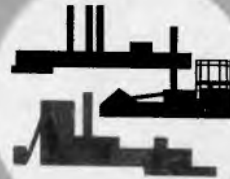


25¢



characteristics of SYLVANIA

RECEIVING TUBES

ADVANCED *design*
ADVANCED *manufactory techniques*
ADVANCED *quality control methods are*
the reasons why the exacting
quality standards for

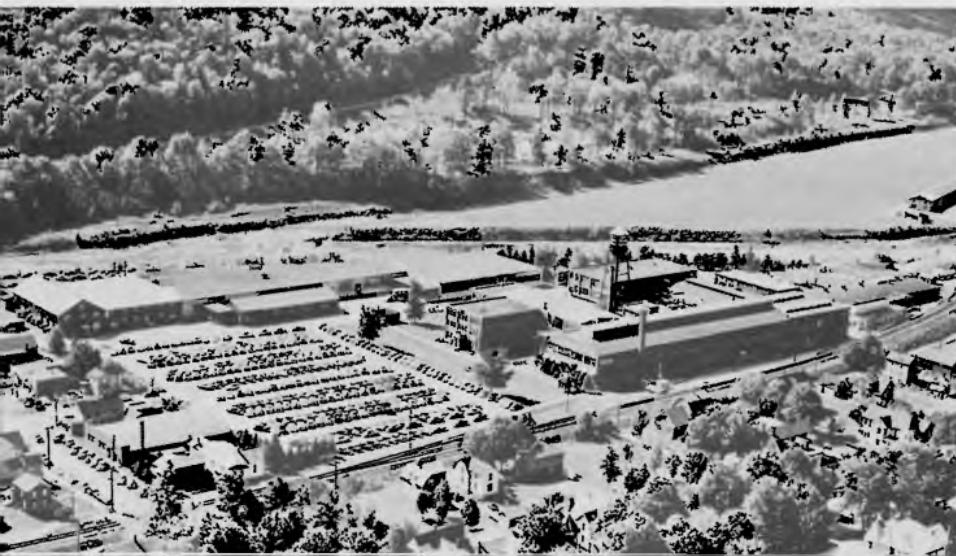
SYLVANIA RECEIVING TUBES

are maintained in
6 manufacturing centers.

THE WORLD'S MOST MODERN RECEIVING TUBE MANUFACTURING CENTER IS SYLVANIA'S ALTOONA, PENNSYLVANIA PLANT.



EMPORIUM, PENNSYLVANIA HEAD-QUARTERS FOR SYLVANIA'S FAR FLUNG RECEIVING TUBE MANUFACTURING OPERATIONS.



BROOKVILLE, PENNSYLVANIA



SHAWNEE, OKLAHOMA



WILLIAMSPORT, PENNSYLVANIA



BURLINGTON, IOWA

SYLVANIA RADIO AND TELEVISION TUBE CHARACTERISTICS CHART

HOW TO USE THIS CHART

The types are listed in numerical and alphabetical order. The second column now lists the Bulb size or style of construction, whichever is most helpful in describing the type. Lock-in is, 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. Subminiature types are marked T3, T2 or T1 depending on the bulb diameter.

Columns are included 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 SYLVANIA Technical Manual.

The "Basing Diagram" column indicates the internal and external shield connections. For example, this column now shows the basing for Type 7A7 to be 8V-L-5. This means that the active elements are connected as shown in the base diagram 8V, and that the external shielding (in this case the Lock-in base) is connected to the lug (L) and the internal shield to pin 5. This avoids having a separate base diagram for types with a minor difference in shielding. The figures 0-0 indicate no external and no internal shielding respectively.

When replacing tubes in series string television receivers, attention should be given to the complete type number including the suffix. Prototypes should not be substituted for series string types.

Heater voltage, heater current and heater-cathode voltage ratings of the new series string tubes may, due to the requirements of such operation, differ widely from those of their prototypes. All the new series string types have controlled heater warm-up time for series string operation. In addition, heater current production tolerances have been tightened on all series string tubes to insure proper steady state voltage distribution. Two examples are shown in the following table.

	Series String Type 5AQ5	Proto-Type 6AQ5	Series String Type 6SN7GTB	Proto-Type 6SN7GTA
Series String Controlled Heater				
Warm-up Time.....	YES	NO	YES	NO
Heater Voltage.....	4.7	6.3	6.3	6.3
Heater Current (ma).....	600	450	600	600
Tolerance (ma).....	±25	±40	±25	±50
Heater-Cathode Voltage.....	200	200	200	200

It should be noted that the 5AQ5 and 6AQ5 differ in all characteristics shown except for heater cathode voltage. The 6SN7GTB and 6SN7GTA are identical except for heater current tolerance and controlled series string heater warm-up time. However, substitution of a 6SN7GTA in a series string receiver may, due to the absence of the controlled series string heater warm-up characteristic and wider heater current production tolerance, cause premature failure.

Series string types differ from their prototypes only in those characteristics necessary to insure dependable operation in series string television receivers. All other characteristics and ratings are identical to those of the prototypes.

NOTICE

This chart contains the very latest radio and television tubes in addition to many out-of-date types. It is designed to be of maximum use to servicemen as a quick reference chart.

Please note that all types listed are not 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.

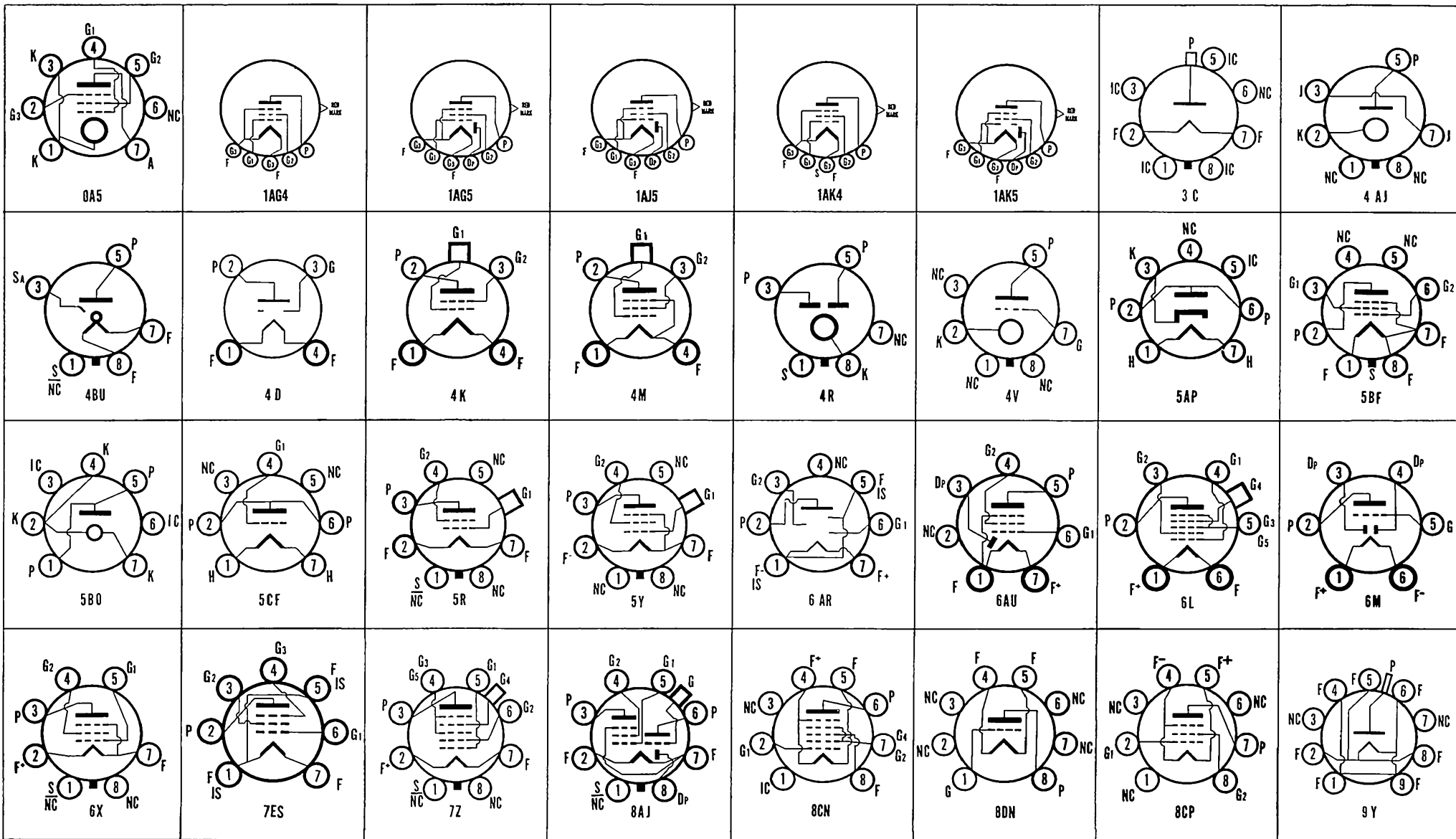
Mention or reference to patented circuits does not constitute permission for their use. The license agreement under which Sylvania tubes are sold is enclosed in the tube carton.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) () Capacitances in $\mu\mu\text{f}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type	
	Bulb Size or Style	Class	Biasing Diag.	Type	Volts	Amps.	Cgp	Cin	Cout													
OOA	ST-14	Triode	4D-0-0	Filament	5 0	0.250	8.5	3 2	2.0	Detector	45	0		1 5		30,000	666	20		OOA		
OA2 GB-OA2WA (3)	T-5½	Diode	5B0-0-0	Cold K						Voltage Regulator with starting Voltage at 155 Operating Voltage 150 Operating Current 5 to 30 Ma										OA2 GB-OA2WA		
OA3/VR75	ST-12	Diode	4AJ-0-0	Cold K						Voltage Regulator with starting Voltage at 100 Operating Voltage 75 Operating Current 5 to 40 Ma										OA3/VR75		
OA4G	ST-12	Gas Triode	4V-0-0	Cold K						Relay Tube Peak Cathode Ma = 100 D-C Cathode Ma = 25 Max. Starter Anode Drop = 60V Approx. Anode Drop = 70V Approx.										OA4G		
OA5	T-5½	Gas Pentode	OA5	Cold K						Switching	750	Trigger Grid Voltage = +90 Volts. Trigger Pulse Voltage = 85 Volts. Keep Alive Current = 50 μa . Trigger Grid Circuit Resistance = 0.25 Megs.										OA5
OB2 GB-OB2WA (3)	T-5½	Diode	5B0-0-0	Cold K						Voltage Regulator with starting Voltage at 115 Operating Voltage 105 Operating Current 5 to 30 Ma										OB2 GB-OB2WA		
OB3	ST-12	Diode	4AJ-0-0	Cold K						Voltage Regulator with starting Voltage at 125 Operating Volts 90 Operating Current 5 Ma. Min 30 Ma. Max										OB3		
OC2	T-5½	Diode	5B0	Cold K						Voltage Regulator With Starting Voltage at 105. Operating Voltage 75 Operating Current 5 Ma Min 30 Ma Max										OC2		
OC3	ST-12	Diode	4AJ-0-0	Cold K						Voltage Regulator with starting Voltage at 135 Operating Volts 105 Operating Current 5 Ma Min. 40 Ma Max										OC3		
OD3	ST-12	Diode	4AJ-0-0	Cold K						Voltage Regulator with starting Voltage at 180. Operating Volts 150 Operating Current 5 Ma. Min. 40 Ma Max.										OD3		
OY4 OY4G	Metal T 7	Gas Diode	4BU-1-0 4BU-0-0	Cathode	Ionic					H-W Rect.	117 A.C. Volts Per Plate RMS 75 Ma Max 40 Ma Min Output Current. Starter Anode Connects to Anode thru 10 Megohms By-Passed with 002 $\mu\mu\text{f}$										OY4 OY4G	
OZ4	Metal	Gas Duodi	4R-1-0	Cathode	Ionic					F-W Rect.	300 A.C. Volts Per Plate RMS 90 Ma Max 30 Ma Min Output Current.										OZ4	
OZ4A	Metal	Gas Duodi	4R-1-0	Cathode	Ionic					F-W Rect.	300 A.C. Volts Per Plate RMS 110 Ma Max 30 Ma Min Output Current										OZ4A	
OZ4G	T-7	Gas Duodi	4R-0-0	Cathode	Ionic					F W Rect.	300 A.C. Volts Per Plate RMS 90 Ma Max 30 Ma. Min Output Current.										OZ4G	
O1A	ST-14	Triode	4D-0-0	Filament	5 0	0.250	8 1	3 1	2.2	Amplifier	90 135	4.5 9 0		2 5 3 0		11 000 10 000	795 800	8 0 8 0		O1A		
1A3	T-5½	Diode	5AP-0-5	Cathode	1 4	0.150				Detector	Half Wave Cathode Type Rectifier for H F Use										1A3	
1A4P	ST-12	Pentode	4M-0-4	Filament	2 0	0.060	007m	5 0	11 0	R F Amp	135 180	3 0 3 0	67 5 67 5	2 2 2 3	0 9 0 8	1 Meg 1 Meg	625 725			1A4P		
1A4T	ST-12	Tetrode	4K-0-3	Filament	2 0	0.060	01m	5 0	11 0	R-F Amp.	135 180	3 0 3 0	67 5 67 5	2 2 2 2	0 7 0 7	350 000 600 000	625 650			1A4T		
1A5GT	T-9	Power Pent	6X-0-0	Filament	1 4	0.050				Power Amp	85 90	4.5 4.5	85 90	3 5 4.0	0.7 0 8	300 000 300,000	800 850		25 000 25,000	100 115	1A5GT	
1A6	ST-12	Heptode	6L-0-0	Filament	2 0	0.060	0 25	10 5	9 0	Converter	135 180	3 0 3 0	67 5 67 5	1 8 1 5	2 1 2 0	400 000 500,000	275▲ 300▲	(Ga = 135V □ Max. 2.0 Ma) (Ga = 180V □ Max. 2.5 Ma)		1A6		
1A7GT	T-9	Heptode	7Z-1-0	Filament	1 4	0.050	0 5m	7 0	10 0	Converter	90	0 0	90	0 6	1 2	600 000	250▲	(Ga = 90V Max 1 2 Ma)		1A7GT		
1AB5	Lock-in	Pentode	5BF-L-0	Filament	1 2	0.130	0 25m	2 8	4.2	R-F Amp.	90 150	0 1 5	90 150	3 5 6.8	0.8 2.0	275 000 120,000	1 100 1 350			1AB5		
1AC5	T-3	Pentode	8CP-0-0	Filament	1 25	0.040				Power Amp	30 45 67 5	2 0 3 0 4.5	30 45 67 5	0 5 1 0 2 0	0 1 0 2 0 4	200 000 170 000 150 000	450 600 750		50 000 40 000 25 000	5 15 50	1AC5	
1AD5	T-3	Pentode	8CP-0-0	Filament	1 25	0.040	009	1 9	3 0	R-F Amp.	30 45 67 5	0 0 0	30 45 67 5	0 45 0 9 1 85	0 16 0 35 0 75	700 000 700 000 700,000	430 580 735			1AD5		
1AE4	T-5½	Pentode	6AR-0-0	Filament	1 25	0.100	008m	3 6	4 4	R-F Amp.	90	0	90	3 5	1 2	500,000	1 550			1AE4		
1AF4	T-5½	Pentode	6AR-0-1&5	Filament	1 4	0.025	008m	3 8	7 6	R F Amp	67 5 90	0 0	67 5 90	1 2 1 8	0.32 0.55	2 2 Meg. 1 8 Meg	925 1 050			1AF4		
1AF5	T-5½	Diode Pent.	6AU-0-0	Filament	1 4	0.025	0.2	2 5	4.3	Det Amp.	67 5 90	0 0	67 5 90	0 7 1 1	0.25 0 4	2 8 Meg. 2 0 Meg	550 600			1AF5		
1AG4	T-2X3	Pentode	1AG4-0-0	Filament	1 25	0.040				Power Amp.	41 4	3 6	41 4	2 4	0 6	180,000	1 000		12 000	35	1AG4	
1AG5	T-2X3	Diode Pent	1AG5	Filament	1 25	0.030	0.1	1 7	2 4	Amplifier	45	2 0	45	0 28	0 12	2 5 Meg	250			1AG5		
1AJ5	T-2X3	Diode Pent.	1AJ5-4-0	Filament	1 25	0.040	0.1	1 7	2 4	Det Amp.	45	0	45	1 0	0 3	300,000	425			1AJ5		
1AK4	T-2X3	Pentode	1AK4-3-0	Filament	1 25	0.020	01m	3 5	4.5	Class A1 Amp	45 67 5	0 0	45	0 75 0 75	0 2 0 2	1 500 000 2,000 000	750 750	(Screen Supply = 67 5 Volts Thru 11 Meg Res)		1AK4		
1AK5	T-2X3	Diode Pent.	1AK5-4-0	Filament	1 25	0.020	0.1m	2 0	2 7	Det. Amp	45	0	45	0 5	0 2	400 000	280			1AK5		
1AN5	T-5½	Pentode	7E5	Filament	1 4	0.025	01m*	3 7*	7 5*	I-F Amp.	90	0	62	1 7	0 7	450 000	940	G1 to G2 - 20		1AN5		
1AX2	T-6½	Diode	9Y	Filament	1 4	0.650				Flyback H-W Rect	Maximum Peak Inverse Plate Voltage = 25,000 Volts. Maximum Peak Plate Current = 45 Ma Maximum Average Current = 0.5 Ma										1AX2	
1B3GT	T-9	Diode	3C	Filament	1 25	0.200			1 3*	Flyback H-W Rect	Maximum Peak Inverse Plate Voltage = 26 000 Volts Maximum Peak Plate Current = 50 Ma. Maximum Average Plate Current = 0.5 Ma										1B3GT	
1B4P	ST-12	Pentode	4M-0-4	Filament	2 0	0.060	007m	5 0*	11 0*	R F Amp.	135 180	3 0 3 0	67 5 67 5	1 6 1 7	0 7 0 6	1 5 Meg. † 1 5 Meg †	560 650			1B4P		
1B5	ST-12	Duodiode Tri	6M-0-5	Filament	2 0	0.060	3 6	1 6	1 9	Det. Amp.	135	3 0	67 5	0 8		35 000	575	20		1B5		
1B7GT	T-9	Heptode	7Z-1-0	Filament	1 4	0.100	0 34	7 0	7 5	Converter	90	0 0	45	1 5	1 3	350,000	350▲	(Ga = 90V, 1 6 Ma.)		1B7GT		
1B8GT	T-9	Diode Triode Pentode	8AJ-0-7	Filament	1 4	0.100				Det Amp. Power Amp.	90 90	0 6.0	90	0 15 6.3		240 000 1 150	275 1 150		14,000	210	1B8GT	
1C3	T-5½	Triode	5CF-0-0	Filament	1 4	0.050	1 8	0 9	4.2	Amplifier	90 90	0 3 0		4.5 1 4		11 200 † 19,000 †	1 300 760	14.5 14.5		1C3		
1C5GT	T-9	Power Pent.	6X-0-0	Filament	1 4	0.100				Power Amp	83 90	7 0 7 5	83 90	7 0 7 5	1 6 1 6	110 000 115 000	1 500 1 550	165 180	9 000 8,000	200 240	1C5GT	
1C6	ST-12	Heptode	6L-0-0	Filament	2 0	0.120	0.3	10 0	10 0	Converter	135 180	3 0 3 0	67 5 67 5	1 3 1 5	2 5 2 0	600 000 700 000	300▲ 325▲	(Ga = 135V □ Max 3 1 Ma.) (Ga = 180V □ Max. 4.0 Ma)		1C6		

1C7G	ST-12	Heptode	7Z-0-0	Filament	2 0	0 120	0 26	10 0	14.0	Converter	135 180	3 0 3 0	67.5 67.5	1 3 1 5	2 5 2 0	600,000 700,000	300▲ 325▲	(G _a = 135V □ Max 3.1 Ma.) (G _a = 180V □ Max 4.0 Ma.)	1C7G
1C8	T-3	Heptode	8CN-0-0	Filament	1 25	0 040	0 25m	6 5	4 0	Converter	30	0 0	30	0 32	0 75	300,000	100▲		1C8
1D3	T-3	Triode	8DN-0-0	Filament	1 25	0 300	2.6*	1 0*	1 0*	Amplifier	90	5 0		12 5		3,400	8 7		1D3
1D5GP	ST 12	Pentode	5Y-0-7	Filament	2 0	0 060	007m	5 0*	12.0*	R F Amp.	135 180	3 0 3 0	67.5 67.5	2 2 2 3	0 9 0 8	1 Meg 1 Meg	625 725		1D5GP
1D5GT	ST 12	Tetrode	5R-0-4	Filament	2 0	0 060	01m	4 4	10.8	R-F Amp	135 180	3 0 3.0	67.5 67.5	2 2 2 2	0 7 0 7	350 000 600 000	625 650		1D5GT

