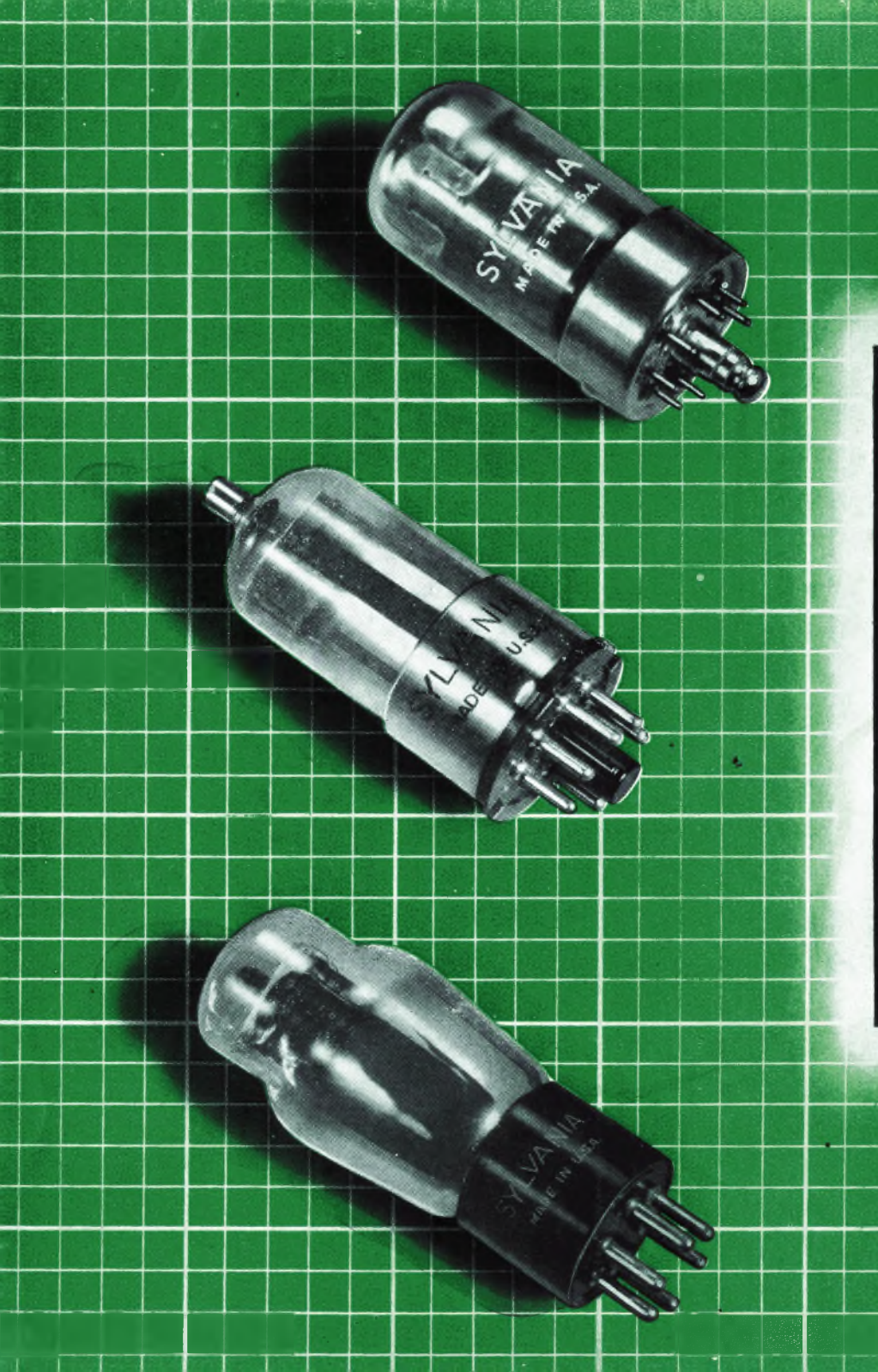

SYLVANIA

RADIO TUBES

Characteristics

COMPILED BY

COMMERCIAL ENGINEERING DEPARTMENT

SYLVANIA ELECTRIC PRODUCTS, INC.

Sylvania

Radio Tube Characteristics Chart

Notice

This chart has been completely revised and many new and old types have been added to make it of more use to servicemen.

Please note that the inclusion of many of these old types does not mean that they are available from Sylvania. They are included for your reference in finding substitutes, etc. Consult our price list for types currently available.

The data published here have been compiled from various sources and while believed to be accurate, no responsibility can be assumed in case of error.

How To Use This Chart

The types are listed in numerical and alphabetical order because there are now so many types it is difficult to remember even the style of construction or whether it has a filament or cathode as emitter. The second column now lists the style of construction. Lock-In, Miniature and GT are, of course, well known, but the letters "T" and "ST" may need explaining. "T" means tubular bulb and "ST" is the dome topped bulb as now used in Type 6D6, 24, etc. The following number gives the nominal maximum diameter in eighths of inches.

New columns have been added to show the type of emitter, (cathode or filament), and for interelectrode capacitances on those types having capacitance ratings. On converters the capacitances shown are respectively, Signal Grid to Plate; R-F Input; and Mixer Output. The capacitance values shown are for a shielded tube when the data are available, since this is the latest standard method. Except in the case of obsolete (or newly announced) types, more complete technical data may be found in the Manual.

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SYLVANIA ELECTRIC

EMPORIUM, PENNA.

Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.	
OA4G	ST-12	Gas Triode	4-V	Cold K	.....	.....	.....	.....	.....	Relay Tube
OB3/VR90-30	ST-12	Diode	4-W	Cold K	.....	.....	.....	.....	.....	Voltage Regu
OC3/VR105-30	ST-12	Diode	4-W	Cold K	.....	.....	.....	.....	.....	Voltage Regu
OD3/VR150-30	ST-12	Diode	4-W	Cold K	.....	.....	.....	.....	.....	Voltage Regu
OZ4	Metal	Gas Duodi.	4-R	Cold K	.....	.....	.....	.....	.....	F-W Rect.
OZ4G	T-7	Gas Duodi.	4-R	Cold K	.....	.....	.....	.....	.....	F-W Rect.
01A	ST-14	Triode	4-D	Filament	5.0	0.25	8.1	3.1	2.2	Amplifier
1A3	Miniature	Diode	5-AP	Cathode	1.4	0.15	.....	.....		Detector
1A4P	ST-12	Pentode	4-M	Filament	2.0	0.06	.007m	5.0	11.0	R-F Amp.
1A4T	ST-12	Tetrode	4-K	Filament	2.0	0.06	.010m	5.0	11.0	R-F Amp.
1A5GT	GT	Pentode	6-X	Filament	1.4	0.05	.....	.....	.....	Power Amp.
1A6	ST-12	Heptode	6-L	Filament	2.0	0.06	0.25	10.5	9.0	Converter
1A7GT	GT	Heptode	7-Z	Filament	1.4	0.05	0.5m	7.0	10.0	Converter
1AB5	Lock-in	Pentode	5-BF	Filament	1.2	0.13	0.25m	2.80	4.2	R-F Amp.
1B4P	ST-12	Pentode	4-M	Filament	2.0	0.06	.007m	5.0*	11.0*	R-F Amp.
1B5/25S	ST-12	Duodiode-Tri.	6-M	Filament	2.0	0.06	3.6	1.6	1.9	Det. Amp.
1B7GT	GT	Heptode	7-Z	Filament	1.4	0.10	0.34	7.0	7.5	Converter
1C5GT	GT	Pentode	6-X	Filament	1.4	0.10	.....	.....	.....	Power Amp.
1C6	ST-12	Heptode	6-L	Filament	2.0	0.12	0.3	10.0	10.0	Converter
1C7G	ST-12	Heptode	7-Z	Filament	2.0	0.12	0.26	10.0	14.0	Converter
1D5GP	ST-12	Pentode	5-Y	Filament	2.0	0.06	.007m	5.0*	12.0*	R-F Amp.
1D5GT	ST-12	Tetrode	5-R	Filament	2.0	0.06	.010m	4.4	10.8	R-F Amp.
1D7G	ST-12	Heptode	7-Z	Filament	2.0	0.06	0.25	10.5	9.0	Converter
1D8GT	GT	Diode Triode Pentode	8-AJ	Filament	1.4	.100	.....	.....	.....	Det. Amp. Power Amp.
1E4G	GT	Triode	5-S	Filament	1.4	0.05	2.4	2.4	6.0	Amplifier
1E5GP	ST-12	Pentode	5-Y	Filament	2.0	0.06	.007m	5.5	12.0	R-F Amp.
1E7G	ST-12	Duo. Pentode	8-C	Filament	2.0	0.24	.....	.....	.....	Power Amp.
1F4	ST-12	Pentode	5-K	Filament	2.0	0.12	.....	.....	.....	Power Amp.
1F5G	ST-12	Pentode	6-X	Filament	2.0	0.12	.....	.....	.....	Power Amp.
1F6	ST-12	Duodi. Pent.	6-W	Filament	2.0	0.06	.007m	4.0	9.0	R-F or I-F A-F Amp.
1F7G	ST-12	Duodi. Pent.	7-AD	Filament	2.0	0.06	.01m	3.8*	9.5*	R-F or I-F A-F Amp.
1F7GV	ST-12	Duodi. Pent.	7-AD	Filament	2.0	0.60	.....	.....	.....	Same as 1F7G
1G4GT	GT	Triode	5-S	Filament	1.4	0.05	.....	.....	.....	Amplifier
1G5G	ST-14	Pentode	6-X	Filament	2.0	0.12	.....	.....	.....	Power Amp.
1G6GT	GT	Duotriode	7-AB	Filament	1.4	0.10	.....	.....	.....	Power Amp. Class B
1H4G	ST-12	Triode	5-S	Filament	2.0	0.06	.....	.....	.....	Det. Amp.
1H5GT	GT	Diode Triode	5-Z	Filament	1.4	0.05	1.1	0.35	4.0	Det. Amp.
1H6G	ST-12	Duodiode-Tri.	7-AA	Filament	2.0	0.06	3.6	1.6	1.9	Det. Amp.
1J5G	ST-14	Pentode	6-X	Filament	2.0	0.12	.....	.....	.....	Power Amp.
1J6G	ST-12	Duotriode	7-AB	Filament	2.0	0.24	.....	.....	.....	Power Amp.
1L4	Miniature	Pentode	6-AR	Filament	1.4	0.05	.008m	3.8	7.5	R-F Amp.
1LA4	Lock-in	Pentode	5-AD	Filament	1.4	0.05	.....	.....	.....	Power Amp.

ERAGE CHARACTERISTICS

Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
Peak Cathode Ma. = 100. D-C Cathode Ma. = 25 Max. Starter Anode Drop = 60V. Approx. Anode Drop = 70V. Approx.										OA4G
lator with starting Voltage at 125, Operating Volts 90, Operating Current 10 Ma. Min. 30 Ma. Max.										OB3/VR90-30
lator with starting Voltage at 135, Operating Volts 105, Operating Current 5 Ma. Min. 40 Ma. Max.										OC3/VR105-30
lator with starting Voltage at 180, Operating Volts 150, Operating Current 5 Ma. Min. 40 Ma. Max.										OD3/VR150-30
300 A.C. Volts Per Plate, RMS, 90 Ma. Max. 30 Ma. Min. Output Current.										OZ4
300 A.C. Volts Per Plate, RMS, 90 Ma. Max. 30 Ma. Min. Output Current.										OZ4G
90	4.5		2.5		11,000	725	8.0			O1A
135	9.0		3.0		10,000	800	8.0			
Half Wave Cathode Type Rectifier for H.F. Use										1A3
135	3.0	67.5	2.2	0.9	1 Meg.	625				1A4P
180	3.0	67.5	2.3	0.8	1 Meg.	725				
135	3.0	67.5	2.2	0.7	350,000	625				1A4T
180	3.0	67.5	2.2	0.7	600,000	650				
85	4.5	85	3.5	0.7	300,000	800		25,000	100	1A5GT
90	4.5	90	4.0	0.8	300,000	850		25,000	115	
135	3.0	67.5	1.8	2.1	400,000	275▲	(G2 = 135V. □ Max. 2.0 Ma.)			1A6
180	3.0	67.5	1.5	2.0	500,000	300▲	(G2 = 180V. □ Max. 2.5 Ma.)			
90	0.0	45	0.55	0.60	600,000	250▲	(G2 = 90 V, Max. 1.2 Ma.)			1A7GT
90	0	90	3.5	0.8	275,000	1,100				1AB5
150	1.5	150	6.8	2.0	120,000	1,350				
135	3.0	67.5	1.6	0.7	1.5 Meg.♦	560				1B4P
180	3.0	67.5	1.7	0.6	1.5 Meg.♦	650				
135	3.0		0.8		35,000	575	20			1B5/25S
90	0.0	45	1.5	1.3	350,000	350▲	(G2 = 90V., 1.6 Ma.)			1B7GT
83	7.0	93	7.0	1.6	110,000	1,500	165	9,000	200	1C5GT
90	7.5	90	7.5	1.6	115,000	1,550	180	8,000	240	
135	3.0	67.5	1.3	2.5	600,000	300▲	(G2 = 135 V. □ Max. 3.1 Ma.)			1C6
180	3.0	67.5	1.5	2.0	700,000	325▲	(G2 = 180 V. □ Max. 4.0 Ma.)			
135	3.0	67.5	1.3	2.5	600,000	300▲	(G2 = 135 V. □ Max. 3.1 Ma.)			1C7G
180	3.0	67.5	1.5	2.0	700,000	325▲	(G2 = 180 V. □ Max. 4.0 Ma.)			
135	3.0	67.5	2.2	0.9	1 Meg.	625				1D5GP
180	3.0	67.5	2.3	0.8	1 Meg.	725				
135	3.0	67.5	2.2	0.7	350,000	625				1D5GT
180	3.0	67.5	2.2	0.7	600,000	650				
135	3.0	67.5	1.8	2.1	400,000	275▲	(G2 = 135 V. □ Max., 2.0 Ma.)			1D7G
180	3.0	67.5	1.5	2.0	500,000	300▲	(G2 = 180 V. □ Max., 2.5 Ma.)			
45	0		0.3		77,000	325	25			1D8GT
67.5	0		0.6		55,500	450	25			
90	0		1.1		43,500	575	25			
45	4.5	45	1.6	0.3	300,000♦	650		20,000	35	
67.5	6.0	67.5	3.8	0.8	200,000♦	875		16,000	100	
90	9.0	90	5.0	1.0	200,000♦	925		12,000	200	
90	0.0		4.5		11,000	1,325	14.5			1E4G
90	3.0		1.5		17,000	825	14			
135	3.0	67.5	1.6	0.7	1.5 Meg.♦	560				1E5GP
180	3.0	67.5	1.7	0.6	1.5 Meg.♦	650				
135	7.5	135	7.0♦	2.0♦	220,000	1,600	350	24,000¶	575	1E7G
135	4.5	135	8.0	2.4	200,000	1,700		16,000	310	1F4
135	4.5	135	8.0	2.4	200,000	1,700		16,000	310	1F5G
180	1.5	67.5	2.2	0.7	1 Meg.	650				1F6
135*	2.0	(Screen Supply = 135 V. Thru 0.8 Meg. Res., Grid Res. = 1.0 Meg., Voltage Gain 46.)								
180	1.5	67.5	2.2	0.7	1 Meg.	650				1F7G
135*	2.0	(Screen Supply = 135 V. Thru 0.8 Meg. GRID Res. = 1.0 Meg., Voltage Gain 46.)								
Except Diodes One Above the Other on Negative Filament.										1F7GV
90	6.0		2.3		10,700	825	8.8			1G4GT
90	6.0	90	8.5	2.5	133,000♦	1,500		8,500	250	1G5G
90	0.0		1.0#		45,000	675	30	(Each Triode Class A)		1G6GT
90	0.0		1.0#					12,000¶	675	
90	4.5		2.5		11,000	850	9.3			1H4G
135	9.0		3.0		10,300	900	9.3			
180	13.5		3.1		10,300	900	9.3			
90	0.0		0.15		240,000	275	65			1H5GT
135	3.0		0.8		35,000	575	20			1H6G
135	16.5	135	7.0	2.0	125,000	1,000	125	13,500	575	1J5G
Characteristics Same as Type 19.										1J6G
90	0	67.5	2.9	1.2	600,000	925				1L4
90	0	90	4.5	2.0	350,000	1,025				
85	4.5	85	3.5	0.7	300,000	800		25,000	100	1LA4
90	4.5	90	4.0	0.8	300,000	850		25,000	115	

