	25 3/16	12 5/16	—	—	9 5/16	10 3/4 Dia.
12KP4-A	Ⓖ	*Yes	FG	2500	500	M	M	—	54	—	18	12 5/16	—	—	7 1/16	11 1/16 Dia.
12LP4	Ⓖ	No	Same as 12LP4-A, except has clear glass faceplate.													
12LP4-A	Ⓖ	No	FG	2000	750	M	M	—	57	—	19 1/16	12 5/16	—	—	8 1/4	11 Dia.
14EP4/ 14CP4	Ⓖ	No	FG	2000	750	M	M	70	65	50	16 7/16	13 13/16	12 31/32	9 27/32	7 5/16	11 1/16 x 8 5/16
14HP4	Ⓖ	No	FG	2000	750	E	M	70	65	50	17 5/32	13 13/16	12 31/32	9 27/32	7 1/2	11 1/16 x 8 5/16
16AP4	Ⓜ	No	Same as 16AP4-A, except has clear glass faceplate.													
16AP4-A	Ⓜ	No	FG	None	None	M	M	—	53	—	22 5/16	16	—	—	7 5/16	14 5/16 Dia.
16DP4-A	Ⓖ	No	FG	None	None	M	M	—	60	—	21	16	—	—	7 1/16	14 1/16 Dia.
16GP4	Ⓜ	No	Same as 16GP4-B, except has Filterglass faceplate.													
16GP4-A	Ⓜ	No	Same as 16GP4-B, except has clear glass faceplate.													
16GP4-B	Ⓜ	No	FFG	None	None	M	M	—	70	—	17 11/16	16	—	—	6 7/16	14 5/16 Dia.
16GP4-C	Ⓜ	No	Same as 16GP4-B, except has frosted clear glass faceplate.													
16LP4-A	Ⓖ	No	FG	2000	750	M	M	—	52	—	22 5/16	16	—	—	7 5/16	14 1/16 Dia.
16RP4/ 16KP4	Ⓖ	No	FG	1500	750	M	M	70	65	50	19 1/8	16 1/4	14 7/16	11 5/16	7 1/2	13 1/2 x 10 1/16
16RP4-A/ 16KP4-A	Ⓖ	*Yes	Same as 16RP4/16KP4, except has aluminized screen.													
16TP4	Ⓖ	No	FG	2000	750	M	M	70	65	50	18 1/16	16 5/16	14 15/16	11 11/16	6 7/16	13 1/2 x 10 1/16
16WP4-A	Ⓖ	No	FG	1500	750	M	M	—	70	—	18 1/16	16	—	—	7 7/16	14 1/16 Dia.
17AVP4	Ⓖ	No	FG	1500	1200	E	M	90	85	68	16	16 3/4	15 25/64	12 13/32	6 1/2	14 1/4 x 10 3/4
17AVP4-A	Ⓖ	*Yes	Same as 17AVP4, except has aluminized screen.													
17BP4-A	Ⓖ	No	FG	1500	750	M	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17BP4-B	Ⓖ	*Yes	Same as 17BP4-A, except has aluminized screen.													
17CP4	Ⓜ	No	FFG	None	None	M	M	70	66	50	19	17	16 1/16	12 3/8	7 5/16	14 3/8 x 10 11/16
17CP4-A	Ⓜ	No	Same as 17CP4, except has Filterglass faceplate.													
17GP4	Ⓜ	No	FFG	None	None	E	M	70	66	50	19 5/16	17	16 1/16	12 3/8	7 1/2	14 3/8 x 10 11/16
17HP4/ 17RP4	Ⓖ	No	FG	1500	750	E	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17HP4-B	Ⓖ	*Yes	FG	1500	750	E	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17JP4	Ⓖ	No	FG	750	500	M	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17LP4/ 17VP4	Ⓖ	No	FG▲▲	1500	750	E	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17LP4-A	Ⓖ	*Yes	FG▲▲	1500	750	E	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17QP4	Ⓖ	No	FG▲▲	1500	750	M	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17QP4-A	Ⓖ	*Yes	FG▲▲	1500	750	M	M	70	65	50	19 5/16	16 3/4	15 25/64	12 13/32	7 1/2	14 1/4 x 10 3/4
17TP4	Ⓜ	No	FFG	None	None	E	M	70	66	50	19 5/16	17	16 1/16	12 3/8	7 1/2	14 3/8 x 10 11/16
19AP4	Ⓜ	No	Same as 19AP4-B, except has clear glass faceplate.													
19AP4-A	Ⓜ	No	Same as 19AP4-B, except has Filterglass faceplate.													
19AP4-B	Ⓜ	No	FFG	None	None	M	M	—	66	—	22	18 3/4	—	—	7 1/16	17 1/4 Dia.
19AP4-D	Ⓜ	No	Same as 19AP4-B, except has frosted clear glass faceplate.													
20CP4	Ⓖ	No	FG	None	None	M	M	70	66	50	21 13/16	20 9/32	18 7/8	15 1/16	7 5/16	17 x 12 3/4
20DP4-A/ 20CP4-A	Ⓖ	No	FG	750	500	M	M	70	66	50	21 7/8	20 7/32	18 13/16	15 1/16	7 5/16	17 x 12 3/4
20DP4-C/ 20CP4-D	Ⓖ	*Yes	FG	750	500	M	M	70	66	50	21 7/8	20 7/32	18 13/16	15 1/16	7 5/16	17 x 12 3/4