(1) Values are given shielded unless marked with (*) (3) Has special mechanical and/or life characteristics # Per Tube or Section
 (2) Converter tube capacitances given are signal (4) Average Contact potential bias developed across † Plate and Target Supply Voltage
 grid to plate; RF Input Mixer Output ‡ Maximum Signal □ Applied through 20 000 ohms
 I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.) †† Plate to Plate ‡‡ Conversion Transconductance
 ††† Approximate †††† Cathode Resistor (ohms)



SYMBOLS FOR BASE DIAGRAMS D_p—Diode Plate F—Filament Fc—Filament Center G—Grids numbered according to their position from the cathode H—Heater Hc—Heater Center Ht—Heater Tap IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target XS—External Shield, □—Top Cap ■—Locating Key

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

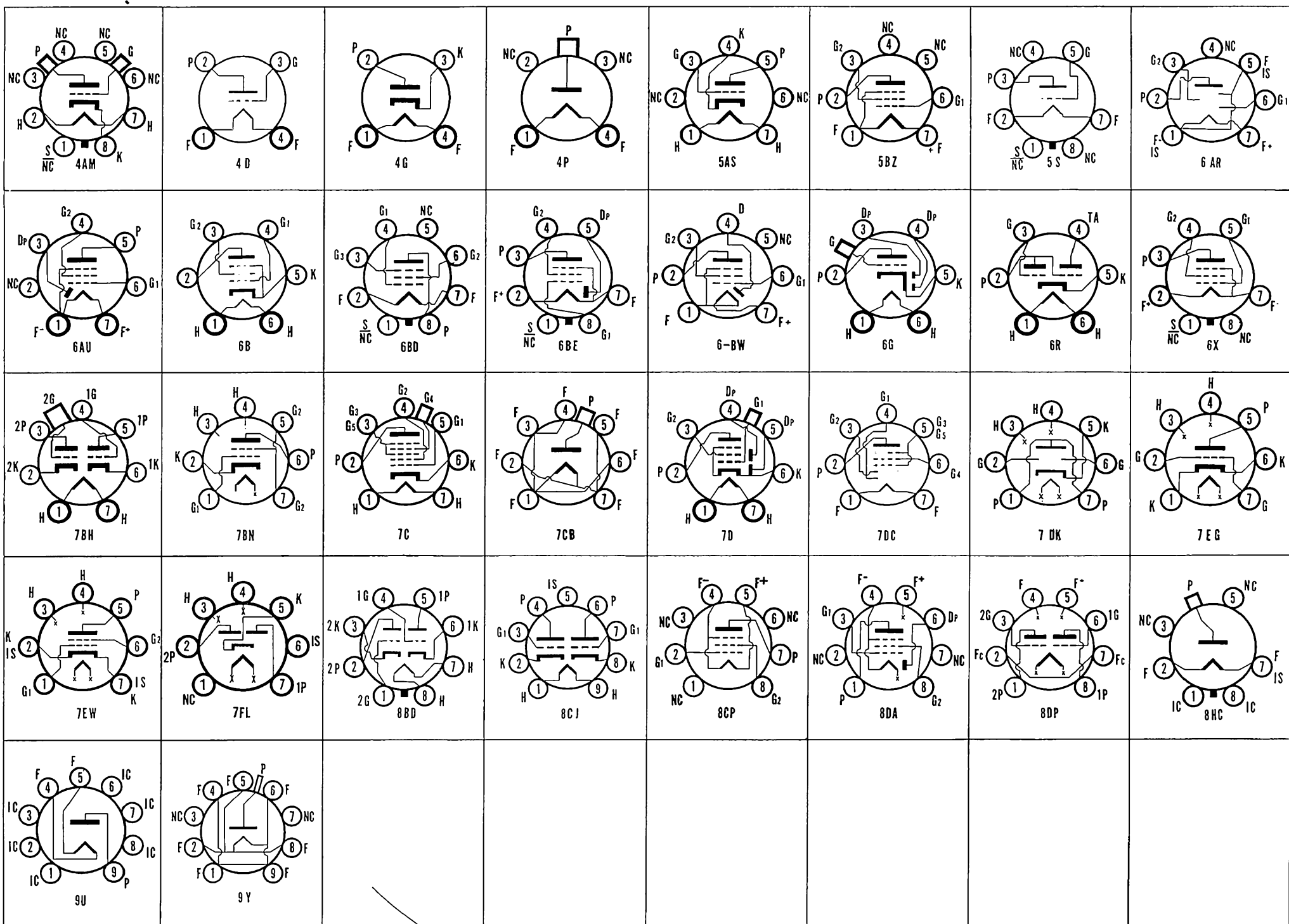
Type	Construction			Emitter			Note (1) (?) Capacitances in $\mu\text{f.}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma.	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Dias.	Type	Volts	Amps.	Cgp	Cm	Couf												
1D7G	ST-12	Heptode	7Z-0-0	Filament	2.0	0.060	0.25	10.5	9.0	Converter	135 180	3.0 3.0	67.5 67.5	1.8 1.5	2.1 2.0	400 000 500 000	275 Δ 300 Δ	(Ga - 135 V \square Max. 2.0 Ma.) (Ga - 180 V \square Max. 2.5 Ma.)			1D7G
1D8GT	T-9	Diode Triode Pentode	8AJ-0-2	Filament	1.4	0.100				Det. Amp.	45 67.5 90	0 0 0	0 0 1.1	0.3 0.6 1.1		77,000 55,500 43,500	325 450 575	25 25			1D8GT
										Power Amp.	45 67.5 90	4.5 6.0 9.0	45 67.5 90	1.6 3.8 5.0	0.3 0.8 1.0	300,000 \dagger 200,000 \dagger 200,000 \dagger	650 875 925		20,000 16,000 12,000	35 100 200	
1DN5	T-5½	Diode Pent	6BW	Filament	1.4	0.050				Det. Amp	67.5	0	67.5	2.1	0.55	6 Meg \dagger	630				1DN5
1E4G	T-9	Triode	5S-0-0	Filament	1.4	0.050	2.4	2.4	6.0	Amplifier	90 90	0.0 3.0		4.5 1.5		11,000 17,000	1 325 825	14.5 14			1E4G
1E5GP	ST-12	Pentode	5Y-0-7	Filament	2.0	0.060	.007m	5.5	12.0	R-F Amp.	135 180	3.0 3.0	67.5 67.5	1.6 1.7	0.7 0.6	1.5 Meg \dagger 1.5 Meg \dagger	560 650				1E5GP
1E7GT	T-9	Duo Power Pent	8C-0-0	Filament	2.0	0.240				P P A1 Amp.	135	7.5	135	7.0	2.0	220,000	1 600	350	24 000 \square	575	1E7GT
1E8	T-3	Heptode	8CN-0-0	Filament	1.25	0.040	0.4	6.0	5.0	Converter	30 45 67.5	0 0 0	30 45 67.5	0.30 0.60 1.0	0.8 1.1 1.5	300 000 400 000 400,000	115 Δ 140 Δ 150 Δ				1E8
										Power Amp.	135	4.5	135	8.0	2.4	200 000	1 700		16,000	310	
1F4	ST-12	Power Pent	5K-0-0	Filament	2.0	0.120				Power Amp.	135	4.5	135	8.0	2.4	200 000	1 700		16,000	310	1F4
1F5G	ST-12	Power Pent	6X-0-0	Filament	2.0	0.120				Power Amp.	135	4.5	135	8.0	2.4	200,000	1,700		16,000	310	1F5G
1F6	ST-12	Duodiode Pentode	6W-0-6	Filament	2.0	0.060	.007m	4.0	9.0	R F or I-F A F Amp.	180 EB = 135 V thru 0.25 Meg Res. EC2 = 135 V thru 0.8 Meg Res. EC1 = 2.0 V RG1 = 1 Meg (Voltage Gain = 46)	1.5 0	67.5 0	2.2 0.7	1 Meg 1 Meg	650 650					1F6
1F7G	ST-12	Duodiode Pentode	7AD-0-7	Filament	2.0	0.060	.01m	3.8*	9.5*	R-F or I-F A-F Amp	180 EB = 135 V thru 0.25 Meg. Res. EC2 - 135 thru 0.8 Meg. Res. EC1 - 2.0 V. RG1 = 1 Meg (Voltage Gain = 46)	1.5 0	67.5 0	2.2 0.7	1 Meg 1 Meg	650 650					1F7G
1F7GV	ST 12	Duodi. Pent.	7AF-0-7	Filament	2.0	0.600				Same as 1F7G	Except Diodes One Above the Other on Negative Filament.										1F7GV
1G3	T-9	Diode	3C	Filament	1.25	0.200				Flyback H-W Rect	Maximum Peak Inverse Plate Voltage = 26,000 Volts. Maximum Peak Plate Current = 50 Ma Maximum Average Plate Current = 0.5 Ma										1G3
1G4GT	T-9	Triode	5S-0-0	Filament	1.4	0.050				Amplifier	90	6.0		2.3		10 700	825	8.8			1G4GT
1G5G	ST-14	Pentode	6X-0-0	Filament	2.0	0.120				Power Amp	90	6.0	90	8.5	2.5	133 000 \dagger	1 500		8 500	250	1G5G
1G6GT	T-9	Duotriode	7AB-0-0	Filament	1.4	0.100				S T A1 Amp. P P Class B	90 90	0.0 0.0		1.0 \dagger 2-14 \dagger		40 000	825	33	(Each Triode Class A) 12,000 \square	675	1G6GT
1H2	T-6½	Diode	9LX	Cathode	1.4	0.550				Flyback H-W Rect	Maximum Peak Inverse Plate Voltage - 24 000 Volts. Maximum Peak Plate Current - 50 Ma Maximum Average Plate Current = 0.5 Ma										1H2
1H4GT	T-9	Triode	5S-0-0	Filament	2.0	0.060				Det. Amp.	90 135 180	4.5 9.0 13.5		2.5 3.0 3.1		11,000 10,300 10,300	850 900 900	9.3 9.3 9.3			1H4GT
1H5GT	T-9	Diode Triode	5Z-1-7	Filament	1.4	0.050	1.1	0.35	4.0	Det. Amp.	90	0.0		0.15		240 000	275	65			1H5GT
1H6GT	T-9	Duodiode Tri	7AA-0-6	Filament	2.0	0.060	3.6	1.6	1.9	Det. Amp.	135	3.0		0.8		35 000	575	20			1H6GT
1J3	T-9	Diode	3C	Filament	1.25	0.200			1.6*	Flyback H-W Rect	Maximum Peak Inverse Volts = 26,000 Volts Maximum Peak Plate Current = 50 Ma Maximum Average Plate Current = 0.5 Ma										1J3
1J5G	ST-14	Pentode	6X-0-0	Filament	2.0	0.120				Power Amp.	135	16.5	135	7.0	2.0	125,000	1,000	125	13 500	575	1J5G
1J6G 1J6GT	ST-12 T-9	Duotriode	7AB-0-0	Filament	2.0	0.240				Power Amp.	Characteristics Same as Type 19										1J6G 1J6GT
1K3	T-9	Diode	3C	Filament	1.25	0.200				Flyback H-W Rect	Maximum Peak Inverse Volts = 26,000 Volts. Maximum Peak Plate Current - 50 Ma. Maximum Average Plate Current = 0.5 Ma										1K3
1L4	T-5½	Pentode	6AR-0-1&5	Filament	1.4	0.050	.008m	3.8	7.5	R-F Amp.	90 90	0 0	67.5 90	2.9 4.5	1.2 2.0	600 000 350 000	925 1 025				1L4
1L6	T-5½	Heptode	7DC-0-0	Filament	1.4	0.050	0.36m	7.5	12.0	Converter	90	0	45	0.5	0.6	650,000 \dagger	300 Δ	(Ga = 90 V 1.2 Ma)			1L6
1LA4	Lock-in	Power Pent	5AD-L-0	Filament	1.4	0.050				Power Amp.	85 90	4.5 4.5	85 90	3.5 4.0	0.7 0.8	300,000 300 000	800 850		25 000 25 000	100 115	1LA4
										Converter	90	0.0	45	0.55	0.6	750,000	250 Δ	(Ga = 90 V Max. 1.2 Ma.)			
1LA6	Lock-in	Heptode	7AK-L-0	Filament	1.4	0.050	0.4	7.5	8.0	Power Amp.	45 67.5 90	4.5 6.0 9.0	45 67.5 90	1.6 3.8 5.0	0.3 0.8 1.0	400 000 300 000 250,000	650 875 925		20,000 16,000 12,000	35 100 200	1LA6
1LB4	Lock-in	Power Pent	5AD-L-0	Filament	1.4	0.050				Power Amp.	45 67.5 90	4.5 6.0 9.0	45 67.5 90	1.6 3.8 5.0	0.3 0.8 1.0	400 000 300 000 250,000	650 875 925		20,000 16,000 12,000	35 100 200	1LB4
1LB6	Lock-in	Heptode	8AX-L-0	Filament	1.4	0.050	0.1	3.8	8.0	Converter	90	0.0	67.5	0.40	2.2	2 Meg \dagger	100 Δ				1LB6
1LC5	Lock-in	Pentode	7AO-L-8	Filament	1.4	0.050	.007m	3.2	7.0	R-F Amp.	45 90	0.0 0.0	45 45	1.1 1.15	0.35 0.30	700,000 1.5 Meg.	750 775				1LC5
1LC6	Lock-in	Heptode	7AK-L-0	Filament	1.4	0.050	0.28	9.0	5.5	Converter	45 90	0.0 0.0	35 35	0.7 0.75	0.75 0.7	300,000 650 000	250 Δ 275 Δ	(Ga = 45 V Max., 1.4 Ma.) (Ga = 45 V Max., 1.4 Ma)			1LC6
1LD5	Lock-in	Diode Pent.	6AX-L-8	Filament	1.4	0.050	0.18	3.2	6.0	Amplifier	45 90	0.0 0.0	45 45	0.55 0.6	0.12 0.1	750 000 750,000	550 575				1LD5
1LE3	Lock-in	Triode	4AA-L-0	Filament	1.4	0.050	1.7	1.7	3.0	Amplifier	90 90	0.0 3.0		4.5 1.4		11 200 19,000	1 300 760	14.5 14.5			1LE3
1LG5	Lock-in	Pentode	7AO-L-8	Filament	1.4	0.050	.007m	3.2	7.0	R-F Amp.	45 90 90	0 0 1.5	45 45 90	1.5 1.7 3.7	0.45 0.4 0.9	350,000 \dagger 1 000,000 \dagger 500,000 \dagger	800 800 1,050				1LG5
1LH4	Lock-in	Diode Triode	5AG-L-1	Filament	1.4	0.050				Det. Amp	90	0.0		0.15		240 000	275	65			1LH4
1LN5	Lock-in	Pentode	7AO-L-8	Filament	1.4	0.050	.007m	3.4	8.0	R-F Amp	90	0.0	90	1.6	0.35	1.1 Meg	800				1LN5

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (?) Capacitances in $\mu\text{f.}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin.	Cout.												
1S5	T-5½	Diode Pent.	6AU-0-0	Filament	1.4	0.050	0.2	2.0	4.0	Det. Amp.	67.5	0.0	67.5	1.6	0.4	600,000	625			1S5	
1S6	T-3	Diode Pent.	8DA-0-0	Filament	1.25	0.040				Det. Amp.	30 45 67.5	0 0 0	30 45 67.5	0.33 0.75 1.6	0.1 0.21 0.4	500,000 500,000 400,000	330 475 600			1S6	
1SA6GT	T-9	Pentode	6BD-0-0	Filament	1.4	0.050	.01m	5.2	8.6	R-F Amp.	45 67.5 90	0 0 0	45 67.5 67.5	1.1 2.4 2.45	0.3 0.7 0.68	700,000 600,000 800,000	750 950 970			1SA6GT	
1SB6GT	T-9	Diode Pent.	6BE-0-0	Filament	1.4	0.050	0.25	3.2	3.0	Det. Amp.	90 45	0 0	67.5 45	1.45 0.6	0.38 0.16	700,000 900,000	665 500			1SB6GT	
1T4	T-5½	Pentode	6AR-0-1&5	Filament	1.4	0.050	008m	3.8	7.5	R-F Amp.	45 90	0.0 0.0	45 67.5	1.7 3.5	0.7 1.4	350,000 500,000	700 900			1T4	
1T5GT	T-9	Power Pent	6X-0-0	Filament	1.4	0.050	0.5	4.8	8.0	Power Amp.	90	6.0	90	6.5	1.4		1150		14,000	170	1T5GT
1T6	T-3	Diode Pent.	8DA-0-0	Filament	1.25	0.040				Det. Amp.	30. 45 67.5	0 0 0	30 45 67.5	0.33 0.75 1.6	0.1 0.21 0.4	500,000 500,000 400,000	330 475 600			1T6	
1U4	T-5½	Pentode	6AR-0-1&5	Filament	1.4	0.050	008m	3.6	7.5	R-F Amp.	90	0	90	1.6	0.45	1.6 Meg. \downarrow	900			1U4	
1U5	T-5½	Diode Pent.	6BW-0-0	Filament	1.4	0.050	0.2	2.2	2.4	Det. Amp.	Characteristics Same as Type 1S5.										1U5
1U6	T-5½	Heptode	7DC-0-0	Filament	1.4	0.025	0.4	8.0	12.0	Converter	67.5 90	0 0	45 45	0.5 0.6	0.7 0.6	500,000 500,000	260 Δ 275 Δ	(Ga = 67.5 V., 1.0 Ma.) (Ga = 90 V., 1.1 Ma.)		1U6	
1V	T-9	Diode	4G-0-0	Cathode	6.3	0.300				H-W Rect.	325 A.C. Volts Per Plate. RMS 45 Ma. Output Current. Condenser Input to Filter.										1V
1V2	T-6½	Diode	9U-0-0	Filament	0.625	0.300				H-W Rect.	Television Service. RF or Flyback Supply. Peak Inverse Volts = 8.250. Output = 0.6 Ma.										1V2
1V5	T-3	Pentode	8CP-0-0	Filament	1.25	0.040				Power Amp.	Characteristics Same as Type 1AC5										1V5
1W4	T-5½	Power Pent	5BZ-0-0	Filament	1.4	0.050				Power Amp.	45 62.5 67.5 90	4.5 5.0 6.0 9.0	45 62.5 67.5 90	1.6 3.8 3.8 5.0	0.3 0.8 0.8 1.0	400,000 300,000 300,000 250,000	650 875 875 925	20,000 16,000 16,000 12,000	35 90 100 200	1W4	
1W5	T-3	Pentode	8CP-0-0	Filament	1.25	0.040	.01m	2.3	3.5	R-F Amp.	30 67.5	0.0 0.0	30 67.5	0.42 1.85	0.16 0.75	700,000 700,000	430 735			1W5	
1X2	T-6½	Diode	9Y-0-1 etc.	Filament	1.25	0.200				H-W Rect.	Television Service. RF or Flyback Supply. Peak Inverse Volts = 15 KV. Output = 1 Ma.										1X2
1X2A	T-6½	Diode	9Y-0-1 etc.	Filament	1.25	0.200				H-W Rect.	Television Service. RF or Flyback Supply. Peak Inverse Volts = 17.5 KV. Output = 1 Ma.										1X2A
1X2B	T-6½	Diode	9Y	Filament	1.25	0.200				H-W Rect.	Television Service. RF or Flyback Supply. Peak Inverse Volts = 22 KV. Output = 0.5 Ma.										1X2B
1Y2	ST-12	Diode	4P-0-0	Filament	1.5	0.290				H-W Rect.	15,000 A.C. Volts Per Plate. RMS 2.0 Ma. Output Current.										1Y2
1Z2	T-5½	Diode	7CB-0-0	Filament	1.5	0.300				H-W Rect.	7,800 Volts RMS Plate. 2.0 Ma. D.C. Output Current.										1Z2
2A3	ST-16	Triode	4D-0-0	Filament	2.5	2.500	16.0	7.0	5.0	S.T. A1 Amp. P.P. AB1 Amp.	250 300	45.0 62.0	60.0 80.147 \uparrow		800	5,250	4.2	2,500 3,000 \uparrow	3,500 15,000	2A3	
2A4G	ST-12	Gas Triode	5S-0-0	Filament	2.5	2.500				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	Beam Pent	6B-0-0	Cathode	2.5	1.750				Power Amp.	Characteristics Same as Type 6F6G										2A5
2A6	ST-12	Duodiode Tri.	6G-0-0	Cathode	2.5	0.800	1.7	1.7	3.8	Det. Amp.	250	2.0		0.9		91,000	1,100	100			2A6
2A7	ST-12	Heptode	7C-0-0 7C-6-0	Cathode	2.5	0.800	0.3m	8.5	9.0	Converter	Characteristics Same as Type 6A7										2A7 2A7S
2AF4A 2AF4B	T-5½	Triode	7DK	Cathode	2.35	0.600	1.9	2.2	1.4	UHF Osc.	100					Grid Resistor = 10,000 Ohms. Grid Current = 750 μa Plate Resistor = 220 Ohms. Type 2AF4B Has Higher Heater-Cathode Voltage Ratings Than Otherwise Identical Type 2AF4A				2AF4A 2AF4B	
2B3	T-9	Diode	8HC-0-7	Filament	1.75	0.250				H-W Rect.	Television Service. Flyback Supplies. Peak Inverse Volts = 22 KV. Output = 0.5 Ma.										2B3
2B5	T-3	Duotriode	8DP-0-0	Filament	2.4 1.2	0.130 0.260	1.2* 1.2*	0.9* 0.9*	1.9* 2.2*	Amplifier #	90	1.0		2.6		18,700		21.5			2B5
2B7 2B7S	ST-12	Duodi. Pent.	7D-0-6 7D-6-6	Cathode	2.5	0.800	See Type 6B7			Det. Amp.	Characteristics Same as Type 6B7										2B7 2B7S
2BN4	T-5½	Triode	7EG	Cathode	2.31	0.600	1.2	3.2	1.4	VHF Amp.	Characteristics Same as Type 6BN4. (2BN4 Designed for Series String TV Receivers)										2BN4
2BN4A	T-5½	Triode	7EG	Cathode	2.35	0.600	1.2	3.2	1.4	VHF Amp.	Characteristics Same as Type 6BN4A. (2BN4A Designed for Series String Receivers.)										2BN4A
2C4	T-5½	Gas Triode	5AS-0-0	Cathode	2.5	0.650				Relay Tube	350	50				Peak Cathode Ma. = 20. DC Cathode Ma. = 5. Approx. Drop at 5 Ma. = 16 V				2C4	
2C21	ST-12	Duotriode	7BH-0-0	Cathode	6.3	0.600	2.4 1.6	2.6 1.6	1.4 2.0	Amplifier Power Amp.	250 250	16.5 60.0		8.3 20.0		7,600	1,375	10.4	20,000	3,500	2C21
2C22	T-9	Triode	4AM-0-0	Cathode	6.3	0.300	3.6	2.2	0.7	Amplifier	300	10.5		11.0		6,600	3,000	20.0			2C22
2C50	T-9	Duotriode	8BD-0-0	Cathode	12.6	0.300				Amplifier #	200	11		18		3,450	2,900	10			2C50
2C51	T-6½	Duotriode	8CJ-0-5	Cathode	6.3	0.300	1.3	2.2	1.0	Amplifier	150	240 μ		8.2		6,500	5,500	35			2C51
2C52	T-9	Duotriode	8BD-0-0	Cathode	12.6	0.300	2.7*	2.3*	0.75*	Amplifier	250	2.0		1.3		1,900	100				2C52
2CY5	T-5½	Tetrode	7EW-0-2.7	Cathode	2.4	0.600	0.3	4.5	3.0	VHF Amp.	Characteristics Same as Type 6CY5. (2CY5 Designed for Series String TV Receivers.)										2CY5
2D21	T-5½	Gas Tetrode	7BN-0-0	Cathode	6.3	0.600	0.2*	2.4*	1.6*	Relay Tube	400	5				Average Cathode Current = 100 Max. Ma., Averaged over any 30 Sec. Interval					2D21
2E5	T-9	Electron Ray	6R-0-0	Cathode	2.5	0.800				Indicator	Characteristics Same as Type 6E5										2E5
2EA5	T-5½	Tetrode	7EW	Cathode	2.4	0.600	0.5	4.5	3.0	VHF Amp.	Characteristics Same as Type 6EA5. (2EA5 Designed for Series String Receivers.)										2EA5
2EN5	T-5½	Duodiode	7FL	Cathode	2.1	0.450		3.8		Phase-Comparator	Diode Current for Continuous Operation (Each Plate) = 5.0 Ma. (Design Max. System) Diode Characteristics With 5.0 Volts Applied. Ib = 2.0 Ma. (Each Plate—Test Condition Only)										2EN5
2EV5	T-5½	Tetrode	7EW	Cathode	2.4	0.600	0.35	4.5	2.9	VHF Amp.	Characteristics Same as Type 6EV5. (2EV5 Designed for Series String Receivers.)										2EV5

