

SYLVANIA

RADIO TUBES



Characteristics



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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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PENNSYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances in $\mu\mu\text{f}$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplifi- cation Factor	Ohms Load for Rated Power Output	Undis- torted Power Output Milli- watts	Type	
	Style	Class	Rating Diag.	Emitter		Cap.	Cin.													Cout.
				Type	Volts																Amps
OA4G	ST-12	Gas Triode	4-V	Filament	5.0	0.25	8.1	3.1	2.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	OA4G
OB3/VR90-30	ST-12	Diode	4-W	Cold K	1.4	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	OB3/VR90-30
OC3/VR105-30	ST-12	Diode	4-W	Cold K	2.0	0.06	.007m	5.0	11.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	OC3/VR105-30
OD3/VR150-30	ST-12	Diode	4-W	Cold K	2.0	0.06	.010m	5.0	11.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	OD3/VR150-30
OZ4	Metal	Gas Duodi.	4-R	Cold K	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	OZ4
OZ4G	T-7	Gas Duodi.	4-R	Cold K	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	OZ4G
O1A	ST-14	Triode	4-D	Filament	5.0	0.25	8.1	3.1	2.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	O1A
1A3	Miniature	Diode	5-AP	Cathode	1.4	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A3
1A4P	ST-12	Pentode	4-M	Filament	2.0	0.06	.007m	5.0	11.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A4P
1A4T	ST-12	Tetrode	4-K	Filament	2.0	0.06	.010m	5.0	11.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A4T
1A5GT	GT	Pentode	6-X	Filament	1.4	0.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A5GT
1A6	ST-12	Heptode	6-L	Filament	2.0	0.06	0.25	10.5	9.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A6
1A7GT	GT	Heptode	7-Z	Filament	1.4	0.05	0.5m	7.0	10.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A7GT
1A85	Lock-in	Pentode	5-BF	Filament	1.2	0.13	0.25m	2.80	4.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1A85
1B4P	ST-12	Pentode	4-M	Filament	2.0	0.06	.007m	5.0*	11.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	1B4P
1B5/255	ST-12	Duodiode-Tri.	6-M	Filament	2.0	0.06	3.6	1.6	1.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1B5/255
1B7GT	ST-12	Heptode	7-Z	Filament	1.4	0.10	0.34	7.0	7.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	1B7GT
1C5GT	GT	Pentode	6-X	Filament	1.4	0.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1C5GT
1C6	ST-12	Heptode	6-L	Filament	2.0	0.12	0.3	10.0	10.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1C6
1C7G	ST-12	Heptode	7-Z	Filament	2.0	0.12	0.26	10.0	14.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1C7G
1D5GP	ST-12	Pentode	5-Y	Filament	2.0	0.06	.007m	5.0*	12.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	1D5GP
1D5GT	ST-12	Tetrode	5-R	Filament	2.0	0.06	.010m	4.4	10.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	1D5GT
1D7G	ST-12	Heptode	7-Z	Filament	2.0	0.06	0.25	10.5	9.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1D7G
1D8GT	GT	Diode Triode Pentode	8-AJ	Filament	1.4	.100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1D8GT
1E4G	GT	Triode	5-S	Filament	1.4	0.05	2.4	2.4	6.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1E4G
1E5GP	ST-12	Pentode	5-Y	Filament	2.0	0.06	.007m	5.5	12.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1E5GP
1E7G	ST-12	Duo. Pentode	8-C	Filament	2.0	0.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1E7G
1F4	ST-12	Pentode	5-K	Filament	2.0	0.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1F4
1F5G	ST-12	Pentode	6-X	Filament	2.0	0.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1F5G
1F6	ST-12	Duodi. Pent.	6-W	Filament	2.0	0.06	.007m	4.0	9.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1F6
1F7G	ST-12	Duodi. Pent.	7-AD	Filament	2.0	0.06	.01m	3.8*	9.5*	.....	.....	.....	.....	.....	.....	.....	.....	.....	1F7G
1F7GV	ST-12	Duodi. Pent.	7-AD	Filament	2.0	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1F7GV
1G4GT	GT	Triode	5-S	Filament	1.4	0.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1G4GT
1G5G	ST-14	Pentode	6-X	Filament	2.0	0.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1G5G
1G6GT	GT	Duodiode	7-AB	Filament	1.4	0.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1G6GT
1H4G	ST-12	Triode	5-S	Filament	2.0	0.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1H4G
1H5GT	GT	Diode Triode	5-Z	Filament	1.4	0.05	1.1	0.35	4.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1H5GT
1H6G	ST-12	Duodiode-Tri.	7-AA	Filament	2.0	0.06	3.6	1.6	1.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1H6G
1J5G	ST-14	Pentode	6-X	Filament	2.0	0.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1J5G
1J6G	ST-12	Duodiode	7-AB	Filament	2.0	0.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1J6G
1L4	Miniature	Pentode	6-AR	Filament	1.4	0.05	.008m	3.8	7.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	1L4
1LA4	Lock-in	Pentode	5-AD	Filament	1.4	0.05	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1LA4

PENNSYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter			Note (1) (2) Capacitances in $\mu\mu\text{f}$.		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	Undis- orted Power Output Milli- watts	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	90	0.55	0.6	750,000	250A	(G2=90 V, Max., 1.2 Ma.)	20,000	35	1LA6	
1LB4	Lock-in	Pentode	5-AD	Filament	1.4	0.05	0.05	...	...	45	1.6	0.3	300,000	575	...	16,000	100	1LB4
1LC5	Lock-in	Pentode	7-AO	Filament	1.4	0.05	0.007m	3.2	7.0	90	3.8	1.0	200,000	625	...	12,000	200	1LC5	
1LC6	Lock-in	Heptode	7-AK	Filament	1.4	0.05	0.28	9.0	5.5	45	1.1	0.25	700,000	750	(G2=45 V, Max., 1.4 Ma.)	...	...	1LC6
1LD5	Lock-in	Diode Pent.	6-AX	Filament	1.4	0.05	0.18	3.2	6.0	45	0.7	0.75	300,000	275A	(G2=45 V, Max., 1.4 Ma.)	...	...	1LD5
1LE3	Lock-in	Triode	4-AA	Filament	1.4	0.05	1.7	1.7	3.0	90	4.5	0.12	750,000	550	...	...	...	1LE3
1LH4	Lock-in	Diode-Triode	5-AG	Filament	1.4	0.05	...	...	...	90	0.0	...	240,000	850	...	...	...	1LH4
1LN5	Lock-in	Pentode	7-AO	Filament	1.4	0.05	0.007m	3.4	8.0	90	1.6	0.35	1.1 Meg.	800	...	...	...	1LN5
1N5GT	GT	Pentode	5-Y	Filament	1.4	0.05	0.007m	3.4	10.0	90	1.2	0.3	1.5 Meg.	750	...	...	...	1N5GT
1N6G	GT	Diode Pent.	7-AM	Filament	1.4	0.05	...	...	...	90	3.4	0.7	300,000	800	...	...	...	1N6G
1P5GT	GT	Pentode	5-Y	Filament	1.4	0.05	0.007m	3.0	10.0	90	0.0	0.7	800,000	750	...	...	...	1P5GT
1O5GT	GT	Beam Amp.	6-AF	Filament	1.4	0.10	...	...	...	90	4.5	9.5	1.3	9,200	...	...	...	1O5GT
1R4-1294	Lock-in	H. F. Diode	4-AH	Cathode	1.4	0.150	...	...	...	90	4.5	9.5	1.3	9,200	...	...	...	1R4-1294
1R5	Miniature	Heptode	7-AT	Filament	1.4	0.05	0.4m	7.0	12.0	45	0.7	1.9	600,000	935A	...	...	...	1R5
1S4	Miniature	Pentode	7-AV	Filament	1.4	0.1	...	...	...	90	4.5	3.8	100,000	1,250	...	...	...	1S4
1S5	Miniature	Diode Pent.	6-AU	Filament	1.4	0.05	0.2	2.0	4.0	45	0.7	0.4	100,000	1,575	...	...	...	1S5
1SA6GT	GT	Pentode	6-BD	Filament	1.4	0.05	0.01m	5.2	8.6	67.5	1.6	0.4	600,000	625	...	...	...	1SA6GT
1SB6GT	GT	Diode Pent.	6-BE	Filament	1.4	0.05	0.25	3.2	3.0	45	1.1	0.3	700,000	750	...	...	...	1SB6GT
1T4	Miniature	Pentode	6-AR	Filament	1.4	0.05	0.008m	3.8	7.5	90	0.0	0.16	700,000	665	...	...	...	1T4
1T5GT	GT	Beam Amp.	6-AF	Filament	1.4	0.05	0.5	4.8	8.0	45	1.9	0.7	350,000	700	...	...	...	1T5GT
1V	ST-12	Diode	4-G	Cathode	6.3	0.30	...	...	...	90	0.0	0.0	500,000	900	...	...	...	1V
2A3	ST-16	Triode	4-D	Filament	2.5	2.50	16.0	7.0	5.0	250	45.0	60.0	800	5,250	4.2	2,500	3,500	2A3	
2A4G	ST-12	Gas Triode	5-S	Filament	2.5	2.50	...	...	...	300	62.0	40.0	Per Tube, Push Pull, Fixed Bias	3,000*	15,000	...	...	2A4G
2A5	ST-14	Duodiode	6-B	Cathode	2.5	1.75	...	...	...	250	9.0	0.9	91,000	1,100	100	...	...	2A5
2A6	ST-12	Duodiode Tri.	6-G	Cathode	2.5	0.80	1.7	1.7	3.8	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	250	2.0	0.9	91,000	1,100	100	...	...	2A7, 2A7S
2B7, 2B7S	ST-12	Duodi. Pent.	7-D	Cathode	2.5	0.80	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2B7, 2B7S
2E5	T-9	Electron Ray	6-R	Cathode	2.5	0.80	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2E5
2S/4S	ST-12	Duodiode	5-D	Cathode	2.5	1.35	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2S/4S
2V3G	ST-12	Diode	4-Y	Filament	2.5	5.0	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2V3G
2W3GT	GT	Diode	4-X	Filament	2.5	1.50	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2W3GT
2X2/879	ST-12	Diode	4-AB	Cathode	2.5	1.75	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2X2/879
2Z2/G84	ST-12	Diode	4-B	Filament	2.5	1.50	...	...	...	250	2.0	0.9	91,000	1,100	100	...	...	2Z2/G84
3A4	Miniature	Pentode	7-BB	Filament	1.4	0.20	0.35m	4.8	7.0	135	7.5	2.6	90,000	1,900	...	...	...	3A4
3A5	Miniature	Duodiode	7-BC	Filament	1.4	0.22	3.0	1.1	1.9	150	8.4	2.2	100,000	1,900	...	...	...	3A5
3A8GT	GT	Diode Tri.-Pent.	8-AS	Filament	1.4	0.10	2.0	2.6	4.2	135	3.7	3.0	240,000	1,800	15	...	...	3A8GT
3B5GT	GT	Beam Amp.	7-AP	Filament	2.8	0.05	0.012m	3.0	10.0	90	0.0	0.15	600,000	750	...	...	...	3B5GT
3B7-1291	Lock-in	Duodiode	7-BE	Filament	2.8	1.10	2.6	1.4	2.6	45	4.4	0.3	100,000	1,400	...	...	...	3B7-1291
3D6-1299	Lock-in	Beam Amp.	6-BB	Filament	1.4	0.20	...	...	...	135	25.0	2.2	90,000	1,900	...	...	...	3D6-1299
3FL4	Lock-in	Beam Amp.	6-BB	Filament	2.8	0.05	...	...	...	150	10.2	1.8	70,000	1,950	...	...	...	3FL4
3Q4	Miniature	Pentode	7-BA	Filament	1.4	0.10	...	...	...	85	5.0	1.5	100,000	1,975	...	...	...	3Q4

(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.
 ‡With Average Power Input of 320 Mw. Grid to Grid.
 ††Triode Operation.
 ‡‡Applied through 200,000 ohms.
 †††For two tubes with 40 volts RMS applied to each grid.
 ††††Applied through 20,000 ohms.
 †††††Approximate.
 ††††††Conversion Conductance.
 †††††††150 Volts RMS applied to two grids.

PENNSYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances in μf :			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 Milli-watts	Type		
	Style	Class	Basing Diag.	Type	Volts	Amps	Cap.													Cin.	Cout.
305GT	GT	Beam Amp.	7-AP	Filament	1.4	0.10				90	4.5	9.5	1.3	75,000	2,000	8,000	270	305GT			
354	Miniature	Pentode	7-BA	Filament	1.4	0.10	0.30	5.0	7.0	90	4.5	8.0	1.0	80,000	2,000	8,000	230	354			
4A6G	ST-12	Duodiode	8-L	Filament	2.0	0.19				90	7.0	7.4	1.4	100,000	1,575	8,000	270	4A6G			
5T4	Metal	Duodiode	5-T	Filament	4.0	0.06				90	1.5	1.1	1.1	86,500	750	8,000	1,000	5T4			
5U4G	ST-16	Duodiode	5-T	Filament	5.0	3.00				450 A. C. Volts Per Plate, RMS; 225 Ma. Output Current. Condenser Input to Filter. Choke Input to Filter.											
5V4G	ST-14	Duodiode	5-I	Cathode	5.0	2.00				450 A. C. Volts Per Plate, RMS; 225 Ma. Output Current. Condenser Input to Filter.											
5W4GT	GT	Duodiode	5-T	Filament	5.0	1.50				375 A. C. Volts Per Plate, RMS; 175 Ma. Output Current. Condenser Input to Filter.											
5X3	ST-14	Duodiode	4-C	Filament	5.0	2.0				350 A. C. Volts Per Plate, RMS; 110 Ma. Output Current. Condenser Input to Filter.											
5X4G	ST-16	Duodiode	5-Q	Filament	5.0	3.00				400 A. C. Volts Per Plate, RMS; 110 Ma. Output Current. Choke or Condenser Input to Filter.											
5Y3GT	GT	Duodiode	5-T	Filament	5.0	2.00				1275 A. C. Volts Per Plate, RMS; 30 Ma. Output Current. Choke or Condenser Input to Filter.											
5Y4G	ST-14	Duodiode	5-Q	Filament	5.0	2.00				450 A. C. Volts Per Plate, RMS; 225 Ma. Output Current. Condenser Input to Filter.											
5Z3	ST-16	Duodiode	4-C	Filament	5.0	3.00				350 A. C. Volts Per Plate, RMS; 125 Ma. Output Current. Condenser Input to Filter.											
5Z4	Metal	Duodiode	5-L	Cathode	5.0	2.00				500 A. C. Volts Per Plate, RMS; 125 Ma. Output Current. Choke Input to Filter.											
5Z4GT	GT	Duodiode	5-L	Cathode	5.0	2.00				Characteristics Same as Type 5Y3GT.											
6A3	ST-16	Triode	4-D	Filament	6.3	1.00	16.0	7.0	5.0	950	45.0	60.0	800	800	5,250	2,500	3,900	6A3			
6A4/LA	ST-14	Pentode	5-B	Filament	6.3	0.30				325	68.0	40.0	(Push Pull, Fixed Bias)	52,600	2,100	3,000	15,000	6A4/LA			
6A5G	ST-16	Triode	6-T	Cathode	6.3	1.25				135	9.0	13.0	2.8	60,000	2,500	9,500	700	6A5G			
6A6	ST-14	Duodiode	7-B	Cathode	6.3	0.80				180	12.0	18.0	3.9	60,000	2,500	8,000	1,500	6A6			
6A7, 6A7S	ST-12	Heptode	7-C	Cathode	6.3	0.30	0.3	8.5	9.0	250	3.0	17.5	Per Plate, Class B Operation, Zero Signal	11,300	3,100	10,000	10,000	6A7, 6A7S			
6A8	Metal	Heptode	8-A	Cathode	6.3	0.30	0.6	12.0	12.0	100	1.5	50	1.3	600,000	360A	(Class A Driver)	3,700	6A8			
6A8G	GT	Heptode	8-A	Cathode	6.3	0.30	0.6	9.5	12.0	250	3.0	3.5	2.7	360,000	350A	(Class A Driver)	3,700	6A8G			
6AB5/6N5	T-9	Electron Ray Pentode	6-R	Cathode	6.3	0.15	0.15m	8.0	5.0	135	3.0	12.5	3.2	700,000	5,000	3,500	8,000	6AB5/6N5			
6AB7	Metal	Triode	6-Q	Cathode	6.3	0.45				300	3.0	200	3.2	700,000	5,000	3,500	8,000	6AB7			
6AC5GT	T-9	Triode	6-Q	Cathode	6.3	0.40				350	0.0	17.5	Per Plate, Class B Operation, Zero Signal	11,300	3,100	10,000	10,000	6AC5GT			
6AC7	Metal	Pentode	8-N	Cathode	6.3	0.45	0.15m	11.0	5.0	300	2.0	10.0	2.5	750,000	9,000	6,750	160 ohms.	6AC7			
6AD5G, GT	ST-12, GT	Triode	6-Q	Cathode	6.3	0.3	3.3*	4.1*	3.9*	250	2.0	4.0	6.5	80,000	2,500	7,000	3,200	6AD5G, GT			
6AD6G	T-9	Electron Ray	7-AG	Cathode	6.3	0.15				150	0.0	75	Approx. For 0° Shadow; Approx. = 50 Volts for 135° Shadow.	66,000	1,500	10,000	8,000	6AD6G			
6AD7G	ST-14	Tri. Pentode	8-AY	Cathode	6.3	0.85				250	25.0	34.0	6.5	19,000	325	7,000	3,200	6AD7G			
6AE5GT	GT	Triode	6-Q	Cathode	6.3	0.30				95	15	7.0	4.2	3,500	1,200	4,200	10,800	6AE5GT			
6AE6G	ST-12	Duo Plate Triode	7-AH	Cathode	6.3	0.15				1950	1.5	6.5	25	2,500	1,000	7,000	3,200	6AE6G			
6AE7GT	GT	Duodiode	7-AX	Cathode	6.3	0.50	0.25	3.0	1.8	250	10.0	10.0	1.4	3,500	950	3,500	3,000	6AE7GT			
6AF5G	ST-12	Triode	6-Q	Cathode	6.3	0.30				180	18.0	7.0	7.4	4,900	1,500	7,000	3,200	6AF5G			
6AF6G	T-9	Twin Elec. Ray	7-AG	Cathode	6.3	0.15				100	100	5.5	1.6	300,000	4,750	10,000	10,000	6AF6G			
6AG5	Miniature	Pentode	7-BD	Cathode	6.3	0.30	0.25m	6.1	2.3	125	125	7.2	2.1	500,000	5,100	5,000	100 Ohms	6AG5			
6AG7	Metal	Pentode	8-Y	Cathode	6.3	0.65	0.06m	13.0	7.5	300	10.5	300	6.5	100,000	7,700	7,000	3,200	6AG7			
6AH7GT	GT	Duodiode	8-BE	Cathode	6.3	0.30				350	18	250	54	33,000	5,200	4,200	10,800	6AH7GT			
6AH5G	ST-16	Beam Amp.	6-AP	Cathode	6.3	0.9				150	150	7.5	2.5	340,000	5,000	1,700	3,000	6AH5G			
6AK5	Miniature	Pentode	7-BD	Cathode	6.3	0.175	0.1	3.9	2.85	120	120	7.0	2.2	490,000	4,300	1,800	3,000	6AK5			
6AL5	Miniature	Duodiode	6-BT	Cathode	6.3	0.30				180	180	7.7	2.4	690,000	5,100	3,500	300 ohms	6AL5			
6AL6G	ST-16	Beam Amp.	6-AM	Cathode	6.3	0.9				150	150	9.0	High Perveance Rectifier for High Frequency Use.					6AL6G			
6AQ6	Miniature	Duodiode-Tri.	7-BT	Cathode	6.3	0.15	1.8	1.7	1.5	200	1.0	0.8	1.0	61,000	1,150	1,200	70	6AQ6			
6B4G	ST-16	Triode	5-S	Filament	6.3	1.00	16.0	7.0	5.0	250	3.0	7.0	1.0	58,000	1,200	1,200	70	6B4G			