Light face = Discontinued type.
Ⓖ = Glass rectangular.
Ⓜ = Metal rectangular.
CL = Clear glass.
FFG = Frosted Filterglass.
Ⓖ = Glass round.
Ⓜ = Metal round.

Note: All picture tubes shown have 6.3-volt/0.6-ampere heaters except types 9AP4 and 12AP4 which have 2.5-volt/2.1-ampere heaters.

◊ Spherical, unless otherwise specified.
▲▲ Cylindrical faceplate.
† At ultor lip-terminal.
FG = Filterglass.
M = Magnetic.
★ At faceplate.
■ Projection type.
E = Electrostatic.

●● This type has a flat, aluminized, Filterglass, phosphor-dot, screen plate.

⊙ Deflection factors (dc/in.) for typical operating conditions shown:

DJ1 & DJ2 (nearer screen)	DJ1 & DJ2 (nearer base)
186 to 246	150 to 204

ARACTERISTICS CHART

High Voltage Terminal	Base	Maximum Ratings: Final High-Voltage Electrode (Ultor*) Volts	Maximum Ratings: Focusing Electrode Volts	Maximum Ratings: Grid-No. 2 Volts	Maximum Ratings: Grid-No. 1 Volts‖	Maximum Ratings: Peak Heater-Cathode Volts: H(−) During Warm-Up•	Maximum Ratings: Peak Heater-Cathode Volts: H(−) After Warm-Up	Maximum Ratings: Peak Heater-Cathode Volts: H(+)	Typical Operating Conditions in Grid-Drive Service: Final High-Voltage Electrode (Ultor*) Volts	Typical Operating Conditions in Grid-Drive Service: Grid No. 2 Volts	Typical Operating Conditions in Grid-Drive Service: Focusing Electrode Volts	Typical Operating Conditions in Grid-Drive Service: Grid-No. 1 Volts For Visual Extinction of Focused Raster	P M Ion-Trap Magnet Min. Gausses	RCA Type
														Black-and-White Types
Cavity Cap	B	27000	6000	350	−150	410	175	10	27000	200	4320 to 5400	−37 to −93	None	5TP4•
Cavity Cap	B	8000	2400	410	−125	410	150	150	6000	250	1215 to 1645	−22 to −58	—	7DP4
Base Pin	C	6000	2800	∞	−200	410	125	125	6000	∞	1620 to 2400	−67 to −163	None	7JP4
Medium Cap	D	7000	2000	300	−125	—	—	—	7000	250	1190 to 1790	−15 to −55	None	9AP4
Ratings are typical operating conditions are same as for type 10BP4-A.														10BP4
Cavity Cap	E	12000	—	410	−125	410	150	150	8000 to 12000	250	—	−22 to −58	—	10BP4-A
Cavity Cap	E	12000	—	410	−125	410	140	140	8000 to 12000	250	—	−22 to −58	None	10FP4-A
Medium Cap	D	7000	2000	300	−125	—	—	—	7000	250	1190 to 1790	−15 to −55	None	12AP4
Cavity Cap	E	12000	—	410	−125	410	140	140	9000 to 12000	250	—	−22 to −58	None	12KP4-A
Ratings and typical operating conditions are same as for type 12LP4-A.														12LP4
Cavity Cap	E	12000	—	410	−125	410	150	150	9000 to 12000	250	—	−22 to −58	—	12LP4-A
Cavity Cap	E	14000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	14EP4/ 14CP4
Cavity Cap	H	14000	+500 −500	500	−125	410	180	180	12000 14000	300 300	−50 to +265 −55 to +310	−28 to −72 −28 to −72	29 31	14HP4
Ratings and typical operating conditions are same as for type 16AP4-A.														16AP4
Metal-Shell Lip	F	14000	—	410	−125	410	150	150	9000 12000	300 300	— —	−28 to −72 −28 to −72	25 29	16AP4-A
Cavity Cap	F	15000	—	410	−125	410	125	125	9000 to 15000	250	—	−22 to −58	—	16DP4-A
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4-A
Metal-Shell Lip	F	14000	—	410	−125	410	180	180	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	16GP4-B