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in $\mu\mu f$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
1LA6	Lock-in	Heptode	7-AK	Filament	1.4	0.05	0.4	7.5	8.0	Converter	90	0.0	45	0.55	0.6	750,000	250▲	(G2 = 90 V.	Max., 1.2	Ma.)	1LA6
1LB4	Lock-in	Pentode	5-AD	Filament	1.4	0.05	.....	.....	.....	Power Amp.	45	4.5	45	1.6	0.3	300,000	650	.....	20,000	35	1LB4
											67.5	6.0	67.5	3.8	0.8	200,000	875	.....	16,000	100	
											90	9.0	90	5.0	1.0	200,000	925	.....	12,000	200	
1LC5	Lock-in	Pentode	7-AO	Filament	1.4	0.05	.007m	3.2	7.0	Amplifier	45	0.0	45	1.1	0.25	700,000	750	.....	.....	.....	1LC5
											90	0.0	45	1.15	0.20	1.5 Meg.	775	.....	.....	.....	
1LC6	Lock-in	Heptode	7-AK	Filament	1.4	0.05	0.28	9.0	5.5	Converter	45	0.0	35	0.7	0.75	300,000	250▲	(G2 = 45 V.	Max., 1.4	Ma.)	1LC6
											90	0.0	35	0.75	0.7	650,000	275▲	(G2 = 45 V.	Max., 1.4	Ma.)	
1LD5	Lock-in	Diode Pent.	6-AX	Filament	1.4	0.05	0.18	3.2	6.0	Amplifier	45	0.0	45	0.55	0.12	750,000	550	.....	.....	.....	1LD5
											90	0.0	45	0.6	0.1	750,000	575	.....	.....	.....	
1LE3	Lock-in	Triode	4-AA	Filament	1.4	0.05	1.7	1.7	3.0	Amplifier	90	0.0	.....	4.5	.....	11,200	1,300	14.5	.....	.....	1LE3
											90	3.0	.....	1.7	.....	16,500	850	14.0	.....	.....	
1LH4	Lock-in	Diode-Triode	5-AG	Filament	1.4	0.05	.....	.....	.....	Det. Amp.	90	0.0	.....	0.15	.....	240,000	275	65	.....	.....	1LH4
1LN5	Lock-in	Pentode	7-AO	Filament	1.4	0.05	.007m	3.4	8.0	Amplifier	90	0.0	90	1.6	0.35	1.1 Meg.	800	.....	.....	.....	1LN5
1N5GT	GT	Pentode	5-Y	Filament	1.4	0.05	.007m	3.4	10.0	R-F Amp.	90	0.0	90	1.2	0.3	1.5 Meg.♦	750	.....	.....	.....	1N5GT
1N6G	GT	Diode Pent.	7-AM	Filament	1.4	0.05	.....	.....	.....	Det. Amp.	90	4.5	90	3.4	0.7	300,000♦	800	.....	25,000	100	1N6G
1P5GT	GT	Pentode	5-Y	Filament	1.4	0.05	.007m	3.0	10.0	Amplifier	90	0.0	90	2.3	0.7	800,000	750	.....	.....	.....	1P5GT
1Q5GT	GT	Beam Amp.	6-AF	Filament	1.4	0.10	.....	.....	.....	Power Amp.	90	4.5	90	9.5	1.3	.....	2,200	.....	8,000	270	1Q5GT
1R4-1294	Lock-in	H. F. Diode	4-AH	Cathode	1.4	.150	.....	.....	.....	Detector	Half Wave Cathode Type Rectifier for High Frequency Use.										1R4-1294
1R5	Miniature	Heptode	7-AT	Filament	1.4	0.05	0.4m	7.0	12.0	Converter	45	0.0	45	0.7	1.9	600,000♦	235▲	.....	.....	.....	1R5
											90	0.0	67.5	1.7	3.0	500,000♦	300▲	.....	.....	.....	
1S4	Miniature	Pentode	7-AV	Filament	1.4	0.1	.....	.....	.....	Power Amp.	45	4.5	45	3.8#	0.8#	100,000♦	1,250	.....	8,000	65	1S4
											90	7.0	67.5	7.4#	1.4#	100,000♦	1,575	.....	8,000	270	
1S5	Miniature	Diode Pent.	6-AU	Filament	1.4	0.05	0.2	2.0	4.0	Det. Amp.	67.5	0.0	67.5	1.6	0.4	600,000	625	.....	.....	.....	1S5
1SA6GT	GT	Pentode	6-BD	Filament	1.4	0.05	.01m	5.2	8.6	R-F Amp.	45	0	45	1.1	0.3	700,000	750	.....	.....	.....	1SA6GT
											67.5	0	67.5	2.4	0.7	600,000	950	.....	.....	.....	
											90	0	67.5	2.45	0.68	800,000	970	.....	.....	.....	
1SB6GT	GT	Diode Pent.	6-BE	Filament	1.4	0.05	0.25	3.2	3.0	Det. Amp.	90	0	67.5	1.45	0.38	700,000	665	.....	.....	.....	1SB6GT
											45	0	45	0.6	0.16	900,000	500	.....	.....	.....	
1T4	Miniature	Pentode	6-AR	Filament	1.4	0.05	.008m	3.8	7.5	R-F Amp.	45	0.0	45	1.9	0.7	350,000	700	.....	.....	.....	1T4
											90	0.0	67.5	3.7	1.25	500,000	900	.....	.....	.....	
1T5GT	GT	Beam Amp.	6-AF	Filament	1.4	0.05	0.5	4.8	8.0	Power Amp.	90	6.0	90	6.5	1.4	.....	1,150	.....	14,000	170	1T5GT
1V	ST-12	Diode	4-G	Cathode	6.3	0.30	.....	.....	.....	H-W Rect.	325 A. C. Volts Per Plate, RMS, 45 Ma. Output Current. Condenser Input to Filter.										1V
2A3	ST-16	Triode	4-D	Filament	2.5	2.50	16.0	7.0	5.0	Power A p.	250	45.0	.....	60.0	.....	800	5,250	4.2	2,500	3,500	2A3
										Class AB1	300	62.0	40.0 Per Tube, Push Pull, Fixed Bias						3,000¶	15,000	
2A4G	ST-12	Gas Triode	5-S	Filament	2.5	2.50	.....	.....	.....	Relay Tube	Instantaneous Forward or Inverse Anode Volts = 200 Peak Anode Amps. = 1.25 Average Anode Current = 0.1 Amp. Max. Averaging Time = 45 Seconds. Cold Starting Time = 2 Seconds.										2A4G
2A5	ST-14	Pentode	6-B	Cathode	2.5	1.75	.....	.....	.....	Power Amp.	Characteristics Same as Type 6F6G.										2A5
2A6	ST-12	Duodiode Tri.	6-G	Cathode	2.5	0.80	1.7	1.7	3.8	Det. Amp.	250	2.0	.....	0.9	.....	91,000	1,100	100	.....	.....	2A6
2A7, 2A7S	ST-12	Heptode	7-C	Cathode	2.5	0.80	0.3m	8.5	9.0	Converter	Characteristics Same as Type 6A7.										2A7, 2A7S
2B7, 2B7S	ST-12	Duodi. Pent.	7-D	Cathode	2.5	0.80	See	Type	6B7	Det. Amp.	Characteristics Same as Type 6B7.										2B7, 2B7S
2E5	T-9	Electron Ray	6-R	Cathode	2.5	0.80	.....	.....	.....	Indicator	Characteristics Same as Type 6E5.										2E5
2S/4S	ST-12	Duodiode	5-D	Cathode	2.5	1.35	.....	.....	.....	Detector	The Two Diode Plates each Draw Approximately 40.0 Ma. with 50 Volts D.C. on the Plates.										2S/4S
2V3G	ST-12	Diode	4-Y	Filament	2.5	5.0	.....	.....	.....	H-W Rect.	6000 A. C. Volts Per Plate, RMS, 2 Ma. Output Current. Condenser Input to Filter.										2V3G
2W3GT	GT	Diode	4-X	Filament	2.5	1.50	.....	.....	.....	H-W Rect.	350 A. C. Volts Per Plate, RMS, 55 Ma. Output Current. Condenser Input to Filter.										2W3GT
2X2/879	ST-12	Diode	4-AB	Cathode	2.5	1.75	.....	.....	.....	H-W Rect.	4,500 A. C. Volts Per Plate, RMS, 7.5 Ma. Output Current. Condenser Input to Filter.										2X2/879
2Z2/G84	ST-12	Diode	4-B	Filament	2.5	1.50	.....	.....	.....	H-W Rect.	350 A. C. Volts Per Plate, RMS, 50 Ma. Output Current.										2Z2/G84
3A4	Miniature	Pentode	7-BB	Filament	1.4	0.20	0.35m	4.8	7.0	Amplifier	135	7.5	90	14.8	2.6	90,000	1,900	.....	8,000	600	3A4
					2.8	0.10	.....	.....	.....		150	8.4	90	13.3	2.2	100,000	1,900	.....	8,000	700	
3A5	Miniature	Duotriode	7-BC	Filament	1.4	0.22	3.0	1.1	1.9	Amplifier	135	2.5	.....	3.7#	.....	8,300#	1,800#	15	.....	.....	3A5
					2.8	0.11	.....	.....	.....		135	20.0	.....	30.0	Push-Pull Class C R. F. Amplifier					2000	
3A8GT	GT	Diode Tri.-Pent.	8-AS	Filament	1.4	0.10	2.0	2.6	4.2	Tri.-Amp.	90	0.0	.....	0.15	.....	240,000	275	.....	.....	.....	3A8GT
					2.8	0.05	.012m	3.0	10.0	Pent.-Amp.	90	0.0	90	1.20	0.3	600,000	750	.....	.....	.....	
3B5GT	GT	Beam Amp.	7-AP	Filament	1.4	0.10	.....	.....	.....	Amplifier	45	4.5	45	4.4	0.3	100,000	1,400	.....	8,000	70	3B5GT
					2.8	0.05	.....	.....	.....		67.5	7.0	67.5	6.7	0.5	100,000	1,500	.....	5,000	180	
3B7-1291	Lock-in	Duotriode	7-BE	Filament	2.8	.110	2.6	1.4	2.6	Osc. Amp.	135	0	.....	22.0	(Class AB2)	1,900	20	.....	16,000	1,500	3B7-1291
					1.4	.220	.....	.....	.....		180	0	.....	25.0	(Class C)	R. F. Pow. Amp. 2800 mw at 25 mc 1400 mw at 125 mc					
3D6-1299	Lock-in	Beam Amp.	6-BB	Filament	2.8	.110	.30	7.5	6.5	Power Amp.	150	4.5	90	10.2	1.8	(Class A)	2,400	.....	14,000	600	3D6-1299
					1.4	.220	.....	.....	.....		150	20.0	135	23.0	6.0	(Class C)	R. F. Power Amp. at 50 mc.			1,400	
3LF4	Lock-in	Beam Amp.	6-BB	Filament	1.4	0.10	.....	.....	.....	Power Amp.	85	5.0	85	7.0	0.8	70,000	1,950	.....	9,000	250	3LF4
					2.8	0.05	.....	.....	.....		90	4.5	90	9.5	1.3	90,000	2,200	.....	8,000	270	
											110	6.6	110	10.0	1.4	100,000	2,200	.....	8,000	400	
											90	4.5	90	8.0	1.0	80,000	2,000	.....	8,000	230	
											110	6.6	110	8.5	1.1	110,000	2,000	.....	8,000	330	
3Q4	Miniature	Pentode	7-BA	Filament	1.4	0.10	.....	.....	.....	Power Amp.	85	5.0	85	6.9	1.5	120,000♦	1,975	.....	10,000	250	3Q4
					2.8	0.05	.....	.....	.....		90	4.5	90	9.5	2.1	100,000♦	2,150	.....	10,000	270	
											90	4.5	90	7.7	1.7	120,000♦	2,000	.....	10,000	240	

(1) Values are given shielded unless marked with (*).
(2) Converter tube capacitances given are signal grid to plate; RF Input; Mixer Output.

m maximum.
*Applied through 250,000 ohms.
#Per Tube or Section—No Signal.

§Plate and Target Supply Voltage.
**Triode Operation.
‡‡Applied through 200,000 ohms.

§§With Average Power input of 320 Mw. Grid to Grid.
‡Pentode Operation.
††For two tubes with 40 volts RMS applied to each grid.

¶Plate to Plate.
□ Applied through 20,000 ohms.
♦Approximate.

▲Conversion Conductance.
150 Volts RMS applied to two grids.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cap.	Cin.	Cout.												
3Q5GT	GT	Beam Amp.	7-AP	Filament	1.4 2.8	0.10 0.05				Power Amp.	90 90	4.5 4.5	90 90	9.5 8.0	1.3 1.0	75,000 80,000	2,200 2,000		8,000 8,000	270 230	3Q5GT
3S4	Miniature	Pentode	7-BA	Filament	1.4 2.8	0.10 0.05	.30	5.0	7.0	Power Amp.	90 90	7.0 7.0	67.5 67.5	7.4 6.1	1.4 1.1	100,000 100,000	1,575 1,425		8,000 8,000	270 235	3S4
4A6G	ST-12	Duotriode	8-L	Filament	2.0 4.0	0.12 0.06				Power Amp.	90 90	1.5 1.5		1.1 10.8	Class B. Max. Signal.	26,500	750	20	8,000	1,000	4A6G
5T4	Metal	Duodiode	5-T	Filament	5.0	2.0				Rectifier	450 A. C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter. 550 A. C. Volts Per Plate, RMS, 225 Ma. Output Current. Choke Input to Filter.											5T4
5U4G	ST-16	Duodiode	5-T	Filament	5.0	3.00				F-W Rect.	450 A. C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.										5U4G
5V4G	ST-14	Duodiode	5-I	Cathode	5.0	2.00				F-W Rect.	375 A. C. Volts Per Plate, RMS, 175 Ma. Output Current. Condenser Input to Filter.										5V4G
5W4GT	GT	Duodiode	5-T	Filament	5.0	1.50				F-W Rect.	350 A. C. Volts Per Plate, RMS, 110 Ma. Output Current. Condenser Input to Filter.										5W4GT
5X3	ST-14	Duodiode	4-C	Filament	5.0	2.0				Rectifier	400 A. C. Volts Per Plate, RMS, 110 Ma. Output Current. Choke or Condenser Input to Filter. 1275 A. C. Volts Per Plate, RMS, 30 Ma. Output Current. Choke or Condenser Input to Filter.										5X3
5X4G	ST-16	Duodiode	5-Q	Filament	5.0	3.00				F-W Rect.	450 A. C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.										5X4G
5Y3GT	GT	Duodiode	5-T	Filament	5.0	2.00				F-W Rect.	350 A. C. Volts Per Plate, RMS, 125 Ma. Output Current. Condenser Input to Filter. 500 A. C. Volts Per Plate, RMS, 125 Ma. Output Current. Choke Input to Filter.										5Y3GT
5Y4G	ST-14	Duodiode	5-Q	Filament	5.0	2.00				F-W Rect.	Characteristics Same as Type 5Y3GT.										5Y4G
5Z3	ST-16	Duodiode	4-C	Filament	5.0	3.00				F-W Rect.	450 A. C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.										5Z3
5Z4	Metal	Duodiode	5-L	Cathode	5.0	2.00				F-W Rect.	Characteristics Same as Type 5Z4GT, Except Capactances.										5Z4
5Z4GT	GT	Duodiode	5-L	Cathode	5.0	2.00				F-W Rect.	350 A. C. Volts Per Plate, RMS, 125 Ma. Output Current. Condenser Input to Filter.										5Z4GT
6A3	ST-16	Triode	4-D	Filament	6.3	1.00	16.0	7.0	5.0	Power Amp.	250 325 325	45.0 68.0		60.0 40.0# 40.0#	(Push Pull, Fixed Bias) (Push Pull, Self Bias Resistor 850 Ohms)	800	5,250	4.2	2,500 3,000¶ 5,000¶	3,200 15,000 10,000	6A3
6A4/LA	ST-14	Pentode	5-B	Filament	6.3	0.30				Power Amp.	135 180	9.0 12.0	135 180	13.0 22.0	2.8 3.9	52,600 60,000	2,100 2,500	150 150	9,500 8,000	700 1,500	6A4/LA
6A5G	ST-16	Triode	6-T	Cathode	6.3	1.25				Power Amp. P.P. AB1 Amp.	250 325	45.0 68.0		60.0 40.0 Per Tube, Push Pull, Fixed Bias		800	5,250	4.2	2,500 3,000¶	3,750 15,000	6A5G
6A6	ST-14	Ductriode	7-B	Cathode	6.3	0.80				Power Amp. Driver Driver	300 250 294	0.0 5.0 6.0		17.5 Per Plate, Class B Operation, Zero Signal 6.0 7.0		 11,300 11,000	 3,100 3,200	 35 35	10,000¶ (Class A Driver) (Class A Driver)	10,000	6A6
6A7, 6A7S	ST-12	Heptode	7-C	Cathode	6.3	0.30	0.3	8.5	9.0	Converter	Characteristics Same as Type 6A8G, Except Capacitances.										6A7, 6A7S
6A8	Metal	Heptode	8-A	Cathode	6.3	0.30	.06	12.0	12.0	Converter	Characteristics Same as Type 6A8G, Except Capacitances.										6A8
6A8G GT	ST-12 GT	Heptode	8-A	Cathode	6.3	0.30	.26	9.5	12.0	Converter	100 250	1.5 3.0	50 100	1.1 3.5	1.3 2.7	600,000 360,000	360▲ 550▲	(G2 = 100 V., 2.0 Ma.) (G2 = 250V□, Max., 4.0 Ma.)			6A8G GT
6AB5/6N5	T-9	Electron Ray	6-R	Cathode	6.3	0.15				Indicator	135§ (Series Plate Resistor 0.25 Meg., Target Current 2.0 Ma., Grid Bias = 10 for 0° Shadow.)										6AB5/6N5
6AB7	Metal	Pentode	8-N	Cathode	6.3	0.45	.015m	8.0	5.0	Amplifier	300	3.0	200	12.5	3.2	700,000♦	5,000	3,500			6AB7
6AC5GT	T-9	Triode	6-Q	Cathode	6.3	0.40				Power Amp.	250 250 250	+13 (Bias From 76 Driver) 0.0		32.0 32.0 5.0#	(Class A1, One Tube, Dynamic Coupled) (Class B, Two Tubes)	36,700	3,400	125	7,000 10,000¶	3,700 8,000	6AC5GT
6AC7	Metal	Pentode	8-N	Cathode	6.3	0.45	.015m	11.0	5.0	Amplifier	300		150	10.0	2.5	750,000♦	9,000	6,750♦	Bias Res. = 160 ohms.		6AC7
6AD5G, GT	ST-12, GT	Triode	6-Q	Cathode	6.3	0.3	3.3*	4.1*	3.9*	Amplifier	250	2.0		0.9		66,000	1,500	100			6AD5G, GT
6AD6G	T-9	Electron Ray	7-AG	Cathode	6.3	0.15				Indicator	100§ (Ray Control Volts = 45 Approx. For 0° Shadow; Approx. = 23 Volts for 135° Shadow.) 150§ (Ray Control Volts = 75 Approx. For 0° Shadow; Approx. = 50 Volts for 135° Shadow.)										6AD6G
6AD7G	ST-14	Tri. Pentode	8-AY	Cathode	6.3	0.85				Tri.-Amp. Pent. Amp.	250 250	25.0 16.5	250	4.0 34.0	6.5	19,000♦ 80,000♦	395 2,500	6	7,000	3,200	6AD7G
6AE5GT	GT	Triode	6-Q	Cathode	6.3	0.30				Amplifier	95	15		7.0		3,500	1,200	4.2			6AE5GT
6AE6G	ST-12	Duo Plate Triode	7-AH	Cathode	6.3	0.15				Remote Cut-Off Sharp Cut-Off	250 250 250 250	1.5 35.0 1.5 9.5		6.5 0.01 4.5 0.01		2,500 3,500	1,000 950	25 33			6AE6G
6AE7GT	GT	Duotriode	7-AX	Cathode	6.3	0.50	#2.5	3.0	1.8	Amplifier	250 (Driver for P.P. 6AC5GT = 250 V. 10 Ma., 6AC5GT Plate Ma. = 64. Output 9.5 Watts with 10,000 Ohms Load, Bias Developed in Circuit.)	13.5		10.0		4,650	3,000	14			6AE7GT
6AF5G	ST-12	Triode	6-Q	Cathode	6.3	0.30				Amplifier	180	18.0		7.0		4,900	1,500	7.4			6AF5G
6AF6G	T-9	Twin Elec. Ray	7-AG	Cathode	6.3	0.15				Indicator	100§ (Ray Control Volts = Approx. 60 for 0° Shadow; Approx. Zero Volts for 100° Shadow.) 135§ (Ray Control Volts = Approx. 81 for 0° Shadow; Approx. Zero Volts for 100° Shadow.)										6AF6G
6AG5	Miniature	Pentode	7-BD	Cathode	6.3	0.30	0.25m	6.1	2.3	R-F Amp.	100 125 250		100 125 150	5.5 7.2 7.0	1.6 2.1 2.0	300,000♦ 500,000♦ 800,000♦	4,750 5,100 5,000	Cathode Bias Resistor = 100 Ohms			6A5G
6AG7	Metal	Pentode	8-Y	Cathode	6.3	0.65	.06m	13.0	7.5	Amplifier	300	10.5	300	25.0	6.5	100,000	7,700				6AG7
6AH7GT	GT	Duotriode	8-BE	Cathode	6.3	0.30				Amplifier	Characteristics Same as Type 12AH7GT.										6AH7GT
6AH5G	ST-16	Beam Amp.	6-AP	Cathode	6.3	0.9				Amplifier	350	18	250	54	2.5	33,000	5,200		4,200	10,800	6AH5G
6AK5	Miniature	Pentode	7-BD	Cathode	6.3	0.175	.01	3.9	2.85	R-F Amp.	120 150 180		120 140 120	7.5 7.0 7.7	2.5 2.2 2.4	340,000 420,000 690,000	5,000 4,300 5,100	1,700 1,800 3,500	Bias Res. 200 ohms Bias Res. 330 ohms Bias Res. 200 ohms		6AK5
6AL5	Miniature	Duodiode	6-BT	Cathode	6.3	0.30				Detector	150			9.0	High Perveance Rectifier for High Frequency Use.						6AL5
6AL6G	ST-16	Beam Amp.	6-AM	Cathode	6.3	0.9				Power Amp.	Characteristics Same as Type 6L6G										6AL6G
6AQ6	Miniature	Duodiode-Tri.	7-BT	Cathode	6.3	0.15	1.8	1.7	1.5	Det. Amp.	100 250	1.0 3.0		0.8 1.0		61,000 58,000	1,150 1,200	70 70			6AQ6
6B4G	ST-16	Triode	5-S	Filament	6.3	1.00	16.0	7.0	5.0	Power Amp.	Characteristics Same as Type 6A3.										6B4G