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances In μf .			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Micromhos Mutual Conductance	Amplifi- cation Factor	Ohms Load for Slated Power Output	Undis- torted Power Output Milli- watts
	Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.												Cin.	Cout.
6B5	ST-14	Duotriode	6-AS	Cathode	6.3	0.80	1.7	1.7	3.8	2.0	0.9	1.7	91,000	1,100	100	3,000	6B5	
6B6G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.30	0.07	3.5*	9.5*	100	5.8	1.7	300,000	950	100	3,000	6B6G	
6B7	ST-12	Duodi. Pent.	7-D	Cathode	6.3	0.30	0.07	3.5*	9.5*	180	3.4	0.9	1 Meg.	840	100	3,000	6B7	
6B7S	ST-12	Duodi. Pent.	7-D	Cathode	6.3	0.30	0.07	3.5*	9.5*	250	6.0	1.5	800,000	1,000	100	3,000	6B7S	
6B8	Metal	Duodi. Pent.	8-E	Cathode	6.3	0.30	.005m	6.0	9.0	300	9.5	0.65	7,790	9,900	17	Class C	6B8	
6B8GT, 6B8G	GT, ST-12	Duodi. Pent.	8-E	Cathode	6.3	0.30	.01m	3.6	9.5	250	11.8	0.65	6,250	3,100	19.5	5,500	6B8GT, 6B8G	
6C4	Miniature	Triode	6-BG	Cathode	6.3	0.15	1.4	1.8	2.5	27	10.5	0.5	10,000	2,000	20	Class C	6C4	
6C5	Metal	Triode	6-Q	Cathode	6.3	0.30	2.0	3.0	11.0	250	8.0	0.5	16,000	1,250	20	10,000	6C5	
6C5GT	GT	Triode	6-Q	Cathode	6.3	0.30	2.2	4.8	12.0	250	8.0	0.5	10,000	2,000	20	10,000	6C5GT	
6C6	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	5.0*	6.5*	100	2.0	0.5	1 Meg. +	1,295	20	1 Meg.	6C6	
6C7	ST-12	Duodiode-Tri.	7-G	Cathode	6.3	0.30	2.6	2.6	2.2	250	4.5	0.5	16,000	1,250	20	16,000	6C7	
6C8G	ST-12	Duotriode	8-G	Cathode	6.3	0.30	1.8	1.3	2.2	250	3.0	3.2	22,500	1,600	36	22,500	6C8G	
6D4	Miniature	Gas Triode	5-AY	Cathode	6.3	0.95	0.07m	4.7*	6.5*	350	50	2.2	250,000	1,500	20	250,000	6D4	
6D6	ST-12	Pentode	6-F	Cathode	6.3	0.30	0.07m	4.7*	6.5*	250	3.0	2.0	800,000	1,600	20	800,000	6D6	
6D7	ST-12	Pentode	7-H	Cathode	6.3	0.30	8.0	11.0	11.0	135	3.0	1.5	600,000	325A	100	600,000	6D7	
6D8G	ST-12	Heptode	8-A	Cathode	6.3	0.15	0.2	8.0	11.0	250	3.0	2.6	400,000	550A	20	400,000	6D8G	
6E5	T-9	Electron Ray	6-R	Cathode	6.3	0.30	0.07m	4.7*	6.5*	100	3.0	1.7	600,000	325A	100	600,000	6E5	
6E6	ST-14	Duotriode	7-B	Cathode	6.3	0.60	0.07m	4.7*	6.5*	180	20.0	1.5	4,300	1,400	6.0	15,000*	6E6	
6E7	ST-12	Pentode	7-H	Cathode	6.3	0.30	0.07m	4.7*	6.5*	250	27.5	18.0	3,500	1,700	6.0	14,000*	6E7	
6F5	Metal	Triode	5-M	Cathode	6.3	0.30	2.3	5.5	4.0	250	9.0	1.6	66,000	1,500	100	66,000	6F5	
6F5GT	GT	Triode	5-M	Cathode	6.3	0.30	2.8*	3.2*	3.2*	250	9.0	1.6	66,000	1,500	100	66,000	6F5GT	
6F6, 6F6G, 6F6GT	Metal	Pentode	7-S	Cathode	6.3	0.70	0.07m	3.2*	3.2*	250	16.5	6.5	80,000	2,500	100	80,000	6F6, 6F6G, 6F6GT	
6F7, 6F7S	ST-12	Pent.-Triode	7-E	Cathode	6.3	0.30	.008m	3.2	12.5	100	3.0	1.6	990,000	1,050	20	990,000	6F7, 6F7S	
6F8G	ST-12	Duotriode	8-G	Cathode	6.3	0.60	3.8*	3.2*	1.0*	250	3.0	3.5	850,000	1,100	20	850,000	6F8G	
6G6G	ST-12	Pentode	7-S	Cathode	6.3	0.15	0.07m	3.2*	1.9*	135	6.0	2.0	170,000	2,100	20	170,000	6G6G	
6H4GT	GT	Diode	5-AF	Cathode	6.3	0.15	0.07m	3.2*	1.9*	180	11.5	2.5	175,000	2,300	20	175,000	6H4GT	
6H6	Metal	Duodiode	7-Q	Cathode	6.3	0.30	0.07m	3.2*	1.9*	100	3.0	4.0	66,000	1,500	100	66,000	6H6	
6H6GT	GT	Duodiode	7-Q	Cathode	6.3	0.30	0.07m	3.2*	1.9*	250	3.0	4.0	66,000	1,500	100	66,000	6H6GT	
6J5	Metal	Triode	6-Q	Cathode	6.3	0.30	3.4	3.4	3.6	250	34.0	7.0	78,000	2,550	100	78,000	6J5	
6J5GT	GT	Triode	6-Q	Cathode	6.3	0.30	3.8	4.2	5.0	250	34.0	7.0	78,000	2,550	100	78,000	6J5GT	
6J6	Miniature	Duotriode	7-BF	Cathode	6.3	0.45	1.4	2.3	1.0	100	6.3	1.6	990,000	1,050	20	990,000	6J6	
6J7	Metal	Pentode	7-R	Cathode	6.3	0.30	.005m	7.0	12.0	100	9.0	0.5	7,700	2,600	20	7,700	6J7	
6J7GT	GT	Pentode	7-R	Cathode	6.3	0.30	.007m	5.4	12.0	250	9.0	0.5	7,700	2,600	20	7,700	6J7GT	
6J8G	ST-12	Tri.-Heptode	8-H	Cathode	6.3	0.30	.02m	4.4	10.0	250	3.0	2.9	4.0 Meg.	990A	70	4.0 Meg.	6J8G	
6K5G	ST-12	Triode	5-U	Cathode	6.3	0.30	2.8	2.9	4.7	100	1.5	0.35	78,000	900	70	78,000	6K5G	
6K5GT	GT	Triode	5-U	Cathode	6.3	0.40	2.8	2.9	4.7	250	3.0	1.10	50,000	1,400	70	50,000	6K5GT	
6K6GT	GT	Pentode	7-S	Cathode	6.3	0.40	0.07m	5.0	12.0	100	7.0	1.6	104,000	1,500	350	104,000	6K6GT	
6K7	Metal	Pentode	7-R	Cathode	6.3	0.30	.005m	7.0	12.0	100	9.0	1.6	68,000	2,300	350	68,000	6K7	
6K7G	ST-12	Pentode	7-R	Cathode	6.3	0.30	.007m	5.0	12.0	180	3.0	4.0	300,000	1,275	1,000	300,000	6K7G	
6K7GT	GT	Pentode	7-R	Cathode	6.3	0.30	.007m	5.0	12.0	250	3.0	1.0	800,000	1,450	1,000	800,000	6K7GT	
6K8	Metal	Tri.-Hexode	8-K	Cathode	6.3	0.30	.03m	6.6	3.5	250	3.0	1.7	800,000	1,450	1,000	800,000	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.
 **Triode Operation.
 ††Applied through 200,000 ohms.
 ‡‡For two tubes with 40 volts RMS applied to each grid.
 †Applied through 20,000 ohms.
 †††Plate to Plate.
 ††††Approximate.
 †††††Conversion Conductance.
 †††††150 Volts RMS applied to two grids.

SYLVANIA TUBES -- AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (?) Capacitances in μf .			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 Standard Power Output	Undistorted Power Output Milli-watts
	Style	Class	Basing Diag.	Type	Volts	Amps	Csp.												Cin.	Cout.
6K8G	ST-12	Tri.-Hexode	8-K	Cathode	6.3	0.30	.08m	4.6	4.8	3.0	100	2.5	6.0	600,000	350A	(Hexode Section)	6K8G	
6K8GT	GT						5.0	4.3	100	Grid Resistor 50,000	Plate Current 3.8 Ma., Mutual Conductance 3,000 (Triode Section not Oscillating)						6K8GT	
6L5G	ST-12	Triode	6-Q	Cathode	6.3	0.15	2.8	2.8	250	3.0	8.0	4.0	10,000	1,500	15		6L5G	
6L6	Metal	Beam Amp.	7-AC	Cathode	6.3	0.90			250	18.0	72.0	5.0	22,500	6,000	17	2,500	6,500	
6L6G	ST-16								350	14.0	54.0	2.5	33,000	5,200		4,200	10,800	
6L6GA	ST-14								270	17.5	134.0	1.1	23,500	5,700		5,000*	17,500	
									360	22.5	88.0	5.0	Current & Output for Two Tubes	6,600*			26,500	
									360	22.5	88.0	5.0	Current & Output for Two Tubes	3,800*			47,000	
6L7	Metal	Heptode	7-T	Cathode	6.3	0.30	.001m	7.5	11.0	3.0	3.3	9.2	1 Meg. +	350A	(G3 = Neg. 15 Volts)		6L7	
6L7G	ST-12	Heptode	7-T	Cathode	6.3	0.30	.005m	6.0	10.0	3.0	3.3	9.2	600,000	1,100	(G3 = Neg. 3.0 Volts)		6L7G	
6N6G	ST-14	Duotriode	7-AU	Cathode	6.3	0.80				300	0.0	8.0	24,000*	2,400	58	7,000	4,000	
6N7	Metal	Duotriode	8-B	Cathode	6.3	0.80				300	0.0	45.0					6N7	
6N7GT	GT									300	0.0	45.0					6N7GT	
6P5GT	GT	Triode	6-Q	Cathode	6.3	0.30	2.6	3.4	250	13.5	5.0	13.8	9,500	1,450	13.8	8,000*	10,000	
6P7G	ST-12	Pent.-Triode	7-U	Cathode	6.3	0.30	.007m	2.8	5.5	3.0	67.5	0.9	11,300	3,400	35	8,000*	10,000	
6Q7	Metal	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.4	5.0	3.8	1.5	0.35	1.1	88,000	800	70	3,400	3,400	
6Q7G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.5	3.2	5.0	250	3.0	1.1	58,000	1,200	70	3,400	3,400	
6Q7GT	GT									250	3.0	1.1	800,000	1,450	1,160		6Q7GT	
6R6G	ST-12	Pentode	6-W	Cathode	6.3	0.3	.007m	4.5*	11.0*	3.0	100	7.0	800,000	1,450	1,160		6R6G	
6R7	Metal	Duodiode-Tri.	7-V	Cathode	6.3	0.30	2.3	4.8	3.8	3.0	100	7.0	1.7				6R7	
6R7GT	GT									250	9.0	9.5	8,500	1,900	16		6R7GT/G	
6S7	Metal	Pentode	7-R	Cathode	6.3	0.15	.005m	2.6	5.2	3.0	67.5	0.9	1 Meg.	1,950	375		6S7	
6S7G	ST-12	Pentode	7-R	Cathode	6.3	0.15	.008m	4.4	8.0	3.0	100	8.5	1 Meg.	1,750	1,100		6S7G	
6SA7	Metal	Heptode	8-R	Cathode	6.3	0.30	.13m	9.5	12.0	2.0	8.5	2.0					6SA7	
6SA7GT	GT									250	3.0	3.7	1 Meg.	1,950	375		6SA7GT	
6S7	Metal	Duotriode	8-S	Cathode	6.3	0.30	2.0	2.2	3.0	2.0	2.0	2.0	53,000	1,325	70		6S7	
6S7GT	GT									250	2.0	2.0	53,000	1,325	70		6S7GT	
6SD7GT	GT	Pentode	8-N	Cathode	6.3	0.30	.0035	9.0	7.5	2.0	5.7	2.0	250,000*	3,350			6SD7GT	
6SE7GT	GT	Pentode	8-N	Cathode	6.3	0.3	.0035m	6.0	7.5	2.0	5.5	2.4	950,000*	3,100			6SE7GT	
6SF5	Metal	Triode	6-AB	Cathode	6.3	0.30	2.4	4.0	3.6	2.0	3.3	8.5	66,000	1,500	100		6SF5	
6SF5GT	GT									250	2.0	3.4	700,000*	2,050			6SF5GT	
6SF7	Metal	Diode Pent.	7-AZ	Cathode	6.3	0.30	.004m	5.5	6.0	1.0	19	12.4	3.3	700,000*			6SF7	
6SG7	Metal	Pentode	8-BK	Cathode	6.3	0.30	.003m	8.5	7.0	1.0	100	8.2	250,000*	4,100			6SG7	
6SG7GT	GT									250	1.0	1.8	900,000*	4,700			6SG7GT	
6SH7	Metal	Pentode	8-BK	Cathode	6.3	0.30	.003m	8.5	7.0	1.0	100	5.3	350,000*	4,000			6SH7	
6SH7GT	GT									250	1.0	1.8	900,000*	4,900			6SH7GT	
6SJ7	Metal	Pentode	8-N	Cathode	6.3	0.30	.005m	6.0	7.0	1.0	100	3.0	700,000*	1,575			6SJ7	
6SJ7GT	GT									250	3.0	3.0	700,000*	1,650			6SJ7GT	
6SK7	Metal	Pentode	8-N	Cathode	6.3	0.30	.003m	6.0	7.0	1.0	100	3.0	700,000*	1,650			6SK7	
6SK7GT	GT									250	3.0	3.0	700,000*	1,650			6SK7GT	
6SL7GT	GT	Duotriode	8-BD	Cathode	6.3	.300	3.8*	2.8*	0.8*	1.0	100	5.3	350,000*	4,000			6SL7GT	
6SN7GT	GT	Duotriode	8-BD	Cathode	6.3	.600	4.0*	3.0*	1.2*	1.0	100	5.3	350,000*	4,000			6SN7GT	
6SQ7	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	1.6	3.2	3.0	2.0	13.0	4.0	120,000*	2,350			6SQ7	
6SQ7GT	GT									250	3.0	2.6	800,000*	2,000			6SQ7GT	
6SR7	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	1.8	4.2	3.4	2.0	13.0	4.0	120,000*	2,350			6SR7	
6SR7GT	GT									250	3.0	2.6	800,000*	2,000			6SR7GT	
6SS7	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.30	2.3	3.0	3.8	2.0	12.2	3.1	130,000*	1,950			6SS7	
6S7T	Metal	Pentode	8-N	Cathode	6.3	0.15	.004m	5.5	7.0	3.0	9.5	2.0	1,000,000*	1,850			6S7T	
6S7T	Metal	Duodiode-Tri.	8-Q	Cathode	6.3	0.15	1.5	2.8	3.0	9.0	9.5	2.0	8,500	1,900	16.0		6S7T	
6T5	ST-12	Electron Ray	6-R	Cathode	6.3	0.3				250	0.0	10	5,700	3,000	20		6T5	
6T7G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.15	1.7	1.8	3.1	1.5	0.3	1.2	95,000	680	65		6T7G	

PENNSYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances in $\mu\mu\text{f}$.			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	Undis-torted Power Output Milli-watts	Type
	Style	Class	Basings; Diags.	Type	Volts	Amps	Cgp.													Cin.	Cout.
6U5/6G5	T-9	Electron Ray	6-R	Cathode	6.3	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6U5/6G5
6U6GT	GT	Beam Amp.	7-AC	Cathode	6.3	0.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6U6GT
6U7G	ST-12	Pentode	7-R	Cathode	6.3	0.30	.....	5.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	6U7G
6V6	Metal	Beam Amp.	7-AC	Cathode	6.3	0.45	0.3	10.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	6V6
6V6GT	GT	Beam Amp.	7-AC	Cathode	6.3	0.45	0.7*	9.5*	.....	.....	.....	.....	.....	.....	.....	.....	.....	6V6GT
6V7G	ST-12	Duodiode-Tri.	7-V	Cathode	6.3	0.30	1.3	1.5	6.0	.....	.....	.....	.....	.....	.....	.....	.....	6V7G
6W5G	ST-12	Duodiode	6-S	Cathode	6.3	0.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6W5G
6W6GT	GT	Beam Amp.	7-AC	Cathode	6.3	1.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6W6GT
6W7G	ST-12	Pentode	7-R	Cathode	6.3	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6W7G
6X5	Metal	Duodiode	6-S	Cathode	6.3	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6X5
6X5GT	GT	Duodiode	6-S	Cathode	6.3	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6X5GT
6Y3G	ST-12	Diode	4-AC	Cathode	6.3	0.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6Y3G
6Y5	ST-12	Duodiode	6-J	Cathode	6.3	0.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6Y5
6Y6G	ST-14	Beam Amp.	7-AC	Cathode	6.3	1.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6Y6G
6Y7G	ST-12	Duodiode	8-B	Cathode	6.3	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6Y7G
6Z5	ST-12	Duodiode	6-K	Cathode	6.3	0.80	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6Z5
6ZY5G	ST-12	Duodiode	6-S	Cathode	6.3	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6ZY5G
6Z7G	ST-12	Duodiode	8-B	Cathode	6.3	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6Z7G
7A4	Lock-in	Triode	5-AC	Cathode	6.3	0.30	4.0	3.4	3.0	.....	.....	.....	.....	.....	.....	.....	.....	7A4
7A5	Lock-in	Beam Amp.	6-AA	Cathode	6.3	0.75	0.44	13.0	7.2	.....	.....	.....	.....	.....	.....	.....	.....	7A5
7A6	Lock-in	Duodiode	6-S	Cathode	6.3	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7A6
7A7	Lock-in	Duodiode	7-AJ	Cathode	6.3	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7A7
7AF7	Lock-in	Pentode	8-V	Cathode	6.3	0.30	0.05m	6.0	7.0	.....	.....	.....	.....	.....	.....	.....	.....	7AF7
7A8	Lock-in	Duodiode	8-AC	Cathode	6.3	0.30	2.3	2.2	1.6	.....	.....	.....	.....	.....	.....	.....	.....	7A8
7B4	Lock-in	Triode	5-AC	Cathode	6.3	0.15	0.15m	7.5	9.0	.....	.....	.....	.....	.....	.....	.....	.....	7B4
7B5	Lock-in	Pentode	6-AE	Cathode	6.3	0.40	0.8	7.4	8.0	.....	.....	.....	.....	.....	.....	.....	.....	7B5
7B6	Lock-in	Duodiode-Tri.	8-W	Cathode	6.3	0.30	1.6	3.0	2.4	.....	.....	.....	.....	.....	.....	.....	.....	7B6
7B7	Lock-in	Pentode	8-V	Cathode	6.3	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7B7
7B8	Lock-in	Heptode	8-X	Cathode	6.3	0.30	0.2m	10.0	9.0	.....	.....	.....	.....	.....	.....	.....	.....	7B8
7C4-1203A	Lock-in	H. F. Diode	4-AH	Cathode	6.3	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7C4-1203A
7C5	Lock-in	Beam Amp.	6-AA	Cathode	6.3	0.45	0.40	9.5	9.0	.....	.....	.....	.....	.....	.....	.....	.....	7C5
7C6	Lock-in	Duodiode-Tri.	8-W	Cathode	6.3	0.15	1.6	2.4	2.4	.....	.....	.....	.....	.....	.....	.....	.....	7C6
7C7	Lock-in	Pentode	8-V	Cathode	6.3	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7C7
7E5-1201	Lock-in	Triode	8-BN	Cathode	6.3	0.15	1.5	3.6	2.8	.....	.....	.....	.....	.....	.....	.....	.....	7E5-1201
7E6	Lock-in	Duodiode-Tri.	8-W	Cathode	6.3	0.30	1.5	3.0	2.4	.....	.....	.....	.....	.....	.....	.....	.....	7E6
7E7	Lock-in	Duodi. Pent.	8-AE	Cathode	6.3	0.30	0.005m	4.6	5.5	.....	.....	.....	.....	.....	.....	.....	.....	7E7