Ratings and typical operating conditions are same as for type 16GP4-B.														16GP4-C
Cavity Cap	E	14000	—	410	−125	410	125	125	12000 to 14000	300	—	−28 to −72	—	16LP4-A
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	16RP4/ 16KP4
Ratings and typical operating conditions are same as for type 16RP4 16KP4.														16RP4-A/ 16KP4-A
Cavity Cap	E	14000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	16TP4
Cavity Cap	E	16000	—	410	−125	410	125	125	12000 to 16000	250	—	−22 to −58	—	16WP4-A
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +310 −65 to +350	−28 to −72 −28 to −72	31 33	17AVP4
Ratings and typical operating conditions are same as for type 17AVP4.														17AVP4-A
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	17BP4-A
Ratings and typical operating conditions are same as for type 17BP4-A.														17BP4-B
Metal-Shell Lip	F	16000	—	410	−125	410	180	180	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	17CP4
Ratings and typical operating conditions are same as for type 17CP4.														17CP4-A
Metal-Shell Lip	G	16000	5000	500	−125	410	180	180	12000 14000	300 300	2040 to 2760 2380 to 3220	−28 to −72 −28 to −72	29 31	17GP4
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17HP4/ 17RP4
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17HP4-B
Cavity Cap	A	18000	—	410	−125	410	150	150	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	17JP4
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17LP4/ 17VP4
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17LP4-A
Cavity Cap	A	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	17QP4
Cavity Cap	A	18000	—	500	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	17QP4-A
Metal-Shell Lip	G	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	17TP4
Ratings and typical operating conditions are same as for type 19AP4-B.														19AP4
Ratings and typical operating conditions are same as for type 19AP4-B.														19AP4-A
Metal-Shell Lip	F	16000	—	410	−125	410	150	150	12000 14000	300 300	— —	−28 to −72 −28 to −72	29 31	19AP4-B
Ratings and typical operating conditions are same as for type 19AP4-B														19AP4-D
Cavity Cap	F	18000	—	410	−125	410	150	150	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	20CP4
Cavity Cap	A	18000	—	410	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	20DP4-A/ 20CP4-A
Cavity Cap	A	18000	—	410	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	20DP4-C/ 20CP4-D

* ULTOR is defined as the electrode, or the electrode in combination with one or more additional electrodes connected within the tube to it, to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

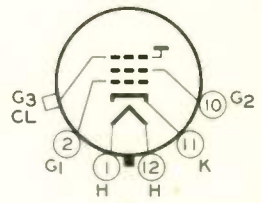
▲ This value has been specified to take care of the condition where an ac voltage is provided for dynamic focusing.

• During equipment warm-up not exceeding 15 seconds.

∞ Grid No. 2 connected to final high-voltage electrode within tube.

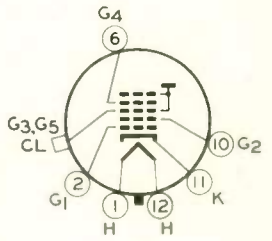
‖ Each gun.

‖ Positive bias value = 0 volts; positive peak value = 2 volts.