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate, RF Input, Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)

Per Tube or Section. § Plate and Target Supply Voltage. † Maximum Signal. □ Applied through 20,000 ohms. ▲ Conversion Transconductance. ** Triode Operation. †† Plate to Plate. ‡ Approximate. m maximum Cathode Resistor (ohms).



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate F—Filament; Fc—Filament Center G—Grids numbered according to their position from the cathode H—Heater Hc—Heater Center, Ht—Heater Tap IC—Internal Connection DO NOT USE. J—Jumper, K—Cathode, NC—No Connect on; P—Plate, Rc—Ray Control; S—Metal Shell SA—Starter Anode T—Target; XS—External Shield □—Top Cap ■—Locating Key

PENNSYLVANIA 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	Trans-conductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp	Cin	Cout												
2E26	T-9	Beam Pent.	7CK-8-1,4,6	Cathode	6.3	0.800	02*	12.5*	7.0*	Class C Amp.	300	40.0	185	60.0	11.0	Driving Power = 0.12 Watts. D.C. Grid No. 1 Current = 3.0 Ma.			20,000	2E26	
2FV6	T-5½	Tetrode	7FQ	Cathode	2.4I	0.600	03	4.5	3.0	VHF Amp.	Characteristics Same as Type 6FV6. (2FV6 Designed for Series String Receivers).										2FV6
2J2	T-6½	Diode	9DT	Cathode	2.0	0.350				Fly Back H-W Rect.	Maximum Peak Inverse Plate Voltage = 23,500 Volts. Maximum Peak Plate Current = 80 Ma. (Abs. Max.). Maximum Average Plate Current = 0.2 Max.										2J2
2S/4S	ST-12	Duodiode	5D-4-0	Cathode	2.5	1.350				Detector	The Two Diode Plates each Draw Approximately 40.0 Ma. with 50 Volts D.C. on the Plates.										2S/4S
2T4	T-5½	Triode	7DK-0-0	Cathode	2.35I	0.600	1.7*	2.6*	0.4*	UHF Osc.	Characteristics Same as Type 6T4. (2T4 Designed for Series String TV Receivers).										2T4
2V3G	ST-12	Diode	4Y-0-0	Filament	2.5	5.000				H-W Rect.	6000 A.C. Volts Per Plate. RMS 2 Ma. Output Current. Condenser Input to Filter										2V3G
2W3GT	T-9	Diode	4X-0-0	Filament	2.5	1.500				H-W Rect.	350 A.C. Volts Per Plate. RMS 55 Ma. Output Current. Condenser Input to Filter										2W3GT
2X2	ST-12	Diode	4AB	Filament	2.5	1.750					Maximum Inverse Plate Voltage = 12,500 Volts. Maximum Peak Current = 60 Ma. Maximum Average Current = 7.5 Ma. Maximum RMS Supply Voltage = 5,500 Volts. Characteristics Same as 2X2										2X2
2X2A(3)																					2X2A
2X2/879	ST-12	Diode	4AB-0-0	Cathode	2.5	1.750				H-W Rect.	4500 A.C. Volts Per Plate. RMS 7.5 Ma. Output Current. Condenser Input to Filter										2X2/879
2Z2/G84	ST-12	Diode	4B-0-0	Filament	2.5	1.500				H-W Rect.	350 A.C. Volts Per Plate. RMS 50 Ma. Output Current.										2Z2/G84
3A2	T-6½	Diode	9DT-0-1	Cathode	3.15	0.220				H-W Rect.	Television Service. Peak Inverse Volts = 18 KV. Peak Current = 80 Ma. Average Current = 1.5 Ma.										3A2
3A3	T-9	Diode	4AC-0-7	Cathode	3.15	0.220				H-W Rect.	Television Service. Peak Inverse Volts = 30 KV. Peak Current = 80 Ma. Average Current = 1.5 Ma.										3A3
3A4	T-5½	Pentode	7BB-0-0	Filament	1.4 2.8	0.200 0.100	0.35m	4.8	7.0	Power Amp.	135 150	7.5 8.4	90 90	14.8 13.3	2.6 2.2	90,000 100,000	1,900 1,900		8,000 8,000	600 700	3A4
3A5	T-5½	Duotriode	7BC-0-0	Filament	1.4 2.8	0.220 0.110	3.0	1.1	1.9	Amplifier	90 135	2.5 20.0		3.7# 30.0		Push-Pull Class C R F Amplifier		15		2,000	3A5
3A8GT	T-9	Diode Triode Pentode	8AS-0-1	Filament	1.4 2.8	0.100 0.050	2.0 0.12m	2.6 3.0	4.2 10.0	Tri. Amp. Pent. Amp.	90 90	0.0 0.0	90	0.2 1.5	0.3	200,000 800,000	325 750				3A8GT
3AF4A	T-5½	Triode	7DK-0-0	Cathode	3.2I	0.450	1.9	2.2	1.4	UHF Osc.	Characteristics Same as Type 2AF4A.										3AF4A
3AL5	T-5½	Duodiode	6BT-0-6	Cathode	3.15I	0.600				Detector	Characteristics Same as Type 6AL5. (3AL5 Designed for Series String TV Receivers).										3AL5
3AU6	T-5½	Pentode	7BK-0-2	Cathode	3.15I	0.600	0.035m	5.5*	5.0*	R.F. Amp.	Characteristics Same as Type 6AU6. (3AU6 Designed for Series String TV Receivers).										3AU6
3AV6	T-5½	Duodiode Tri.	7BT-2-0	Cathode	3.15I	0.600	2.1	2.3	0.9	Def. Amp.	Characteristics Same as Type 6AV6. (3AV6 Designed for Series String TV Receivers).										3AV6
3B2	T-12	Diode	8GH-0-7	Cathode	3.15	0.220				H-W Rect.	Television Service. Pulsed Rectifier Service. Max. Peak Inverse Volts = 35 Kv. Output = 1.1 Ma.										3B2
3B4	T-5½	Beam Amp.	7CY	Filament	2.50 1.25	0.165 0.330	0.16	4.6	7.6	VHF Power Amp.	150	75	135			1,700				1,250	3B4
3B5GT	T-9	Beam Amp.	7AP-0-0	Filament	1.4 2.8	0.100 0.050				Power Amp.	45 67.5	4.5 7.0	45 67.5	4.4 6.7	0.3 0.5	100,000 100,000	1,400 1,500		8,000 5,000	70 180	3B5GT
3B7	Lock-in	Duotriode	7BE-L-0	Filament	2.8 1.4	0.110 0.220	2.6	1.4	2.6	Power Amp. Oscillator	135 180	0		22.0 25.0	(Class AB2) (Class C)	1,900	20	16,000	1,500		3B7
3BA6	T-5½	Pentode	7BK-0-2	Cathode	3.15I	0.600	0.035m*	5.5*	5.0*	I-F or R-F Amplifier	Characteristics Same as Type 6BA6. (3BA6 Designed for Series String TV Receivers).										3BA6
3BC5	T-5½	Pentode	7BD-0-2&7	Cathode	3.15I	0.600	02	6.6	2.6	VHF Amp.	Characteristics Same as Type 6BC5. (3BC5 Designed for Series String TV Receivers).										3BC5
3BE6	T-5½	Heptode	7CH-0-0	Cathode	3.15I	0.600	0.1m*	5.5*	8.0*	Converter	Characteristics Same as Type 6BE6. (3BE6 Designed for Series String TV Receivers).										3BE6
3BN4	T-5½	Triode	7EG	Cathode	3.0I	0.450	1.2	3.2	1.4	VHF Amp.	Characteristics Same as Type 6BN4. (3BN4 Designed for Series String TV Receivers).										3BN4
3BN4A	T-5½	Triode	7EG	Cathode	3.0I	0.450	1.2	3.2	1.4	VHF Amp.	Characteristics Same as Type 6BN4A. (3BN4A Designed for Series String Receivers.)										3BN4A
3BN6	T-5½	Gated Beam	7DF-0-1	Cathode	3.15I	0.600				Quad Det.	Characteristics Same as Type 6BN6. (3BN6 Designed for Series String TV Receivers).										3BN6
3BU8	T-6½	Duo Pentode	9FG-0-2	Cathode	3.15I	0.600	G3 to P 1.9	6.0	3.0	Sync. Sep.	Characteristics Same as Type 6BU8. (3BU8 Designed for Series String TV Receivers.)										3BU8
3BY6	T-5½	Heptode	7CH-0-0	Cathode	3.15I	0.600	08m*	5.4*	7.6*	Sync. Sep.	Characteristics Same as Type 6BY6. (3BY6 Designed for Series String TV Receivers).										3BY6
3BZ6	T-5½	Pentode	7CM-0-7	Cathode	3.15I	0.600	015m	7.5	2.8	VHF Amp.	Characteristics Same as Type 6BZ6. (3BZ6 Designed for Series String TV Receivers).										3BZ6
3C2	T-12	Diode	8FV-0-4,7,8	Filament	3.15/ 1.58	0.210/ 0.420				H-W Rect.	Television Service. Flyback Supplies. Peak Inverse Volts = 28 KV. Output = 1.1 Ma.										3C2
3C5GT	T-9	Pentode	7AP-0-0	Filament	1.4 2.8	0.100 0.050				Power Amp.	90 90	9.0 9.0	90 90	6.0 6.0	1.4 1.4	1,550 1,450		8,000 10,000	240 260	3C5GT	
3C6/XXB	Lock-in	Duotriode	7BW-0-0	Filament	1.4	0.100			Sec. 1 Sec. 2 Sec. 2	Det. Amp.	90 90 90 90	0 0 0 0		4.5 4.5 4.5 3.2		11,200 11,200 11,200 12,800	1,300 1,300 1,300 1,100	14.5 14.5 14.5 14.1			3C6/XXB
3CB6	T-5½	Pentode	7CM-0-7	Cathode	3.15I	0.600	02m*	6.5*	2.0*	Amplifier	Characteristics Same as Type 6CB6. (3CB6 Designed for Series String TV Receivers).										3CB6
3CE5	T-5½	Pentode	7BD	Cathode	3.15I	0.600	03*	6.5*	1.9*	VHF Amp.	Characteristics Same as Type 6CE5. (3CE5 Designed for Series String TV Receivers).										3CE5
3CF6	T-5½	Pentode	7CM	Cathode	3.15I	0.600	015*	6.5*	3.0*	VHF Amp.	Characteristics Same as Type 6CF6. (3CF6 Designed for Series String TV Receiver)										3CF6
3CS6	T-5½	Heptode	7CH-0-0	Cathode	3.15I	0.600	05* 0.36*	5.5* 7.0*	7.5*	Sync. Separator	Characteristics Same as Type 6CS6. (3CS6 Designed for Series String TV Receivers).										3CS6
3CY5	T-5½	Tetrode	7EW-0-2,7	Cathode	2.9I	0.450	03	4.5	3.0	VHF Amp.	Characteristics Same as Type 6CY5. (3CY5 Designed for Series String TV Receivers)										3CY5
3D6	Lock-in	Beam Pent.	6BA-L-0	Filament	2.8 1.4	0.110 0.220	0.3	7.5	6.5	Power Amp.	150 150	4.5 20.0	90 135	10.2 23.0	1.8 6.0	(Class A) (Class C)	2,400	14,000	600	1,400	3D6
3D21A 3D21B	ST-14 T-12	Beam Pent.	6BU	Cathode	6.3 12.6	1.700 0.850				HV Pulse Blocking Osc. and Modulator	Maximum Peak Positive Pulse Plate Voltage = 5,000 Volts. Maximum Plate Dissipation = 15 Watts.										3D21A 3D21B
3DK6	T-5½	Pentode	7CM-0-7	Cathode	3.15I	0.600	02*m	6.3*	1.9*	VHF Amp.	Characteristics Same as Type 6DK6. (3DK6 Designed for Series String TV Receivers).										3DK6
3DT6	T-5½	Gated Beam	7EN-0-0	Cathode	3.15I	0.600	02			Quad F. M. Det.	Characteristics Same as Type 6DT6. (3DT6 Designed for Series String TV Receivers).										3DT6

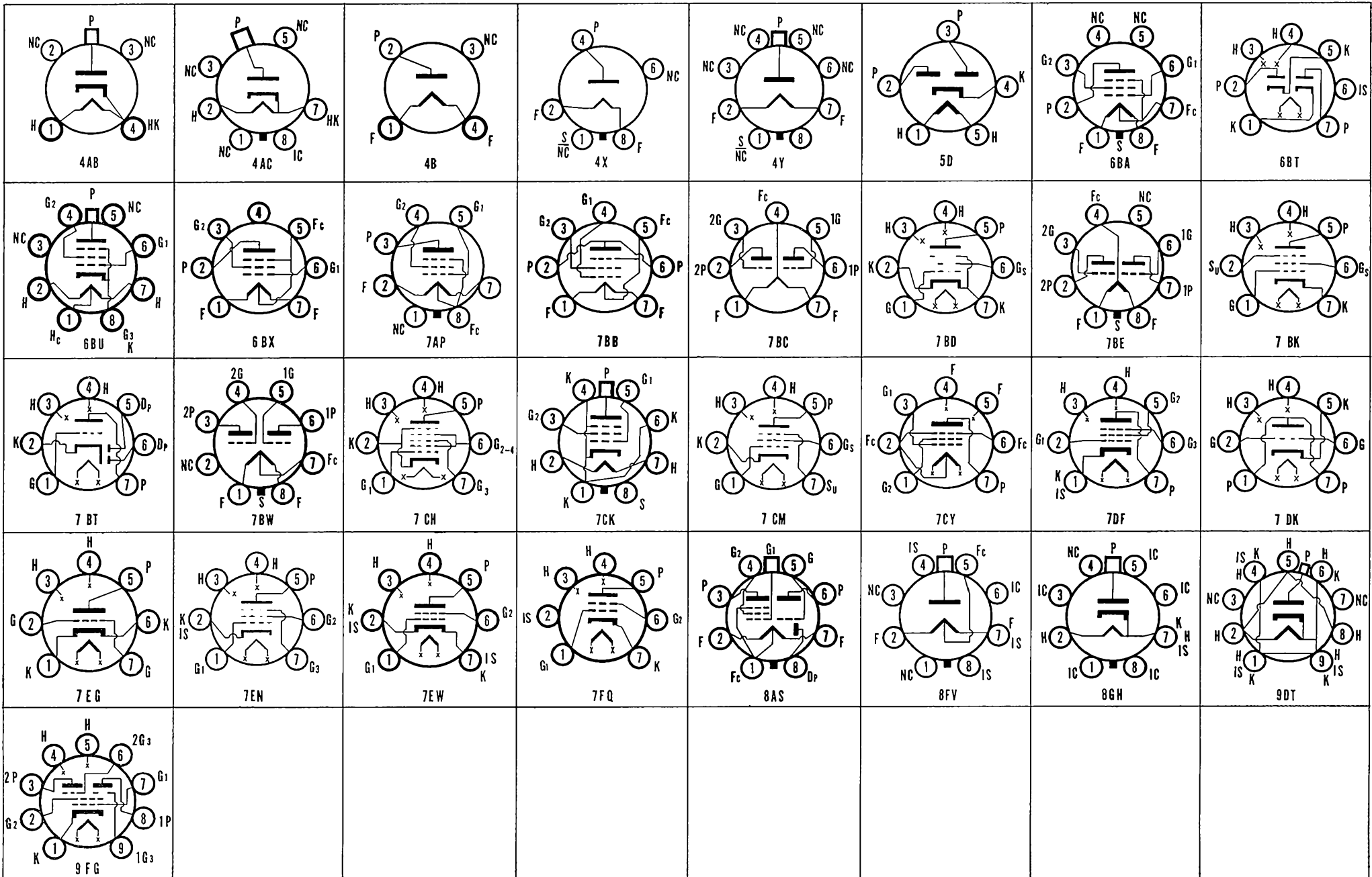
3E5	T-5½	Power Pent	6BX-0-0	Filament	1 4	0 050				Class A1 Parallel Fil	67 5	5 0	67 5	5 5	1 1	120 000	1 400		8 000	125	3E5
					2 8	0 025				Class A1 Series Fil	67 5	5 0	67 5	4 4	0 9	100 000	1 550		8 000	250	
											90	7 0	90	8 0	1 6	130 000	1 300		11 000	115	
											90	7 0	90	6 8	1 4	120 000	1 450		9 000	225	

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

Per Tube or Section
 † Plate and Target Supply Voltage
 ‡ Maximum Signal

□ Applied through 20 000 ohms.
 ▲ Conversion Transconductance.
 ** Triode Operation

†† Plate to Plate
 ‡‡ Approximate
 ▭ maximum
 ▮ Cathode Resistor (ohms)