(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.
 †Triode Operation.
 ‡Applied through 200,000 ohms.
 §Plate and Target Supply Voltage.
 ¶With Average Power Input of 350 Mw. Grid to Grid.
 ††Pentode Operation.
 †††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 $\mu\mu\text{f}$.			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 Milli-watts	Type
	Style	Class	Basing Diagr.	Type	Volts	Amps	Csp.													Cin.	Cout.
7F7	Lock-in	Duotriode	8-AC	Cathode	6.3	0.30	1.6	2.4	2.0	1.0	0.65	.....	.....	62,000 \uparrow	1,195	70	.....	7F7
7F8	Lock-in	Duotriode	8-BW	Cathode	6.3	0.30	1.2	2.8	1.4	2.0	2.3	.....	.....	44,000 \uparrow	1,600	70	.....	7F8
7G7/1232	Lock-in	Pentode	8-V	Cathode	6.3	0.45	.007m	9.0	7.0	2.0	10.5	.....	.....	800,000 \uparrow	5,200	50	(Cathode Bias Resistor = 200 Ohms)	7G7/1232
7G8/1206	Lock-in	Duotriode	8-BV	Cathode	6.3	0.30	0.15m	3.4	2.6	2.5	10.0	.....	.....	925,000 \uparrow	4,500	50	.....	7G8/1206
7H7	Lock-in	Pentode	8-V	Cathode	6.3	0.30	.007m	8.0	7.0	1.0	8.2	.....	.....	350,000	4,800	20	.....	7H7
7J7	Lock-in	Tri.-Heptode	8-BL	Cathode	6.3	0.30	.03m	4.6	7.5	3.0	10.0	.....	.....	800,000	4,200	20	(Cath. Bias Resistor = 180 Ohm)	7J7
7K7	Lock-in	Duodiode-Tri.	8-BF	Cathode	6.3	0.30	1.8	2.6	3.0	2.0	1.5	.....	.....	44,000	1,600	70	.....	7K7
7L7	Lock-in	Pentode	8-V	Cathode	6.3	0.30	.010m	8.0	6.5	1.0	5.5	.....	.....	100,000 \uparrow	3,000	.....	.....	7L7
7N7	Lock-in	Duotriode	8-AC	Cathode	6.3	0.60	3.0	3.4	2.0	0.0	10.0	.....	.....	6,700	3,000	20	.....	7N7
7Q7	Lock-in	Heptode	8-AL	Cathode	6.3	0.30	0.20m	9.0	9.0	2.0	3.3	.....	.....	7,700	2,600	20	.....	7Q7
7R7	Lock-in	Duodi. Pent.	8-AE	Cathode	6.3	0.30	.004m	5.6	5.3	2.0	3.5	.....	.....	500,000	595A	.....	.....	7R7
7S7	Lock-in	Tri.-Heptode	8-BL	Cathode	6.3	0.30	.03m	5.0	8.0	2.0	1.9	.....	.....	500,000 \uparrow	595A	.....	.....	7S7
7T7	Lock-in	Pentode	8-V	Cathode	6.3	0.3	.005m	8.0	7.0	0.05 Meg.	3.0	.....	.....	900,000 \uparrow	4,900	.....	.....	7T7
7V7	Lock-in	Pentode	8-V	Cathode	6.3	0.45	.004m	9.5	6.5	1.0	5.3	.....	.....	350,000 \uparrow	4,000	.....	.....	7V7
7W7	Lock-in	Pentode	8-BJ	Cathode	6.3	0.45	.0025m	9.5	7.0	1.0	3.9	.....	.....	300,000	5,800	.....	.....	7W7
7X7/XXFM	Lock-in	Duodiode-Tri.	8-BZ	Cathode	6.3	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7X7/XXFM
7Y4	Lock-in	Duodiode	5-AB	Cathode	6.3	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7Y4
7Z4	Lock-in	Duodiode	5-AB	Cathode	6.3	0.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7Z4
10	ST-16	Triode	4-D	Filament	7.5	1.25	7.0*	4.0*	3.0*	23.5	10.0	.....	.....	6,000	1,330	8.0	13,000	400
12A	ST-14	Triode	4-D	Filament	5.0	0.25	8.5*	4.0*	2.0*	32.0	16.0	.....	.....	5,150	1,550	8.0	11,000	900
12A5	ST-12	Pentode	7-F	Cathode	12.6	0.30	0.3	9.0	9.0	4.5	5.0	.....	.....	5,000	1,575	8.5	5,000	35
12A6	Metal	Beam Amp.	7-AC	Cathode	12.6	0.60	.....	.....	.....	135	9.0	.....	.....	5,100	1,650	8.5	9,000	130
12A7	ST-12	Diode-Pent.	7-K	Cathode	12.6	0.15	.....	.....	.....	180	13.5	.....	.....	4,700	1,800	8.5	10,650	285
12A8GT	GT	Heptode	8-A	Cathode	12.6	0.15	.26	9.5	12.0	125 RMS	30.0 Max.	.....	.....	70,000	3,000	.....	7,500	3,400
12AH7GT	GT	Duotriode	8-BE	Cathode	12.6	0.15	3.0	3.2	2.6	100	17.0	.....	.....	10,300	1,550	16	.....	12A8GT
12B8GT	GT	Pentode Tri.	8-T	Cathode	12.6	0.30	.015*	5.2*	9.6*	100	45.0	.....	.....	170,000	2,100	360	.....	12AH7GT
12C8	Metal	Duodiode Pentode	8-E	Cathode	12.6	0.15	.005m	6.0	6.0	100	3.0	.....	.....	73,000	2,100	110	.....	12B8GT
12F5GT	GT	Triode	5-M	Cathode	12.6	0.15	2.8*	2.2*	3.2*	Characteristics Same as Type 6A8G.	9.0	.....	.....	102,000	975	100	13,500	550
12H6	Metal	Duodiode	7-Q	Cathode	12.6	0.15	.....	.....	.....	Characteristics Same as Type 6F5GT.	.....	.....	.....	.....	.....	.....	.....	12C8
12J5GT	GT	Triode	6-Q	Cathode	12.6	0.15	3.8	4.2	5.0	Characteristics Same as Type 6H6.	3.7	.....	.....	10,300	1,550	16	.....	12F5GT
12J7GT	GT	Pentode	7-R	Cathode	12.6	0.15	.007m	5.4	12.0	Characteristics Same as Type 6J5GT.	7.6	.....	.....	8,400	1,900	16	.....	12H6
12K7GT	GT	Pentode	7-R	Cathode	12.6	0.15	.007m	5.0	12.0	Characteristics Same as Type 6J7G.	.....	.....	.....	170,000	2,100	360	.....	12J5GT
12K8	Metal	Tri.-Hexode	8-K	Cathode	12.6	0.15	0.3m	6.6	3.5	Characteristics Same as Type 6K7G.	0.6	.....	.....	73,000	2,100	110	.....	12J7GT
12K8GT	GT	Tri.-Hexode	8-K	Cathode	12.6	0.15	.008m	5.0	4.3	Characteristics Same as Type 6K8GT.	.....	.....	.....	.....	.....	.....	.....	12K7GT
12L8GT	GT	Duo. Pentode	8-BU	Cathode	12.6	0.15	0.7*	5.0*	6.0*	Characteristics Same as Type 6K8GT.	.....	.....	.....	.....	.....	.....	.....	12K8
12O7GT	GT	Duodiode-Tri.	7-V	Cathode	12.6	0.15	1.6	2.2	5.0	110	5.5	.....	.....	220,000 \uparrow	1,680\uparrow	.....	14,000 \uparrow	300 \uparrow
12SA7	Metal	Heptode	8-R	Cathode	12.6	0.15	.13m	9.5	12.0	180	9.0	.....	.....	160,000 \uparrow	2,150\uparrow	.....	10,000 \uparrow	1,000 \uparrow
12SA7GT	GT	Heptode	8-AD	Cathode	12.6	0.15	.5m	11.0	11.0	Characteristics Same as Type 6Q7GT.	.....	.....	.....	.....	.....	.....	.....	12O7GT
12SC7	Metal	Duotriode	8-S	Cathode	12.6	0.15	2.0	2.2	3.0	Characteristics Same as Type 6SA7.	.....	.....	.....	.....	.....	.....	.....	12SA7
12SF5	Metal	Triode	6-AB	Cathode	12.6	0.15	2.4	4.0	3.6	Characteristics Same as Type 6SA7GT.	.....	.....	.....	.....	.....	.....	.....	12SA7GT
12SF5GT	GT	Triode	6-AB	Cathode	12.6	0.15	2.6	4.2	3.8	Characteristics Same as Type 6SC7.	.....	.....	.....	.....	.....	.....	.....	12SC7

PENNSYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances in $\mu\mu\text{f}$.			Use	Plate Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Microhms Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undertor- ted Power Output Milli- watts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cap.												Cin.	Coat.
12SF7	Metal	Diode Pent.	7-AZ	Cathode	12.6	0.15	.004m	5.5	6.0	Characteristics Same as Type 6SF7.							12SF7	
12SG7	Metal	Pentode	8-BK	Cathode	12.6	0.15	.003m	8.5	7.0	Characteristics Same as Type 6SG7.							12SG7	
12SH7	Metal	Pentode	8-BK	Cathode	12.6	0.15	.003m	8.5	7.0	Characteristics Same as Type 6SH7.							12SH7	
12SH7GT	GT	Pentode	8-BK	Cathode	12.6	0.15	.004m	8.5	7.0	Characteristics Same as Type 6SH7GT.							12SH7GT	
12SJ7	Metal	Pentode	8-N	Cathode	12.6	0.15	.005m	6.0	7.0	Amplifier							12SJ7	
12SJ7GT	GT	Pentode	8-N	Cathode	12.6	0.15	.005m	6.0	7.5	Amplifier							12SJ7GT	
12SK7	Metal	Pentode	8-N	Cathode	12.6	0.15	.003m	6.3	7.0	Amplifier							12SK7	
12SK7GT	GT	Pentode	8-N	Cathode	12.6	0.15	.005m	6.5	7.5	Amplifier							12SK7GT	
12SL7GT	GT	Duotriode	8-BD	Cathode	12.6	0.15	.....	.....	.....	Amplifier							12SL7GT
12SN7GT	GT	Duotriode	8-BD	Cathode	12.6	0.30	.....	.....	.....	Amplifier							12SN7GT
12SQ7	Metal	Duodiode-Tri.	8-Q	Cathode	12.6	0.15	1.6	3.2	3.0	Det. Amp.							12SQ7	
12SQ7GT	GT	Duodiode-Tri.	8-Q	Cathode	12.6	0.15	1.8	4.2	3.4	Det. Amp.							12SQ7GT	
12SR7	Metal	Duodiode-Tri.	8-Q	Cathode	12.6	0.15	2.3	3.0	3.0	Det. Amp.							12SR7	
12Z3	ST-12	Diode	4-G	Cathode	12.6	0.30	.....	.....	.....	H-W Rect.							12Z3
14A4	Lock-in	Triode	5-A	Cathode	12.6	0.15	4.0	3.4	3.0	Amplifier							14A4	
14A4S	Lock-in	Beam Amp.	6-A	Cathode	12.6	0.15	0.4	6.8	7.0	Power Amp.							14A4S	
14A7/12B7	Lock-in	Pentode	8-V	Cathode	12.6	0.15	.005m	6.0	7.0	Amplifier							14A7/12B7	
14AF7/XXD	Lock-in	Duotriode	8-A	Cathode	12.6	0.15	2.3	2.2	1.6	Amplifier							14AF7/XXD	
14B6	Lock-in	Duodiode-Tri.	8-W	Cathode	12.6	0.15	1.5	3.0	2.4	Det. Amp.							14B6	
14B8	Lock-in	Heptode	8-X	Cathode	12.6	0.15	0.2m	10.0	9.0	Converter							14B8	
14C5	Lock-in	Beam Amp.	6-A	Cathode	12.6	0.225	0.4	9.5	9.0	Power Amp.							14C5	
14C7	Lock-in	Pentode	8-V	Cathode	12.6	0.15	.007m	6.0	6.5	Amplifier							14C7	
14E6	Lock-in	Duodiode-Tri.	8-W	Cathode	12.6	0.15	1.5	3.0	2.4	Det. Amp.							14E6	
14E7	Lock-in	Duodi. Pent.	8-AE	Cathode	12.6	0.15	.005m	4.6	5.5	Det. Amp.							14E7	
14F7	Lock-in	Duotriode	8-A	Cathode	12.6	0.15	1.6#	2.4#	2.0#	Amplifier							14F7	
14H7	Lock-in	Pentode	8-V	Cathode	12.6	0.15	.007m	8.0	7.0	Amplifier							14H7	
14J7	Lock-in	Tri.-Heptode	8-BL	Cathode	12.6	0.15	0.03m	4.6	7.5	Mixer Osc.							14J7	
14N7	Lock-in	Duotriode	8-AL	Cathode	12.6	0.30	.....	See 7N7	.....	Amplifier							14N7
14O7	Lock-in	Heptode	8-AL	Cathode	12.6	0.15	0.2m	9.0	9.0	Converter							14O7	
14R7	Lock-in	Duodi. Pent.	8-AE	Cathode	12.6	0.15	.004m	5.6	5.3	Det. Amp.							14R7	
14S7	Lock-in	Tri. Heptode	8-BL	Cathode	12.6	0.15	.03m	5.0	8.0	Mixer Osc.							14S7	
14W7	Lock-in	Pentode	8-BJ	Cathode	12.6	0.225	0.25m	9.5	7.0	Amplifier							14W7	
14Y4	Lock-in	Duodiode	5-AB	Cathode	12.6	0.30	.....	.....	.....	F-W Rect.							14Y4
15	ST-12	Pentode	5-F	Cathode	2.0	0.22	.01m	2.4*	8.0*	R-F Amp.							15	
18	ST-14	Pentode	6-B	Cathode	14.0	0.30	.....	.....	.....	Power Amp.							18
19	ST-12	Duotriode	6-C	Filament	2.0	0.26	.....	.....	.....	Power Amp.							19
20	T-8	Triode	4-D	Filament	3.3	0.132	.....	.....	.....	Power Amp.							20
22	ST-14	Tetode	4-K	Filament	3.3	0.132	.02m	4.0*	10.0*	R-F Amp.							22	
24A, 24S	ST-14	Tetode	5-E	Cathode	2.5	1.75	.007m	5.3	10.5	R-F Amp.							24A, 24S	
25A6	Metal	Pentode	7-S	Cathode	25.0	0.30	.....	.....	.....	Power Amp.							25A6
25A6GT	GT	Pentode	7-S	Cathode	25.0	0.30	.....	.....	.....	Power Amp.							25A6GT
25A7GT	GT	Diode Pent.	8-F	Cathode	25.0	0.30	.....	.....	.....	H-W Rect.							25A7GT
25AC5GT	GT	Triode	6-Q	Cathode	25.0	0.30	.....	.....	.....	Power Amp.							25AC5GT
25B5	ST-12	Duotriode	6-D	Cathode	25.0	0.30	.....	.....	.....	Power Amp.							25B5
25B6G	ST-14	Pentode	7-S	Cathode	25.0	0.30	.....	.....	.....	Power Amp.							25B6G
25B8GT	GT	Pent.-Triode	8-T	Cathode	25.0	0.15	.02	5.5	10.0	Pent. Amp.							25B8GT	
25C6G	ST-14	Beam Amp.	7-AC	Cathode	25.0	0.30	0.3	16.0	13.5	Power Amp.							25C6G	
25L6	Metal	Beam Amp.	7-AC	Cathode	25.0	0.30	0.3	16.0	13.5	Power Amp.							25L6	
25L6GT	GT	Beam Amp.	7-AC	Cathode	25.0	0.30	0.8*	15.0*	10.0*	Power Amp.							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.
 ‡With Average Power Input of 320 Mw. Grid to Grid.
 §Plate to Plate.
 ¶Pentode Operation.
 ††Applied through 200,000 ohms.
 †††For two tubes with 40 volts RMS applied to each grid.
 ††††Approximate.
 †††††Conversion Conductance.
 †††††50 Volts RMS applied to two grids.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances in μmfd .			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 Rated Power Output	Undis- orted Power Output Milli- watts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Csp.													Cin.	Cout.
25N6G	ST-12	Duodiode	7-W	Cathode	25.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25N6G
25Y5	ST-12	Duodiode	6-E	Cathode	25.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25Y5
25Z5	ST-12	Duodiode	6-E	Cathode	25.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25Z5
25Z6	Metal	Duodiode	7-Q	Cathode	25.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25Z6
25Z6GT	GT	Duodiode	7-Q	Cathode	25.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25Z6GT
26	ST-14	Triode	4-D	Filament	1.5	1.05	8.1*	2.8*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
26A7GT	GT	Duo. Beam Amplifier	8-BU	Cathode	26.5	0.6	1.2*	16.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26A7GT
27, 27S	ST-12	Triode	5-A	Cathode	2.5	1.75	3.3*	3.2*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27, 27S
28D7	Lock-in	Duo. Beam Amplifier	8-B5	Cathode	28.0	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28D7
28Z5	Lock-in	Double Diode	6-BJ	Cathode	28.0	0.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28Z5
30	ST-12	Triode	4-D	Filament	2.0	0.06	6.0*	3.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
31	ST-12	Triode	4-D	Filament	2.0	0.13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31
32	ST-14	Tetrode	4-K	Filament	2.0	0.06	.015m	5.3*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32
32L7GT	GT	Diode-Beam Amplifier	8-Z	Cathode	32.5	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32L7GT
33	ST-14	Pentode	5-K	Filament	2.0	0.26	1.0*	8.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	33
34	ST-14	Pentode	4-M	Filament	2.0	0.06	.015m	6.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34
35/51, 35S/51S	ST-14	Tetrode	5-E	Cathode	2.5	1.75	.007m	5.3*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35/51, 35S/51S
35A5	Lock-in	Beam Amp.	6-AA	Cathode	35.0	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35A5
35L6GT	GT	Beam Amp.	7-AC	Cathode	35.0	0.15	0.8*	13.0*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35L6GT
35Y4	Lock-in	Diode	5-AL	Cathode	35.0	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35Y4
35Z3	Lock-in	Diode	4-Z	Cathode	35.0	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35Z3
35Z4GT	GT	Diode	5-AA	Cathode	35.0	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35Z4GT
35Z5GT	GT	Diode	6-AD	Cathode	35.0	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35Z5GT
35Z6G	ST-14	Duodiode	7-Q	Cathode	35.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35Z6G
36	ST-12	Tetrode	5-E	Cathode	6.3	0.30	.007m	3.7*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36
37	ST-12	Triode	5-A	Cathode	6.3	0.30	2.0*	3.5*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37
38	ST-12	Pentode	5-F	Cathode	6.3	0.30	0.3*	3.5*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	38
39/44	ST-12	Pentode	5-F	Cathode	6.3	0.30	.007m	3.5*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39/44
40	ST-14	Triode	4-D	Filament	5.0	0.25	8.0	2.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
40Z5/45Z5GT	GT	Diode	6-AD	Cathode	45.0	0.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40Z5/45Z5GT
41	ST-12	Pentode	6-B	Cathode	6.3	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41
42	ST-14	Pentode	6-B	Cathode	6.3	0.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42
43	ST-14	Pentode	6-B	Cathode	25.0	0.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43

PENNSYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1) (2) Capacitances in $\mu\mu\text{f}$.		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	Undis- toned Power Output Milli- watts	Type		
	Style	Class	Base	Diag.	Type	Volts													Amps	Cgp.	Cin.	Cout.
45	ST-14	Triode	4-D	Filament	2.5	1.50	7.0*	4.0*	3.0*	180	31.5	31.0	1,650	2,125	3.5	2,700	830	45		
45Z3	Miniature	Diode	5-AM	Cathode	45.0	0.075				250	50.0	34.0	1,610	2,175	3.5	3,900	1,600	46		
46	ST-16	Dual Grid Triode	5-C	Filament	2.5	1.75				275	56.0	36.0	1,700	2,050	3.5	4,600	2,000	45Z3		
47	ST-16	Pentode	5-B	Filament	2.5	1.75	1.2*	8.6*	1.3*	117	16.5	31.0	60,000	2,500	150	7,000	2,700	47		
48	ST-16	Tetrode	6-A	Cathode	30.0	0.40				95	20.0	12.0	4,000	3,900	15.6	1,500	2,000	48		
49	ST-14	Dual Grid Triode	5-C	Filament	2.0	0.12				125	32.5	12.0	11,000	3,900	43	1,500	3,000	49		
50	ST-16	Triode	4-D	Filament	7.5	1.25	7.1*	4.2*	3.4*	135	90.0	6.0	4,175	1,125	4.7	11,000	1,700	50		
50A5	Lock-in	Beam Amp.	6-AA	Cathode	50.0	0.15				180	0.0	49.0	35,000†	8,250		2,000	2,100	50A5		
50C6G	ST-14	Beam Amp.	7-AC	Cathode	50.0	0.15				Characteristics Same as Type 6Y6G.										50C6G
50L6GT	GT	Beam Amp.	7-AC	Cathode	50.0	0.15				Characteristics Same as Type 25L6GT.										50L6GT
50Y6GT	GT	Duodiode	7-Q	Cathode	50.0	0.15				Characteristics Same as Type 25Z6GT.										50Y6GT
50Z7G	ST-12	Duodiode	8-AN	Cathode	50.0	0.15				117 A-C Volts Per Plate, RMS, 65 Ma. Output Current Per Plate. With Current passing thru Panel Lamp Section.										50Z7G
52	ST-14	Dual Grid Triode	5-C	Filament	6.3	0.30				110	0	43	1,750	3,000	5.2	2,000†	1,500	52		
53	ST-14	Duodiode	7-B	Cathode	2.5	2.0				180	0	1.5‡	Two Tubes in P.P.			10,000†	5,000	53		
55, 55S	ST-12	Duodiode-Tri.	6-G	Cathode	2.5	1.0	1.5*	1.5*	4.3*	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*	250	13.5	5.0	9,500	1,450	13.8			56, 56S		
56AS	ST-12	Triode	5-A	Cathode	6.3	0.40				Characteristics Same as Type 56.										56AS
57, 57S	ST-12	Pentode	6-F	Cathode	2.5	1.00	.007m	5.0*	6.5*	100	3.0	100	1 Meg.	1,185				57, 57S		
57AS	ST-12	Pentode	6-F	Cathode	6.3	0.40				950	3.0	100	1 Meg. +	1,225				57AS		
58, 58S	ST-12	Pentode	6-F	Cathode	2.5	1.00	.007m	4.7*	6.0*	250	3.0	8.0	250,000	1,500				58, 58S		
58AS	ST-12	Pentode	6-F	Cathode	6.3	0.40				Characteristics Same as Type 57.										58AS
59	ST-16	Pentode	7-A	Cathode	2.5	2.0				Characteristics Same as Type 58.										59
70A7GT	GT	Diode-Beam Amplifier	8-AB	Cathode	70.0	0.15				125	A-C Volts Per Plate, RMS, 60 Ma. Output Current.	3	Condenser Input to Filter.	5,800		2,500	1,500	70A7GT		
70L7GT	GT	Diode-Beam Amplifier	8-AA	Cathode	70.0	0.15				117	A-C Volts, RMS, 70 Ma. Output Current.	3.0	Condenser Input to Filter.	7,500		2,000	1,800	70L7GT		
71A	ST-14	Triode	4-D	Filament	5.0	0.25	7.5*	3.2*	2.9*	90	16.5	10.0	2,170	1,400	3.0	3,000	125	71A		
75, 75S	ST-12	Duodiode-Tri.	6-G	Cathode	6.3	0.30	1.7*	1.7*	3.8*	135	27.0	17.3	1,890	1,650	3.0	3,000	400	75, 75S		
76	ST-12	Triode	5-A	Cathode	6.3	0.30	2.8*	3.5*	2.5*	180	40.5	20.0	1,750	1,700	3.0	4,800	790	76		
77	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	4.7*	11.0*	250	9.0	0.9	91,000	1,700	100			77		
78	ST-12	Pentode	6-F	Cathode	6.3	0.30	.007m	4.5*	11.0*	950	13.5	5.0	9,500	1,450	13.8			78		
79	ST-12	Duodiode	6-H	Cathode	6.3	0.60		1.5*	4.3*	100	1.5	60.0	600,000†	1,100				79		
80	ST-14	Duodiode	4-C	Filament	5.0	2.00				350 A-C Volts Per Plate, RMS, 125 Ma. Output Current. Condenser Input to Filter.										80
81	ST-16	Diode	4-B	Filament	7.5	1.25				500 A-C Volts Per Plate, RMS, 125 Ma. Output Current. Choke Input to Filter.										81
82	ST-14	Duodiode	4-C	Filament	2.5	3.0				700	A-C Volts Per Plate, RMS, 85 Ma. Output Current.		Condenser Input to Filter.					82		
83	ST-16	Duodiode	4-C	Filament	5.0	3.00				450	A-C Volts Per Plate, RMS, 115 Ma. Output Current.		Condenser Input to Filter.					83		
83V	ST-14	Duodiode	4-AD	Cathode	5.0	2.00				450	A-C Volts Per Plate, RMS, 225 Ma. Output Current.		Condenser Input to Filter.					83V		
84/6Z4	ST-12	Duodiode	5-D	Cathode	6.3	0.50				375	A-C Volts Per Plate, RMS, 175 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*	325	A-C Volts Per Plate, RMS, 60 Ma. Output Current.		Condenser Input to Filter.					85		
85AS	ST-12	Duodiode-Tri.	6-G	Cathode	6.3	0.30				Characteristics Same as Type 6V7G.										85AS