F

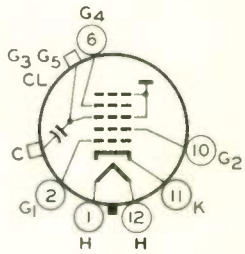
ULTOR = G_3 + CL



G

ULTOR = G_3 + G_5 + CL

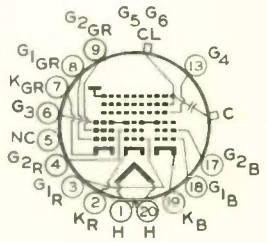
FOCUSING ELECTRODE = G_4



H

ULTOR = G_3 + G_5 + CL

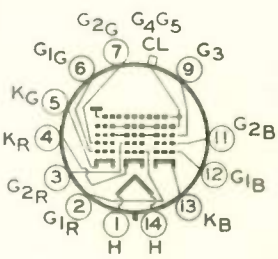
FOCUSING ELECTRODE = G_4



J

ULTOR = G_5 + G_6 + CL

FOCUSING ELECTRODE = G_3

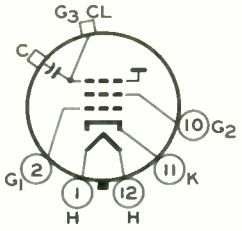


K

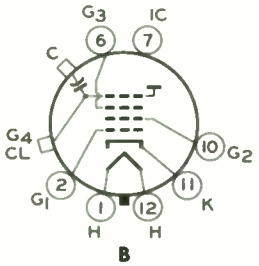
ULTOR = G_4 + G_5 + CL

FOCUSING ELECTRODE = G_3

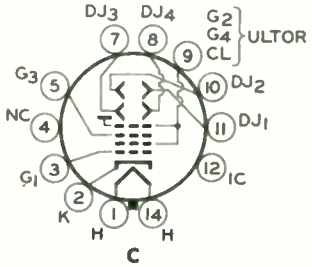
For legend to base and envelope connection diagrams, see page 26.



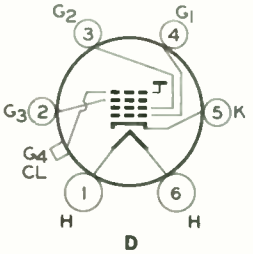
A
ULTOR = G_3 + CL



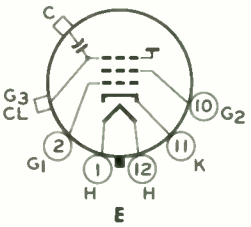
B
ULTOR = G_4 + CL
FOCUSING ELECTRODE = G_3