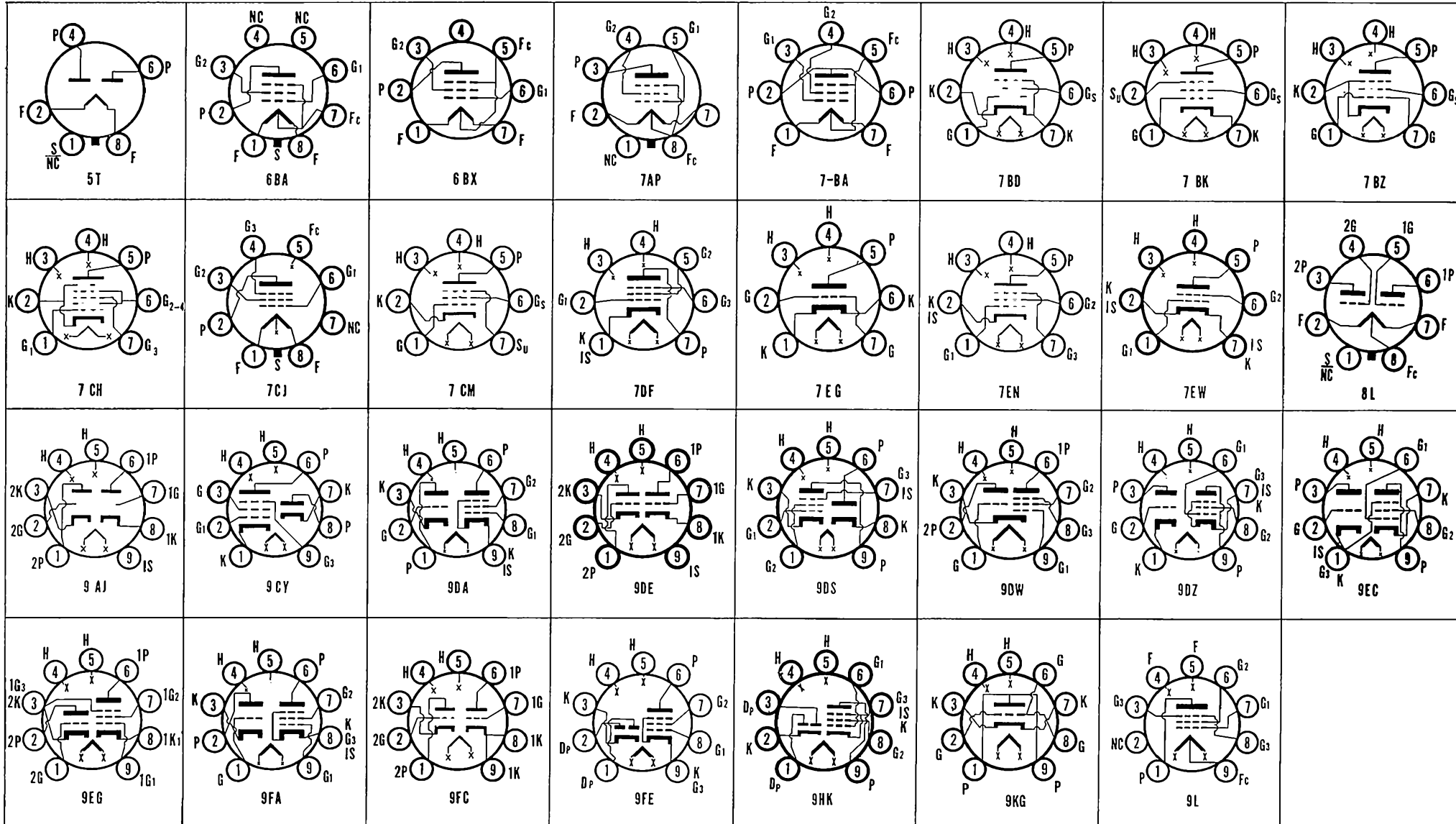
SYMBOLS FOR BASE DIAGRAMS D_p—Diode Plate F—Filament F_c—Filament Center, G—Grids numbered according to their position from the cathode H—Heater H_c—Heater Center H_i—Heater Tap IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connect on, P—Plate R_c—Ray Control S—Metal Shell SA—Starter Anode T—Target X_S—External Shield □—Top Cap. ■—Locating Key

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (?) Capacitances in $\mu\mu\text{f}$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp.	Cin.	Coul.												
3E6	Lock-in	Pentode	7CJ-L-5	Filament	1.4 2.8	0.100 0.050	007m	5.5	7.5	R-F Amp.	90 90	0 0	90 90	4.2 2.9	1.7 1.2	250,000 325,000	2,000 1,700	.....	.....	.....	3E6
3EA5	T-5½	Tetode	7EW	Cathode	2.9I	0.450	.05	4.5	3.0	VHF Amp.	Characteristics Same as Type 6EA5. (3EA5 Designed for Series String Receivers).										3EA5
3EV5	T-5½	Tetode	7EW	Cathode	2.9I	0.450	.035	4.5	2.9	VHF Amp.	Characteristics Same as Type 6EV5. (3EV5 Designed for Series String Receivers).										3EV5
3LE4	Lock-in	Power Pent.	6BA-L-0	Filament	2.8 1.4	0.050 0.100	.....	.....	.....	Power Amp.	90 90	9.0 9.0	90 90	9.0 10.0	1.8 2.0	110,000 100,000	1,600 1,750	.....	6,000 6,000	300 325	3LE4
3LF4	Lock-in	Beam Pent.	6BA-L-0	Filament	1.4 2.8	0.100 0.050	.....	.....	.....	Power Amp.	85 90 110 90 110	5.0 4.5 6.6 4.5 6.6	85 90 110 90 110	7.0 9.5 10.0 8.0 8.5	0.8 1.3 1.4 1.0 1.1	70,000 90,000 100,000 80,000 110,000	1,950 2,200 2,300 2,000 2,000	.....	9,000 8,000 8,000 8,000 8,000	250 270 400 230 330	3LF4
3Q4	T-5½	Power Pent.	7BA-0-0	Filament	1.4 2.8	0.100 0.050	.....	.....	.....	Power Amp.	85 90 90	5.0 4.5 4.5	85 90 90	6.9 9.5 7.7	1.5 2.1 1.7	120,000 100,000 120,000	1,975 2,150 2,000	.....	10,000 10,000 10,000	250 270 240	3Q4
3Q5GT	T-9	Beam Pent.	7AP-0-0	Filament	1.4 2.8	0.100 0.050	.....	.....	.....	Power Amp.	90 90	4.5 4.5	90 90	9.5 8.0	1.3 1.0	90,000 80,000	2,200 2,000	.....	8,000 8,000	270 230	3Q5GT
3S4	T-5½	Power Pent.	7BA-0-0	Filament	1.4 2.8	0.100 0.050	0.3	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
3V4	T-5½	Power Pent.	6BX-0-0	Filament	1.4 2.8	0.100 0.050	.....	.....	.....	Power Amp.	Characteristics Same as Type 3Q4.										3V4
3Z4	T-5½	Power Pent.	7BA	Filament	1.4 2.8	0.050 0.025	.....	.....	.....	Power Amp.	67.5	7.0	67.5	6.5	1.3	100,000	1,450	.....	8,000	210	3Z4
4A6G	ST-12	Duotriode	8L-0-0	Filament	2.0 4.0	0.120 0.060	.....	.....	.....	Power Amp.	90 90	1.5 1.5	.....	1.1 10.8	Class B, Max. Signal 26,600		750	20	8,000	1,000	4A6G
4AU6	T-5½	Pentode	7BK-0-2	Cathode	4.2I	0.450	0035*	5.5*	5.0*	R-F Amp.	Characteristics Same as Type 6AU6. (4AU6 Designed for Series String TV Receivers).										4AU6
4BA6	T-5½	Pentode	7BK	Cathode	4.2I	0.450	0035*	5.5*	5.0*	R-F Amp.	Characteristics Same as Type 6BA6. (4BA6 Designed for Series String TV Receivers).										4BA6
4BC5	T-5½	Pentode	7BD-0-2&7	Cathode	4.2I	0.450	.02	6.6	2.6	VHF Amp.	Characteristics Same as Type 6BC5. (4BC5 Designed for Series String TV Receivers).										4BC5
4BC8	T-6½	Duotriode	9AJ-0-9	Cathode	4.2I	0.600	1.2	2.6	1.3	Class A1 Amp.	Characteristics Same as Type 6BC8. (4BC8 Designed for Series String TV Receivers).										4BC8
4BE6	T-5½	Heptode	7CH	Cathode	4.2I	0.450	0.3*	7.0*	8.0*	Converter	Characteristics Same as Type 6BE6. (4BE6 Designed for Series String TV Receivers).										4BE6
4BN4	T-5½	Triode	7EG	Cathode	4.2	0.300	1.2	3.2	1.4	VHF Amp.	Characteristics Same as Type 6BN4.										4BN4
4BN6	T-5½	Gated Beam	7DF-0-1	Cathode	4.2I	0.450	.....	.....	.....	Quad. F. M. Det.	Characteristics Same as Type 6BN6. (4BN6 Designed for Series String TV Receivers).										4BN6
4BQ7A	T-6½	Duotriode	9AJ-0-9	Cathode	4.2I	0.600	1.15	2.85	1.35	VHF Amp.	Characteristics Same as Type 6BQ7A. (4BQ7A Designed for Series String TV Receivers).										4BQ7A
4BS8	T-6½	Duotriode	9AJ	Cathode	4.5I	0.600	1.15	2.6	1.2	VHF Amp.	Characteristics Same as Type 6BS8. (4BS8 Designed for Series String TV Receivers).										4BS8
4BX8	T-6½	Duotriode	9AJ	Cathode	4.5I	0.600	1.4 1.4	4.9 2.4	2.6 1.25	VHF Amp.	Characteristics Same as Type 6BX8. (4BX8 Designed for Series String TV Receivers.)										4BX8
4BZ6	T-5½	Pentode	7CM	Cathode	4.2I	0.450	015m	7.5	2.8	R-F Amp.	Characteristics Same as Type 6BZ6.										4BZ6
4BZ7	T-6½	Duotriode	9AJ-0-9	Cathode	4.2I	0.600	1.15	2.5	1.35	VHF Amp.	Characteristics Same as Type 6BZ7. (4BZ7 Designed for Series String TV Receivers).										4BZ7
4BZ8	T-6½	Duotriode	9AJ-0-9	Cathode	4.2I	0.600	.....	.....	.....	VHF Amp.	Characteristics Same as Type 6BZ8. (4BZ8 Designed for Series String TV Receivers.)										4BZ8
4CB6	T-5½	Pentode	7CM-0-7	Cathode	4.2I	0.450	.015	6.5	3.0	VHF Amp.	Characteristics Same as Type 6CB6. (4CB6 Designed for Series String TV Receivers).										4CB6
4CE5	T-5½	Pentode	7BD	Cathode	4.2I	0.450	.03*	6.5*	1.9*	VHF Amp.	Characteristics Same as Type 6CE5. (4CE5 Designed for Series String TV Receivers).										4CE5
4CM4	T-6½	Triode	9KG	Cathode	3.8	0.300	3.1	4.2	0.25	VHF Amp.	Characteristics Same as Type 6CM4.										4CM4
4CS6	T-5½	Dual Control Heptode	7CH	Cathode	4.2	0.450	.07* 0.36*	5.5* 7.0*	7.5*	Sync. Sep.	Characteristics Same as Type 6CS6. (4CS6 Designed for Series String TV Receivers).										4CS6
4CX7	T-6½	Duotriode	9FC-0-2	Cathode	4.2I	0.600	1.2	2.4	1.3	Amplifier	Characteristics Same as Type 6CX7. (4CX7 Designed for Series String TV Receivers).										4CX7
4CY5	T-5½	Tetode	7EW-0-2.7	Cathode	4.5I	0.300	.03	4.5	3.0	VHF Amp.	Characteristics Same as Type 6CY5. (4CY5 Designed for Series String TV Receivers).										4CY5
4DE6	T-5½	Pentode	7CM	Cathode	4.2I	0.450	015m	6.5	3.0	VHF Amp.	Characteristics Same as Type 4DE6. (4DE6 Designed for Series String Receivers).										4DE6
4DK6	T-5½	Pentode	7CM-0-7	Cathode	4.2I	0.450	02*m	6.3*	1.9*	VHF Amp.	Characteristics Same as Type 4DK6. (4DK6 Designed for Series String TV Receivers).										4DK6
4DT6	T-5½	Gated Beam	7EN-0-0	Cathode	4.2I	0.450	.02	.....	.....	Quad. F. M. Det.	Characteristics Same as Type 6DT6. (4DT6 Designed for Series String TV Receivers).										4DT6
4ES8	T-6½	Duotriode	9DE	Cathode	4.0	0.600	1.85	.....	0.17	VHF Amp.	Characteristics Same as Type 6ES8. (4ES8 Designed for Series String Receivers).										4ES8
4EW6	T-5½	Pentode	7CM	Cathode	4.2I	0.600	.03	10	3.4	VHF Amp.	Characteristics Same as Type 6EW6. (4EW6 Designed for Series String Operation).										4EW6
5A6	T-6½	Power Pent.	9L-0-0	Filament	5.0 2.5	0.230 0.460	0.1	8.5	9.5	Class B Amp. Class C Amp.	150 150	15 24	139.5 150	40 40	7 11	.....	.....	.....	.....	2,800 3,100	5A6
5AM8	T-6½	Diode Pent.	9CY-0-0	Cathode	4.7I	0.600	.015	6.0	3.4	Amp. Det.	Characteristics Same as Type 6AM8. (5AM8 Designed for Series String TV Receivers).										5AM8
5AN8	T-6½	Tri. Pentode	9DA-0-9	Cathode	4.7I	0.600	1.5* 0.4m*	2.0* 7.0*	0.27* 2.3*	Tri. Amp. Pent. Amp.	Characteristics Same as Type 6AN8. (5AN8 Designed for Series String TV Receivers).										5AN8
5AQ5	T-5½	Beam Pent.	7BZ-0-0	Cathode	4.7I	0.600	0.4*	8.0*	8.5*	Power Amp.	Characteristics Same as Type 6AQ5. (5AQ5 Designed for Series String TV Receivers).										5AQ5
5AS4	ST-16	Duodiode	5T	Filament	5.0	3.000	.....	.....	.....	Full-Wave Rect.	Characteristics Same as Type 5U4GB.										5AS4
5AS4A	T-12	Duodiode	5T	Filament	5.0	3.000	.....	.....	.....	Full-Wave Rect.	Characteristics Same as Type 5U4GB.										5AS4A
5AS8	T-6½	Diode Pent.	9DS-0-7	Cathode	4.7I	0.600	.02*	7.0*	2.4*	Det. Amp.	Characteristics Same as Type 6AS8. (5AS8 Designed for Series String TV Receivers).										5AS8
5AT8	T-6½	Tri. Pentode	9DW-0-0	Cathode	4.7I	0.600	1.5 0.16m	2.4 4.7	1.6	Tri. Osc. Converter	Characteristics Same as Type 6AT8. (5AT8 Designed for Series String TV Receivers).										5AT8
5AV8	T-6½	Tri. Pentode	9DZ-0-7	Cathode	4.7I	0.600	1.5* 0.4m*	2.0* 7.0*	0.34* 3.0*	Tri. Amp. Pent. Amp.	Characteristics Same as Type 6AN8. (5AV8 Designed for Series String TV Receivers).										5AV8
5AW4	T-12	Duodiode	5T-0-0	Filament	5.0	4.000	.....	.....	.....	F-W Rect.	450 A.C. Volts Per Plate. RMS 250 Ma. Output Current with Cap. Input to Filter. Peak Current = 750 Ma. Per Plate.										5AW4
5AX4GT	T-9	Duodiode	5T-0-0	Filament	5.0	2.250	.....	.....	.....	F-W Rect.	350 A.C. Volts Per Plate, R.M.S., 150 Ma. D.C. Output Current. Condenser Input to Filter. 500 A.C. Volts Per Plate, R.M.S., 150 Ma. D.C. Output Current. Choke Input to Filter.										5AX4GT
5AZ4	Lock-in	Duodiode	5T-L-0	Filament	5.0	2.000	.....	.....	.....	F-W Rect.	Characteristics Same as Type 5Y3GT.										5AZ4

5B8	T-6½	Tri. Pentode	9EC-0-1	Cathode	4.7I	0.600	1.7* .05m*	1.9* 6.0*	1.5* 2.6*	Tri. Amp. Pent. Amp.	200 200	180* 150	13 9.5	2.8	5.750 300,000	3.300 6.200	19		5B8
5BE8	T-6½	Tri. Pentode	9EG-0-3	Cathode	4.7I	0.600	1.8* .04m*	2.8* 4.4*	1.5* 2.6*	Tri. Osc. Converter	Characteristics Same as Type 6U8. (5BE8 Designed for Series String TV Receivers).								5BE8
5BK7A	T-6½	Duotriode	9A J-0-9	Cathode	4.7I	0.600	1.8 1.8	3.0 3.0	1.0 0.9	VHF Amp.	Characteristics Same as Type 6BK7A. (5BK7A Designed for Series String TV Receivers).								5BK7A
5BQ7A	T-6½	Duotriode	9A J-0-9	Cathode	5.6I	0.450	1.2	2.6	1.2	VHF Amp	Characteristics Same as Type 6BQ7A. (5BQ7A Designed for Series String TV Receivers).								5BQ7A
5BR8	T-6½	Triode Pentode	9FA	Cathode	4.7I	0.600	0.08 1.8	5.0 2.5	3.5 1.0	Osc. Mixer	Characteristics Same as Type 6BR8. (5BR8 Designed for Series String TV Receivers).								5BR8
5BT8	T-6½	Duodi Pent.	9FE	Cathode	4.7I	0.600	.04m*	7.0*	2.3*	Amp. Def.	Characteristics Same as Type 6BT8. (5BT8 Designed for Series TV Receivers).								5BT8
5BW8	T-6½	Duodi Pent.	9HK	Cathode	4.7I	0.600	.02m*	4.8*	2.6*	R-F or I-F Amplifier	Characteristics Same as Type 6BW8. (5BW8 Designed for Series String Receivers).								5BW8

(1) Values are given shielded unless marked with (*) (3) Has special mechanical and/or life characteristics
(2) Converter tube capacitances given are signal grid to plate; RF Input. Mixer Output (4) Average Contact potential bias developed across specified grid resistor
X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
‡ Per Tube or Section
§ Plate and Target Supply Voltage
† Maximum Signal.
□ Applied through 20 000 ohms
▲ Conversion Transconductance
** Triode Operation
¶ Plate to Plate
‡ Approximate
m maximum
■ Cathode Resistor (ohms)



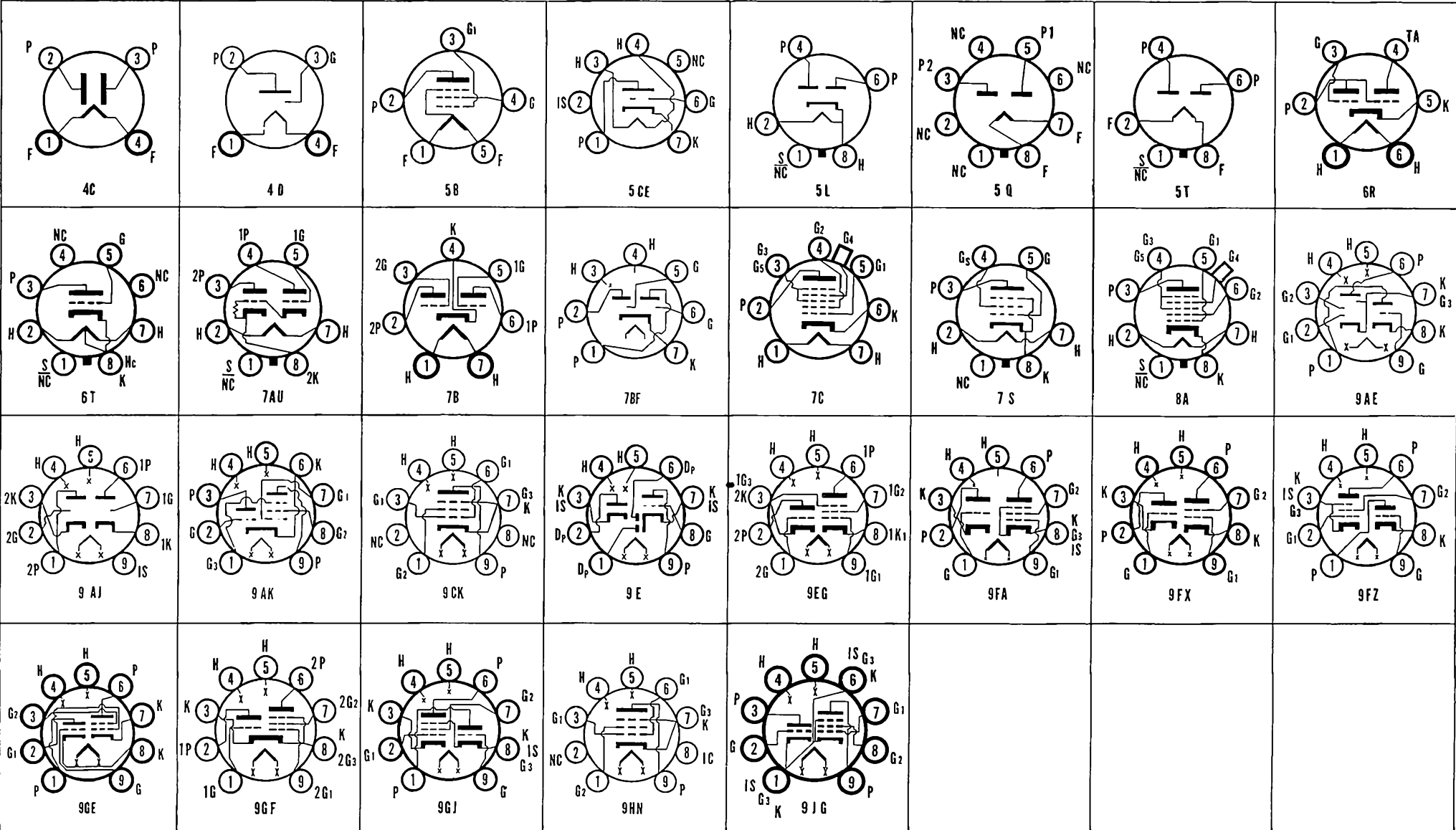
SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate. F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection DO NOT USE, J—Jumper; K—Cathode; NC—No Connection. P—Plate. Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target; XS—External Shield; □—Top Cap; ■—Locating Key