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Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
6B5	ST-14	Duotriode	6-AS	Cathode	6.3	0.80	.....	.....	.....	Power Amp.	Characteristics Same as Type 6N6G.										6B5
6B6G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.7	1.7	3.8	Det. Amp.	250	2.0	.....	0.9	.....	91,000	1,100	100	.....	.....	6B6G
6B7	ST-12	Duodi. Pent.	7-D	Cathode	6.3	0.30	.007	3.5*	9.5*	R-F or I-F Det. Amp.	100	3.0	100	5.8	1.7	300,000	950	.....	.....	.....	6B7
6B7S											180	3.0	75.0	3.4	0.9	1 Meg.	840	.....	.....	.....	6B7S
											250	3.0	100	6.0	1.5	800,000	1,000	.....	.....	.....	
										A-F Amp.	250	4.5	50.0	0.65	.....	.....	.....	.....	.....	.....	
6B8	Metal	Duodi. Pent.	8-E	Cathode	6.3	0.30	.005m	6.0	9.0	Det. Amp.	Characteristics Same as Type 6B7, Except Capacitances.										6B8
6B8GT 6B8G	GT,ST-12	Duodi. Pent.	8-E	Cathode	6.3	0.30	.01m	3.6	9.5	Det. Amp.	Characteristics Same as Type 6B7.										6B8GT, 6B8G
6C4	Miniature	Triode	6-BG	Cathode	6.3	0.15	1.4	1.8	2.5	R-F Osc.	300	27	.....	25	.....	.....	.....	.....	Class C	5,500	6C4
										R-F Amp.	250	8.5	.....	10.5	.....	7,720	2,200	17	.....	.....	
											100	0	.....	11.8	.....	6,250	3,100	19.5	.....	.....	
6C5	Metal	Triode	6-Q	Cathode	6.3	0.30	2.0	3.0	11.0	Amplifier	Characteristics Same as Type 6C5GT, Except Capacitances.										5C5
6C5GT	GT	Triode	6-Q	Cathode	6.3	0.30	2.2	4.8	12.0	Amplifier	250	8.0	.....	8.0	.....	10,000	2,000	20	.....	.....	6C5GT
6C6	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	5.0*	6.5*	Amplifier	100	3.0	100	2.0	0.5	1 Meg.	1,185	.....	.....	.....	6C6
											250	3.0	100	2.0	0.5	1 Meg. +	1,225	.....	.....	.....	
6C7	ST-12	Duodiode-Tri.	7-G	Cathode	6.3	0.30	.....	.....	.....	Det. Amp.	250	9.0	.....	4.5	.....	16,000	1,250	20	.....	.....	6C7
6C8G	ST-12	Duotriode	8-G	Cathode	6.3	0.30	2.6	2.6	2.0	Amplifier	250	4.5	.....	3.2	.....	22,500	1,600	36	(One Section)		6C8G
							1.8	1.3	2.2	Inverter	250	3.0	Plate Load 100,000 Ohms, Self-Bias Resistor 1,500 Ohms, Voltage Amplification 48. Output Volts 80, RMS, for Inverter Service.							
6D4	Miniature	Gas Triode	5-AY	Cathode	6.3	0.25	.....	.....	.....	Relay Tube	350	50	Peak Cathode Current = 100 Ma. Cathode Current = 25 Ma. Approx. Volt Drop @ 25 Ma. = 16V								6D4
6D6	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	4.7*	6.5*	Amplifier	100	3.0	100	8.0	2.2	250,000	1,500	.....	.....	.....	6D6
											250	3.0	100	8.2	2.0	800,000	1,600	.....	.....	.....	
6D7	ST-12	Pentode	7-H	Cathode	6.3	0.30	.....	.....	.....	Amplifier	Characteristics Same as Type 6C6.										6D7
6D8G	ST-12	Heptode	8-A	Cathode	6.3	0.15	0.2	8.0	11.0	Converter	135	3.0	67.5	1.5	1.7	600,000	325▲	(G2 = 135 V., 1.8 Ma.)			6D8G
											250	3.0	100	3.5	2.6	400,000	550▲	(G2 = 250 V. □, 4.5 Ma.)			
6E5	T-9	Electron Ray	6-R	Cathode	6.3	0.30	.....	.....	.....	Indicator	100§ (Series Plate Resistor 0.5 Meg. Target Current 1.0 Ma. Grid Bias = 3.3 for 90° Shadow.)										6E5
											250§ (Series Plate Resistor 1.0 Meg. Target Current 4.0 Ma. Grid Bias = 8.0 for 90° Shadow.)										
6E6	ST-14	Duotriode	7-B	Cathode	6.3	0.60	.....	.....	.....	Power Amp. (1 Section)	180	20.0	.....	11.5	.....	4,300	1,400	6.0	15,000¶	750	6E6
											250	27.5	.....	18.0	.....	3,500	1,700	6.0	14,000¶	1,600	
6E7	ST-12	Pentode	7-H	Cathode	6.3	0.30	.....	.....	.....	Amplifier	Characteristics Same as Type 6D6.										6E7
6F5	Metal	Triode	5-M	Cathode	6.3	0.30	2.3	5.5	4.0	Amplifier	Characteristics Same as Type 6F5GT										6F5
6F5GT	GT	Triode	5-M	Cathode	6.3	0.30	2.8*	2.2*	3.2*	Amplifier	250	2.0	.....	0.9	.....	66,000	1,500	100	.....	.....	6F5GT
6F6, 6F6G, 6F6GT	Metal ST-14 GT	Pentode	7-S	Cathode	6.3	0.70	.....	.....	.....	Power Amp.	250	16.5	250	34.0	6.5	80,000	2,500	.....	7,000	3,200	6F6, 6F6G 6F6GT
											285	20.0	285	38.0	7.0	78,000	2,550	.....	7,000	4,800	
										P.P. A1 Amp.	315	24.0	285	62.0	12.0	(Current & Output for Two Tubes)			10,000¶	11,000	
										P.P. AB2 Amp	375	26.0	250	34.0	5.0	(Current & Output for Two Tubes)			10,000¶	18,000	
6F7, 6F7S	ST-12	Pent.-Triode	7-E	Cathode	6.3	0.30	.008m	3.2	12.5	Pent. Amp.	100	3.0	100	6.3	1.6	290,000	1,050	.....	Pentode Section		6F7, 6F7S
										Pent. Amp.	250	3.0	100	6.5	1.5	850,000	1,100	.....	Pentode Section		
							2.0*	2.5*	3.0*	Tri.-Amp.	100	3.0	.....	3.5	.....	16,200	525	8.5	Triode Section		
6F8G	ST-12	Duotriode	8-G	Cathode	6.3	0.60	3.8*	3.2*	1.0*	Amplifier	250	8.0	.....	9.0	.....	7,700	2,600	20	(One Section)		6F8G
							3.2*	1.9*	1.9*	Inverter	250	5.5	Plate Load 50,000 Ohms Per Plate, Self Bias Resistor 1,150 Ohms, Voltage Amplification 29, Output Volts 65 RMS, for Inverter Service.							
6G6G	ST-12	Pentode	7-S	Cathode	6.3	0.15	.....	.....	.....	Power Amp.	135	6.0	135	11.5	2.0	170,000	2,100	.....	12,000	600	6G6G
											180	9.0	180	15.0	2.5	175,000	2,300	.....	10,000	1,100	
6H4GT	GT	Diode	5-AF	Cathode	6.3	0.15	.....	.....	.....	Rectifier	100	.....	.....	4.0	.....	.....	.....	.....	.....	.....	6H4GT
6H6	Metal	Duodiode	7-Q	Cathode	6.3	0.30	.....	.....	.....	Rectifier	Characteristics Same as Type 6H6GT										6H6GT
6H6GT	GT	Duodiode	7-Q	Cathode	6.3	0.30	.....	.....	.....	Rectifier	117 A-C Volts Per Plate, RMS, 4.0 Ma. Output Current.										6J5
6J5	Metal	Triode	6-Q	Cathode	6.3	0.30	3.4	3.4	3.6	Amplifier	Characteristics Same as Type 6J5GT, Except Capacitances.										6J5GT
6J5GT	GT	Triode	6-Q	Cathode	6.3	0.30	3.8	4.2	5.0	Amplifier	250	8.0	.....	9.0	.....	7,700	2,600	20	.....	.....	6J6
6J6	Miniature	Duotriode	7-BF			0.45	1.4	2.3	1.6	R-F Amp.	100	.....	.....	8.5	.....	7,100	5,300	38	Bias Res. 50 Ohms		
				Cathode	6.3		1.4	2.3	1.0	Osc. Amp.	150	10	.....	30	.....	Push-pull Class C Operation				3,500	6J7
6J7	Metal	Pentode	7-R	Cathode	6.3	0.30	.005m	7.0	12.0	Amplifier	Characteristics Same as Type 6J7GT, Except Capacitances.										6J7GT
6J7GT	ST-12, GT	Pentode	7-R	Cathode	6.3	0.30	.007m	5.4	12.0	Amplifier	250	3.0	100	2.0	0.5	1.0 Meg. +	1,225	.....	.....	.....	6J8G
6J8G	ST-12	Tri.-Heptode	8-H			0.30	.02m	4.4	10.0	Mixer	250	3.0	100	1.3	2.9	4.0 Meg.	290▲	(Heptode Section)			
				Cathode	6.3					Oscillator	250 Plate Supply Thru 20,000 Res., Grid Resistor 50,000, Grid Current 0.4 Ma. Plate Current 5.0 Ma. (Triode Section)										6H6
6K5G	ST-12	Triode	5-U	Cathode	6.3	0.30	2.0	2.9	5.75	Amplifier	100	1.5	.....	0.35	.....	78,000	900	70	.....	.....	6K5G
6K5GT	GT						2.8	2.9	4.7		250	3.0	.....	1.10	.....	50,000	1,400	70	.....	.....	6K5GT
6K6GT	GT	Pentode	7-S	Cathode	6.3	0.40	.....	.....	.....	Power Amp.	100	7.0	100	9.0	1.6	104,000	1,500	.....	12,000	350	6K6GT
											250	18.0	250	32.0	5.5	68,000	2,300	.....	7,600	3,400	
											315	21.0	250	25.5	4.0	75,000	2,100	.....	9,000	4,500	
6K7	Metal	Pentode	7-R	Cathode	6.3	0.30	.005m	7.0	12.0	Amplifier	Characteristics Same as Type 6K7G, Except Capacitances.										6K7
6K7G	ST-12	Pentode	7-R	Cathode	6.3	0.30	.007m	5.0	12.0	Amplifier	90	3.0	90.0	5.4	1.3	300,000	1,275	.....	.....	.....	6K7G
											180	3.0	75.0	4.0	1.0	1 Meg.	1,100	.....	.....	.....	
											250	3.0	100	7.0	1.7	800,000	1,450	.....	.....	.....	
6K7GT	GT	Pentode	7-R	Cathode	6.3	0.30	.005m	4.6	12.0	Amplifier	Characteristics Same as Type 6K7G, Except Capacitances.										6K7GT
6K8	Metal	Tri.-Hexode	8-K	Cathode	6.3	0.30	.03m	6.6	3.5	Mixer Osc.	Characteristics Same as Type 6K8G, Except Capacitances.										6K8

(1) Values are given shielded unless marked with (*).
(2) Converter tube capacitances given are signal grid to plate; RF Input; Mixer Output.

m maximum.
*Applied through 250,000 ohms.
#Per Tube or Section—No Signal.

§Plate and Target Supply Voltage.
**Triode Operation.
‡‡Applied through 200,000 ohms.

§§With Average Power input of 320 Mw. Grid to Grid.
‡Pentode Operation.
††For two tubes with 40 volts RMS applied to each grid.

♦Approximate.
□Applied through 20,000 ohms.
¶Plate to Plate.