C
ULTOR = G_2 + G_4 + CL
FOCUSING ELECTRODE = G_3



D
ULTOR = G_4 + CL
FOCUSING ELECTRODE = G_3



E
ULTOR = G_3 + CL

RCA Type	Envelope	Aluminized Screen (Asterisk (*) denotes "Silvertone" type)	Faceplate◊	External Conductive Coating: Max. μμf	External Conductive Coating: Min. μμf	Focusing Method	Deflection Method	Approx. Deflection Angle Degrees: Diag.	Horiz.	Vert.	Maximum Dimensions Inches: Overall Length	Envelope Dia. or Diagonal	Width	Height	Neck Length Inches	Minimum Screen Size Inches
Black-and-White Types (Cont'd)																
20HP4-A/ 20MP4	G	No	FG	1500	750	E	M	70	66	50	22 1/8	20 7/32	18 13/16	15 1/16	7 1/2	17 x 12 3/4
20HP4-D	G	*Yes	FG	1500	750	E	M	70	66	50	22 1/8	20 7/32	18 13/16	15 1/16	7 1/2	17 x 12 3/4
20MP4	G	No	FG	750	500	E	M	70	66	50	22 1/8	20 9/32	18 7/8	15 1/16	7 1/2	17 x 12 3/4
21ACP4-A	G	*Yes	FG	750	500	M	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21ALP4-A	G	*Yes	FG	750	500	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21ALP4-B	G	*Yes	FG	750	500	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AMP4-A	G	*Yes	FG	750	500	M	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AP4	M	No	FFG	None	None	M	M	70	66	50	22 3/8	21	19 27/32	15 7/16	7 1/2	18 1/8 x 13 11/16
21ATP4	G	*Yes	FG	1500	1200	E	M	90	85	68	20 3/8	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AVP4/ 21AUP4	G	No	FG	1500	1200	E	M	72	67	53	23 13/32	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21AVP4-A/ 21AUP4-A	G	*Yes	Same as 21AVP4/21AUP4, except has aluminized screen.													
21AWP4	G	*Yes	FG	1500	1200	M	M	72	67	53	23 13/32	21 1/2	20 3/8	16 1/2	7 1/2	19 1/8 x 15
21EP4	G	No	Same as 21EP4-A, except has no external conductive coating.													
21EP4-A	G	No	FG**	750	500	M	M	70	65	50	23 3/8	21 11/32	20 3/8	15 11/16	7 15/32	19 1/8 x 13 7/8
21EP4-B	G	*Yes	Same as 21EP4-A, except has aluminized screen.													
21FP4-A	G	No	FG**	750	500	E	M	70	65	50	23 3/8	21 11/32	20 3/8	15 11/16	7 15/32	19 1/8 x 13 7/8
21FP4-C	G	*Yes	Same as 21FP4-A, except has aluminized screen.													
21MP4	M	No	FFG	None	None	E	M	70	66	50	22 3/8	21	19 27/32	15 7/16	7 1/2	18 1/8 x 13 11/16
21YP4	G	No	FG	750	500	E	M	70	65	50	23 13/32	21 11/32	20 3/8	15 11/16	7 1/2	19 1/8 x 14 3/16
21YP4-A	G	*Yes	Same as 21YP4, except has aluminized screen.													
21ZP4-A	G	No	FG	750	500	M	M	70	65	50	23 13/32	21 11/32	20 3/8	15 11/16	7 1/2	19 1/8 x 14 3/16
21ZP4-B	G	*Yes	Same as 21ZP4-A, except has aluminized screen.													
24CP4-A	G	*Yes	FG	750	500	M	M	90	85	68	21 1/2	24 1/8	22 13/16	18 5/16	7 1/2	21 1/4 x 16 3/4
24DP4-A	G	*Yes	FG	750	500	E	M	90	85	68	21 1/2	24 1/8	22 13/16	18 5/16	7 1/2	21 1/4 x 16 3/4
24YP4	G	*Yes	FG	1500	1200	E	M	90	85	68	21 1/2	24 1/8	22 13/16	18 5/16	7 1/2	21 1/4 x 16 3/4
27MP4	M	*Yes	FFG	None	None	M	M	90	85	69	22 5/16	27 1/8	25 1/16	20 1/8	7 1/2	23 7/16 x 18 1/8
Color Types																
15GP22**	G	Yes	CL	3000	1500	E	M	—	45	35	26 1/8	14 3/8 ⊙	—	—	10 3/8	11 1/2 x 8 5/8
21AXP22	M	Yes	FG	None	None	E	M	—	70	55	25 5/16	20 11/16 †	—	—	9 21/32	19 1/16 x 15 1/4

Light face = Discontinued type.
G = Glass rectangular.
M = Metal rectangular.
CL = Clear glass.
FFG = Frosted Filterglass.
(G) = Glass round.
(M) = Metal round.

Note: All picture tubes shown have 6.3-volt 0.6-ampere heaters except types 9AP4 and 12AP4 which have 2.5-volt/2.1-ampere heaters.

◊ Spherical, unless otherwise specified.
** Cylindrical faceplate.
† At ultor lip-terminal.
FG = Filterglass.
M = Magnetic.
★ At faceplate.
■ Projection type
E = Electrostatic

** This type has a flat, aluminized, Filterglass, phosphor-dot, screen plate.

⊙ Deflection factors (dc/in.) for typical operating conditions shown:

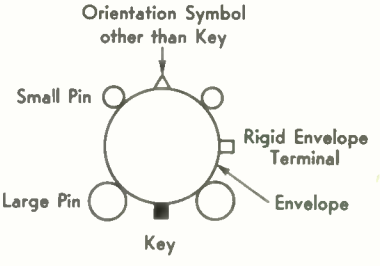
DJ_1 & DJ_2 (nearer screen)	DJ_3 & DJ_4 (nearer base)
186 to 246	150 to 204

LEGEND FOR BASE AND ENVELOPE CONNECTION DIAGRAMS

Bottom Views

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
BS = Base Shell
C = External Conductive Bulb Coating
CL = Collector
DJ = Deflecting Electrode
ES = External Shield
F = Filament
F_M = Filament Mid-Tap
G = Grid
H = Heater
H_L = Heater Tap for Panel Lamp
H_M = Heater Mid-Tap
IC = Internal Connection—Do Not Use
• = Gas-Type Tube
IS = Internal Shield
K = Cathode
NC = No Connection
P = Plate (Anode)
RC = Ray-Control Electrode
S = Shell
TA = Target
U = Unit