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	Transduc- tance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type	
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Cgp	Cin.	Cout													
5BZ7	T 6½	Duotriode	9AJ-0-9	Cathode	5.6X	0.450	1.2 1.2	2.5 4.9	1.35 2.27	VHF Amp.	Characteristics Same as Type 6BZ7 (5BZ7 Designed for Series String TV Receivers).										5BZ7	
5CG4	T 9	Duodiode	5L	Cathode	5.0	2.0				F-W Rect.	350 A.C. Volts Per Plate RMS 125 Ma Max. D.C. Output Current										5CG4	
5CG8	T 6½	Tri Pentode	9GF	Cathode	4.7X	0.600	1.5 0.2	2.4 4.8	1.0 1.6	Osc. Mixer	Characteristics Same as 6CG8 (5CG8 Designed for Series String TV Receivers.)										5CG8	
5CL8	T 6½	Tri Tetrode	9FX	Cathode	4.7X	0.600	1.8 0.16m	2.7 5.0	1.2 3.0	Osc. Mixer	Characteristics Same as Type 6CL8 (5CL8 Designed for Series String TV Receivers.)										5CL8	
5CL8A	T 6½	Tri Tetrode	9FX	Cathode	4.7X	0.600	1.8 0.1	2.7 5	1.2 3.4	VHF Osc. VHF Amp	Characteristics Same as Type 6CL8A (5CL8A Designed for Series String Receivers).										5CL8A	
5CM6	T 6½	Beam Pent	9CK	Cathode	4.7X	0.600	0.7	8.0	8.5	Power Amp.	Characteristics Same as Type 6CM6 (5CM6 Designed for Series String TV Receivers).										5CM6	
5CM8	T 6½	Tri Pentode	9FZ	Cathode	4.7X	0.600	1.9 0.4m	1.6 6.0	0.22 2.6	Class A1 Amp.	Characteristics Same as 6CM8 (5CM8 Designed for Series String TV Receivers.)										5CM8	
5CQ8	T 6½	Tri Tetrode	9GE	Cathode	4.7X	0.600	1.8 0.15	2.7 5.0	1.2 3.3	VHF Tri Osc. VHF Pent. A.	Characteristics Same as Type 6CQ8 (5CQ8 Designed for Series String TV Receivers)										5CQ8	
5CR8	T 6½	Tri Pentode	9GJ	Cathode	4.7X	0.600	1.6* 0.18*	2.0* 6.0*	1.4* 2.8*	Tri. Amp Pent. Amp	Characteristics Same as Type 6CR8 (5CR8 Designed for Series String Receivers).										5CR8	
5CZ5	T 6½	Beam Pent	9HN	Cathode	4.7X	0.600	0.4*	6.0*	6.0*	Vert Defl Amp	Characteristics Same as Type 6CZ5 (5CZ5 Designed for Series String TV Receivers).										5CZ5	
5DH8	T 6½	Tri Pentode	9EG	Cathode	5.2X	0.600	1.6* 0.3m*	2.4* 6.5*	1.4* 2.2*	Vert Osc Video Amp.	250 125	390 56	125	7.3 13.5	3.8	12,000 150,000	4,400 8,600	53			5DH8	
5EA8	T 6½	Tri Pentode	9AE	Cathode	4.7X	0.600	1.7 0.1	3.2 5	1.1 3.4	Tri. VHF Amp Pent VHF Amp	Characteristics Same as Type 6EA8 (5EA8 Designed for Series String Receivers).										5EA8	
5EH8	T 6½	Tri. Pentode	9JG	Cathode	4.7X	0.600	1.8 0.12	2.8 4.8	2.2 3.2	VHF Osc. VHF Amp	Characteristics Same as Type 6EH8. (5EH8 Designed for Series String Receivers).										5EH8	
5FV8	T 6½	Tri. Pentode	9FA	Cathode	4.7X	0.600	1.8 0.1	2.8 5.0	2.0 3.0	Vert Osc VHF Amp.	Characteristics Same as Type 6FV8 (5FV8 Designed for Series String Receivers).										5FV8	
5GH8	T 6½	Tri. Pentode	9AE	Cathode	4.7X	0.600	1.7 0.1	3.6 5.5	1.1 3.4	Tri Gen Pur. Pent Horiz. Osc.	125	1.0	125	12	4.0	200,000	7,500				5GH8	
5J6	T 5½	Duotriode	7BF-0-0	Cathode	4.7X	0.600	1.5 1.5	2.6 2.6	1.6 1.0	R-F Amp. Osc. Amp	Characteristics Same as Type 6J6. (5J6 Designed for Series String TV Receivers).										5J6	
5R4GY 5R4GYA 5R4GYB	ST 16 T-12	Duodiode	5T-0-0	Filament	5.0	2.000				F-W Rect.	900 Volts RMS Per Plate 150 Ma D-C Output. Condenser Input to Filter. 1950 Volts RMS Per Plate. 175 Ma. D-C Output. Choke Input to Filter										5R4GY 5R4GYA 5R4GYB	
5T4	Metal	Duodiode	5T-0-0	Filament	5.0	2.000				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	
5T8	T 6½	Triple Dio. Tri	9E-0-3&7	Cathode	4.7X	0.600	1.7	1.7	2.4	Det. Amp.	Characteristics Same as Type 6T8 (5T8 Designed for Series String TV Receivers).										5T8	
5U4G	ST 16	Duodiode	5T-0-0	Filament	5.0	3.000				F-W Rect.	450 A.C. Volts Per Plate RMS 225 Ma. Output Current. Condenser Input to Filter										5U4G	
5U4GA	T-11	Duodiode	5T-0-0	Filament	5.0	3.000				F-W Rect.	450 A.C. Volts Per Plate RMS 250 Ma. Output Current with Cap. Input to Filter Peak Current = 900 Ma. Per Plate										5U4GA	
5U4GB	T 12	Duodiode	5T-0-0	Filament	5.0	3.000				F-W Rect.	450 A.C. Volts Per Plate. RMS 275 Ma. Output Current with Cap. Input to Filter Peak Current = 1 Amp. Per Plate										5U4GB	
5U4WG (3)	T-12	Duodiode	5T-0-0	Filament	5.0	3.000				F-W Rect.	Characteristics Same as Type 5U4G										5U4WG (3)	
5U8	T 6½	Tri Pentode	9AE-0-7	Cathode	4.7X	0.600	1.8 0.06m	2.5 5.0	1.0 3.5	VHF Osc. VHF Mixer	Characteristics Same as Type 6U8 (5U8 Designed for Series String TV Receivers).										5U8	
5V3	T-12	Duodiode	5T-0-0	Filament	5.0	3.800				F-W Rect.	425 A.C. Volts Per Plate RMS 350 Ma. Output Current. Capacitor Input to Filter 500 A.C. Volts Per Plate RMS 350 Ma. Output Current. Choke Input to Filter										5V3	
5V4G	ST-14	Duodiode	5L-0-0	Cathode	5.0	2.000				F-W Rect.	375 A.C. Volts Per Plate RMS 175 Ma. Output Current. Condenser Input to Filter										5V4G	
5V4GA	T-12	Duodiode	5L-0-0	Cathode	5.0	2.000				F-W Rect.	375 A.C. Volts Per Plate RMS 175 Ma. Output Current with Cap Input to Filter Peak Current — 525 Ma per Plate										5V4GA	
5V6GT	T-9	Beam Pent.	7S-0-0	Cathode	4.7X	0.600	0.7*	9.0*	7.5*	Power Amp.	Characteristics Same as Type 6V6GT (5V6GT Designed for Series String TV Receivers)										5V6GT	
5W4 5W4GT	Metal T-9	Duodiode	5T-1.0 5T-0-0	Filament	5.0	1.500				F-W Rect.	350 A.C. Volts Per Plate RMS 110 Ma. Output Current. Condenser Input to Filter										5W4 5W4GT	
5X3	ST-14	Duodiode	4C-0-0	Filament	5.0	2.000				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	5Q-0-0	Filament	5.0	3.000				F-W Rect.	450 A.C. Volts Per Plate RMS 225 Ma. Output Current. Condenser Input to Filter										5X4G	
5X4GA	T 12	Duodiode	5Q-0-0	Filament	5.0	3.000				F-W Rect.	450 A.C. Volts Per Plate RMS 250 Ma. Output Current. Capacitor Input to Filter										5X4GA	
5X8	T 6½	Tri Pentode	9AK-0-0	Cathode	4.7X	0.600	1.4 0.6	2.6 4.5	1.0 1.4	Oscillator Mixer	Characteristics Same as Type 6X8 (5X8 Designed for Series String TV Receivers).										5X8	
5Y3GT 5Y3GA 6B-5Y3WGT(3)	T 9 T-12	Duodiode	5T-0-0	Filament	5.0	2.000				F-W Rect.	350 A.C. Volts Per Plate RMS 125 Ma. Output Current. Condenser Input to Filter. 1500 A.C. Volts Per Plate RMS 125 Ma. Output Current. Choke Input to Filter.										5Y3GT 5Y3GA 6B-5Y3WGT	
5Y4GT 5Y4GA	T 9 T-12	Duodiode	5Q-0-0	Filament	5.0	2.000				F-W Rect.	Characteristics Same as Type 5Y3GT										5Y4GT 5Y4GA	
5Z3	ST-16	Duodiode	4C-0-0	Filament	5.0	3.000				F-W Rect.	450 A.C. Volts Per Plate RMS 225 Ma. Output Current. Condenser Input to Filter										5Z3	
5Z4 5Z4GT	Metal T-9	Duodiode	5L-1.0 5L-0-0	Cathode	5.0	2.000				F-W Rect.	350 A.C. Volts Per Plate RMS 125 Ma. Output Current. Condenser Input to Filter										5Z4 5Z4GT	
6A3	ST-16	Power Triode	4D-0-0	Filament	6.3	1.000	16.0	7.0	5.0	S.T. A1 Amp. P.P. AB1 Amp. P.P. AB1 Amp.	250 325 325	45.0 68.0		60.0 80-147† 80-100†	(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	Power Pent	5B-0-0	Filament	6.3	0.300				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	9,500 8,000	700 1,500		6A4/LA
6A5G	ST-16	Triode	6T-0-0	Cathode	6.3	1.250				S.T. A1 Amp P.P. AB1 Amp.	250 325	45.0 68.0		60.0 40.0 Per Tube	300 Push Pull Fixed Bias	5,250	4.2	2,500 3,000†	3,750 15,000		6A5G	

6A6	ST-14	Duotriode	7B 0-0	Cathode	6.3	0 800				Power Amp Driver	300 0 0 250 5 0 294 6 0	17.5-35†	6 0 7 0	Per Plate Class B Push-Pull Operation	11,300 3,100 11,000	35 35	10,000† | 10 000 (Class A Driver) (Class A Driver)	6A6		
6A7, 6A7S	ST-12	Heptode	7C-0-0	Cathode	6.3	0 300	0 3	8 5	9 0	Converter	Characteristics Same as Type 6A8G, Except Capacitances								6A7, 6A7S	
6A8	Metal ST 12	Heptode	8A 1-0	Cathode	6.3	0 300	0 6	12 0	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▲	(G _a = 100V √ 2 0 Ma.) (G _a = 250 √ □, Max. 4 0 Ma.)	6A8 6A8G 6A8GT	
6A8GT	T-9		8A 0-0 8A 1-0				0 26 0 26	9 5 9 5	12 0 12 0									6A8		
6AB4	T-5½	Triode	5CE-0-2	Cathode	6.3	0 150	1 5	2 2	1 4	R F Amp	250	200*		10		10,900	5,500	60	6AB4	
6AB5/6N5	T-9	Electron Ray	6R-0-0	Cathode	6.3	0 150				Indicator	135‡	(Series Plate Resistor 0 25 Meg., Target Current 2 0 Ma., Grid Bias = 10 for 0° Shadow.)						6AB5/6N5		
6AB6G	ST 12	Duotriode	7AU-0-0	Cathode	6.3	0 500				Power Amp	250 250	0	Input Tri Output Tri.	5 0 34 0		40 000	1 800	8 000	3 500	6AB6G

(1) Values are given shielded unless marked with (*) (2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output
 (3) Has special mechanical and/or life characteristics (4) Average Contact potential bias developed across specified grid resistor
 † Per Tube or Section ‡ Plate and Target Supply Voltage § Maximum Signal
 □ Applied through 20 000 ohms. ▲ Conversion Transconductance ** Triode Operation
 †† Plate to Plate ‡‡ Approximate
 m maximum Cathode Resistor (ohms)



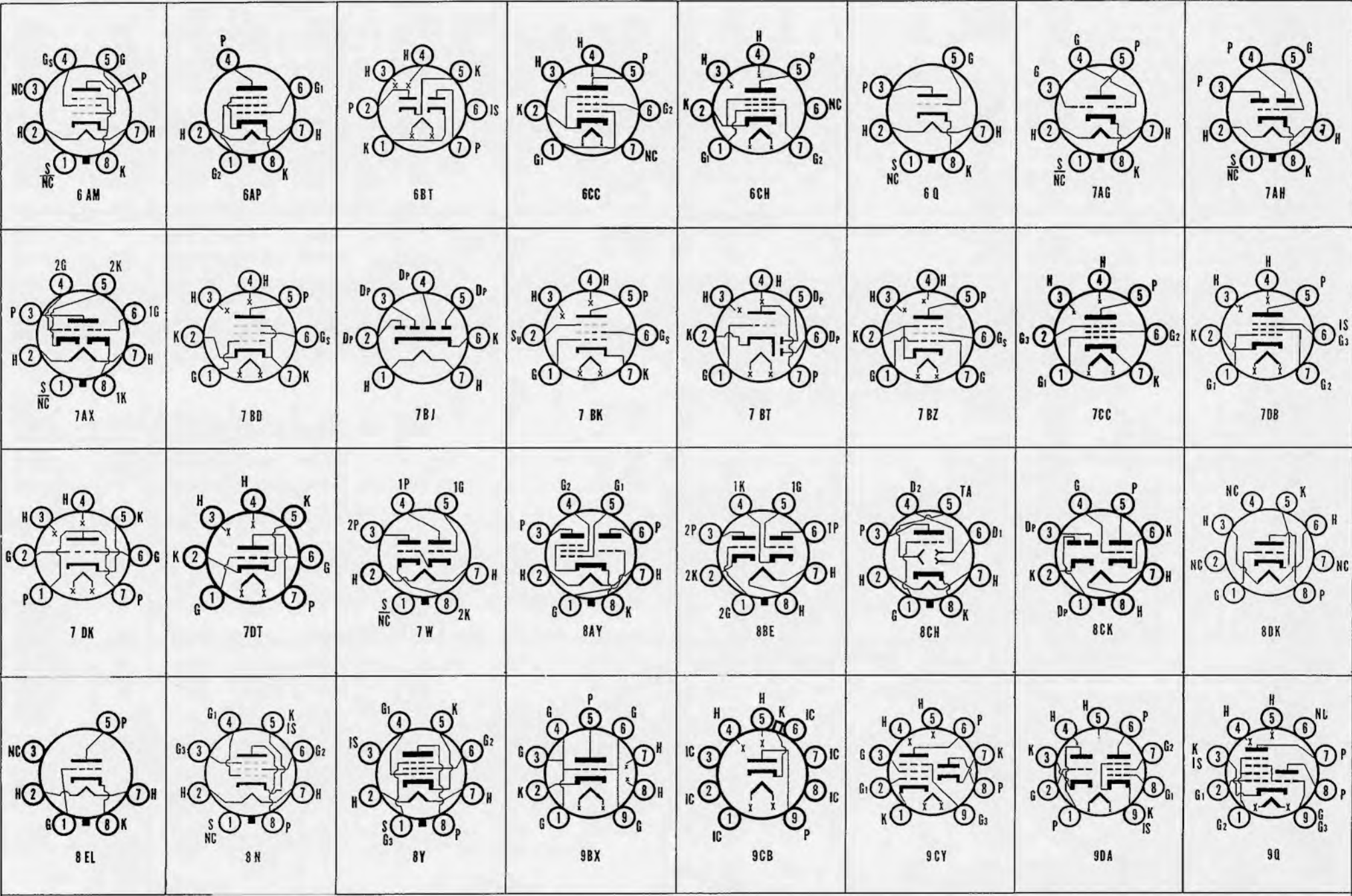
SYMBOLS FOR BASE DIAGRAMS Dp—Diode Plate F—Filament, Fc—Filament Center G—Grids numbered according to their position from the cathode H—Heater Hc—Heater Center Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connect on, P—Plate Rc—Ray Control S—Metal Shell, SA—Starter Anode, T—Target XS—External Shield, □—Top Cap ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Csp	Cin	Cout												
6AB7	Metal	Pentode	8N-1.1	Cathode	6.3	0.450	015m	8 0	5 0	Amplifier	300	3 0	200	12 5	3 2	700 000 \downarrow	5,000	3 500			6AB7
6AC5GT	T 9	Triode	6Q-0-0	Cathode	6.3	0.400				Power Amp	250 250 250	+13 (Bias from 76 Driver) 32 0 10 80 \uparrow			(Class A1 Class B Two Tubes)	36 700 3 400	125		7 000 10 000 \uparrow	3 700 8 000	6AC5GT
6AC6GT	T 9	Duotriode	7W-0-0	Cathode	6.3	1 100				Power Amp	180 180	0,0 0,0		7 0 45 0	(Input Section) (Output)	180 000	3 000	54	3 500	3,600	6AC6GT
6AC7	Metal	Pentode	8N 1 1	Cathode	6.3	0.450	015m	11 0	5 0	Video Amp	300	160 $\#$	150	10 0	2 5	1 0 Meg. \downarrow	9 000	6 750 \downarrow			6AC7
6AD4	T-3	Triode	8DK 0-0	Cathode	6.3	0.150	0.7	1 9	2 2	Osc. Amp	100	820 $\#$		1 4		35 000	2 000	70			6AD4
6AD5G GT	ST 12 T 9	Triode	6Q-0-0	Cathode	6.3	0.300	3 3*	4.1*	3 9*	Amplifier	250	2 0		0 9		66 000	1 500	100			6AD5G GT
6AD6G	T 9	Electron Ray	7AG-0-0	Cathode	6.3	0.150				Indicator	100 $\#$ 150 $\#$	(Ray Control Volts = 45 Approx. For 0° Shadow) (Ray Control Volts = 75 Approx. For 0° Shadow)				23 Volts for 135° Shadow Approx. = 50 Volts for 135° Shadow					6AD6G
6AD7G	ST 14	Tri Pentode	8AY 0-0	Cathode	6.3	0.850				Tri Amp Pent. Amp.	250 250	25 0 16.5	250	4.0 34.0	6 5	19 000 \downarrow 80 000 \downarrow	325 2 500	6	7 000	3 200	6AD7G
6AE5GT	T 9	Triode	6Q 0-0	Cathode	6.3	0.300				Amplifier	95	15		7 0		3 500	1 200	4.2			6AE5GT
6AE6G	ST 12	Duo Plate Triode	7AH-0-0	Cathode	6.3	0.150				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	1 000	25			6AE6G
6AE7GT	T 9	Duotriode	7AX 0-0	Cathode	6.3	0.500	2.5 2 5	3 0 3 0	1 8 1 8	Amplifier	250	13 5	10 0			4,650	3 000	14			6AE7GT
											(Driver for PP 6AC5GT = 250 V 10 Ma. 6AC5GT Plate Ma = 64. Output 9 5 Watts with 10 000 Ohms Load (Sections in Parallel))										
6AF3	T 6 1/2	Diode	9CB	Cathode	6.3	1 200				TV Damper	Maximum Peak Inverse Plate Voltage = 4 500 Volts. Maximum D.C. Plate Current — 185 Ma										6AF3
6AF4A 6AF4	T 5 1/2	Triode	7DK	Cathode	6.3	0.225	1 9	2.2	1 4	UHF Osc.	100	*Grid Resistor = 10 000 Ohms		17		Plate Resistor = 220 Ohms Grid Current — 750 μa					6AF4A 6AF4
6AF5G	ST 12	Triode	6Q-0-0	Cathode	6.3	0.300				Amplifier	180	18.0		7 0		4 900	1 500	7 4			6AF5G
6AF6G	T-9	Twin Elec. Ray	7AG-0-0	Cathode	6.3	0 150				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	T 5 1/2	Pentode	7BD-0-2&7	Cathode	6.3	0.300	025m	6.1	2.3	R-F Amp.	100 125 250	180 $\#$ 100 $\#$ 180 $\#$	100 125 150	4 5 7 2 6.5	1 4 2.1 2 0	600,000 \downarrow 500,000 \downarrow 800,000 \downarrow	4 500 5 100 5 000				6AG5
6AG7	Metal	Pentode	8Y 1 3	Cathode	6.3	0.650	06	13 0	7 5	Amplifier	300	3	150	30 0	7 0	130 000	11 000		10,000	3 000	6AG7
6AH4GT	T 9	Triode	8EL	Cathode	6.3	0.750	4.4*	7 0*	1 7*	Def. Amp.	250	23		30		1 780	4 500	8			6AH4GT
6AH5G	ST 16	Beam Pent	6AP-0-0	Cathode	6.3	0.900				Power Amp	350	18	250	54	2.5	33 000	5 200		4 200	10 800	6AH5G
6AH6	T-5 1/2	Pentode	7CC-0-0	Cathode	6.3	0.450	02m	10 0	3 6	Pent Amp Tri. Amp	300 150	160 $\#$ 160 $\#$	150	10 12 5	2 5	500 000 3 600	9,000 11,000	40			6AH6
6AH6V							035m	10.0	3.6	Designed Especially for Video Amplifier Applications										6AH6V	
6AH7GT	T 9	Duotriode	8BE-0-0	Cathode	6.3	0.300				Amplifier	Characteristics Same as Type 12AH7GT										6AH7GT
6AJ4	T 6 1/2	Triode	9BX	Cathode	6.3	0.225				UHF Amp	125	68 $\#$		16		4 200 \downarrow	10,000	42			6AJ4
6AJ5	T 5 1/2	Pentode	7BD-0-0	Cathode	6.3	0 175	02	4.0	2.8	R-F Amp.	28	1 0	28	2 7	1 0	100 000	2 500				6AJ5
6AJ7	Metal	Pentode	8N 1 1	Cathode	6.3	0.450				R F Amp.	300	160 $\#$	300	10 0	2 5	1 Meg. \downarrow	9 000	9 000			6AJ7
6AK4	T 3	Triode	8DK	Cathode	6.3	0.125	1 3	2.2	2.2	UHF Amp.	200	680 $\#$		9.5		5 300	3 800	20			6AK4
6AK5	T 5 1/2	Pentode	7BD-0 2&7	Cathode	6.3	0.175	02	4	2.8	VHF Amp.	120 180	180 $\#$ 180 $\#$	120 120	7 5 7 7	2 5 2 4	300 000 500 000	5,000 5 100	1 700 3 500			6AK5
6AK6	T 5 1/2	Power Pent	7BK 0-0	Cathode	6.3	0.150	0.12*	3 6*	4.2*	Power Amp.	180	9.0	180	15 0	2 5	200,000	2 300		10,000	1 100	6AK6
6AK7	Metal	Power Pent	8Y 1 3	Cathode	6.3	0.650	06	13 0	7 5	Power Amp	300	3 0	150	30.0	7 0	130 000	11,000		10 000	3,000	6AK7
6AL5	T-5 1/2	Duotriode	6BT 0-6	Cathode	6.3	0.300				Detector	117 A.C. Volts Per Plate RMS 9 Ma. Output Current. 300 Ohms Min Effective Plate Supply Impedance.										6AL5
6AL6G	ST 16	Beam Pent	6AM-0-0	Cathode	6.3	0.900				Power Amp.	Characteristics Same as Type 6L6G										6AL6G
6AL7GT	T 9	Electron Ray	8CH-0-0	Cathode	6.3	0.150				Indicator	315 $\#$	Grid Voltage for Fluorescent C.O. = -7 0 (App.)				8 700 \downarrow	9 800	85			6AL7GT
6AM4	T 6 1/2	Triode	9BX	Cathode	6.3	0.225	2.8	4.6	0.16	UHF Amp.	200	100 $\#$		10		130,000	2 600		16 000	1 400	6AM4
6AM5	T 5 1/2	Pentode	6CH-0-0	Cathode	6.3	0.200				Power Amp.	250	13 5	250	16	2 4	130,000	2 600				6AM5
6AM6	T 5 1/2	Pentode	7DB-0-6	Cathode	6.3	0.300	01	10.0	3 25	R-F Amp.	250	2.	250	10	2 5	1 Meg. \downarrow	7 500				6AM6
6AM8 6AM8A	T 6 1/2	Diode Pent	9CY	Cathode	6.3 6.3X	0.450 0.450	015*	6.5*	2.6*	Amplifier Detector	125 250	56 $\#$ 125	125	12.5	3 2	0.3 Meg 7 800					6AM8 6AM8A
6AN4	T 5 1/2	Triode	7DK	Cathode	6.3	0.225	1 7*	2.9*	0.25*	UHF Amp.	200	100 $\#$		13		7,000	10,000	70			6AN4
6AN5	T 5 1/2	Power Pent	7BD-0-0	Cathode	6.3	0.450	075	9 0	4.8	Power Amp	120	6 0	120	35 0	12 0	12 500 \downarrow	8 000		2 500	1 300	6AN5
6AN6	T 5 1/2	Quadruple Di	7BJ 0-0	Cathode	6.3	0.200				Rectifier	75 Volts RMS Per Plate 8 Ma D C Output Per Plate.										6AN6
6AN7	T 6 1/2	Tri. Hexode	9Q-0-3	Cathode	6.3	0.230	0.1	3 8	9 2	Tri. Osc Converter	250 250 250	Applied through 33,000 Ohms. Applied through 33,000 Ohms				Grid Res. = 22 000 Ohms Grid Res. = 47 000 Ohms	lb = 5 1 Ma lb = 4.8 Ma				6AN7
6AN8 6AN8A	T 6 1/2	Tri. Pentode	9DA	Cathode	6.3 6.3X	0.450 0.450	1 5* 04m*	2.0* 7 0*	0.26* 0.24*	Tri Amp Pent. Amp	200 125	6.0 56 $\#$	125	13 0 12	3 8	5 750 \downarrow 017 Meg m	3 300 7 800	19			6AN8 6AN8A
6AQ4	T 5 1/2	Triode	7DT	Cathode	6.3	0.300	2.5	8 5	0.2	VHF Amp.	250	1 5		10		12,000	8 500	100			6AQ4
6AQ5 6AQ5A	T 5 1/2	Beam Pent	7BZ 0-0	Cathode	6.3 6.3X	0.450 0.450	0.17	8.0	11 0	Power Amp	250 180	12.5 8 5	250 180	45 0 29 0	4.5 3.0	52 000 58 000	4 100 3 700		5,000 5,500	4 500 2,000	6AQ5 6AQ5A
6AQ6	T 5 1/2	Duodiode Tri	7BT 0-0	Cathode	6.3	0.150	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
6AQ7GT	T 9	Duodiode Tri.	8CK-0-0	Cathode	6.3	0.300	2.8	2 3*	1 5*	Det. Amp.	250	2 0		2 3		44 000	1 600	70			6AQ7GT