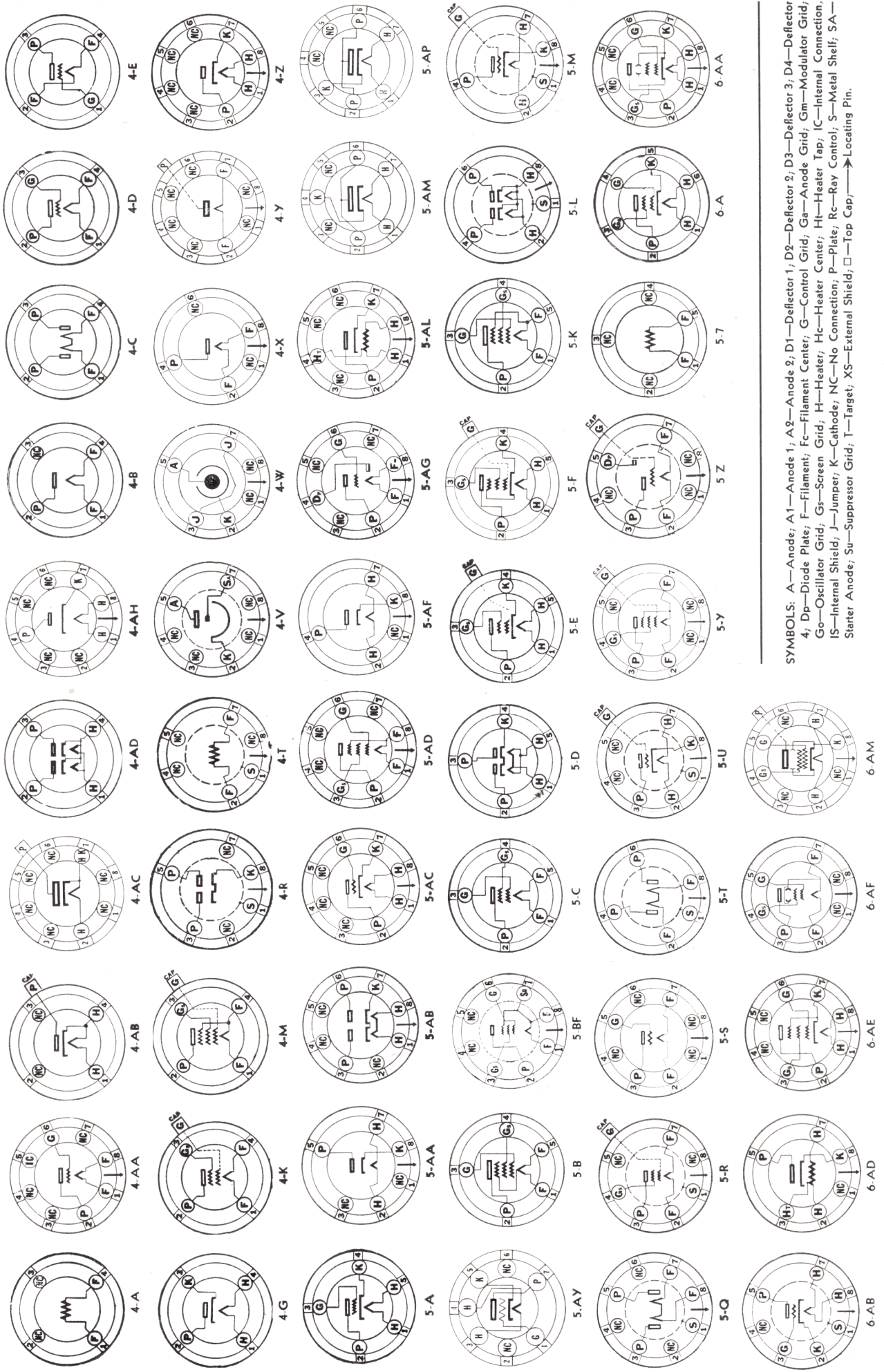
(1) Values are given shielded unless marked with (*).
 (2) Converter tube capacitances given are signal grid to plate; m maximum.
 †Applied through 250,000 ohms. ‡Triode Operation.
 ‡Applied through 200,000 ohms. ††For two tubes with 40 volts RMS applied to each grid.
 ††Applied through 200,000 ohms. ††Approximate.
 †Plate to Plate. †Applied through 20,000 ohms.
 †Conversion Conductance. 150 Volts RMS applied to two grids.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction		Emitter		Note (1)(2) Capacitances in μf .			Use	Plate V. to G.	Screen V. to P.	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Microhmics Mutual Conductance	Amplification Factor	Ohms Load for Stated Power Output	Undistorted Power Output Milli-watts	Type
	Style	Class	Basing Diag.	Type	Volts	Amps	Cip.												Cin.	Cout.
89	ST-12	Pentode	6-F	Cathode	6.3	0.40											89	
VR-90-105-150																	VR-90-105-150	
V-99	I-8	Triode	4-E	Filament	3.3	0.063	3.5*	2.5*	2.5*	17.0	3.0	3.000	1,425	4.7	7,000	300	V99	
X99	I-9	Triode	4-D	Filament	3.3	0.063	3.5*	2.5*	2.5*	20.0	3.0	80,000	1,550	195	8,000	1,500	X99	
117L7/M7GT	GT	Diode-Beam Amplifier	8-AO	Cathode	117	0.09				180	3.0#	Class B Opern. Tie S _u to P & G _s to G (Two Tubes)	17,000	6.6	9,400†	3,500	117L7/M7GT	
117N7G1	GT	Diode-Beam Amplifier	8-AV	Cathode	117	0.09							17,000	6.6	4,000	850	117N7G1	
117P7GT	GI	Diode-Beam Amplifier	8-AV	Cathode	117	0.09							17,000	6.6	4,000	1,200	117P7GT	
117Z4GT	GT	Diode	5-AA	Cathode	117	0.04							17,000	6.6	4,000	850	117Z4GT	
117Z6GT	GI	Duodiode	7-Q	Cathode	117	0.075							17,000	6.6	4,000	850	117Z6GT	
189B/482B	SI-14	Triode	4-D	Filament	5.0	1.25							2,500	5.0	4,500	1,350	189B/482B	
183/483	SI-14	Triode	4-D	Filament	5.0	1.25							2,500	5.0	4,500	1,800	183/483	
210-T	SI-16	Triode	4-D	Filament	7.5	1.25	7.0*	4.0*					2,000	3.0	4,500	1,800	210-T	
485	SI-12	Triode	5-A	Cathode	3.0	1.25							2,000	3.0	4,500	485		
864	I-9	Triode	4-D	Filament	1.1	0.25	5.3*	3.3*					8,900	12.5	8.2	864		
884	SI-12	Gas Triode	6-Q	Cathode	6.3	0.6	6.0*	2.0*					12,700	8.2	8.2	884		
885	SI-12	Gas Triode	5-A	Cathode	2.5	1.5	6.0*	2.0*					12,700	8.2	8.2	885		
950	SI-14	Pentode	5-K	Filament	2.0	0.12							2,000	5.0	4,500	950		
1204	Lock-in	Pentode	6-F	Cathode	6.3	0.15	.06m	3.5					2,000	5.0	4,500	1204		
1291	SI-12	Pentode	6-F	Cathode	6.3	0.30							2,000	3.0	4,500	1291		
1293	SI-12	Pentode	7-R	Cathode	6.3	0.30							2,000	3.0	4,500	1293		
1299	SI-12	Tetrode	4-K	Filament	2.0	0.06							2,000	3.0	4,500	1299		
1231	Lock-in	Pentode	8-V	Cathode	6.3	0.45	.015m	8.5					2,000	3.0	4,500	1231		
1266	GT	Diode	4-W Exc. Jumper	Cold K									2,000	3.0	4,500	1266		
1267	GT	Gas Triode	4-V	Cold K									2,000	3.0	4,500	1267		
1275	SI-16	Duodiode	4-C	Filament	5.0	1.75							2,000	3.0	4,500	1275		
1276	SI-16	Triode	4-D	Filament	4.5	1.14							2,000	3.0	4,500	1276		
1293	Lock-in	Triode	4-A-A	Filament	1.4	.11	1.7	1.7					2,000	3.0	4,500	1293		
1612	Metal	Heptode	7-T	Cathode	6.3	0.30	.001m	7.5					2,000	3.0	4,500	1612		
1626	SI-12	Triode	6-Q	Cathode	12.6	.25	4.4*	3.2*					2,000	3.0	4,500	1626		
1699	GI	Electron Ray	7-AL	Cathode	12.6	0.15							2,000	3.0	4,500	1699		
2050	SI-12	Gas Tetrode	8-BA	Cathode	6.3	0.60	0.26*	4.2*					2,000	3.0	4,500	2050		
2051	SI-12	Gas Tetrode	8-BA	Cathode	6.3	0.6	0.26*	4.2*					2,000	3.0	4,500	2051		
XXD																	XXD	
XXL	Lock-in	Triode	5-AC	Cathode	6.3	0.30							2,000	3.0	4,500	XXL		

(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.
 ‡Now listed as 14AF7/XXD
 §Plate and Target Supply Voltage.
 ¶With Average Power Input of 320 Mw. Grid to Grid.
 ††Triode Operation.
 ‡‡Applied through 200,000 ohms.
 †††For two tubes with 40 volts RMS applied to each grid
 ††††Approximate.
 †††††Conversion Conductance.
 ††††††50 Volts RMS applied to two grids.