High Voltage Terminal	Basing	Maximum Ratings: Final High-Voltage Electrode (Ultor*) Volts	Focusing Electrode Volts	Grid-No. 2 Volts	Grid-No. 1 Volts§	Peak Heater-Cathode Volts: H(−) During Warm-Up•	Peak Heater-Cathode Volts: H(−) After Warm-Up	Peak Heater-Cathode Volts: H(+)	Typical Operating Conditions in Grid-Drive Service: Final High Voltage Electrode (Ultor*) Volts	Grid-No. 2 Volts	Focusing Electrode Volts	Grid-No. 1 Volts For Visual Extinction of Focused Raster	PM Ion-Trap Magnet Min. Gausses	RCA Type
Black-and-White Types (Cont'd)														
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	20HP4-A/ 20MP4
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	20HP4-D
Cavity Cap	H	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	20MP4
Cavity Cap	A	20000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	21ACP4-A
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21ALP4-A
Cavity Cap	H	20000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21ALP4-B
Cavity Cap	A	18000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	21AMP4-A
Metal-Shell Lip	F	18000	—	500	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	21AP4
Ratings and typical operating conditions are same as for type 21ALP4-A														21ATP4
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	21AVP4/ 21AUP4
Ratings and typical operating conditions are same as for type 21AVP4/21AUP4.														21AVP4-A/ 21AUP4-A
Cavity Cap	A	18000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	21AWP4
Cavity Cap	F	Ratings and typical operating conditions are same as for type 21EP4-A												21EP4
Cavity Cap	A	18000	—	500	−125	410	180	180	14000 16000	300 300	— —	−28 to −72 −28 to −72	31 33	21EP4-A
Ratings and typical operating conditions are same as for type 21EP4-A														21EP4-B
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	21FP4-A
Ratings and typical operating conditions are same as for type 21FP4-A														21FP4-C
Metal-Shell Lip	G	16000	+1000 −500▲	500	−125	410	180	180	14000 16000	300 300	−55 to +300 −65 to +350	−28 to −72 −28 to −72	31 33	21MP4
Cavity Cap	H	18000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 300	−65 to +350 −70 to +395	−28 to −72 −28 to −72	33 35	21YP4
Ratings and typical operating conditions are same as for type 21YP4.														21YP4-A
Cavity Cap	A	18000	—	500	−125	410	180	180	16000 18000	300 300	— —	−28 to −72 −28 to −72	33 35	21ZP4-A
Ratings and typical operating conditions are same as for type 21ZP4-A.														21ZP4-B
Cavity Cap	A	20000	—	500	−125	410	180	180	16000 18000	300 400	— —	−28 to −72 −37 to −96	33 35	24CP4-A
Cavity Cap	H	20000	+1000 −500▲	500	−125	410	180	180	16000 18000	300 400	−65 to +350 −75 to +400	−28 to −72 −37 to −96	33 35	24DP4-A
Ratings and typical operating conditions are same as for type 24DP4-A														24YP4
Metal-Shell Lip	F	18000	—	500	−125	410	180	180	16000 16000	300 400	— —	−28 to −72 −37 to −96	33 33	27MP4
Color Types														
Metal Flange	J	20000	5000	500△	−200△	410	180	180	For additional data, refer to technical bulletin available on request.				None	15GP22
Metal-Shell Lip	K	25000	6000	800△	−400△	410	180	180	For additional data, refer to technical bulletin available on request.				None	21AXP22

* ULTOR is defined as the electrode, or the electrode in combination with one or more additional electrodes connected within the tube to it, to which is applied the highest dc voltage for accelerating the electrons in the beam prior to its deflection.

▲ This value has been specified to take care of the condition where an ac voltage is provided for dynamic focusing.

• During equipment warm-up not exceeding 15 seconds.

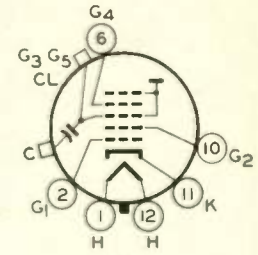
∞ Grid-No. 2 connected to final high-voltage electrode within tube.

△ Each gun.