▲Conversion Conductance.
†50 Volts RMS applied to two grids.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
6K8G 6K8GT	ST-12 GT	Trl.-Hexode	8-K	Cathode	6.3	0.30	.08m .08m	4.6 5.0	4.8 4.3	Mixer Oscillator	250 100	3.0 Grid Resistor 50,000	100	2.5 Plate Current 3.8 Ma.,	6.0	600,000 Mutual Conductance 3,000	350▲ (Triode Section not Oscillating)	(Hexode Section)			6K8G 6K8GT
6L5G	ST-12	Triode	6-Q	Cathode	6.3	0.15	2.8	2.8	5.0	Amplifier	100 250	3.0 9.0		4.0 8.0		10,000 9,000	1,500 1,900	15 17			6L5G
6L6 6L6G 6L6GA	Metal ST-16 ST-14	Beam Amp.	7-AC	Cathode	6.3	0.90				Power Amp. P.P. A1 Amp. P.P. AB1 Amp. P.P. AB2 Amp.	250 350 270 360 360	14.0 18.0 17.5 22.5 22.5	250 250 250 270 270	72.0 54.0 134.0 88.0 88.0	5.0 2.5 11.0 5.0 5.0	22,500 33,000 23,500 Current & Output for Two Tubes Current & Output for Two Tubes	6,000 5,200 5,700		2,500 4,200 5,000¶ 6,600¶ 3,800¶	6,500 10,800 17,500 26,500 47,000	6L6 6L6G 6L6GA
6L7	Metal	Heptode	7-T	Cathode	6.3	0.30	.001m	7.5	11.0	Mixer Amplifier	Characteristics Same as Type 6L7G, Except Capacitances.										6L7
6L7G	ST-12	Heptode	7-T	Cathode	6.3	0.30	.005m	6.0	10.0	Mixer-Amp.	250 250	6.0 3.0	150 100	3.3 5.3	9.2 6.5	1 Meg. + 600,000	350▲ 1,100	(G3 = Neg. 15 Volts) (G3 = Neg. 3.0 Volts)			6L7G
6N6G	ST-14	Duotriode	7-AU	Cathode	6.3	0.80				Power Amp.	300 300	0.0 0.0	(Input Section) (Output Section)		8.0 45.0	24,000♦	2,400	58	7,000	4,000	6N6G
6N7	Metal	Duotriode	8-B	Cathode	6.3	0.80				Amplifier	Characteristics Same as Type 6N7GT										6N7
6N7GT	GT	Duotriode	8-B	Cathode	6.3	0.80				Power Amp. Driver Driver	300 250 294	0.0 5.0 6.0		17.5 Per Plate, Class B Operation, Zero Signal 6.0 7.0		11,300 11,000	3,100 3,200	35 35	8,000¶	10,000 (Class A Driver) (Class A Driver)	6N7GT
6P5GT	GT	Triode	6-Q	Cathode	6.3	0.30	2.6	3.4	5.5	Amplifier Detector	250 250	13.5 20.0♦		5.0 (Plate Current to be adjusted to 0.2 Ma. with no Input Signal)		9,500	1,450	13.8			6P5GT
6P7G	ST-12	Pent.-Triode	7-U	Cathode	6.3	0.30	.007m 2.0	2.8 2.7	12.0 2.5	Amplifier	Characteristics Same as Type 6F7, Except Capacitances.										6P7G
6Q7	Metal	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.4	5.0	3.8	Det.-Amp.	Characteristics Same as Type 6Q7G, Except Capacitances.										6Q7
6Q7G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.5	3.2	5.0	Det.-Amp.	100 250	1.5 3.0		0.35 1.1		88,000 58,000	800 1,200	70 70			6Q7G 6Q7GT
6Q7GT	GT	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.6	2.2	5.0												
6R6G	ST-12	Pentode	6-W	Cathode	6.3	0.3	.007m	4.5*	11.0*	Amplifier	250	3.0	100	7.0	1.7	800,000	1,450	1,160			6R6G
6R7	Metal	Duodiode-Tri.	7-V	Cathode	6.3	0.30	2.3	4.8	3.8	Det.-Amp.	Characteristics Same as Type 6R7GT, Except Capacitances.										6R7
6R7GT	GT	Duodiode-Tri.	7-V	Cathode	6.3	0.30	2.1	2.6	5.2	Det.-Amp.	250	9.0		9.5		8,500	1,900	16			6R7GT/G
6S7	Metal	Pentode	7-R	Cathode	6.3	0.15	.005m	6.5	10.5	Amplifier	Characteristics Same as Type 6S7G, Except Capacitances.										6S7
6S7G	ST-12	Pentode	7-R	Cathode	6.3	0.15	.008m	4.4	8.0	Amplifier	135 250	3.0 3.0	67.5 100	3.7 8.5	0.9 2.0	1 Meg. 1 Meg.	1,250 1,750	375 1,100			6S7G
6SA7	Metal	Heptode	8-R	Cathode	6.3	0.30	.13m	9.5	12.0	Converter	Characteristics Same as Type 6SA7GT, Except Capacitances.										6SA7
6SA7GT	GT	Heptode	8-AD	Cathode	6.3	0.30	.5m	11.0	11.0	Converter	100 250	2.0 2.0	100 100	3.3 3.5	8.5 8.5	500,000♦ 1.0 Meg.♦	425▲ 450▲				6SA7GT
6SC7	Metal	Duotriode	8-S	Cathode	6.3	0.30	2.0	2.2	3.0	Amplifier	250	2.0		2.0		53,000	1,325	70	(Each Triode)		6SC7
6SC7GT	GT	Duotriode	8-S	Cathode	6.3	0.30				Amplifier	250	2.0		2.0		53,000	1,325	70	(Each Triode)		6SC7GT
6SD7GT	GT	Pentode	8-N	Cathode	6.3	0.30	.0035	9.0	7.5	Amplifier	100 250	2.0 2.0	100 100	5.7 6.0	2.0 1.9	250,000♦ 1.0 Meg.♦	3,350 3,600				6SD7GT
6SE7GT	GT	Pentode	8-N	Cathode	6.3	0.3	.0035m	6.0	7.5	Amplifier	100 250	1.0 1.5	100 100	5.5 4.5	2.4 1.5	250,000♦ 1,000,000♦	3,100 3,400				6SE7GT
6SF5	Metal	Triode	6-AB	Cathode	6.3	0.30	2.4	4.0	3.6	Amplifier	Characteristics Same as Type 6SF5GT, Except Capacitances.										6SF5
6SF5GT	GT	Triode	6-AB	Cathode	6.3	0.30	2.6	4.2	3.8	Amplifier	250	2.0		0.9		66,000	1,500	100			6SF5GT
6SF7	Metal	Diode Pent.	7-AZ	Cathode	6.3	0.30	.004m	5.5	6.0	Det.-Amp.	100 250	1.0 1.0	100 100	12 12.4	3.4 3.3	200,000♦ 700,000♦	1,975 2,050				6SF7
6SG7	Metal	Pentode	8-BK	Cathode	6.3	0.30	.003m	8.5	7.0	R-F Amp.	Characteristics Same as Type 6SG7GT, Except Capacitances.										6SG7
6SG7GT	GT	Pentode	8-BK	Cathode	6.3	0.30	.004m	8.5	7.0	R-F Amp.	100 250 250	1.0 1.0 2.5	100 125 150	8.2 11.8 9.2	3.2 4.4 3.4	250,000♦ 900,000♦ 1 Meg. +	4,100 4,700 4,000				6SG7GT
6SH7	Metal	Pentode	8-BK	Cathode	6.3	0.30	.003m	8.5	7.0	R-F Amp.	Characteristics Same as Type 6SH7GT, Except Capacitances.										6SH7
6SH7GT	GT	Pentode	8-BK	Cathode	6.3	0.30	.004m	8.5	7.0	R-F Amp.	100 250	1.0 1.0	100 150	5.3 10.8	2.1 4.1	350,000♦ 900,000♦	4,000 4,900				6SH7GT
6SJ7	Metal	Pentode	8-N	Cathode	6.3	0.30	.005m	6.0	7.0	Amplifier	Characteristics Same as Type 6SJ7GT, Except Capacitances.										6SJ7
6SJ7GT	GT	Pentode	8-N	Cathode	6.3	0.30	.005m	6.3	7.5	Amplifier	100 250	3.0 3.0	100 100	2.9 3.0	0.9 0.8	700,000♦ 1.5 Meg.♦	1,575 1,650				6SJ7GT
6SK7	Metal	Pentode	8-N	Cathode	6.3	0.30	.003m	6.0	7.0	Amplifier	Characteristics Same as Type 6SK7GT, Except Capacitances.										6SK7
6SK7GT	GT	Pentode	8-N	Cathode	6.3	0.30	.005m	6.5	7.5	Amplifier	100 250	1.0 3.0	100 100	13.0 9.2	4.0 2.6	120,000♦ 800,000♦	2,350 2,000				6SK7GT
6SL7GT	GT	Duotriode	8-BD	Cathode	6.3	.300				Amplifier*	250	2.0		2.3		44,000	1,600	70			6SL7GT
6SN7GT	GT	Duotriode	8-BD	Cathode	6.3	.600	3.8* 4.0*	2.8* 3.0*	0.8* 1.2*	Amplifier (per unit)	90 250	0 8		10 9		6,700 7,700	3,000 2,600	20 20			6SN7GT
6SQ7	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	1.6	3.2	3.0	Det.-Amp.	Characteristics Same as Type 6SQ7GT, Except Capacitances.										6SQ7
6SQ7GT	GT	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	1.8	4.2	3.4	Det.-Amp.	250	2.0		0.9		91,000	1,100	100			6SQ7GT
6SR7	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	2.3	3.0	3.0	Det.-Amp.	Characteristics Same as Type 6SR7GT										6SR7
6SR7GT	GT	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	2.3	3.5	3.8	Det.-Amp.	250	9.0		9.5		8,500	1,900	16			6SR7GT
6SS7	Metal	Pentode	8-N	Cathode	6.3	0.15	.004m	5.5	7.0	R-F Amp.	100 250	1.0 3.0	100 100	12.2 9.0	3.1 2.0	120,000♦ 1,000,000♦	1,950 1,850				6SS7
6ST7	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.15	1.5	2.8	3.0	Det.-Amp.	250	9.0		9.5		8,500	1,900	16.0			6ST7
6T5	ST-12	Electron Ray	6-R	Cathode	6.3	0.3				Indicator	250	Series Plate Resistor 1.0 Meg. Target Current 3.0 Ma. Grid Bias 22 Volts for Max. Target Illumination.									6T5
6T7G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.15	1.7	1.8	3.1	Det.-Amp.	100 250	1.5 3.0		0.3 1.2		95,000 62,000	680 1,050	65 65			6T7G

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Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing§ Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
6U5/6G5	T-9	Electron Ray	6-R	Cathode	6.3	0.30	.....	.....	.....	Indicator	100§	(Series Plate Resistor 0.5 Meg., Target Current 1.0 Ma., Grid Bias -8.0 for 0° Shadow.)									6U5/6G5
											250§	(Series Plate Resistor 1.0 Meg., Target Current 4.0 Ma., Grid Bias -22.0 for 0° Shadow.)									
6U6GT	GT	Beam Amp.	7-AC	Cathode	6.3	0.75	.....	.....	.....	Power Amp.	110	10.5	110	44.0	4.0	10,000♦	5,600	.....	2,000	2,000	6U6GT
											200	14.0	135	55.0	3.0	20,000♦	6,200	.....	3,000	5,500	
6U7G	ST-12	Pentode	7-R	Cathode	6.3	0.30	.007m	5.0	9.0	Amplifier	100	3.0	100	8.0	2.2	250,000	1,500	.....	.....	.....	6U7G
											250	3.0	100	8.2	2.0	800,000	1,600	.....	.....	.....	
6V6	Metal	Beam Amp.	7-AC	Cathode	6.3	0.45	0.3	10.0	11.0	Power Amp.	Characteristics Same as Type 7C5, Except Capacitances.										6V6
6V6GT	GT	Beam Amp.	7-AC	Cathode	6.3	0.45	0.7*	9.5*	7.5*	Power Amp.	Characteristics Same as Type 7C5.										6V6GT
6V7G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.3	1.5	6.0	Det.-Amp.	135	10.5	.....	3.7	.....	11,000	750	8.3	25,000	75	6V7G
											180	13.5	.....	6.0	.....	8,500	975	8.3	20,000	160	
											250	20.0	.....	8.0	.....	7,500	1,100	8.3	20,000	350	
6W5G	ST-12	Duodiode	6-S	Cathode	6.3	0.9	.....	.....	.....	Rectifier	325 A-C Volts Per Plate, RMS, 90 Ma. Output Current. Condenser Input to Filter.										6W5G
											450 A-C Volts Per Plate, RMS, 90 Ma. Output Current. Choke Input to Filter.										
6W6GT	GT	Beam Amp.	7-AC	Cathode	6.3	1.25	.....	.....	.....	Power Amp.	135	9.0	135	58.0	2.8	.....	9,000	215	2,000	3,300	6W6GT
6W7G	ST-12	Pentode	7-R	Cathode	6.3	0.15	.007m	5.0	8.5	Amplifier	250	3.0	100	2.0	0.5	1.5 Meg.♦	1,225	.....	.....	.....	6W7G
6X5	Metal	Duodiode	6-S	Cathode	6.3	0.60	.....	.....	.....	F-W Rect.	Characteristics Same as Type 6X5GT/G.										6X5
6X5GT	GT	Duodiode	6-S	Cathode	6.3	0.60	.....	.....	.....	F-W Rect.	325 A-C Volts Per Plate, RMS, 70 Ma. Output Current. Condenser Input to Filter.										6X5GT
											450 A-C Volts Per Plate, RMS, 70 Ma. Output Current. Choke Input to Filter.										
6Y3G	ST-12	Diode	4-AC	Cathode	6.3	0.7	.....	.....	.....	Rectifier	5,000 A-C Volts Per Plate, RMS, 7.5 Ma. Output Current. Choke or Condenser Input to Filter.										6Y3G
6Y5	ST-12	Duodiode	6-J	Cathode	6.3	0.80	.....	.....	.....	F-W Rect.	350 A-C Volts Per Plate, RMS, 50 Ma. Output Current.										6Y5
6Y6G	ST-14	Beam Amp.	7-AC	Cathode	6.3	1.25	.....	.....	.....	Power Amp.	135	13.5	135	58.0	3.5	9,300	7,000	.....	2,000	3,600	6Y6G
											200	14.0	135	61.0	2.2	18,300	7,100	.....	2,600	6,000	
6Y7G	ST-12	Duotriode	8-B	Cathode	6.3	0.60	.....	.....	.....	Power Amp.	180	0.0	.....	7.5#	.....	(Class B Operation)		.....	7,000¶	5,500	6Y7G
											250	0.0	.....	10.5#	.....	(Class B Operation)		.....	14,000¶	8,000	
6Z5	ST-12	Duodiode	6-K	Cathode	6.3	0.80	.....	.....	.....	F-W Rect.	230 A-C Volts Per Plate, RMS, 60 Ma. Output Current.										6Z5
					12.6	0.40															
6ZY5G	ST-12	Duodiode	6-S	Cathode	6.3	0.30	.....	.....	.....	F-W Rect.	325 A-C Volts Per Plate, RMS, 40 Ma. Output Current. Condenser Input to Filter.										6ZY5G
6Z7G	ST-12	Duotriode	8-B	Cathode	6.3	0.30	.....	.....	.....	Power Amp.	135	0.0	.....	3.0#	.....	(Class B Operation)		.....	9,000¶	2,500§§	6Z7G
											180	0.0	.....	4.2#	.....	(Class B Operation)		.....	12,000¶	4,200§§	
7A4	Lock-in	Triode	5-AC	Cathode	6.3	0.30	4.0	3.4	3.0	Amplifier	90	0.0	.....	10.0	.....	6,700	3,000	20	.....	.....	7A4
											250	8.0	.....	9.0	.....	7,700	2,600	20	.....	.....	
7A5	Lock-in	Beam Amp.	6-AA	Cathode	6.3	0.75	0.44	13.0	7.2	Power Amp.	110	7.5	110	40.0	3.0	14,000	5,800	.....	2,500	1,500	7A5
											125	9.0	125	44.0	3.3	17,000	6,000	.....	2,700	2,200	
7A6	Lock-in	Duodiode	7-AJ	Cathode	6.3	0.15	.....	.....	.....	Det.-Rect.	150 A-C Volts Per Plate, RMS, 8 Ma. Output Current Per Plate.										7A6
7A7	Lock-in	Pentode	8-V	Cathode	6.3	0.30	.005m	6.0	7.0	Amplifier	100	1.0	100	13.0	4.0	120,000♦	2,350	.....	.....	.....	7A7
											250	3.0	100	9.2	2.6	800,000♦	2,000	.....	.....	.....	
7AF7	Lock-in	Duotriode	8-AC	Cathode	6.3	0.30	2.3	2.2	1.6	Amplifier (per unit)	100	0	.....	10.8	.....	6,500	2,600	17	.....	.....	7AF7
											100	3.0	.....	5.0	.....	8,400	1,900	16	.....	.....	
											250	10	.....	9.0	.....	7,600	2,100	16	.....	.....	
7A8	Lock-in	Octode	8-U	Cathode	6.3	0.15	0.15m	7.5	9.0	Converter	100	3.0	75	1.8	2.7	650,000♦	375▲	(G2 = 100 V., 2.8 Ma.)			7A8
											250	3.0	100	3.0	3.2	700,000♦	550▲	(G2 = 250 V.□, 4.2 Ma.)			
7B4	Lock-in	Triode	5-AC	Cathode	6.3	0.30	1.6	3.2	3.2	Amplifier	100	1.0	.....	0.4	.....	85,000	1,150	100	.....	.....	7B4
											250	2.0	.....	0.9	.....	66,000	1,500	100	.....	.....	
7B5	Lock-in	Pentode	6-AE	Cathode	6.3	0.40	0.8	7.4	8.0	Power Amp.	100	7.0	100	9.0	1.6	104,000	1,500	.....	12,000	350	7B5
											250	18.0	250	32.0	5.5	68,000	2,300	.....	7,600	3,400	
											315	21.0	250	25.5	4.0	75,000	2,100	.....	9,000	4,500	
7B6	Lock-in	Duodiode-Tri.	8-W	Cathode	6.3	0.30	1.6	3.0	2.4	Det.-Amp.	100	1.0	.....	0.4	.....	110,000	900	100	.....	.....	7B6
											250	2.0	.....	0.9	.....	91,000	1,100	100	.....	.....	
7B7	Lock-in	Pentode	8-V	Cathode	6.3	0.15	.007m	5.0	6.0	Amplifier	100	3.0	100	8.2	1.8	300,000	1,675	.....	.....	.....	7B7
											250	3.0	100	8.5	1.7	750,000	1,750	.....	.....	.....	
7B8	Lock-in	Heptode	8-X	Cathode	6.3	0.30	0.2m	10.0	9.0	Converter	100	1.5	50	1.1	1.3	600,000	360▲	(G2 = 100 V., 2.0 Ma.)			7B8
											250	3.0	100	3.5	2.7	360,000	550▲	(G2 = 250 V.□, 4.0 Ma.)			
7C4-1203A	Lock-in	H. F. Diode	4-AH	Cathode	6.3	0.15	.....	.....	.....	Detector	Half Wave Cathode Type Rectifier for High Frequency Use.										7C4-1203A
7C5	Lock-in	Beam Amp.	6-AA	Cathode	6.3	0.45	0.40	9.5	9.0	Power Amp. Class A	180	8.5	180	29.0	3.0	58,000	3,700	.....	5,500	2,000	7C5
											250	12.5	250	45.0	4.5	52,000	4,100	.....	5,000	4,500	
											315	13.0	225	34.0	2.2	77,000	3,750	.....	8,500	5,500	
										Class AB1	250	15.0	250	70.0	5.0	(Class AB1 Two Tubes)		.....	10,000¶	10,000	
											285	19.0	285	70.0	4.0	(Class AB1 Two Tubes)		.....	8,000¶	14,000	
7C6	Lock-in	Duodiode-Tri.	8-W	Cathode	6.3	0.15	1.6	2.4	2.4	Det. Amp.	100	0.0	.....	1.0	.....	100,000	850	85	.....	.....	7C6
											250	1.0	.....	1.3	.....	100,000	1,000	100	.....	.....	
7C7	Lock-in	Pentode	8-V	Cathode	6.3	0.15	.007m	5.5	6.5	Amplifier	100	3.0	100	1.8	0.4	1.2 Meg.♦	1,225	.....	.....	.....	7C7
											250	3.0	100	2.0	0.5	2.0 Meg.♦	1,300	.....	.....	.....	
7E5-1201	Lock-in	Triode	8-BN	Cathode	6.3	0.15	1.5	3.6	2.8	Osc. Amp.	250	3.5	.....	13.0	.....	Oscillator for 750 mc Service.					7E5-1201
											150	10.2	.....	16.0	.....	Oscillator-Amplifier for 300 mc Service.				200	
7E6	Lock-in	Duodiode-Tri.	8-W	Cathode	6.3	0.30	1.5	3.0	2.4	Det. Amp.	250	9.0	.....	9.5	.....	8,500	1,900	16	.....	.....	7E6
											100	3.0	.....	3.9	.....	11,000	1,500	16.5	.....	.....	
7E7	Lock-in	Duodi. Pent.	8-AE	Cathode	6.3	0.30	.005m	4.6	5.5	Det. Amp.	100	1.0	100	10.0	2.7	150,000♦	1,600	.....	.....	.....	7E7
											250	3.0	100	7.5	1.6	700,000♦	1,300	.....	.....	.....	