6AR5	T-5½	Power Pent	6CC-0-0	Cathode	6.3	0.400				Power Amp	250	16.5	250	34	5.7	65,000	2,400	7,000	3.2	6AR5
											250	18.0	250	32	5.5	68,000	2,300	7,600	3.4	

(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics
 (2) Converter tube capacitances given are signal grid to plate; RF Input, Mixer Output. (4) Average Contact potential bias developed across specified grid resistor.
 † Maximum Signal. ‡ Applied through 20,000 ohms. § Plate and Target Supply Voltage. ¶ Plate to Plate. ▴ Conversion Transconductance. ▾ Cathode Resistor (ohms). ** Triode Operation.



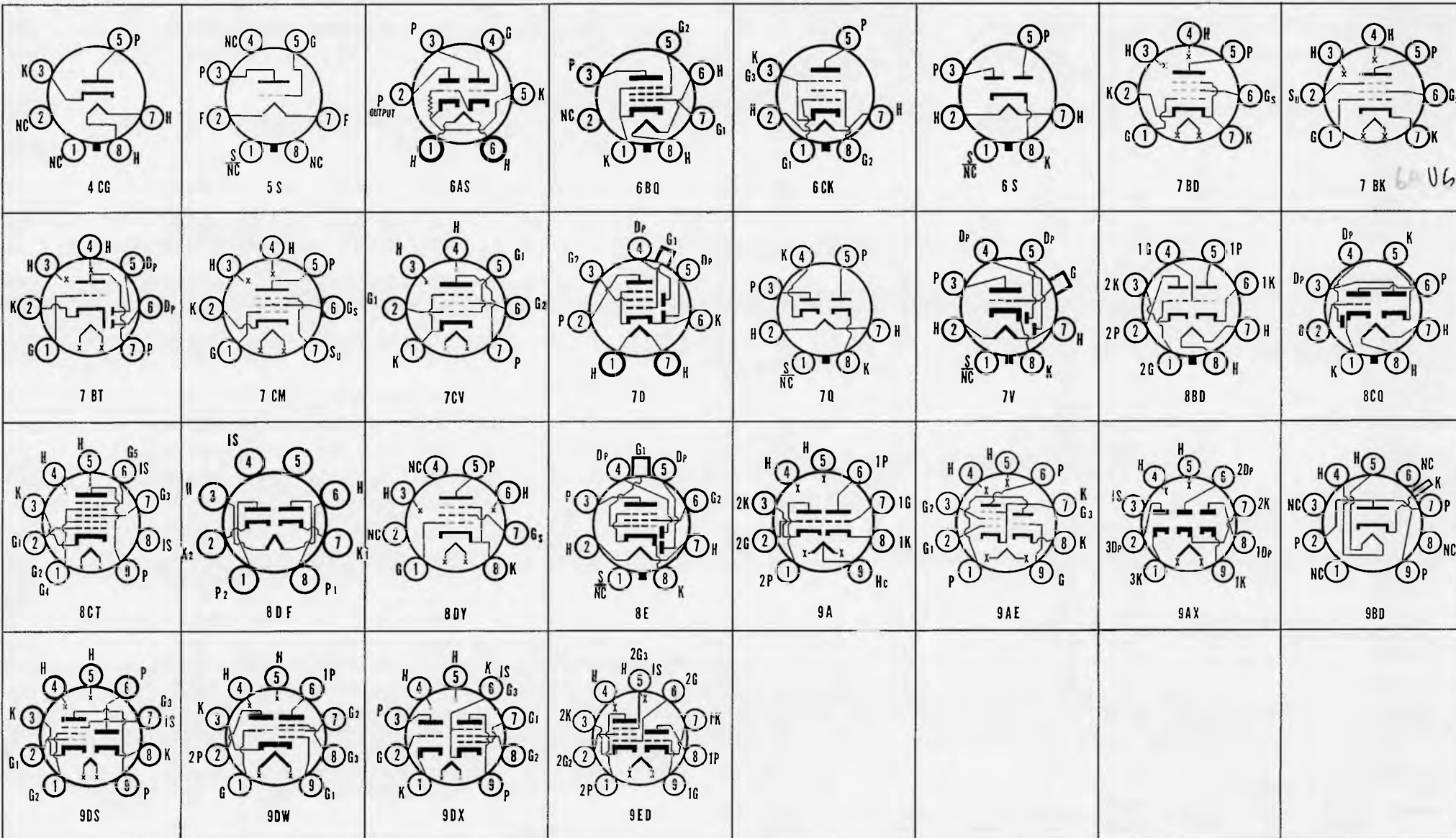
SYMBOLS FOR BASE DIAGRAMS Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode, H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection. DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield, □—Top Cap, ■—Locating Key.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in $\mu\mu$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp.	C'n.	Cout.												
6AR6	T-11	Pentode	6BQ-0-0	Cathode	6.3	1.200	0.55*	11.0*	7.0*	Pent. Amp. Tri. Amp.	250 300 200	22.5 36.0 12.5	250 300	77 58 90	5.0 4.0	21,000 22,000 1,000	5,400 4,300 6,000	113 95 6			6AR6
6AS5	T-5½	Beam Pent.	7CV-0-0	Cathode	6.3	0.800	0.6*	12.0*	6.2*	Power Amp	150	8.5	110	35	2.0		5,600		4,500	2,200	6AS5
6AS6	T-5½	Pentode	7CM-0-0	Cathode	6.3	0.175	0.2	4.0	3.0	R.F. Amp.	190	2.0	120	5.2	3.5	11,000	3,200				6AS6
6AS7G	ST-16	Duo. Pwr Tri.	8BD-0-0	Cathode	6.3	2.500				Regulator	135	250 [■]		112		280	7,000	2			6AS7GT
6AS8	T-6½	Diode Pent.	9DS-0-7	Cathode	6.3X	0.450	0.2*	7.0*	2.4*	Det. Amp.	200	180 [■]	150	9.5	3.0	300,000	6,200				6AS8
6AT6	T-5½	Duodiode Tri.	7BT-0-0	Cathode	6.3	0.300	2.1*	2.3*	1.1*	Det. Amp.	100 250	1.0 3.0		0.8 1.0		54,000 58,000	1,300 1,200	70 70			6AT6
6AT8	T-6½	Tri. Pentode	9DW	Cathode	6.3 6.3X	0.450 0.450	1.5 0.16m	2.4 4.7	1.0 1.6	VHF Osc. VHF Amp.	125 125	1.0 1.0	125	12 9		6,000 300,000	6,500 5,500	40			6AT8 6AT8A
6AU4GT	T-9	Diode	4CG-0-0	Cathode	6.3	1.800				TV Damper	P.I.V. = 4,500 Volts Abs. Max. D.C. Plate Current = 175 Ma. Max.										6AU4GT
6AU4GTA	T-9	Diode	4CG-0-0	Cathode	6.3	1.800				TV Damper	P.I.V. = 4,500 Volts Max. D.C. Plate Current = 210 Ma. Max.										6AU4GTA
6AU5GT	T-9	Beam Pent.	6CK-0-0	Cathode	6.3	1.250	0.5*	11.3*	7.0*	Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 5,500 Volts. Maximum D.C. Plate Current = 110 Ma. Maximum Plate Dissipation = 10 Watts. Maximum Screen Dissipation = 2.5 Watts.										6AU5GT
6AU6	T-5½	Pentode	7BK-0-2	Cathode	6.3	0.300	0.035*	5.5*	5.0*	R.F. Amp.	100 250 250	150 [■] 100 [■] 68 [■]	100 125 150	5.0 7.6 10.6	2.1 3.0 4.3	500,000 1.5 Meg. 1.0 Meg.	3,900 4,500 5,200				6AU6 6AU6A GB-6AU6WB
6AU8	T-6½	Tri. Pentode	9DX-0-6	Cathode	6.3X	0.600	2.2* 0.46*	2.8* 7.0*	0.39* 2.6*	Tri. Amp. Pent. Amp.	150 200	150 [■] 82 [■]	150	9.5 17.0	3.6	7,200 140,000	5,600 8,000	40			6AU8
6AU8A	T-6½	Tri. Pentode	9DX	Cathode	6.3X	0.600	2.2* 0.6*	2.6* 7.5*	0.34* 3.4*	Tri. Amp. Pent. Amp.	150 200	150 [■] 82 [■]	125	9.5 17	3.4	8,100 100,000	5,300 8,000	40			6AU8A
6AV5GT	T-9	Beam Pent.	6CK-0-0	Cathode	6.3	1.200				Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 5,500 Volts. Maximum D.C. Plate Current = 110 Ma. Maximum Plate Dissipation = 11 Watts. Maximum Screen Dissipation = 2.5 Watts.										6AV5GT
6AV5GA	T-11 or T-12	Beam Pentode	6CK-0-0	Cathode	6.3	1.200	0.5*	14.0*	7.0*	Horizontal Def. Amp.	60 250	0 22.5	150 150	225 55	2.5 2.1	Plate Knee Characteristics 20,000 5,500		4.3**	When Eb = 150		6AV5GA
6AV6	T-5½	Duodiode Tri.	7BT-0-0	Cathode	6.3	0.300	2.1	2.3	0.9	Det. Amp.	250 100	2.0 1.0		1.2 0.5		62,500 80,000	1,600 1,250	100 100			6AV6
6AW7GT	T-9	Duodiode Tri.	8CQ-1-0	Cathode	6.3	0.300				Det. Amp.	100	0		1.4		1,200	80			6AW7GT	
6AW8	T-6½	Tri. Pentode	9DX-0-6	Cathode	6.3X	0.600	2.2 0.3 0.3	3.4 11.0 3.4 10.0	1.7 3.6 1.7 4.5	Tri. Amp. Pent. Amp.	200 200	2.0 180 [■]	150	4.0 13.0	3.5	17,500 250,000	4,000 9,000	70			6AW8 6AW8A
6AX4GT	T-9	Diode	4CG	Cathode	6.3	1.200				TV Damper	P.I.V. = 4,400 Volts Max. D.C. Plate Current = 125 Ma. Max.										6AX4GT
6AX4GTA	T-9	Diode	4CG	Cathode	6.3	1.200				TV Damper	P.I.V. = 4,400 Volts Max. D.C. Plate Current = 165 Ma.										6AX4GTA
6AX5GT	T-9	Duodiode	6S-0-0	Cathode	6.3	1.200				F-W Rect.	350 A.C. Volts Per Plate R.M.S. 125 Ma. D.C. Output. Condenser Input to Filter. 450 A.C. Volts Per Plate R.M.S. 125 Ma. D.C. Output. Choke Input to Filter.										6AX5GT
6AX6G	ST-14	Duodiode	7Q-0-0	Cathode	6.3	2.500				F-W Rect.	350 A.C. Volts Per Plate R.M.S. 250 Ma. Output. Condenser Input to Filter.										6AX6G
6AX7	T-6½	Duotriode	9A-0-0	Cathode	6.3/ 3.15X	0.300/ 0.600	1.7* 1.7*	1.6* 1.6*	0.46* 0.34*	Amplifier	Characteristics Same as Type 12AX7. (6AX7 Designed for Series String TV Receivers).										6AX7
6AX8	T-6½	Tri. Pentode	9AE-0-7	Cathode	6.3	0.450	1.8 0.06m	2.5 5.0	1.0 3.5	Sync. Sep. Video Amp.	150 250	56 [■] 120 [■]	110	18 10	3.5	5,000 400,000	8,500 4,800	40			6AX8
6AZ5	T-3	Duodiode	8DF-0-4	Cathode	6.3	0.150				Rectifier	Plate Supply Voltage = 50 Volts RMS. Each Plate. DC Output Current = 4 Ma. Each Plate. Capacitor Input to Filter.										6AZ5
6AZ8	T-6½	Tri. Pentode	9ED-0-5	Cathode	6.3	0.450	1.7* 0.2*	2.0* 6.5*	1.7* 2.2*	Sync. Sep. Video Amp.	200 300	6 180 [■]	150	13.0 9.5	3.0	5,750 300,000	3,300 6,000	19			6AZ8
6B3	T-6½	Diode	9BD-0-0	Cathode	6.3	1.200				TV Damper	Maximum Peak Inverse Plate Voltage = 4,400 Volts. Maximum D.C. Plate Current = 150 Ma.										6B3
6B4G	ST-16	Triode	5S-0-0	Filament	6.3	1.000	16.0	7.0	5.0	Power Amp	Characteristics Same as Type 6A3										6B4G
6B5	ST-14	Duotriode	6AS-0-0	Cathode	6.3	0.800				Power Amp	Characteristics Same as Type 6N6G										6B5
6B6G	ST-12	Duodiode Tri.	7V-0-0	Cathode	6.3	0.300	1.7	1.7	3.8	Det. Amp.	250	2.0		0.9		91,000	1,100	100			6B6G
6B7	ST-12	Duodi. Pent.	7D-0-6	Cathode	6.3	0.300	0.07	3.5*	9.5	R.F. or I-F Det. Amp.	100 180 250	3.0 3.0 3.0	100 75.0 100	5.8 3.4 6.0	1.7 0.9 1.5	300,000 1 Meg. 800,000	950 840 1,000				6B7 6B7S
6B8	Metal	Duodi. Pent.	8E-1-1	Cathode	6.3	0.300	0.05m	6.0	9.0	A-F Amp.	250	4.5	50.0	0.65							6B8
6B8G	ST-12	Duodi. Pent.	8E-0-8	Cathode	6.3	0.300	0.1m	3.6	9.5	Det. Amp.	Characteristics Same as Type 6B7 Except Capacitances.										6B8G
6B8GT	T-9	Duodi. Pent.	8E-1-8	Cathode	6.3	0.300	0.1m	3.6	9.5	Det. Amp.	Characteristics Same as Type 6B7										6B8GT
6BA5	T-3	Pentode	8DY-0-0	Cathode	6.3	0.150	0.65	3.4	3.6	A-F Amp.	100	270 [■]	100	5.5	2.0	175,000	2,150				6BA5
6BA6	T-5½	Pentode	7BK-0-2	Cathode	6.3	0.300	0.035m*	5.5*	5.0*	R.F. Amp.	100 250	68 [■] 68 [■]	100 100	10.8 11.0	4.4 4.2	250,000 1.0 Meg.	4,300 4,400				6BA6
6BA7	T-6½	Heptode	8CT-0-6&8	Cathode	6.3	0.300	0.19m	9.5	8.3	Converter	100 250	1.0 1.0	100 100	3.6 3.8	10.2 10.0	500,000 1 Meg.	900 950				6BA7

6BA8 6BA8A	T-6½	Tri. Pentode	9DX-0-6	Cathode	6.3I	0.600	2.2 0.3 2.2 0.3	2.7 11.0 2.7 10.0	2.2 3.6 1.9 4.5	Tri. Amp. Pent. Amp.	200 200	8.0 180	150	8.0 13.0	3.5	6.700 400,000	2,700 9,000	18	.....	.....	.....	6BA8 6BA8A
											Instantaneous Plate Knee Values for 6BA8A											
											EB = 65 Volt, EC ² = 150 Volt, EC ¹ = 0. IB = 42 Ma, IC ² = 12.5 Ma											
6BC5	T-5½	Pentode	7BD-0-2&7	Cathode	6.3	0.300	.02	6.6	2.6	Tri. Amp. Pent. Amp.	250 180 100 125 250	820 330 180 100 180	150	8.0 8.0 4.7 8.0 7.5	1.4	9,000 6,000 600,000 500,000 800,000	4,400 6,000 4,900 6,100 5,700	40 42	.....	.....	.....	6BC5
6BC7	T-6 ½	Triple Diode	9AX-0-3	Cathode	6.3	0.450				F. M. Det.	High Perveance Diode										6BC7	

(1) Values are given shielded unless marked with (*) (2) Converter tube capacitances given are signal grid to plate; RF Input, Mixer, Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. (5) Per Tube or Section. (6) Plate and Target Supply Voltage. (7) Maximum Signal. (8) Applied through 20,000 ohms. (9) Conversion Transconductance. (10) Triode Operation. (11) Plate to Plate. (12) Approximate. (13) m maximum. (14) Cathode Resistor (ohms).