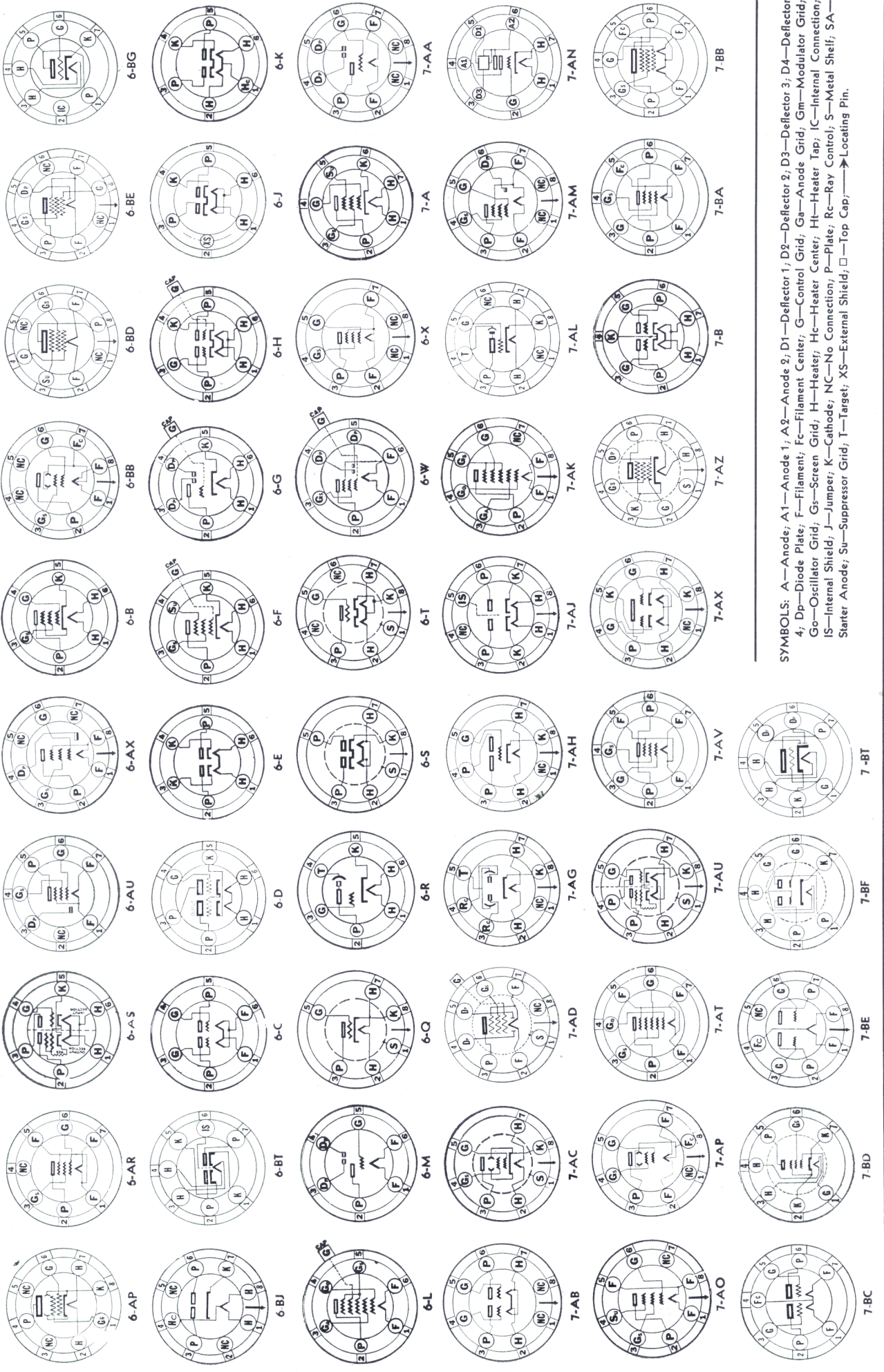
TUBE AND BASE DIAGRAMS (VIEWED FROM BOTTOM OF BASE—RMA NUMBERING SYSTEM)



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.

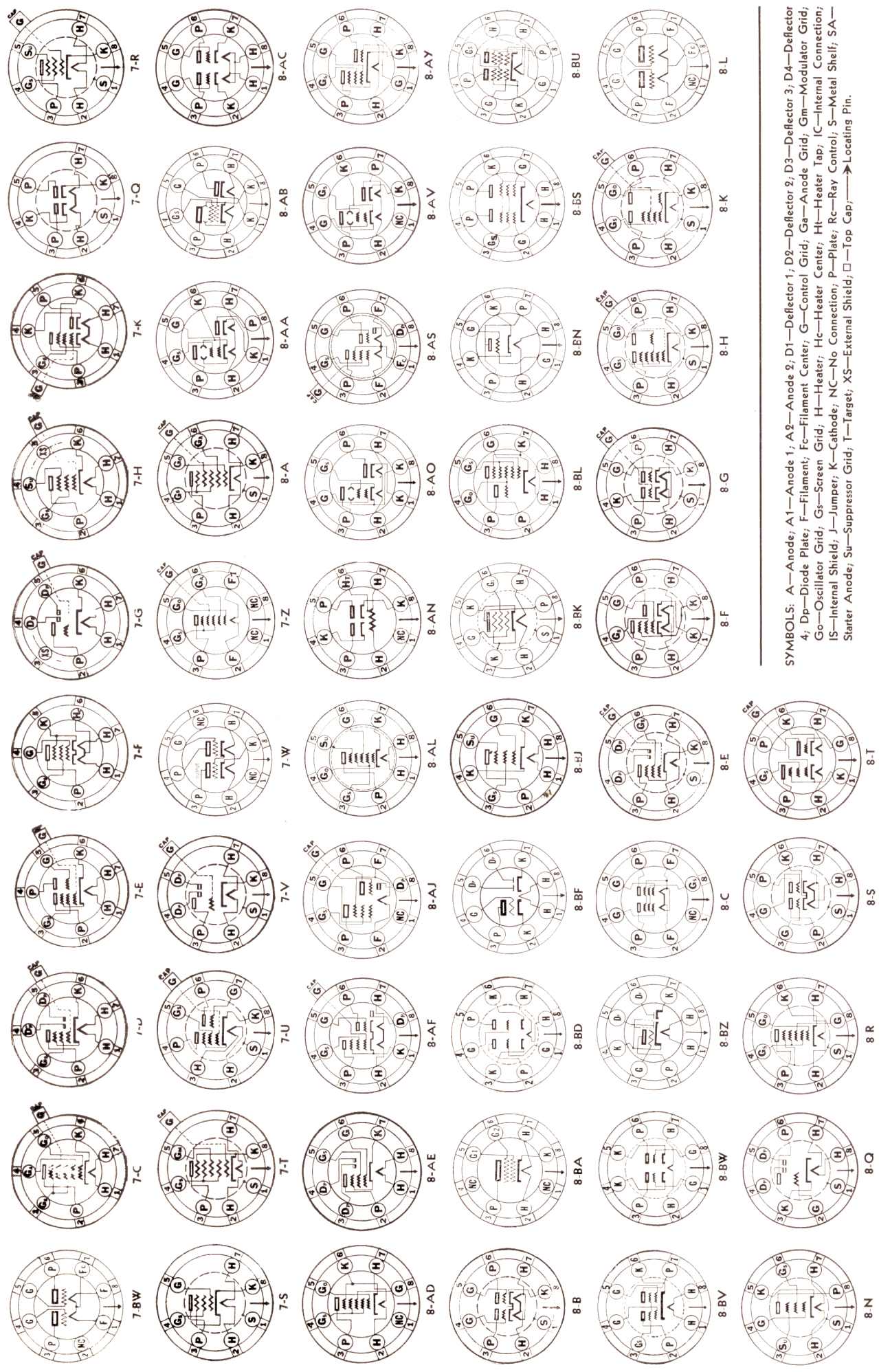
TUBE AND BASE DIAGRAMS (RMA NUMBERING SYSTEM—Continued)

VIEWED FROM BOTTOM OF BASE

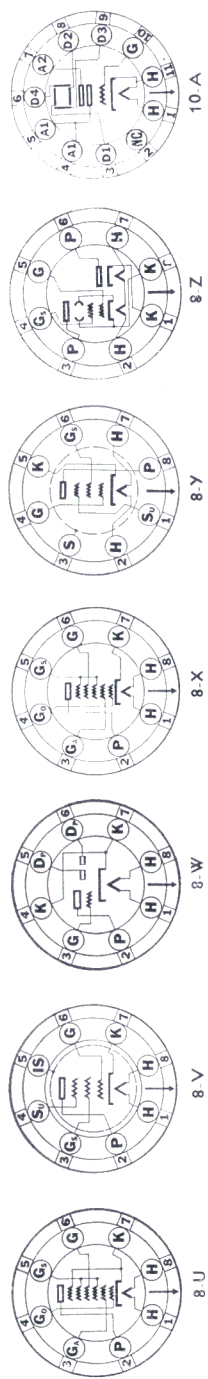


SYMBOLS: A—Anode; A1—Anode 1; A2—Anode 2; D1—Deflector 1; D2—Deflector 2; D3—Deflector 3; D4—Deflector 4; Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Control Grid; Ga—Anode Grid; Gm—Modulator Grid; Go—Oscillator Grid; Gs—Screen Grid; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection;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



SYLVANIA PANEL LAMP CHARACTERISTICS

Type No.	Circuit Volts	Design		Type No.	Usual Service	Miniature Base	Bulb Style	Bead Color	Design	Circuit Volts	Type No.	Usual Service	Miniature Base	Bulb Style	Bead Color	Design		Type No.
		Volts	Amp.													Volts	Amp.	
S40	6-8	6.3	0.15	S40	Radio Dials	Screw	T-3 1/4	Brown	2.0	2.0	*S49	Battery Set Dials	Bayonet	T-3 1/4	Pink	2.0	0.06	*S49
S41	2.5	2.5	0.50	S41	Radio Dials	Screw	T-3 1/4	White	7.5	6-8	S50	Auto Sets, Flash Lights	Screw	G-3 1/2	White	0.20	0.20	S50
S42	3.2	3.2	0.35	S42	Radio Dials	Screw	T-3 1/4	Green	7.5	6-8	S51	Auto Sets, Auto Panels	Bayonet	G-3 1/2	White	0.20	0.20	S51
S43	2.5	2.5	0.50	S43	Radio Dials and Tuning Meters	Bayonet	T-3 1/4	White	6.5	6-8	S55	Auto Sets, Parking Lights	Bayonet	G-4 1/2	White	0.40	0.40	S55
S44	6-8	6.3	0.25	S44	Radio Dials and Tuning Meters	Bayonet	T-3 1/4	Blue	2.9	2.9	S292	Radio Dials	Screw	T-3 1/4	White	0.17	0.17	S292
S45	3.2	3.2	0.35	S45	Radio Dials	Bayonet	T-3 1/4	White	2.9	2.9	S292A	Radio Dials Coin Machines	Bayonet	T-3 1/4	White	0.17	0.17	S292A
S46	6-8	6.3	0.25	S46	Radio Dials and Tuning Meters	Screw	T-3 1/4	Blue	18.0	18.0	S1455	Coin Machines	Screw	G-5	Brown	0.25	0.25	S1455
*S47	6-9	6.3	0.15	*S47	Radio Dials	Bayonet	T-3 1/4	Brown	18.0	18.0	S1455A	Coin Machines	Bayonet	G-5	Brown	0.25	0.25	S1455A
S48	2.0	2.0	0.06	S48	Battery Set Dials	Screw	T-3 1/4	Pink										

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

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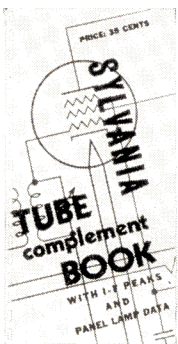
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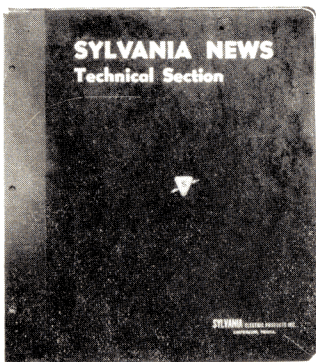
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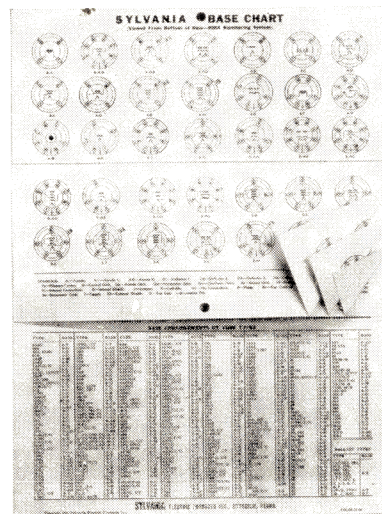
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