(1) Values are given shielded unless marked with (*).
(2) Converter tube capacitances given are signal grid to plate, RF Input; Mixer Output.

m maximum.
*Applied through 250,000 ohms.
#Per Tube or Section—No Signal.

§Plate and Target Supply Voltage.
**Triode Operation.
‡‡Applied through 200,000 ohms.

§§With Average Power input of 320 Mw. Grid to Grid.
‡Pentode Operation.
††For two tubes with 40 volts RMS applied to each grid.

¶Plate to Plate.
□Applied through 20,000 ohms.
♦Approximate.

▲Conversion Conductance.
†50 Volts RMS applied to two grids.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cap.	Cin.	Cout.												
7F7	Lock-in	Duotriode	8-AC	Cathode	6.3	0.30	1.6	2.4	2.0	Amplifier #	100 250	1.0 2.0	.....	0.65 2.3	.....	62,000♦ 44,000♦	1,125 1,600	70 70	.....	.....	7F7
7F8	Lock-in	Duotriode	8-BW	Cathode	6.3	0.30	1.2	2.8	1.4	R-F Amp. #	250	.....	.....	10.5	.....	.....	5,200	50	(Cathode Bias Resistor = 200 Ohms		7F8
7G7/1232	Lock-in	Pentode	8-V	Cathode	6.3	0.45	.007m	9.0	7.0	Amplifier	250	2.0	100	6.0	2.0	800,000♦	4,500	.....	.....	.....	7G7/1232
7G8/1206	Lock-in	Duotetrode	8-BV	Cathode	6.3	0.30	0.15m	3.4	2.6	R-F Amp. #	250	2.5	100	4.5	0.8	225,000	2,100	.....	.....	.....	7G8/1206
7H7	Lock-in	Pentode	8-V	Cathode	6.3	0.30	.007m	8.0	7.0	Amplifier	100 250	1.0	100 150	8.2 10.0	3.3 3.2	250,000 800,000	4,800 4,200	(Cath. Bias Resistor = 180 Ohm)			7H7
7J7	Lock-in	Tri.-Heptode	8-BL	Cathode	6.3	0.30	.03m	4.6	7.5	Hep. Mixer Tri. Osc.	100 250 100 250□	3.0 3.0 0.05 Meg. 0.05 Meg.	100 100	1.5 1.4 3.2 5.0	2.6 2.8 (Triode Grid Current 0.3 Ma.) (Triode Grid Current 0.4 Ma.)	500,000 1.5 Meg.	280▲ 290▲	.....	.....	.....	7J7
7K7	Lock-in	Duodiode-Tri.	8-BF	Cathode	6.3	0.30	1.8	2.6	3.0	Det. Amp.	250	2.0	.....	2.3	.....	44,000	1,600	70	.....	.....	7K7
7L7	Lock-in	Pentode	8-V	Cathode	6.3	0.30	.010m	8.0	6.5	Amplifier	100 250	1.0 1.5	100 100	5.5 4.5	2.4 1.5	100,000♦ 1.0 Meg.	3,000 3,100	.....	.....	.....	7L7
7N7	Lock-in	Ductriode	8-AC	Cathode	6.3	0.60	3.0 3.0	3.4 2.9	2.0 2.4	Amplifier (per unit)	90 250	0.0 8.0	.....	10.0 9.0	.....	6,700 7,700	3,000 2,600	20 20	.....	.....	7N7
7Q7	Lock-in	Heptode	8-AL	Cathode	6.3	0.30	0.20m	9.0	9.0	Converter	100 250	2.0 2.0	100 100	3.3 3.5	8.5 8.5	500,000 1.0 Meg.	525▲ 550▲	Osc. Grid Resistor 20,000. Osc. Grid Current 0.5 Ma.			7Q7
7R7	Lock-in	Duodi. Pent.	8-AE	Cathode	6.3	0.30	.004m	5.6	5.3	Det. Amp.	100 100 250 250	2.0 1.0 2.0 1.0	100 100 100 100	3.4 5.5 3.5 6.2	1.0 2.2 1.0 1.6	500,000♦ 350,000♦ 1,800,000♦ 1,000,000♦	2,100 3,000 2,200 3,400	.....	.....	.....	7R7
7S7	Lock-in	Tri.-Heptode	8-BL	Cathode	6.3	0.30	.03m	5.0	8.0	Hep. Mixer Tri. Osc.	100 250 100 250□	2.0 2.0 0.05 Meg. 0.05 Meg.	100 100	1.9 1.8 3.0 5.0	3.0 3.0 (Triode Grid Current 0.3 Ma.) (Triode Grid Current 0.4 Ma.)	500,000♦ 1.25 Meg.♦	500▲ 525▲	.....	.....	.....	7S7
7T7	Lock-in	Pentode	8-V	Cathode	6.3	0.3	.005m	8.0	7.0	Amplifier	250 100	10.8 1.0	150 100	10.8 5.3	4.1 2.1	900,000♦ 350,000♦	4,900 4,000	.....	.....	.....	7T7
7V7	Lock-in	Pentode	8-V	Cathode	6.3	0.45	.004m	9.5	6.5	Amplifier	300		150	10.0	3.9	300,000	5,800	(Cath. Bias Resistor = 160 Ohms)			7V7
7W7	Lock-in	Pentode	8-BJ	Cathode	6.3	0.45	.0025m	9.5	7.0	Amplifier	Characteristics Same as Type 7V7, Except Capacitances.										7W7
7X7/XXFM	Lock-in	Duodiode-Tri.	8-BZ	Cathode	6.3	0.30	.....	.....	.....	Det. Amp.	100 250	0 1.0	.....	1.2 1.9	.....	85,000 67,000	1,000 1,500	85 100	.....	.....	7X7/XXFM
7Y4	Lock-in	Duodiode	5-AB	Cathode	6.3	0.50	.....	.....	.....	F-W Rect.	325 A-C Volts Per Plate, RMS, 70 Ma. Output Current. Condenser Input to Filter. 450 A-C Volts Per Plate, RMS, 70 Ma. Output Current. Choke Input to Filter.										7Y4
7Z4	Lock-in	Duodiode	5-AB	Cathode	6.3	0.90	.....	.....	.....	F-W Rect.	325 A-C Volts Per Plate, RMS, 100 Ma. Output Current. Condenser Input to Filter. 450 A-C Volts Per Plate, RMS, 100 Ma. Output Current. Choke Input to Filter.										7Z4
10	ST-16	Triode	4-D	Filament	7.5	1.25	7.0*	4.0*	3.0*	Power Amp.	250 350 425	23.5 32.0 40.0	.....	10.0 16.0 18.0	.....	6,000 5,150 5,000	1,330 1,550 1,600	8.0 8.0 8.0	13,000 11,000 10,200	400 900 1,600	10
12A	ST-14	Triode	4-D	Filament	5.0	0.25	8.5*	4.0*	2.0*	Det. Amp.	90 135 180	4.5 9.0 13.5	.....	5.0 6.2 7.7	.....	5,400 5,100 4,700	1,575 1,650 1,800	8.5 8.5 8.5	5,000 9,000 10,650	35 130 285	12A
12A5	ST-12	Pentode	7-F	Cathode	12.6 6.3	0.30 0.60	0.3	9.0	9.0	Power Amp.	100 180	15.0 25.0	100 180	17.0 45.0	3.0 8.0	50,000♦ 35,000♦	1,700 2,400	.....	4,500 3,300	800 3,400	12A5
12A6	Metal	Beam Amp.	7-AC	Cathode	12.6	0.15	.....	.....	.....	Power Amp.	250	12.5	250	30	3.5	70,000	3,000	.....	7,500	3,400	12A6
12A7	ST-12	Diode-Pent.	7-K	Cathode	12.6	0.30	.....	.....	.....	Rectifier Amplifier	125 RMS 135	13.5	135	30.0 Max. 9.0	2.5	102,000	975	100	13,500	550	12A7
12A8GT	GT	Heptode	8-A	Cathode	12.6	0.15	.26	9.5	12.0	Converter	Characteristics Same as Type 6A8G.										12A8GT
12AH7GT	GT	Duotriode	8-BE	Cathode	12.6	0.15	3.0 2.2	2.8 3.2	2.6 3.0	Amplifier (per unit)	100 180	3.6 6.5	.....	3.7 7.6	.....	10,300 8,400	1,550 1,900	16 16	.....	.....	12AH7GT
12B8GT	GT	Pentode Tri.	8-T	Cathode	12.6	0.30	.015* 2.3	5.2* 5.0	9.6* 6.3	Pent.-Amp. Tri.-Amp.	100 100	3.0 1.0	100	8.0 0.6	2.0	170,000 73,000	2,100	360 110	Pentode Section Triode Section		12B8GT
12C8	Metal	Duodiode Pentode	8-E	Cathode	12.6	0.15	.005m	6.0	9.0	Det. Amp.	Characteristics Same as Type 6B8.										12C8
12F5GT	GT	Triode	5-M	Cathode	12.6	0.15	2.8*	2.2*	3.2*	Amplifier	Characteristics Same as Type 6F5GT.										12F5GT
12H6	Metal	Duodiode	7-Q	Cathode	12.6	0.15	.....	.....	.....	Rectifier	Characteristics Same as Type 6H6.										12H6
12J5GT	GT	Triode	6-Q	Cathode	12.6	0.15	3.8	4.2	5.0	Amplifier	Characteristics Same as Type 6J5GT.										12J5GT
12J7GT	GT	Pentode	7-R	Cathode	12.6	0.15	.007m	5.4	12.0	Amplifier	Characteristics Same as Type 6J7G.										12J7GT
12K7GT	GT	Pentode	7-R	Cathode	12.6	0.15	.007m	5.0	12.0	Amplifier	Characteristics Same as Type 6K7G.										12K7GT
12K8	Metal	Tri.-Hexode	8-K	Cathode	12.6	0.15	0.3m	6.6	3.5	Mixer Osc.	Characteristics Same as Type 6K8GT.										12K8
12K8GT	GT	Tri.-Hexode	8-K	Cathode	12.6	0.15	.008m	5.0	4.3	Converter	Characteristics Same as Type 6K8GT.										12K8GT
12L8GT	GT	Duo. Pentode	8-BU	Cathode	12.6	0.15	0.7*	5.0*	6.0*	Power Amp.	110 180	5.5 9.0	110 180	6.1# 13.0#	1.3# 2.8#	220,000# 160,000#	1,680# 2,150#	.....	14,000# 10,000#	300# 1,000#	12L8GT
12Q7GT	GT	Duodiode-Tri.	7-V	Cathode	12.6	0.15	1.6	2.2	5.0	Det. Amp.	Characteristics Same as Type 6Q7GT.										12Q7GT
12SA7	Metal	Heptode	8-R	Cathode	12.6	0.15	.13m	9.5	12.0	Converter	Characteristics Same as Type 6SA7.										12SA7
12SA7GT	GT	Heptode	8-AD	Cathode	12.6	0.15	.5m	11.0	11.0	Converter	Characteristics Same as Type 6SA7GT.										12SA7GT
12SC7	Metal	Duotriode	8-S	Cathode	12.6	0.15	2.0	2.2	3.0	Amplifier	Characteristics Same as Type 6SC7.										12SC7
12SF5	Metal	Triode	6-AB	Cathode	12.6	0.15	2.4	4.0	3.6	Amplifier	Characteristics Same as Type 6SF5.										12SF5
12SF5GT	GT	Triode	6-AB	Cathode	12.6	0.15	2.6	4.2	3.8	Amplifier	Characteristics Same as Type 6SF5GT.										12SF5GT