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection. DO NOT USE: J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target; XS—External Shield; □—Top Cap; ■—Locating Key.

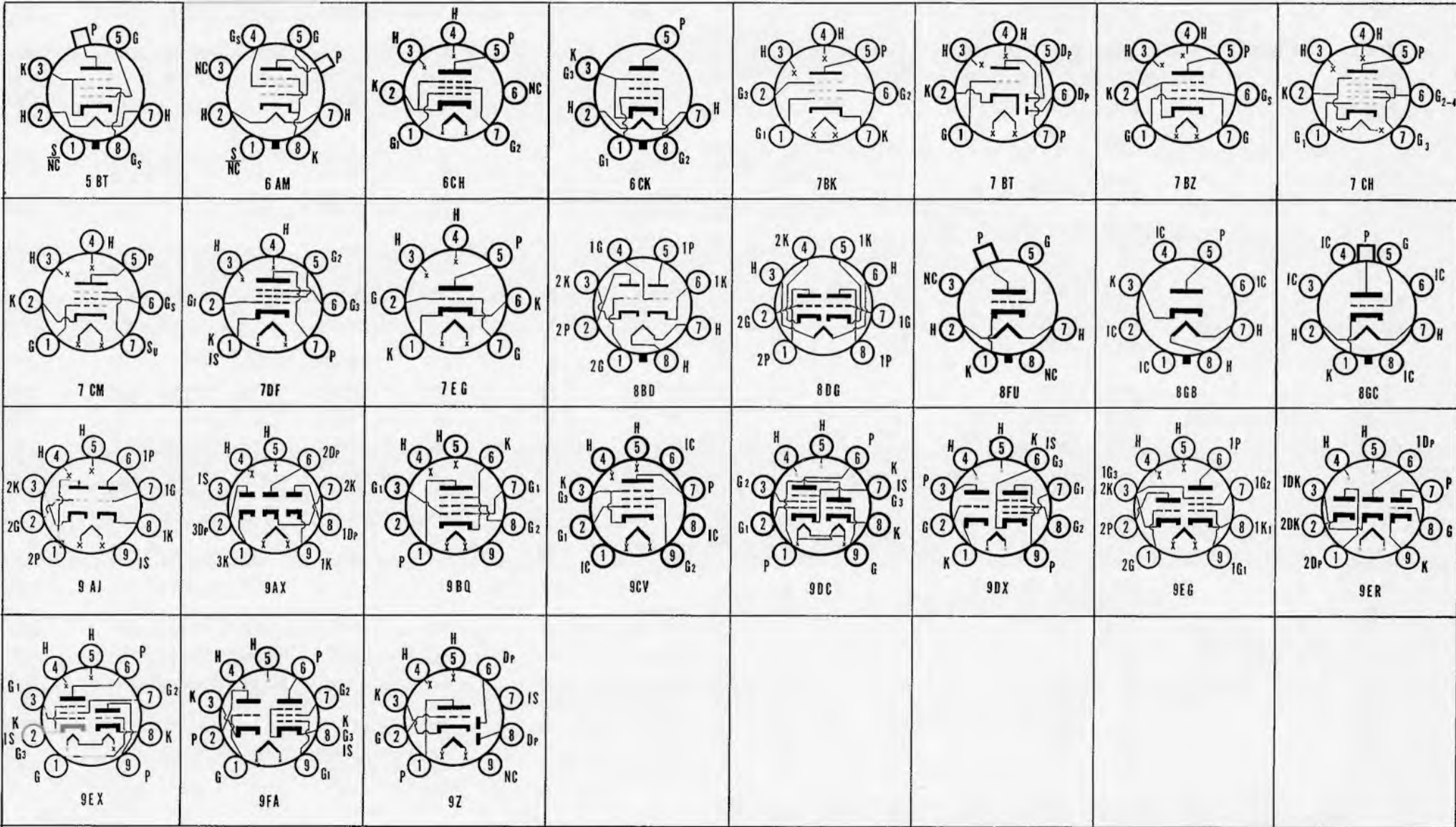
SYLVANIA TUBES — AVERAGE CHARACTERISTICS

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts	Type	
	Bulb Size or Style	Class	Biasing Diag	Type	Volts	Amps	Cgp.	Cin.	Coul.													
6BC8	T-6½	Duotriode	9AJ-0-9	Cathode	6.3	0.400	1.2 1.2	2.6 2.6	1.3 2.4	Class A1 Amplifier #	150	220 [■]		10.0		5,300	6,200	35			6BC8	
6BD4	T-12	Beam Triode	8FU	Cathode	6.3	0.600	1.0*	3.8*	0.04m*	Hi-Volt. Reg	20,000 Max. D.C. Plate Volts 125 Max. D.C. Grid Volts. 1.5 Ma. Max. D.C. Plate Current.										6BD4	
6BD4A	T-12	Beam Triode	8FU-0-0	Cathode	6.3	0.600	1.0*	3.8*	0.04m*	Hi-Volt. Reg	27,000 Max. D.C. Plate Volts. 125 Max. D.C. Grid Volts. 1.5 Ma. Max. D.C. Plate Current.										6BD4A	
6BD5GT	T-9	Beam Pent	6CK-0-0	Cathode	6.3	0.900				Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 4,000 Volts. Maximum D-C Cathode Current = 100 Ma. Maximum Plate Dissipation = 10 Watts. Maximum Screen Dissipation = 3.0 Watts										6BD5GT	
6BD6	T-5½	Pentode	7BK-0-2	Cathode	6.3	0.300	0.04	4.3	5.0	R-F Amp	250 100	3.0 1.0	100 100	9.0 13	3.5 5.0	700,000 120,000	2,000 2,350				6BD6	
6BD7	T-6½	Duotriode Tri	9Z-0-7	Cathode	6.3	0.230	1.3	2.4	1.3	Det. Amp	250	3		1.0		58,000	1,200	70			6BD7	
6BE6	T-5½	Heptode	7CH-0-0	Cathode	6.3	0.300	0.3*	7.0*	8.0*	Converter	100 250	1.5 1.5	100 100	2.6 2.9	7.0 6.8	400,000 1.0 Meg	455 Δ 475 Δ	(Osc. Grid Res = 20,000 Ohms) (Osc. Grid Current 0.5 Ma.)			6BE6	
6BE8	T-6½	Tri Pentode	9EG	Cathode	6.3	0.450	1.8*	2.8*	1.5*	VHF Osc. VHF Amp.	150 250	56 [■] 68 [■]		18.0 10.0		5,000 400,000	8,500 5,200	40			6BE8 6BE8A	
6BF5	T-5½	Pentode	7BZ	Cathode	6.3	1.200	0.65*	1.4*	6.0*	ST A1 Amp	110	7.5	110	36	4	12,000	7,500			2,500	1,900	6BF5
6BF6	T-5½	Duotriode Tri	7BT-0-0	Cathode	6.3	0.300	1.9	1.9	1.2	Det. Amp	250	9.0		9.5		8,500	1,900	16	10,000	300	6BF6	
6BF7	T-3	Duotriode	8DG-0-0	Cathode	6.3	0.300	1.5 1.5	2.0 2.0	1.6 2.0	R-F Amp #	100 100	100 [■] 100 [■]		8.0 8.0		7,000 7,000	4,800 4,800	35 35			6BF7	
6BF7A	T-3	Duotriode	8DG-0-0	Cathode	6.3	0.300	1.5 1.5	2.0 2.0	1.6 2.0	R-F Amp.#	100	100 [■]		8.0		7,300	4,800	35	Cout Sec. 1 = 1.6 μf .		6BF7A	
6BF7W (3)	T-3	Duotriode	8DG-0-0	Cathode	6.3	0.300	1.5 1.5	2.0 2.0	1.6 2.0	R-F Amp.	Ruggedized Version of Type 6BF7										6BF7W	
6BG6G	ST 16	Beam Pent	5BT-0-0	Cathode	6.3	0.900	0.34m*	12.0*	6.5*	Horiz. Defl. Amp.	Max Peak Positive Plate Voltage = 6,600 Volts. Max D.C. Cathode Current = 110 Ma. Max Plate Dissipation = 20 Watts. Max Screen Dissipation = 3.2 Watts										6BG6G	
6BG6GA	T-12	Beam Pent	5BT-0-0	Cathode	6.3	0.900	0.8*	11.0*	6.0*	Horiz. Defl. Amp.	Max Peak Positive Plate Voltage = 6,600 Volts. Max D.C. Cathode Current = 110 Ma. Max Plate Dissipation = 20 Watts. Max Screen Dissipation = 3.2 Watts										6BG6GA	
6BG7	T-3	Duotriode	8DG-0-0	Cathode	6.3	0.300	1.5 1.5	2.0 2.0	1.6 2.0	R-F Amp # R-F Amp.	100 100	100 [■] 100 [■]		8.0 8.0		7,000 7,000	4,800 4,800	35 35			6BG7	
6BH6	T-5½	Pentode	7CM-0-7	Cathode	6.3	0.150	0.035m*	5.4*	4.4*	R-F Amp.	100 250	1.0 1.0	100 150	3.6 7.4	1.4 2.9	0.7 Meg 1.4 Meg	3,400 4,600				6BH6	
6BH8	T-6½	Tri. Pentode	9DX-0-6	Cathode	6.3I	0.600	2.4* 0.46*	2.6* 7.0*	3.8* 2.4*	Tri Amp Pent. Amp	150 200	5 82 [■]		9.5 15.0	3.4	5,150 150,000	3,300 7,000	17			6BH8	
6BJ5	T-5½	Pentode	6CH	Cathode	6.3	0.640				Power Amp	250	5.0	250	3.5	5.5	40,000	10,500	450	7,000	4,000	6BJ5	
6BJ6	T-5½	Pentode	7CM-0-7	Cathode	6.3	0.150	0.035m*	4.5*	5.0*	R-F Amp.	250 100	1.0 1.0	100 100	9.2 9.0	3.3 3.5	1.3 Meg 250,000	3,600 3,650				6BJ6	
6BJ6A	T-5½	Pentode	7CM	Cathode	6.3	0.150	0.035m*	4.5*	5.0*	R-F Amp.	Type 6BJ6A Same as Type 6BJ6 Except for Controls on Formation of Interface Impedance										6BJ6A	
6BJ7	T-6½	Triple Diode	9AX-0-3	Cathode	6.3	0.450				TV DC Rest r	Each Section Similar to Each Section of a 6AL5										6BJ7	
6BJ8	T-6½	Duotriode Tri.	9ER-0-0	Cathode	6.3I	0.600	2.6*	2.8*	0.31*	Class A1 Amplifier	90 250	0 9		13.5 8.0		4,700 7,150	4,700 2,800	22 20			6BJ8	
6BK4	T-12	Beam Triode	8GC-0-0	Cathode	6.3	0.200	0.3*	2.6*	1.0*	Hi-Volt. Reg	25,000 Max. D.C. Plate Volts 125 D.C. Grid Volts. 1.5 Ma. Max. D.C. Plate Current.										6BK4	
6BK5	T-6½	Beam Pent	9BQ-0-0	Cathode	6.3	1.200	0.6*	13.0*	5.0*	Power Amp.	250	5.0	250	35	3.5	0.1 Meg	8,500		6,500	3,500	6BK5	
6BK6	T-5½	Duotriode Tri.	7BT-0-2	Cathode	6.3	0.300				Det. Amp	100 250	1.0 2.0		0.5 1.2		80,000 62,500	1,250 1,600	100 100			6BK6	
6BK7	T-6½	Duotriode	9AJ-0-9	Cathode	6.3	0.450	1.9 1.9	3.0 3.0	1.1 1.0	VHF Amp.	100 150	120 [■] 56		9.0 18		6,100 4,700	6,100 8,500	37 40			6BK7	
6BK7A	T-6½	Duotriode	9AJ-0-9	Cathode	6.3	0.450	1.8*	3.0*	1.0*	VHF Amp.	150	56 [■]		18.0		4,600	9,300	43			6BK7A 6BK7B	
6BL4	T-12	Diode	8GB-0-0	Cathode	6.3	3.000				TV Damper	P.I.V. = 4,500 Volts Abs. Max. D.C. Plate Current = 200 Ma. Max										6BL4	
6BL7GT	T-9	Duotriode	8BD	Cathode	6.3	1.500	6.0* 6.0*	4.2* 4.6*	0.9* 0.9*	Vert Osc. Vert Defl. Amp #	Maximum Peak Positive Pulse Plate Voltage = 2,000 Volts. Maximum D.C. Cathode Current = 60 Ma. Maximum Plate Dissipation = 10 Watts.										6BL7GT 6BL7GTA	
6BL8	T-6½	Tri. Pentode	9DC-0-7	Cathode	6.3	0.450	0.25* 1.5*	5.5* 2.5*	3.8* 1.8*	VHF Osc. VHF Amp.	100 170	2.0 2.0	14.0 17.0	10.0	2.8	400,000	5,000 6,200	20			6BL8	
6BM8	T-6½	Tri Pentode	9EX-0-2	Cathode	6.3	0.780	4.0* 0.3*	2.7* 9.3*	4.0* 8.0*	Pent Vert Defl. Amp Tri. Vert Osc.	200 100	16.0 0	200	35.0 3.5	7.0	20,000	6,400 2,500	9.5 70			6BM8	
6BN4	T-5½	Triode	7EG	Cathode	6.3	0.200	1.2	3.2	1.4	VHF Amp.	150	220 [■]		9.0		6,300	6,800	43			6BN4	
6BN4A	T-5½	Triode	7EG	Cathode	6.3	0.200	1.2	3.2	1.4	VHF Amp.	150	220 [■]		9		8,000	5,400	43			6BN4A	
6BN6	T-5½	Gated Beam	7DF-0-1	Cathode	6.3	0.300				Quad. F M Det.	65	1.3	60	0.23	5.0	Grid No. 1 Signal Voltage (RMS) = 30 Volts Grid No. 3 Signal Voltage (RMS) = 4 Volts.				6BN6		
6BN7	T-6½	Duotriode	9AJ-0-0	Cathode	6.3	0.750	0.7 3.0	1.4 5.5	0.3 1.6	Oscillator Amplifier	120 250	1.0 15.0		5.0 24.		14,000 2,200	2,000 5,500	28 12			6BN7	
6BN8	T-6½	Duotriode Tri	9ER	Cathode	6.3I	0.600	2.5*	3.6*	0.25*	Class A1 Amp	100 250	1 3		1.5 1.6		21,000 28,000	3,500 2,500	75 70			6BN8	
6BQ5	T-6½	Beam Pent	9CV	Cathode	6.3	0.760	0.5m*	10.8*	6.5*	Power Amp	Characteristics Same as Type EL84.										6BQ5	

6BQ6G 6BQ6GA 6BQ6GT 6BQ6GT	ST-12 T-11 T-9 T-9	Beam Pent	6AM-0-0	Cathode	6.3	1.200	0.6*	15.0*	7.0*	Horiz. Defl. Amp	6,000 Max. Peak Pos. Plate Volts 9.5 Watts Max. Screen Dissipation 250 22.5 150 57	110 Ma. Max. Cathode Current	11 Watts Max. Plate Dissipation	2.1	14,500	5,900	6BQ6G 6BQ6GA 6BQ6GT
6BQ7	T-6½	Duotriode	9AJ-0.9	Cathode	6.3	0.400	1.15	2.55	1.30	VHF Amp	150 220	9	5,800	6,000	35	6BQ7	
6BQ7A	T-6½	Duotriode	9AJ	Cathode	6.3	0.400	1.2	2.6	1.2	VHF Amp	150 220	9	5,800	6,000	38	6BQ7A	
6BR8	T-6½	Triode Pentode	9FA	Cathode	6.3	0.450	1.8 0.08	2.5 5.0	1.0 3.5	Oscillator Mixer	150 250	18 68	5,000	8,500	40	6BR8	
6BR8A	T-6½	Tri Pentode	9FA	Cathode	6.3X	0.450	1.8 0.08	2.5 5.0	1.0 3.5	VHF Osc VHF Amp	150 250	18 68	5,000 400,000	8,500 5,900	40	6BR8A	

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate; RF Input, Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

† Per Tube or Section
 ‡ Plate and Target Supply Voltage
 † Maximum Signal
 □ Applied through 20,000 ohms
 ▲ Conversion Transconductance
 •• Triode Operation
 †† Plate to Plate
 ††† Approximate
 m maximum
 ■ Cathode Resistor (ohms)