§ Positive bias value = 0 volts; positive peak value = 2 volts.

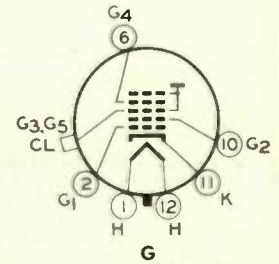
KEY TO TUBE DIMENSIONS

Symbol	Maximum Overall Length	Maximum Overall Diameter	Symbol	Maximum Overall Length	Maximum Overall Diameter	Symbol	Maximum Overall Length	Maximum Overall Diameter	Symbol	Maximum Overall Length	Maximum Overall Diameter
A	1 1/4"	3/8"	B5a	2 7/8"	1 5/16"	C11	3 7/8"	1 9/16"	D12	4 11/16"	1 13/16"
A1	1 1/4"	3/4"	C0	3"	1 33/64"	C11a	3 5/8"	1 9/16"	D12a	4 5/8"	1 9/16"
A1a	1 3/8"	1 5/16"	C0a	3 1/16"	1 33/64"	D1	4"	1 5/16"	D12aa	4 1/2"	1 33/64"
A1b	1 3/4"	7/8"	C1	3 1/16"	1 5/16"	D2	4 1/16"	1 9/32"	D13	4 11/16"	1 9/16"
B0	2 1/8"	3/4"	C2	3 1/16"	1 5/16"	D2a	4 1/16"	1 3/16"	E0	5 1/8"	1 33/64"
B0a	2 1/16"	7/8"	C2a	3 33/64"	1 5/16"	D3	4 1/8"	1 9/16"	E0a	5 1/8"	2 1/16"
B0b	2 33/64"	1 1/16"	C2b	3 1/16"	1 33/64"	D4	4 7/16"	1 3/16"	E1	5 33/64"	1 13/16"
B0c	2 5/16"	1 9/32"	C3	3 3/16"	1 5/16"	D5	4 1/16"	1 9/16"	E1a	5 7/16"	1 33/64"
B1	2 3/8"	3/4"	C4	3 1/8"	1 1/16"	D7	4 5/16"	1 5/8"	E2	5 5/16"	1 1/16"
B1a	2 3/8"	1 1/16"	C5	3 3/8"	1 33/64"	D8	4 15/32"	1 9/16"	E2a	5 7/16"	1 33/64"
B2	2 3/8"	1 5/16"	C6	3 7/16"	1 5/16"	D8a	4 11/16"	1 7/16"	E3	5 1/8"	2 1/16"
B3	2 3/8"	7/8"	C9a	3 9/16"	1 9/32"	D8b	4 3/8"	1 33/64"	E3a	5 5/16"	2 1/16"
B4	2 11/16"	7/8"	C10	3 7/16"	1 9/32"	D9	4 17/32"	1 9/16"	F1	5 11/16"	2 1/16"
B4a	3 1/16"	7/8"	C10a	3 9/16"	1 5/16"	D9a	4 15/32"	1 9/16"	F1a	6 1/4"	2 7/16"
B5	2 33/64"	1 1/16"	C10b	3 11/16"	1 33/64"	D10	4 3/8"	1 13/16"	G1	8"	2 1/16"



F

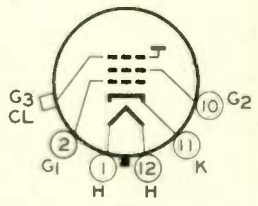
ULTOR = G_3 + CL



G

ULTOR = G_3 + G_5 + CL

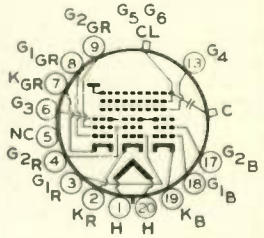
FOCUSING ELECTRODE = G_4



H

ULTOR = G_3 + G_5 + CL

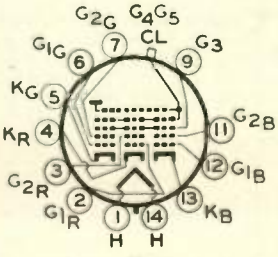
FOCUSING ELECTRODE = G_4



J

ULTOR = G_5 + G_6 + CL

FOCUSING ELECTRODE = G_3



K

ULTOR = G_4 + G_5 + CL

FOCUSING ELECTRODE = G_3

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