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Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
12SF7	Metal	Diode Pent.	7-AZ	Cathode	12.6	0.15	.004m	5.5	6.0	Det. Amp.	Characteristics Same as Type 6SF7.										12SF7
12SG7	Metal	Pentode	8-BK	Cathode	12.6	0.15	.003m	8.5	7.0	R-F Amp.	Characteristics Same as Type 6SG7.										12SG7
12SH7	Metal	Pentode	8-BK	Cathode	12.6	0.15	.003m	8.5	7.0	R-F Amp.	Characteristics Same as Type 6SH7.										12SH7
12SH7GT	GT	Pentode	8-BK	Cathode	12.6	0.15	.004m	8.5	7.0	R-F Amp.	Characteristics Same as Type 6SH7GT.										12SH7GT
12SJ7	Metal	Pentode	8-N	Cathode	12.6	0.15	.005m	6.0	7.0	Amplifier	Characteristics Same as Type 6SJ7.										12SJ7
12SJ7GT	GT	Pentode	8-N	Cathode	12.6	0.15	.005m	6.3	7.5	Amplifier	Characteristics Same as Type 6SJ7, Except Capacitances.										12SJ7GT
12SK7	Metal	Pentode	8-N	Cathode	12.6	0.15	.003m	6.0	7.0	Amplifier	Characteristics Same as Type 6SK7.										12SK7
12SK7GT	GT	Pentode	8-N	Cathode	12.6	0.15	.005m	6.5	7.5	Amplifier	Characteristics Same as Type 6SK7GT.										12SK7GT
12SL7GT	GT	Duotriode	8-BD	Cathode	12.6	0.15	.....	.....	.....	Amplifier	Characteristics Same as Type 6SL7GT.										12SL7GT
12SN7GT	GT	Duotriode	8-BD	Cathode	12.6	0.30	.....	.....	.....	Amplifier	Characteristics Same as Type 6SN7GT.										12SN7GT
12SQ7	Metal	Duodiode-Tri.	8-Q	Cathode	12.6	0.15	1.6	3.2	3.0	Det. Amp.	Characteristics Same as Type 6SQ7.										12SQ7
12SQ7GT	GT	Duodiode-Tri.	8-Q	Cathode	12.6	0.15	1.8	4.2	3.4	Det. Amp.	Characteristics Same as Type 6SQ7GT.										12SQ7GT
12SR7	Metal	Duodiode-Tri.	8-Q	Cathode	12.6	0.15	2.3	3.0	3.0	Det. Amp.	Characteristics Same as Type 6SR7.										12SR7
12Z3	ST-12	Diode	4-G	Cathode	12.6	0.30	.....	.....	.....	H-W Rect.	235 A-C Volts Per Plate, RMS, 55 Ma. Output Current. Condenser Input to Filter.										12Z3
14A4	Lock-in	Triode	5-AC	Cathode	12.6	0.15	4.0	3.4	3.0	Amplifier	Characteristics Same as Type 7A4.										14A4
14A5	Lock-in	Beam Amp.	6-AA	Cathode	12.6	0.15	0.4	6.8	7.0	Power Amp.	250	12.5	250	30.0	3.5	70,000◊	3,000	.....	7,500	2,800	14A5
14A7/12B7	Lock-in	Pentode	8-V	Cathode	12.6	0.15	.005m	6.0	7.0	Amplifier	Characteristics Same as Type 7A7.										14A7/12B7
14AF7/XXD	Lock-in	Duotriode	8-AC	Cathode	12.6	0.15	2.3	2.2	1.6	Amplifier	Characteristics Same as Type 7AF7.										14AF7/XXD
14B6	Lock-in	Duodiode-Tri.	8-W	Cathode	12.6	0.15	1.5	3.0	2.4	Det. Amp	Characteristics Same as Type 7B6.										14B6
14B8	Lock-in	Heptode	8-X	Cathode	12.6	0.15	0.2m	10.0	9.0	Converter	Characteristics Same as Type 7B8.										14B8
14C5	Lock-in	Beam Amp.	6-AA	Cathode	12.6	0.225	0.4	9.5	9.0	Power Amp.	Characteristics Same as Type 7C5.										14C5
14C7	Lock-in	Pentode	8-V	Cathode	12.6	0.15	.007m	6.0	6.5	Amplifier	100 250	1.0 3.0	100 100	5.7 2.2	1.8 0.7	400,000◊ 1.0 Meg.◊	2,275 1,575	....	....	....	14C7
14E6	Lock-in	Duodiode-Tri.	8-W	Cathode	12.6	0.15	1.5	3.0	2.4	Det. Amp.	Characteristics Same as Type 7E6.										14E6
14E7	Lock-in	Duodi. Pent.	8-AE	Cathode	12.6	0.15	.005m	4.6	5.5	Det. Amp.	Characteristics Same as Type 7E7.										14E7
14F7	Lock-in	Duotriode	8-AC	Cathode	12.6	0.15	1.6#	2.4#	2.0#	Amplifier	Characteristics Same as Type 7F7.										14F7
14H7	Lock-in	Pentode	8-V	Cathode	12.6	0.15	.007m	8.0	7.0	Amplifier	Characteristics Same as Type 7H7.										14H7
14J7	Lock-in	Tri.-Heptode	8-BL	Cathode	12.6	0.15	0.03m	4.6	7.5	Mixer Osc.	Characteristics Same as Type 7J7.										14J7
14N7	Lock-in	Duotriode	8-AC	Cathode	12.6	0.30		See	7N7	Amplifier	Characteristics Same as Type 7N7.										14N7
14Q7	Lock-in	Heptode	8-AL	Cathode	12.6	0.15	0.2m	9.0	9.0	Converter	Characteristics Same as Type 7Q7.										14Q7
14R7	Lock-in	Duodi. Pent.	8-AE	Cathode	12.6	0.15	.004m	5.6	5.3	Det. Amp.	Characteristics Same as Type 7R7.										14R7
14S7	Lock-in	Tri. Heptode	8-BL	Cathode	12.6	0.15	.03m	5.0	8.0	Mixer Osc.	Characteristics Same as Type 7S7.										14S7
14W7	Lock-in	Pentode	8-BJ	Cathode	12.6	0.225	.0025m	9.5	7.0	Amplifier	Characteristics Same as Type 7V7, Except Capacitances.										14W7
14Y4	Lock-in	Duodiode	5-AB	Cathode	12.6	0.30	.....	.....	.....	F-W Rect.	325 A-C Volts Per Plate, RMS, 70 Ma. Output Current. Condenser Input to Filter. 450 A-C Volts Per Plate, RMS, 70 Ma. Output Current. Choke Input to Filter.										14Y4
15	ST-12	Pentode	5-F	Cathode	2.0	0.22	.01m	2.4*	8.0*	R-F Amp.	67.5 135	1.5 1.5	67.5 67.5	1.85 1.85	0.3 0.3	630,000 800,000	710 750	450 600	.....	.....	15
18	ST-14	Pentode	6-B	Cathode	14.0	0.30	.....	.....	.....	Power Amp.	Characteristics Same as Type 6F6G.										18
19	ST-12	Duotriode	6-C	Filament	2.0	0.26	.....	.....	.....	Power Amp.	135 135 135	0.0 3.0 6.0	....	5.0 1.7 0.1	....	(Class B Operation) (Class B Operation) (Class B Operation)	....	....	10,000¶ 10,000¶ 10,000¶	2,100 1,900 1,600	19
20	T-8	Triode	4-D	Filament	3.3	0.132	.....	.....	.....	Power Amp.	90 135	16.5 22.5	....	2.8 6.0	....	7,800 5,850	450 600	3.5 3.5	9,600 6,500	50 130	20
22	ST-14	Tetrode	4-K	Filament	3.3	0.132	.02m	4.0*	10.0*	R-F Amp.	135	1.5	67.5	3.7	1.3	250,000	500	125	.....	.....	22
24A, 24S	ST-14	Tetrode	5-E	Cathode	2.5	1.75	.007m	5.3	10.5	R-F Amp.	180 250 Detector 250*	3.0 3.0 5.0◊	90 90 20 to 45	4.0 4.0 (Plate Current to be adjusted to 0.1 Ma. with no Input Signal.)	1.7 1.7	400,000 600,000	1,000 1,050	400 630	....	....	24A, 24S
25A6	Metal	Pentode	7-S	Cathode	25.0	0.30	.....	.....	.....	Power Amp.	Characteristics Same as Type 25A6GT.										25A6
25A6GT	GT	Pentode	7-S	Cathode	25.0	0.30	.....	.....	.....	Power Amp.	95 135 160	15.0 20.0 18.0	95 135 120	20.0 37.0 33.0	4.0 8.0 6.5	45,000 35,000 42,000	2,000 2,450 2,375	....	4,500 4,000 5,000	900 2,000 2,900	25A6GT
25A7GT	GT	Diode Pent.	8-F	Cathode	25.0	0.30	.....	.....	.....	H-W Rect. Power Amp.	117 A-C Volts Per Plate, RMS, 75 Ma. Output Current. 100	15.0	100	20.5	4.0	50,000	1,800	.....	4,500	770	25A7GT
25AC5GT	GT	Triode	6-Q	Cathode	25.0	0.30	.....	.....	.....	Power Amp. Coupled Amp.	110 165	+15 Bias from 6AE5GT/G 46.0 Dynamic Coupled with 6AE5GT Driver	.....	45.0	.....	15,200	3,800	58	 2,000	 2,000	25AC5GT
25B5	ST-12	Duotriode	6-D	Cathode	25.0	0.30	.....	.....	.....	Power Amp.	Characteristics Same as Type 25N6G.										25B5
25B6G	ST-14	Pentode	7-S	Cathode	25.0	0.30	.....	.....	.....	Power Amp.	105 200	16.0 23.0	105 135	48.0 62.0	2.0 1.8	15,500 18,000	4,800 5,000	.....	1,700 2,500	2,400 7,100	25B6G
25B8GT	GT	Pent.-Triode	8-T	Cathode	25.0	0.15	.02 2.2	5.5 5.0	10.0 4.6	Pent. Amp. Tri. Amp.	100 100	3.0 1.0	100	7.6 0.6	2.0	185,000 75,000	2,000 1,500	370 112.5	Pentode Section Triode Section		25B8GT
25C6G	ST-14	Beam Amp.	7-AC	Cathode	25.0	0.30	.....	.....	.....	Power Amp.	Characteristics Same as Type 6Y6G.										25C6G
25L6	Metal	Beam Amp.	7-AC	Cathode	25.0	0.30	0.3	16.0	13.5	Power Amp.	Characteristics Same as Type 25L6GT.										25L6
25L6GT	GT	Beam Amp.	7-AC	Cathode	25.0	0.30	0.8*	15.0*	10.0*	Power Amp	110 200	7.5 8.0	110 110	49.0 50.0	4.0 2.0	13,000 30,000	9,000 9,500	.....	2,000 3,000	2,100 4,300	25L6GT

(1) Values are given shielded unless marked with (*).
(2) Converter tube capacitances given are signal grid to plate; RF Input; Mixer Output.

m maximum.
*Applied through 250,000 ohms.
#Per Tube or Section—No Signal.

§Plate and Target Supply Voltage.
**Triode Operation.
‡‡Applied through 200,000 ohms.

§§With Average Power input of 320 Mw. Grid to Grid.
‡Pentode Operation.
††For two tubes with 40 volts RMS applied to each grid.

¶Plate to Plate.
□Applied through 20,000 ohms.
◊Approximate.

▲Conversion Conductance.
†50 Volts RMS applied to two grids.

Type	Construction			Emitter			Note (1) (2) Capacitances in μμf.			Use
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.	
25N6G	ST-12	Duotriode	7-W	Cathode	25.0	0.30	.....	.....	.....	Power Amp.
25Y5	ST-12	Duodiode	6-E	Cathode	25.0	0.30	.....	.....	.....	Rect. Doubler
25Z5	ST-12	Duodiode	6-E	Cathode	25.0	0.30	.....	.....	.....	Doubler
25Z6	Metal	Duodiode	7-Q	Cathode	25.0	0.30	.....	.....	.....	Rectifier
25Z6GT	GT	Duodiode	7-Q	Cathode	25.0	0.30	.....	.....	.....	Doubler H-W Rect.
26	ST-14	Triode	4-D	Filament	1.5	1.05	8.1*	2.8*	2.5*	Amplifier
26A7GT	GT	Duo. Beam Amplifier	8-BU	Cathode	26.5	0.6	1.2*	16.0*	13.0*	Power Amp.
27, 27S	ST-12	Triode	5-A	Cathode	2.5	1.75	3.3*	3.2*	2.3*	Amplifier Detector
28D7	Lock-in	Duo. Beam Amplifier	8-BS	Cathode	28.0	0.40	.....	.....	.....	Amplifier (per section) P.P.A.: Total
28Z5	Lock-in	Double Diode	6-BJ	Cathode	28.0	0.24	.....	.....	.....	F-W Rect.
30	ST-12	Triode	4-D	Filament	2.0	0.06	6.0*	3.0*	2.1*	Det. Amp.
31	ST-12	Triode	4-D	Filament	2.0	0.13	.....	.....	.....	Power Amp.
32	ST-14	Tetrode	4-K	Filament	2.0	0.06	.015m	5.3*	10.5*	R-F Amp. Detector
32L7GT	GT	Diode-Beam Amplifier	8-Z	Cathode	32.5	0.30	.....	.....	.....	Rectifier Power Amp.
33	ST-14	Pentode	5-K	Filament	2.0	0.26	1.0*	8.0*	12.0*	Power Amp.
34	ST-14	Pentode	4-M	Filament	2.0	0.06	.015m	6.0*	11.0*	R-F Amp.
35/51, 35S/51S	ST-14	Tetrode	5-E	Cathode	2.5	1.75	.007m	5.3*	10.5*	R-F Amp. A-F Amp.
35A5	Lock-in	Beam Amp.	6-AA	Cathode	35.0	0.15	.....	.....	.....	Power Amp.
35L6GT	GT	Beam Amp.	7-AC	Cathode	35.0	0.15	0.8*	13.0*	9.5*	Power Amp.
35Y4	Lock-in	Diode	5-AL	Cathode	35.0	0.15	.....	.....	.....	H-W Rect.
35Z3	Lock-in	Diode	4-Z	Cathode	35.0	0.15	.....	.....	.....	H-W Rect.
35Z4GT	GT	Diode	5-AA	Cathode	35.0	0.15	.....	.....	.....	H-W Rect.
35Z5GT	GT	Diode	6-AD	Cathode	35.0	0.15	.....	.....	.....	H-W Rect.
35Z6G	ST-14	Duodiode	7-Q	Cathode	35.0	0.30	.....	.....	.....	Doubler H-W Rect.
36	ST-12	Tetrode	5-E	Cathode	6.3	0.30	.007m	3.7*	9.2*	R-F Amp. Detector
37	ST-12	Triode	5-A	Cathode	6.3	0.30	2.0*	3.5*	2.9*	Amplifier
38	ST-12	Pentode	5-F	Cathode	6.3	0.30	0.3*	3.5*	7.5*	Power Amp.
39/44	ST-12	Pentode	5-F	Cathode	6.3	0.30	.007m	3.5*	10.0*	R-F Amp. A-F Amp.
40	ST-14	Triode	4-D	Filament	5.0	0.25	8.0	2.8	2.2	Amplifier
40Z5/45Z5GT	GT	Diode	6-AD	Cathode	45.0	0.15	.....	.....	.....	H-W Rect.
41	ST-12	Pentode	6-B	Cathode	6.3	0.40	.....	.....	.....	Power Amp.
42	ST-14	Pentode	6-B	Cathode	6.3	0.65	.....	.....	.....	Power Amp.
43	ST-14	Pentode	6-B	Cathode	25.0	0.30	.....	.....	.....	Power Amp.

'ERAGE CHARACTERISTICS

Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
110	0	110	45	7.0	Direct	2,200	.....	2,000	2,000	25N6G
180	0	100	46	5.8	Coupled	2,300	.....	4,000	3,800	
235 A-C Volts Per Plate, RMS, 75 Ma. Output Current Per Plate.										25Y5
Characteristics Same as Type 25Z6GT.										25Z5
Characteristics Same as Type 25Z6GT.										25Z6
117 A-C Volts Per Plate, RMS, 75 Ma. Output Current Per Plate. 235 A-C Volts, RMS, 75 Ma. Output Current Per Plate.										25Z6GT
90	7.0	.....	2.9	.....	8,900	935	8.3	.....	.....	26
135	10.0	.....	5.5	.....	7,600	1,100	8.3	.....	.....	
180	14.5	.....	6.2	.....	7,300	1,150	8.3	.....	.....	
26.5	4.5	26.5	20.0#	2.0#	2,500#	5,500#	.....	1,500#	200#	26A7GT
90	6.0	.....	3.0	.....	10,000	900	9.0	.....	.....	27, 27S
135	9.0	.....	4.7	.....	9,000	1,000	9.0	.....	.....	
180	13.5	.....	5.0	.....	9,000	1,000	9.0	.....	.....	
250	21.0	.....	5.2	.....	9,250	975	9.0	.....	.....	
250	30.0♦	.....	(Plate Current to be adjusted to 0.2 Ma. with no Input Signal.)							
28	...	28	9.0	0.7	(Cathode Bias Resistor = 390 Ohms)			4,000	80	28D7
28	3.5	28	12.5	1.0	4,200	3,400	.....	4,000	100	
28	0	28	64.0	4.0	.....	.....	.....	1500*	600	
325 A-C Volts Per Plate, RMS, 100 Ma. Output Current. Condenser Input to Filter. 450 A-C Volts Per Plate, RMS, 100 Ma. Output Current. Choke Input to Filter.										28Z5
90	4.5	.....	2.5	.....	11,000	850	9.3	.....	.....	30
135	9.0	.....	3.0	.....	10,300	900	9.3	.....	.....	
180	13.5	.....	3.1	.....	10,300	900	9.3	.....	.....	
135	22.5	.....	8.0	.....	4,100	925	3.8	7,000	185	31
180	30.0	.....	12.3	.....	3,600	1,050	3.8	5,700	375	
135	3.0	67.5	1.7	0.4	950,000	640	610	.....	.....	32
180	3.0	67.5	1.7	0.4	1.2 Meg.	650	780	.....	.....	
180	6.0♦	67.5	(Plate Current to be adjusted to 0.2 Ma. with no Input Signal)							
125 RMS			60	.....	.....	.....	.....	.....	.....	32L7GT
110	7.5	110	40	3.0	15,000	6,000	81	2,600	1,000	
135	13.5	135	14.5	3.0	50,000	1,450	70	7,000	700	33
180	18.0	180	22.0	5.0	55,000	1,700	90	6,000	1,400	
67.5	3.0	67.5	2.7	1.1	400,000	560	224	.....	.....	34
135	3.0	67.5	2.8	1.0	600,000	600	360	.....	.....	
180	3.0	67.5	2.8	1.0	1 Meg.	620	620	.....	.....	
180	3.0	90.0	6.3	2.5	300,000	1,020	305	.....	.....	35/51, 35S/51S
250	3.0	90.0	6.5	2.5	400,000	1,050	420	.....	.....	
250*	1.0	45 to 67.5	0.5	.....	2 Meg.	.....	.....	.....	.....	
110	7.5	110	40.0	3.0	14,000♦	5,800	.....	2,500	1,500	35A5
200	8.0	110	41.0	2.0	40,000♦	5,900	.....	4,500	3,300	
110	7.5	110	40.0	3.0	14,000♦	5,800	.....	2,500	1,500	35L6GT
200	8.0	110	41.0	2.0	40,000♦	5,900	.....	4,500	3,300	
235 Max. A-C Volts, RMS, 60 Ma. Output Current with Panel Lamp. 235 Max. A-C Volts, RMS, 100 Ma. Output Current without Panel Lamp.										35Y4
235 Max. A-C Volts Per Plate, RMS, 100 Ma. Output Current, Condenser Input to Filter.										35Z3
117 A-C Volts, RMS, 100 Ma. Output Current. Condenser Input to Filter.										35Z4GT
Characteristics Same as Type 40Z5/45Z5GT.										35Z5GT
117 A-C Volts Per Plate, RMS, 110 Ma. Output Current.										35Z6G
235 A-C Volts Per Plate, RMS, 110 Ma. Output Current.										
135	1.5	67.5	2.8	Not Over	575,000	1,000	475	.....	.....	36
180	3.0	90.0	3.1	1/3 of	500,000	1,050	525	.....	.....	
250	3.0	90.0	3.2	Plate Ma.	550,000	1,080	595	.....	.....	
250	6.0♦	20 to 25 (Plate Current to be adjusted to 0.1 Ma. with no Input Signal)								
135	9.0	.....	4.1	.....	10,000	925	9.2	.....	.....	37
180	13.5	.....	4.3	.....	10,200	900	9.2	.....	.....	
250	18.0	.....	7.5	.....	8,400	1,100	9.2	.....	.....	
135	13.5	135	9.0	1.5	130,000	925	120	13,500	550	38
180	18.0	180	14.0	2.4	110,000	1,050	120	11,600	1,000	
250	25.0	250	22.0	3.8	100,000	1,200	120	10,000	2,500	
90	3.0	90.0	5.6	1.6	375,000	960	360	.....	.....	39/44
180	3.0	90.0	5.8	1.4	750,000	1,000	750	.....	.....	
250	3.0	90.0	5.8	1.4	1 Meg.	1,050	1,050	.....	.....	
250*	1.0	67.5	0.5	.....	2 Meg.	.....	.....	.....	.....	
135	1.5	.....	0.2	.....	150,000	200	30	.....	.....	40
180	3.0	.....	0.2	.....	150,000	200	30	.....	.....	
117 A-C Volts, RMS, 100 Ma. Output Current without Panel Lamp Connected, or 60 Ma. with Panel Lamp.										40Z5/45Z5GT
Characteristics Same as Type 6K6GT.										41
Characteristics Same as Type 6F6G.										42
Characteristics Same as Type 25A6GT.										43

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in $\mu\mu$f.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
45	ST-14	Triode	4-D	Filament	2.5	1.50	7.0*	4.0*	3.0*	Power Amp.	180	31.5	.....	31.0	.....	1,650	2,125	3.5	2,700	830	45
											250	50.0	.....	34.0	.....	1,610	2,175	3.5	3,900	1,600	
											275	56.0	.....	36.0	.....	1,700	2,050	3.5	4,600	2,000	
45Z3	Miniature	Diode	5-AM	Cathode	45.0	0.075	.....	.....	.....	H-W Rect.	117 A-C Volts Per Plate, RMS, 65 Ma. Output Current.										45Z3
46	ST-16	Dual Grid Triode	5-C	Filament	2.5	1.75	.....	.....	.....	Power Amp.	250	33.0	Tie Gs to P	22.0	.....	2,380	2,350	5.6	6,400	1,250	46
											300	0.0	Tie Gs to G	4.0#	.....	(Class B Operation)		.....	5,200*	16,000	
											400	0.0	Tie Gs to G	6.0#	.....	(Class B Operation)		.....	5,800*	20,000	
47	ST-16	Pentode	5-B	Filament	2.5	1.75	1.2*	8.6*	1.3*	Power Amp.	250	16.5	250	31.0	6.0	60,000	2,500	150	7,000	2,700	47
48	ST-16	Tetrode	6-A	Cathode	30.0	0.40	.....	.....	.....	Power Amp.	95	20.0	95.0	52.0	12.0	4,000	3,900	15.6	1,500	2,000	48
											125	22.5	100	52.0	12.0	11,000	3,900	43	1,500	3,000	
49	ST-14	Dual Grid Triode	5-C	Filament	2.0	0.12	.....	.....	.....	Power Amp.	135	20.0	Tie Gs to P	6.0	.....	4,175	1,125	4.7	11,000	170	49
											180	0.0	Tie Gs to G	2.0#	.....	(Two Tubes Class B Operation)			12,000*	3,500	
50	ST-16	Triode	4-D	Filament	7.5	1.25	7.1*	4.2*	3.4*	Power Amp.	300	54.0	.....	35.0	.....	2,000	1,900	3.8	4,600	1,600	50
											350	63.0	.....	45.0	.....	1,900	2,000	3.8	4,100	2,400	
											400	70.0	.....	55.0	.....	1,800	2,100	3.8	3,670	3,400	
											450	84.0	.....	55.0	.....	1,800	2,100	3.8	4,350	4,600	
50A5	Lock-in	Beam Amp.	6-AA	Cathode	50.0	0.15	.....	.....	.....	Power Amp.	110	7.5	110	49.0	4.0	10,000♦	8,200	.....	2,000	2,100	50A5
											200	8.0	110	50.0	1.5	35,000♦	8,250	.....	3,000	4,300	
50C6G	ST-14	Beam Amp.	7-AC	Cathode	50.0	0.15	.....	.....	.....	Power Amp.	Characteristics Same as Type 6Y6G.										50C6G
50L6GT	GT	Beam Amp.	7-AC	Cathode	50.0	0.15	.....	.....	.....	Power Amp.	Characteristics Same as Type 25L6GT.										50L6GT
50Y6GT	GT	Duodiode	7-Q	Cathode	50.0	0.15	.....	.....	.....	F-W Rect.	Characteristics Same as Type 25Z6GT.										50Y6GT
50Z7G	ST-12	Duodiode	8-AN	Cathode	50.0	0.15	.....	.....	.....	Doubler H-W Rect.	117 A-C Volts Per Plate, RMS, 65 Ma. Output Current Per Plate. With Current passing thru Panel Lamp Section. 235 A-C Volts, RMS, 65 Ma. Output Current.										50Z7G
52	ST-14	Dual Grid Triode	5-C	Filament	6.3	0.30	.....	.....	.....	Class A Amplifier	110	0	.....	43	G_2 to P	1,750	3,000	5.2	2,000*	1,500	52
										Class B	180	0	.....	1.5#	G_1 to G_2	Two Tubes in P.P.			10,000*	5,000	
53	ST-14	Duotriode	7-B	Cathode	2.5	2.0	.....	.....	.....	Power Amp.	Characteristics Same as Type 6A6.										53
55, 55S	ST-12	Duodiode-Tri.	6-G	Cathode	2.5	1.0	1.5*	1.5*	4.3*	Det. Amp.	Characteristics Same as Type 6V7G.										55, 55S
56, 56S	ST-12	Triode	5-A	Cathode	2.5	1.0	2.8*	3.5*	2.5*	Amplifier	250	13.5	.....	5.0	.....	9,500	1,450	13.8	.....	.....	56, 56S
										Detector	250	20.0♦	.....	(Plate Current to be adjusted to 0.2 Ma. with no Input Signal)							
56AS	ST-12	Triode	5-A	Cathode	6.3	0.40	.....	.....	.....	Amplifier	Characteristics Same as Type 56.										56AS
57, 57S	ST-12	Pentode	6-F	Cathode	2.5	1.00	.007m	5.0*	6.5*	Amplifier	100	3.0	100	2.0	0.5	1 Meg.	1,185	.....	.....	.....	57, 57S
											250	3.0	100	2.0	0.5	1 Meg. +	1,225	.....	.....	.....	
										Detector	250*	4.3♦	100	(Plate Current to be adjusted to 0.1 Ma. with no Input Signal)							
57AS	ST-12	Pentode	6-F	Cathode	6.3	0.40	.....	.....	.....	Amplifier	Characteristics Same as Type 57.										57AS
58, 58S	ST-12	Pentode	6-F	Cathode	2.5	1.00	.007m	4.7*	6.0*	Amplifier	100	3.0	100	8.0	2.2	250,000	1,500	.....	.....	.....	58, 58S
											250	3.0	100	8.2	2.0	800,000	1,600	.....	.....	.....	
58AS	ST-12	Pentode	6-F	Cathode	6.3	0.40	.....	.....	.....	Amplifier	Characteristics Same as Type 58.										58AS
59	ST-16	Pentode	7-A	Cathode	2.5	2.0	.....	.....	.....	Power Amp.	250**	28.0	Tie Gs to P	26.0	.....	2,300	2,600	6.0	5,000	1,250	59
											250‡	18.0	250	35.0	.....	40,000	2,500	100	6,000	3,000	
											300**	0.0	Tie Gs to G	20.0	.....	(Class B Operation Two Tubes)			4,600*	15,000††	
											400‡	0.0	and Su to P	26.0	.....	(Class B Operation Two Tubes)			6,000*	20,000††	
70A7GT	GT	Diode-Beam Amplifier	8-AB	Cathode	70.0	0.15	.....	.....	.....	H-W Rect.	125 A-C Volts Per Plate, RMS, 60 Ma. Output Current.										70A7GT
										Power Amp.	110	7.5	110	40	3		5,800	.....	2,500	1,500	
70L7GT	GT	Diode-Beam Amplifier	8-AA	Cathode	70.0	0.15	.....	.....	.....	Rectifier Amplifier	117 A-C Volts, RMS, 70 Ma. Output Current. Condenser Input to Filter.										70L7GT
											110	7.5	110	40	3.0	15,000	7,500	.....	2,000	1,800	
71A	ST-14	Triode	4-D	Flament	5.0	0.25	7.5*	3.2*	2.9*	Power Amp.	90	16.5	.....	10.0	.....	2,170	1,400	3.0	3,000	125	71A
											135	27.0	.....	17.3	.....	1,820	1,650	3.0	3,000	400	
											180	40.5	.....	20.0	.....	1,750	1,700	3.0	4,800	790	
75, 75S	ST-12	Duodiode-Tri.	6-G	Cathode	6.3	0.30	1.7*	1.7*	3.8*	Det. Amp.	250	2.0	.....	0.9	.....	91,000	1,100	100	.....	.....	75, 75S
76	ST-12	Triode	5-A	Cathode	6.3	0.30	2.8*	3.5*	2.5*	Amplifier Detector	250	13.5	.....	5.0	.....	9,500	1,450	13.8	.....	.....	76
											250	20.0♦	.....	(Plate Current to be adjusted to 0.2 Ma. with no Input Signal)							
77	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	4.7*	11.0*	Amplifier	100	1.5	60.0	1.7	0.4	600,000♦	1,100	.....	.....	.....	77
											250	3.0	100	2.3	0.5	1.0 Meg. +	1,250	.....	.....	.....	
78	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	4.5*	11.0*	Amplifier	90	3.0	90.0	5.4	1.3	300,000♦	1,275	.....	.....	.....	78
											180	3.0	75.0	4.0	1.0	1 Meg.♦	1,100	.....	.....	.....	
											250	3.0	100	7.0	1.7	800,000♦	1,450	.....	.....	.....	
79	ST-12	Duotriode	6-H	Cathode	6.3	0.60	.....	.....	.....	Power Amp.	180	0.0	.....	7.5#	.....	(Class B Operation)		.....	7,000*	5,500	79
											250	0.0		10.5#		(Class B Operation)			14,000*	8,000	
80	ST-14	Duodiode	4-C	Filament	5.0	2.00	.....	.....	.....	F-W Rect.	350 A-C Volts Per Plate, RMS, 125 Ma. Output Current. Condenser Input to Filter. 500 A-C Volts Per Plate, RMS, 125 Ma. Output Current. Choke Input to Filter.										80
81	ST-16	Diode	4-B	Filament	7.5	1.25	.....	.....	.....	H-W Rect.	700 A-C Volts Per Plate, RMS, 85 Ma. Output Current. Condenser Input to Filter.										81
82	ST-14	Duodiode	4-C	Filament	2.5	3.0	.....	.....	.....	F-W Rect.	450 A-C Volts Per Plate, RMS, 115 Ma. Output Current. Condenser Input to Filter.										82
83	ST-16	Duodiode	4-C	Filament	5.0	3.00	.....	.....	.....	F-W Rect.	450 A-C Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.										83
83V	ST-14	Duodiode	4-AD	Cathode	5.0	2.00	.....	.....	.....	F-W Rect.	375 A-C Volts Per Plate, RMS, 175 Ma. Output Current. Condenser Input to Filter.										83V
84/6Z4	ST-12	Duodiode	5-D	Cathode	6.3	0.50	.....	.....	.....	F-W Rect.	325 A-C Volts Per Plate, RMS, 60 Ma. Output Current. Condenser Input to Filter.										84/6Z4
85	ST-12	Duodiode-Tri.	6-G	Cathode	6.3	0.30	1.5*	1.5*	4.3*	Det. Amp.	Characteristics Same as Type 6V7G.										85
85AS	ST-12	Duodiode-Tri.	6-G	Cathode	6.3	0.30	.....	.....	.....	Det. Amp.	250	9.0	.....	4.5	.....	16,000	1,250	20	.....	.....	85AS

(1) Values are given shielded unless marked with (*).
(2) Converter tube capacitances given are signal grid to plate; RF Input; Mixer Output.

m maximum.
*Applied through 250,000 ohms.
#Per Tube or Section—No Signal.
§Plate and Target Supply Voltage.
**Triode Operation.
‡Pentode Operation.
‡‡Applied through 200,000 ohms.
§§With Average Power input of 320 Mw. Grid to Grid.
††For two tubes with 40 volts RMS applied to each grid.
*Plate to Plate.
□ Applied through 20,000 ohms.
♦Approximate.
▲Conversion Conductance.
†50 Volts RMS applied to two grids.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1)(2) Capacitances in μμf			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milliwatts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cap.	Cin.	Cout												
89	ST-12	Pentode	6-F	Cathode	6.3	0.40				Power Amp.	160**	20.0	Gs&Su to P	17.0		3,300	1,425	4.7	7,000	300	89
											180‡	18.0	180	20.0	3.0	80,000	1,550	125	8,000	1,500	
											180	0.0		3.0#	Class B Opern. Tie Su to P & Gs to G (Two Tubes)				9,400¶	3,500	
VR-90-105-150				Cold						Now Listed as OB3, OC3 and OD3.											VR-90-105-150
V-99	T-8	Triode	4-E	Filament	3.3	0.063	3.5*	2.5*	2.2*	Det. Amp.	90	4.5		2.5		15,500	425	6.6			V99
X99	T-9	Triode	4-D	Filament	3.3	0.063	3.5*	2.5*	2.2*	Det. Amp.	90	4.5		2.5		15,500	425	6.6			X99
117L7/M7GT	GT	Diode-Beam Amplifier	8-AO	Cathode	117	0.09				H-W Rect.	117 A-C Volts, RMS, 75 Ma. Output Current. Condenser Input to Filter.										117L7/M7GT
										Power Amp.	105	5.2	105	43	4.0	17,000♦	5,300		4,000	850	
117N7GT	GT	Diode-Beam Amplifier	8-AV	Cathode	117	0.09				H-W Rect.	117 A-C Volts, RMS, 75 Ma. Output Current. Condenser Input to Filter.										117N7GT
										Power Amp.	100	6.0	100	51	5.0	16,000♦	7,000		3,000	1,200	
117P7GT	GT	Diode-Beam Amplifier	8-AV	Cathode	117	0.09				H-W Rect.	117 A-C Volts Per Plate, RMS. 75 Ma. Output Current.										117P7GT
										Power Amp.	105	5.2	105	43	4	17,000	5,300		4,000	850	
117Z4GT	GT	Diode	5-AA	Cathode	117	0.04				H-W Rect.	117 A-C Volts Per Plate, RMS, 90 Ma. Output Current.										117Z4GT
117Z6GT	GT	Duodiode	7-Q	Cathode	117	0.075				Doubler	117 A-C Volts Per Plate, RMS, 60 Ma. Output Current Per Plate.										117Z6GT
182B/482B	ST-14	Triode	4-D	Filament	5.0	1.25				Power Amp.	250	35.0		20.0		2,500	2,000	5.0	4,500	1,350	182B/482B
183/483	ST-14	Triode	4-D	Filament	5.0	1.25				Power Amp.	250	65.0		20.0		2,000	1,500	3.0	4,500	1,800	183/483
210-T	ST-16	Triode	4-D	Filament	7.5	1.25	7.0*	4.0*	3.0*	Power Amp.	(Standard Type 10 with Ceramic Base, See Type 10 Characteristics)										210-T
485	ST-12	Triode	5-A	Cathode	3.0	1.25				Det. Amp.	180	9.0		5.8		8,900	1,400	12.5			485
864	T-9	Triode	4-D	Filament	1.1	0.25	5.3*	3.3*	2.1*	Det. Amp.	90	4.5		2.9		13,500	610	8.2			864
											135	9.0		3.5		12,700	645	8.2			
884	ST-12	Gas Triode	6-Q	Cathode	6.3	0.6	6.0*	2.0*	0.6*	Relay Tube	300	30		75	For Relay Operation Limit Time to 30 Secs. 300 Ma. Peak Current. 16 Volt Tube Drop						884
885	ST-12	Gas Triode	5-A	Cathode	2.5	1.5	6.0*	2.0*	0.6*	Relay Tube	Characteristics Same as Type 884.										885
950	ST-14	Pentode	5-K	Filament	2.0	0.12				Power Amp.	135	16.5	135	7.0	2.0	125,000	1,000	125	13,500	575	950
1204	Lock-in	Pentode		Cathode	6.3	0.15	.06m	3.5	4.0	Amplifier	250	2.0	100	4.0	1.3	500,000	1,800				1204
1221	ST-12	Pentode	6-F	Cathode	6.3	0.30				Amplifier	Special Non-Microphonic Tube, Characteristics Same as Type 6C6.										1221
1223	ST-12	Pentode	7-R	Cathode	6.3	0.30				Amplifier	"G" Equivalent of Type 1221 Above.										1223
1229	ST-12	Tetrode	4-K	Filament	2.0	0.06					Special Type 32. Made for Low Grid Current Applications.										1229
1231	Lock-in	Pentode	8-V	Cathode	6.3	0.45	.015m	8.5	6.5	Pent. Amp.	300		150	10.0	2.5	700,000	5,500	3,850	Bias‡Res. = 200 Ohms		1231
										Tet. Amp.	300		150	12.0	0.5	540,000	6,500	3,500	Bias Res. = 200 Ohms		
1266	GT	Diode	4-W Exc. Jumper	Cold K						Regulator	Voltage Regulator Similar to Type OB3/VR-90-30, Except Regulating at 70 Volts.										1266
1267	GT	Gas Triode	4-V	Cold K						Relay Tube	Similar to Type OA4G.										1267
1275	ST-16	Duodiode‡‡	4-C	Filament	5.0	1.75				Rectifier	Similar to Type 5Z3.										1275
1276	ST-16	Triode	4-D	Filament	4.5	1.14				Amplifier	Similar to Type 6A3.										1276
1293	Lock-in	Triode	4-AA	Filament	1.4	.11	1.7	1.7	3.0	Oscillator	90	0		5.2			1,500	15			1293
											90	20		13.25	120 Mc. Oscillator Rg = 10,000 Ohms.						
1612	Metal	Heptode(2)	7-T	Cathode	6.3	0.30	.001m	7.5	11.0	Mixer Amp.	Characteristics Same as Type 6L7.										1612
1626	ST-12	Triode	6-Q	Cathode	12.6	.25	4.4*	3.2*	3.4	Oscillator	250	70		25	Class C. Oscillator or Amplifier.					4,000	1626
1629	GT	Electron Ray	7-AL	Cathode	12.6	0.15				Indicator	Characteristics Same as Type 6E5.										1629
2050	ST-12	Gas Tetrode	8-BA	Cathode	6.3	0.60	0.26*	4.2*	3.6*	Relay Tube	400	5.0	0	100	For Relay Operation Limit Time to 30 Secs.						2050
											220	4.0	0	75	1 Amp. Peak Current. 8 Volts Tube Drop.						
2051	ST-12	Gas Tetrode	8-BA	Cathode	6.3	0.6	0.26*	4.2*	3.6*	Relay Tube	220	4.0	0	75	For Relay Operation Limit Time to 30 Secs. 375 Ma. Peak Current, 8 Volts Tube Drop.						2051
XXD					Now listed as 14AF7/XXD																
XXL	Lock-in	Triode	5-AC	Cathode	6.3	0.30				Amplifier	100	0.0		10.0		7,000	3,600	25			XXL
											250	8.0		8.0		8,700	2,300	20			

(1) Values are given shielded unless marked with (*).
(2) Converter tube capacitances given are signal grid to plate; RF Input; Mixer Output.

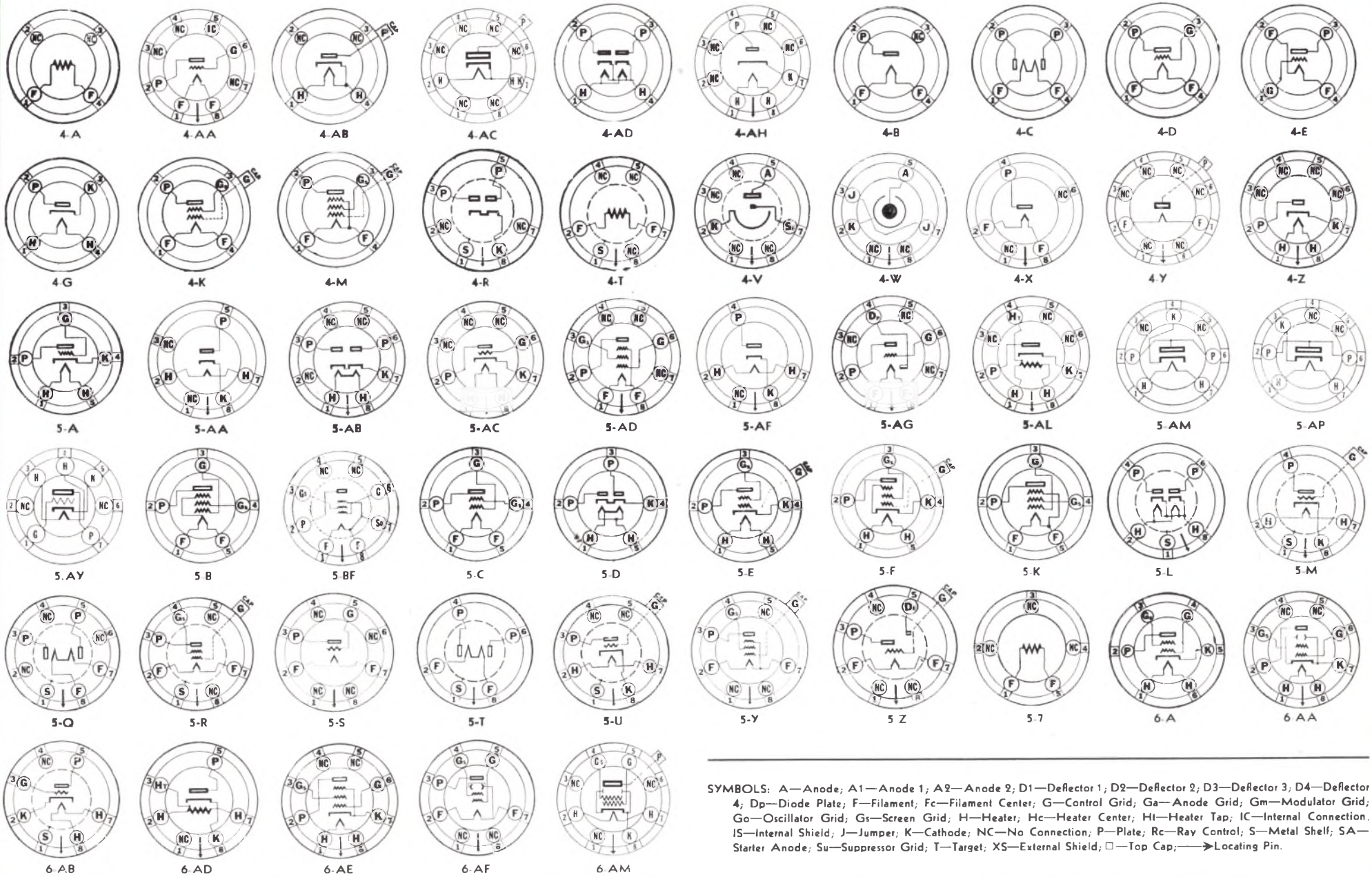
m maximum.
*Applied through 250,000 ohms.
#Per Tube or Section—No Signal.

§Plate and Target Supply Voltage.
**Triode Operation.
‡Pentode Operation.
‡‡Applied through 200,000 ohms.

§§With Average Power input of 320 Mw. Grid to Grid.
††For two tubes with 40 volts RMS applied to each grid
¶Plate to Plate.
□Applied through 20,000 ohms.
♦Approximate.

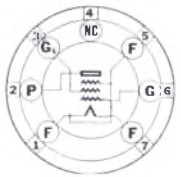
▲Conversion Conductance.
†50 Volts RMS applied to two grids.

TUBE AND BASE DIAGRAMS (VIEWED FROM BOTTOM OF BASE— RMA NUMBERING SYSTEM)



SYMBOLS: A—Anode; A1—Anode 1; A2—Anode 2; D1—Deflector 1; D2—Deflector 2; D3—Deflector 3; D4—Deflector 4; Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Control Grid; Ga—Anode Grid; Gm—Modulator Grid; Go—Oscillator Grid; Gs—Screen Grid; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection, IS—Internal Shield; J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shelf; SA—Starter Anode; Su—Suppressor Grid; T—Target; XS—External Shield; □—Top Cap; ——→Locating Pin.


6-AP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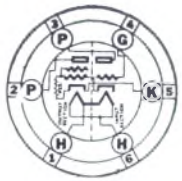
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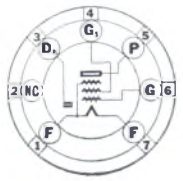
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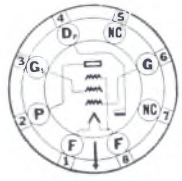
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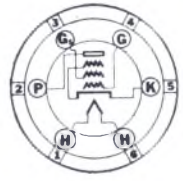
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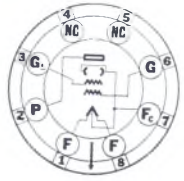
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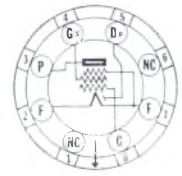
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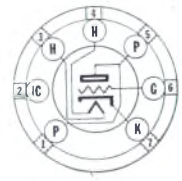
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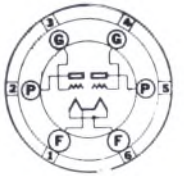
6-BJ


6-BT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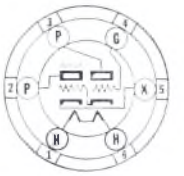
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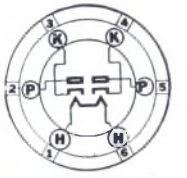
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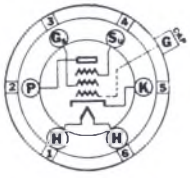
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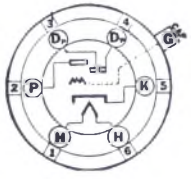
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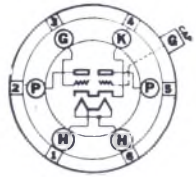
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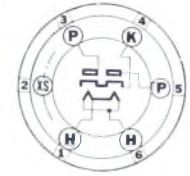
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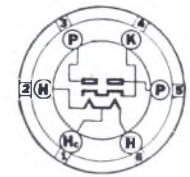
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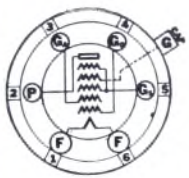
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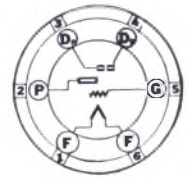
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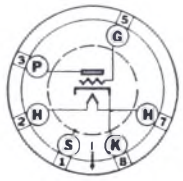
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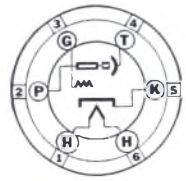
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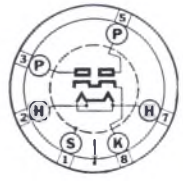
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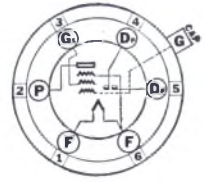
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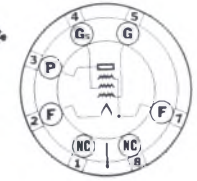
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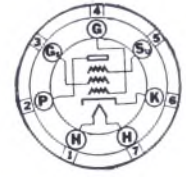
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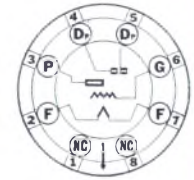
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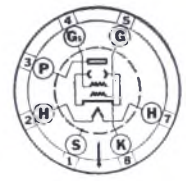
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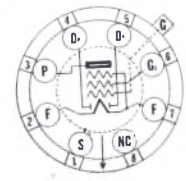
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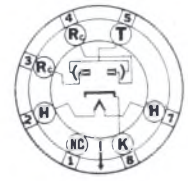
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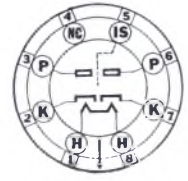
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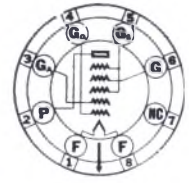
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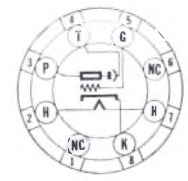
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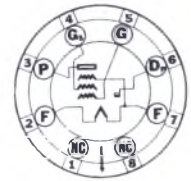

7-AM


7-AN

7-AO

7-AP

7-AT

7-AU

7-AV

7-AX

7-AZ

7-B

7-BA

7-BB

7-BC

7-BD

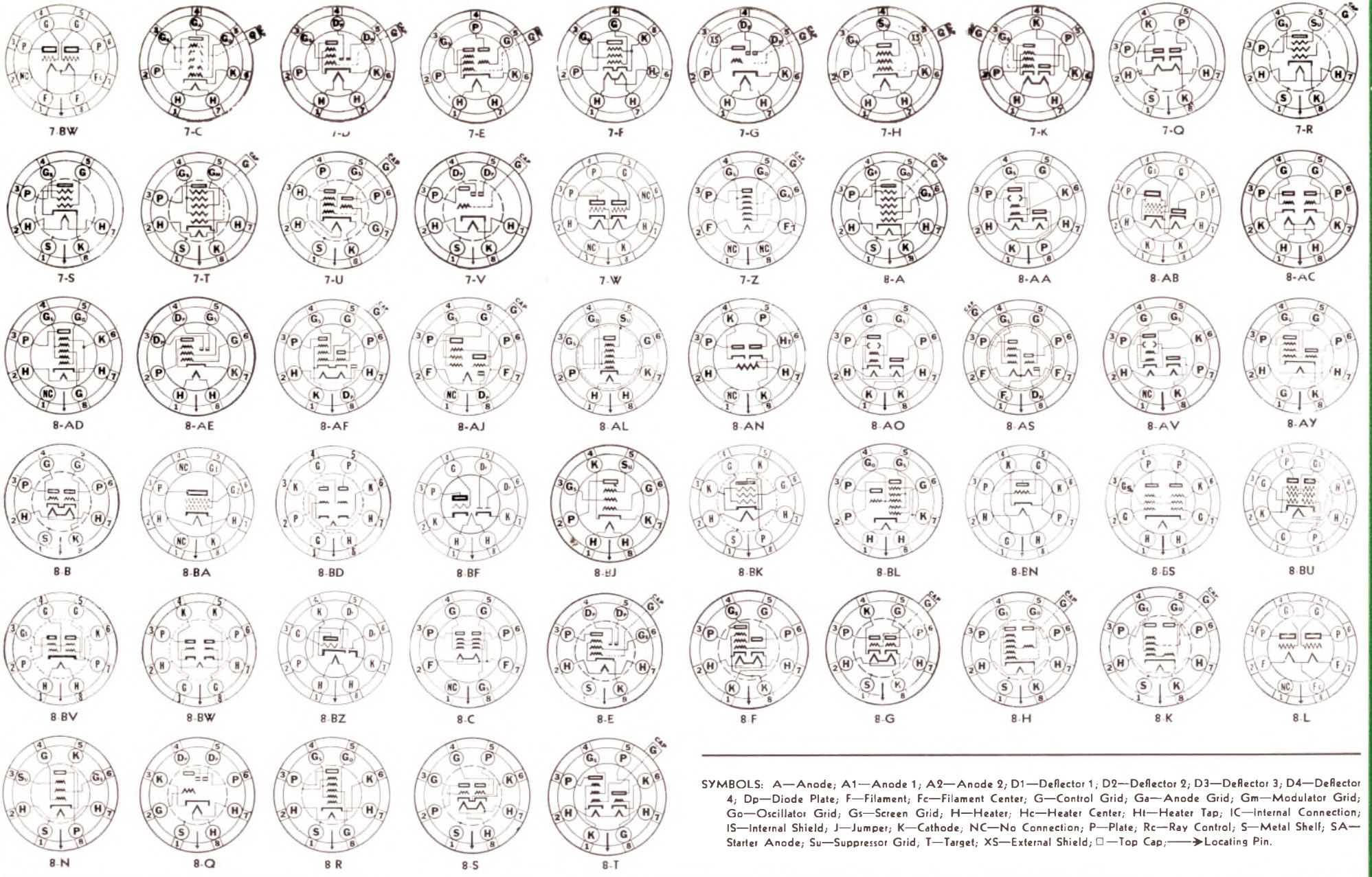
7-BE

7-BF

7-BT

SYMBOLS: A—Anode; A1—Anode 1; A2—Anode 2; D1—Deflector 1; D2—Deflector 2; D3—Deflector 3; D4—Deflector 4; Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Control Grid; Ga—Anode Grid; Gm—Modulator Grid; Go—Oscillator Grid; Gs—Screen Grid; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection; IS—Internal Shield; J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shelf; SA—Starter Anode; Su—Suppressor Grid; T—Target; XS—External Shield; □—Top Cap; ——→Locating Pin.

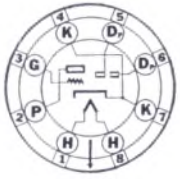
TUBE AND BASE DIAGRAMS (VIEWED FROM BOTTOM OF BASE—RMA NUMBERING SYSTEM—Continued)



SYMBOLS: A—Anode; A1—Anode 1; A2—Anode 2; D1—Deflector 1; D2—Deflector 2; D3—Deflector 3; D4—Deflector 4; Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Control Grid; Ga—Anode Grid; Gm—Modulator Grid; Go—Oscillator Grid; Gs—Screen Grid; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection; IS—Internal Shield; J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; Su—Suppressor Grid; T—Target; XS—External Shield; □—Top Cap; ——➔Locating Pin.


8-U


8-V


8-W


8-X


8-Y


8-Z


10-A

SYLVANIA PANEL LAMP CHARACTERISTICS

Type No.	Circuit Volts	Design Volts	Design Amp.	Bead Color	Bulb Style	Miniature Base	Usual Service	Type No.
S40	6-8	6.3	0.15	Brown	T-3¼	Screw	Radio Dials	S40
S41	2.5	2.5	0.50	White	T-3¼	Screw	Radio Dials	S41
S42	3.2	3.2	0.35	Green	T-3¼	Screw	Radio Dials	S42
S43	2.5	2.5	0.50	White	T-3¼	Bayonet	Radio Dials and Tuning Meters	S43
S44	6-8	6.3	0.25	Blue	T-3¼	Bayonet	Radio Dials and Tuning Meters	S44
S45	3.2	3.2	0.35	White	T-3¼	Bayonet	Radio Dials	S45
S46	6-8	6.3	0.25	Blue	T-3¼	Screw	Radio Dials and Tuning Meters	S46
*S47	6-9	6.3	0.15	Brown	T-3¼	Bayonet	Radio Dials	*S47
S48	2.0	2.0	0.06	Pink	T-3¼	Screw	Battery Set Dials	S48

Type No.	Circuit Volts	Design Volts	Design Amp.	Bead Color	Bulb Style	Miniature Base	Usual Service	Type No.
*S49	2.0	2.0	0.06	Pink	T-3¼	Bayonet	Battery Set Dials	*S49
S50	6-8	7.5	0.20	White	G-3½	Screw	Auto Sets, Flash Lights	S50
S51	6-8	7.5	0.20	White	G-3½	Bayonet	Auto Sets, Auto Panels	S51
S55	6-8	6.5	0.40	White	G-4½	Bayonet	Auto Sets, Parking Lights	S55
S292	2.9	2.9	0.17	White	T-3¼	Screw	Radio Dials	S292
S292A	2.9	2.9	0.17	White	T-3¼	Bayonet	Radio Dials Coin Machines	S292A
S1455	18.0	18.0	0.25	Brown	G-5	Screw	Coin Machines	S1455
S1455A	18.0	18.0	0.25	Brown	G-5	Bayonet	Coin Machines	S1455A

*Sylvania Types S47 and S49 are interchangeable with Types 40A and 49A, respectively, in other brands.

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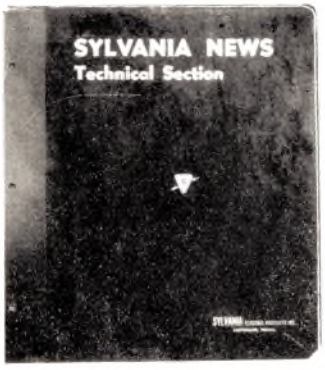

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