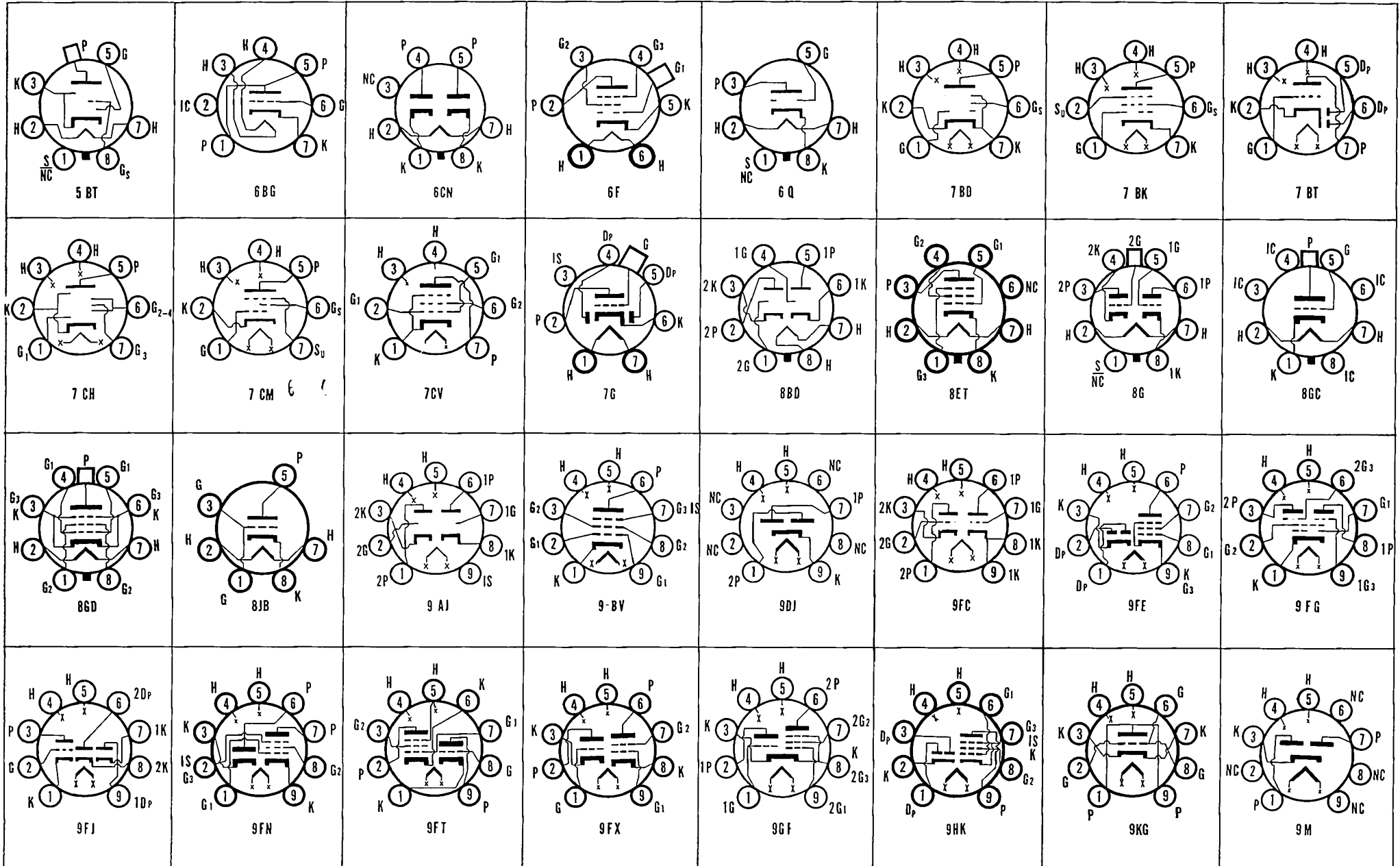
SYMBOLS FOR BASE DIAGRAMS Dp—Dode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode; H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection, DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield, □—Top Cap, ■—Locating Key.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) () Capacitances in $\mu\mu\text{f}$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type	
	Bulb Size or Style	Class	Biasing Diag.	Type	Volts	Amps.	Cgp.	Cin	Cout													
6BS8	T 6½	Duotriode	9A J	Cathode	6.3	0.400	1.15	2.6	1.2	VHF Amp.	150	220 ^m		10		5 000	7 200	36			6BS8	
6BT6	T 5½	Duodiode Tri.	7BT-0-2	Cathode	6.3	0.300				Det. Amp.	100 250	1.0 3.0		0.8 1.0		54 000 58,000	1 300 1 200	70 70			6BT6	
6BT8	T 6½	Duodi. Pent.	9FE	Cathode	6.3	0.450	04m*	7.0*	2.3*	Amp. Det.	200	180 ^m	150	9.5 8.0 with 10 Volts D.C.	9.8 Each Unit	300,000	6 200				6BT8	
6BU4	T-12	Triode	8GC	Cathode	6.3	0.450	03*	2.0*	8.0*	H.V. Reg.	25 000	8.4		1.0		8.2 Meg \downarrow	185	1 515			6BU4	
6BU6	T-5½	Duodiode Tri.	7BT-0-2	Cathode	6.3	0.300				Det. Amp.	100 250	3.0 9.0		3.9 9.5		11,000 8 500	1 500 1 900	16.5 16.0	10 000	300	6BU6	
6BU8	T 6½	Duo Pentode	9FG-0-2	Cathode	6.3	0.300	G3 to P 1.9	6.0	3.0	Sync. Sep.	100 100	0 Grid 1	67.5 67.5	2.2		180 Gr 3 1500 Gr. 1		Grid #3 Volts = -4.5 Grid #1 Volts = -2.3			6BU8	
6BV8	T-6½	Duodiode Tri.	9FJ-0-0	Cathode	6.3	0.600	2.0*	3.6*	0.4*	Det. Amp.	200	330 ^m		11.0		5 900	5 600	33			6BV8	
6BW4	T-6½	Duodiode	9DJ	Cathode	6.3	0.900				F-W Rect.	395 A.C. Volts Per Plate RMS 100 Ma. Output Current. Capacitor Input to Filter. 450 A.C. Volts Per Plate RMS 100 Ma. Output Current. Choke Input to Filter.										6BW4	
6BW8	T-6½	Duodi. Pent.	9HK	Cathode	6.3	0.450	02m*	4.8*	2.6*	R-F or I-F Amplifier	250	68 ^m	110	10.0	3.5	250,000	5 200				6BW8	
6BX7GT	T-9	Duotriode	8BD	Cathode	6.3	1.500	4.2 4.0	5.0 5.0	3.4 3.2	Vert. Amp. Vert. Osc.	Maximum Peak Positive Pulse Plate Volts = 2,000 Volts. Maximum D.C. Cathode Current = 60 Ma Maximum Plate Dissipation = 10 Watts. 250 390 ^m 42										6BX7GT	
6BX8	T-6½	Duotriode	9A J	Cathode	6.3	0.400	1.4 1.4	4.9 2.4	2.6 1.25	VHF Amp.	65	1.0		9			1,300	7,600	10			6BX8
6BY5G	ST-14	Duodiode	6CN-0-0	Cathode	6.3	1.600				F-W Rect.	375 A.C. Volts Per Plate R.M.S. 175 Ma. D.C. Output Current. Condenser Input to Filter										6BY5G	
6BY5GA	T-12	Duodiode	6CN-0-0	Cathode	6.3	1.600				T.V. Damper	P.I.V. = 3,000 Volts Abs. Max. D.C. Plate Current = 175 Ma. Max. Each Plate.										6BY5GA	
6BY6	T-5½	Heptode	7CH-0-0	Cathode	6.3	0.300	08m*	5.4*	7.6*	Sync. Separator	10	G1&2=0	25	1.4	3.5	Plate Current = 50 μ Amps. When Grid 3 Voltage = 2.5					6BY6	
6BY8	T 6½	Diode Pent.	9FN	Cathode	6.3	0.600	0035*	5.5*	5.0*	Det. Amp.	100 250	150 ^m 68 ^m	100 150	5.0 10.6	2.1 4.3	500 000 1.0 Meg.	3 900 5 200				6BY8	
6BZ6	T-5½	Pentode	7CM-0-7	Cathode	6.3	0.300	015m	7.0	3.0	R-F Amp.	125	56 ^m	125	14	3.6	260,000	8,000	Semi-Remote Cutoff			6BZ6	
6BZ7	T-6½	Duotriode	9AJ-0-9	Cathode	6.3	0.400	1.2	2.6	1.2	VHF Amp.	150	220 ^m		10		5 300	6 800	36			6BZ7	
6BZ8	T-6½	Duotriode	9AJ-0-9	Cathode	6.3	0.400	1.15* 1.15*	2.5* 4.95*	1.35 3.27*	VHF Amp.	125	100 ^m		10		5 600	8 000	45			6BZ8	
6C4	T-5½	Triode	6BG-0-0	Cathode	6.3	0.150	1.4	1.8	2.5	R-F Osc. R-F Amp.	300 250 100	27 8.5 0		25 10.5 11.8		7 700 6 250	2 200 3 100	17 19.5	Class C	5 500	6C4	
6C5	Metal T-9	Triode	6C-1-1	Cathode	6.3	0.300	2.0 2.2	3.0 4.8	11.0 12.0	Amplifier	250	8.0		8.0		10,000	2,000	20			6C5	
6C5GT	ST-12	Pentode	6F-0-5	Cathode	6.3	0.300	007m*	5.0*	6.5*	Amplifier	100 250	3.0 3.0	100 100	2.0 2.0	0.5 0.5	1 Meg 1 Meg	1,185 1,225				6C6	
6C6	ST-12	Pentode	6F-0-5	Cathode	6.3	0.300	007m*	5.0*	6.5*	Amplifier	100 250	3.0 3.0	100 100	2.0 2.0	0.5 0.5	1 Meg 1 Meg	1,185 1,225				6C6	
6C7	ST-12	Duodiode Tri.	7G-3-6	Cathode	6.3	0.300				Det. Amp.	250	9.0		4.5		16 000	1 250	20			6C7	
6C8G	ST-12	Duotriode	8G-0-0	Cathode	6.3	0.300	2.6 1.8	2.6 1.3.	2.0 2.2	Amplifier Inverter	250 250	4.5 3.0		3.2		22 500	1 600	36	(One Section)		6C8G	
6CA4	T-6½	Duodiode	9M-0-0	Cathode	6.3	1.000				F-W Rect.	350 A.C. Volts Per Plate, RMS. 150 Ma. Output Current.										6CA4	
6CA5	T-5½	Beam Pent.	7CV-0-0	Cathode	6.3	1.200	0.5*	15.0*	9.0*	Power Amp.	110 125	4.0 4.5	110 125	32 37	3.5 4.0	16,000 15 000	8,100 9 200		3.500 4.500	1.100 1.500	6CA5	
6CA7	T-10 (SP)	Beam Pent.	8ET	Cathode	6.3	1.500	1.0*	15.5*	7.2*	Power Amp.	Characteristics Same as Type EL34.										6CA7	
6CB5	ST-16	Beam Pent.	8GD-0-0	Cathode	6.3	2.500	0.8*	24.0*	10.0*	Horiz. Defl. Amp.	175	30	175	90	6.0	5,000	8,800				6CB5	
6CB5A	T-12						0.4*	22.0*	10.0*												6CB5A	
6CB6	T-5½	Pentode	7CM-0-7	Cathode	6.3	0.300	015*	6.5*	3.0*	VHF Amp.	125	56 ^m	125	13	3.7	280,000	8 000				6CB6	
6CB6A	T-5½	Pentode	7CM-0-7	Cathode	6.3	0.300	015*	6.5*	3.0*	VHF Amp.	125	56 ^m	125	13	3.7	280,000	8 000				6CB6A	
6CD6G	ST-16	Beam Pent.	5BT-0-0	Cathode	6.3	2.500	0.8*	24*	9.5*	Horiz. Defl. Amp.	Maximum Peak Positive Plate Voltage = 6 600 Volts Maximum D.C. Plate Current = 200 Ma. Maximum Plate Dissipation = 15 Watts. Maximum Screen Dissipation = 3 Watts.										6CD6G	
6CD6GA	T-12	Beam Pent.	5BT-0-0	Cathode	6.3	2.500	1.1*	22.0*	8.5*	Horiz. Defl. Amp.	7,000 Max Peak Pos. Pulse Plate Volts. 200 Ma. Max. Cathode Current. 20 Watts Max Plate Dissipation 3.0 Watts Max. Screen Dissipation.										6CD6GA	
6CE5	T-5½	Pentode	7BD	Cathode	6.3	0.300	03*	6.5*	1.9*	VHF Amp.	125	1.0	125	111	3.7	1.0 Meg. \downarrow	7 600				6CE5	
6CF6	T-5½	Pentode	7CM	Cathode	6.3	0.300	015*	6.5*	3.0*	Amplifier	125	56 ^m	125	12.5	3.7	0.3 Meg.	7 800				6CF6	
6CG6	T-5½	Pentode	7BK-0-2	Cathode	6.3	0.300	008m	5.0	5.0	R-F Amp.	250	8.0	150	9	2.3	720,000	2 000				6CG6	
6CG7	T-6½	Duotriode	9AJ-0-9	Cathode	6.3	0.600	4.0*	2.3*	2.2*	Amplifier	Characteristics Same as Type 6SN7GT. (6CG7 Designed for Series String TV Receivers)										6CG7	
6CG8	T-6½	Tri. Pentode	9GF	Cathode	6.3	0.450	1.5	2.4	1.0	Osc. Mixer	125 125	1.0 1.0		12 9		6,000 3 Meg.	6 500 5 500	40			6CG8	
6CG8A	T-6½	Tri. Pentode	9GF	Cathode	6.3	0.450	02	4.3	1.6	Osc. Mixer	125 125	1.0 1.0	125	12 9	2.2	6,000 3 Meg.	6 500 5 500	40			6CG8A	
6CH7	T-6½	Duotriode	9FC-0-2	Cathode	6.3	0.400	1.1	2.4	0.8	Amplifier	150	220 ^m		10		5 300	6 800	36			6CH7	
6CH8	T-6½	Tri Pent.	9FT-0-0	Cathode	6.3	0.450	1.6* 025m*	1.9* 7.0*	1.6* 2.25*	Tri. Amp. Pent. Amp.	200 200	180 ^m		13.0 9.5		5 750 300,000	3 300 6 200	19			6CH8	
6CK4	T-9	Power Triode	8JB	Cathode	6.3	1.250	6.5	8.0	1.8	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2,000 Volts Maximum D.C. Cathode Current = 100 Ma Maximum Plate Dissipation = 12 Watts. 250 28 40										6CK4	
6CL5	T-12	Beam Pent.	8GD	Cathode	6.3	2.500	0.7*	20.0*	11.5*	Horiz. Defl.	7,000 Max Peak Pos Pulse Plate Volts. 25 Watts Max. Plate Dissipation 4.0 Watts Max Screen Dissipation.										6CL5	
6CL6	T-6½	Power Pent.	9BV	Cathode	6.3	0.650	0.12	11	5.5	Video Amp.	250	3	150	30	7	0.15 Meg \downarrow	11,000				6CL6	

6CL8	T-6½	Tri Tetrode	9FX	Cathode	6.3I	0.450	1.8 0.16m	2.8 5.0	1.2 3.0	Osc Mixer	125 125	1.0 1.0	125	14 12	4.0	5.000 120,000	8.000 6,000	40		6CL8
6CL8A	T-6½	Tri Tetrode	9FX	Cathode	6.3I	0.450	1.8 0.1	2.8 5	2.0 3.0	VHF Osc VHF Amp	125 125	1.0 1.0	125	14 12	4	5.000 200,000	8.000 6,500	40		6CL8A
6CM4	T-6½	Triode	9KG	Cathode	6.3	0.170	3.1	4.2	0.25	VHF Amp	175	1.5		12			14,000	68		6CM4

- (1) Values are given shielded unless marked with (*) (3) Has special mechanical and/or life characteristics
 (2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output (4) Average Contact potential bias developed across specified grid resistor
 I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
- # Per Tube or Section
 § Plate and Target Supply Voltage
 † Maximum Signal
- Applied through 20 000 ohms.
 ▲ Converts on Transconductance
 ** Triode Operation
- †† Plate to Plate
 ‡ Approximate
- m maximum
 ■ Cathode Resistor (ohms)



SYMBOLS FOR BASE DIAGRAMS Dp—Diode Plate F—Filament Fc—Filament Center G—Gr ds numbered according to their position from the cathode H—Heater Hc—Heater Center Ht—Heater Tap IC—Internal Connection DO NOT USE, J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode T—Target XS—External Shield; □—Top Cap ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp	Cin	Cout												
6CM5	T-9	Beam Pent	8GT 0-1&3	Cathode	6.3	1 250	11*	17.5*	7.7*	Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 7,000 Volts. Maximum D.C. Cathode Current = 200 Ma Maximum Plate Dissipation = 10 Watts. 100 | 7.7 | 100 | 100 | 7.0 | 5 300 | 14 000										6CM5
6CM6	T-6½	Beam Pent	9CK	Cathode	6.3	0.450	0.7*	8.0*	8.5*	Vert. Defl. Amp. Power Amp	Maximum Peak Positive Pulse Plate Voltage = 2,000 Volts. Maximum D.C. Cathode Current = 40 Ma Maximum Plate Dissipation = 8 Watts. 250 | 12.5 | 250 | 45 | 4.5 | 50,000 | 4 100 180 | 8.5 | 180 | 29.0 | 3.0 | 50 000 | 3 700 250 | 12.5 | 250 | 45.0 | 4.5 | 50 000 | 4 100 315 | 13.0 | 225 | 34.0 | 2.2 | 80 000 | 3 750										6CM6
6CM7	T-6½	Duotriode	9ES	Cathode	6.3I	0.600	3.8* 3.0*	2.0* 3.5*	0.5* 0.4*	Sect 2 Vert. Defl. Amp Sect 1 Vert. Osc.	Maximum Peak Positive Pulse Plate Voltage = 2,200 Volts. Maximum D.C. Cathode Current = 70 Ma. Maximum Plate Dissipation = 5 Watts. 250 | 8.0 | 20.0 200 | 7.0 | 5.0										6CM7
6CM8	T 6½	Tri Pentode	9FZ	Cathode	6.3I	0.450	1.9 0.4m	1.6 6.0	0.22 2.6	Class A1 Amp.	250 | 2 | 1.8 200 | 180 ^m | 150 | 9.5	1.8 9.5	2.8	50 000 600 000	2 000 6 200	100				6CM8	
6CN7	T 6½	Duodiode Tri	9EN-0-3	Cathode	6.3	0.300	1.8*	1.5*	0.5*	Det. Amp	100 | 1 | 0.8 250 | 3.0 | 1.0	0.8 1.0		54 000 58 000	1 300 1,200	70 70				6CN7	
6CQ8	T 6½	Tri Tetrode	9GE	Cathode	6.3I	0.450	1.8 0.15	2.7 5.0	1.2 3.3	VHF Tri Osc VHF Tet Amp	125 | 56 ^m | 125 | 15 125 | 1.0 | 12.5 | 12	15 12		5,000 140,000	8,000 5 800	40				6CQ8	
6CR4	T 6½	Triode	9BX	Cathode	6.3	0.370	1.8	4.0	0.7	UHF Amp.	130 | 1.0 | 1.6					15 000	60			6CR4	
6CR5	T 6½	Beam Pent	9HC 0-0	Cathode	6.3	1 200	0.32*	12.9*	6.9*	Horiz. Defl. Amp	Maximum Peak Positive Pulse Plate Voltage = 5 500 Volts. Maximum D.C. Cathode Current = 112.5 Ma Maximum Plate Dissipation = 11 Watts. 250 | 22.5 | 150 | 65.0 | 2.1 | 18,000 | 6 000										6CR5
6CR6	T-5½	Diode Pent.	7EA	Cathode	6.3	0 300				Det. Audio Amplifier	250 | 2.0 | 100 | 9.5	3.0		200,000	1 950					6CR6	
6CR8	T-6½	Tri Pentode	9GJ-0-8	Cathode	6.3I	0.450	1.6* 0.18*	2.0* 6.0*	1.4* 2.8*	Tri. Amp. Pent. Amp.	125 | 2.0 | 12.0 125 | 56 ^m | 125 | 13.0	3.0		5 500 300 000	4 000 7 700	22				6CR8	
6CS5	T 6½	Beam Pent	9CK	Cathode	6.3	1 200	0.5	15.0	9.0	Power Amp. Triode Conn	110 | 7.5 | 110 | 49 200 | 180 ^m | 125 | 46 225 | 30 | 22	4.0 2.2		13,000 28,000 1 500	8 000 8 000 3 800		2 000 4 000	2 100 3 800		6CS5	
6CS6	T-5½	Dual Control Heptode	7CH	Cathode	6.3	0.300	0.7* 0.36*	5.5* 7.0*	7.5*	SYNC. Separator	100 | 0 Grid 1 | 30 | 0.8 100 | -1 Grid 1 | 30 | 1.0	5.5 1.3	0.7 Meg 1.0 Meg.	1 500 Gr 3 1 100 Gr 1	Grid #3 Volts = -1.0 Grid #3 Volts = 0					6CS6	
6CS7	T-6½	Duotriode	9EF-0-0	Cathode	6.3I	0.600	2.6* 2.6*	1.8* 3.0*	0.5* 0.5*	Sect 2 Vert. Defl. Amp Sect 1 Vert. Osc.	Maximum Peak Positive Pulse Plate Voltage = 1 500 Volts. Maximum D.C. Cathode Current = 45 Ma. Maximum Plate Dissipation = 4.5 Watts. 250 | 10.5 | 19.0 250 | 8.5 | 10.5										6CS7
6CS8	T 6½	Tri Pentode	9FZ 0-3	Cathode	6.3I	0.450	1.6* 0.2*	1.9* 6.0*	0.26* 2.8*	Tri. Amp. Pent. Amp.	125 | 2.0 | 12.0 125 | 56 ^m | 125 | 13.0	3.0		5 500 300 000	4 000 7 700	22				6CS8	
6CU5	T-5½	Pentode	7CV	Cathode	6.3	1 200	0.6*	13*	8.5*	Power Amp.	120 | 8 | 110 | 49	4		10,000	7,500		2,500	2,300		6CU5	
6CU6	T-12	Beam Pent	6AM 0-0	Cathode	6.3	1.200	0.6*	15.0*	7.0*	Horiz. Amp.	Characteristics and Ratings Same as Type 6BQ6GTA.										6CU6
6CU8	T 6½	Tri Pentode	9GM	Cathode	6.3I	0.450	1.6* 0.25m*	1.9* 7*	1.6* 2.4*	Tri. Amp. Pent. Amp.	125 | 1.0 | 12.5 | 17 125 | 56 ^m | 125 | 12	3.8		4 100 170 000	5 800 7 800	17				6CU8	
6CX7	T-6½	Duotriode	9FC 0-2	Cathode	6.3	0.400	1.2	2.4	1.3	Amplifier	150 | 220 ^m | 9.0				6 400	39			6CX7		
6CY5	T-5½	Tetrode	7EW 0-2.7	Cathode	6.3	0 200	0.3	4.5	3.0	VHF Amp	125 | 1.0 | 80 | 10.0	1.5		100,000	8 000					6CY5	
6CY7	T-6½	Duotriode	9LG	Cathode	6.3	0.750	1.8* 4.4*	1.5* 5.0*	0.3* 1.0*	Vert. Osc Vert. Defl. A	250 | 3 | 1.2 150 | 620 ^m | 30 | 3.0			52,000 920	1 300 5 400	68 5				6CY7	
6CZ5	T 6½	Beam Pent	9HN	Cathode	6.3I	0.450	0.4*	6.0*	6.0*	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2,200 Volts. Maximum D.C. Cathode Current = 40 Ma Maximum Plate Dissipation = 10 Watts. 250 | 14 | 250 | 46.0 | 4.6 | 73,000 | 4 800										6CZ5
6D4	T 5½	Gas Triode	5AY 0-0	Cathode	6.3	0.250				Relay Tube	350 | 50 | Peak Cathode Current = 100 Ma. Cathode Current = 25 Ma. Approx Volt Drop @ 25 Ma = 16V									6D4	
6D6	ST-12	Pentode	6F-0-5	Cathode	6.3	0.300	0.07m	4.7*	6.5*	Amplifier	100 | 3.0 | 100 | 8.0 250 | 3.0 | 100 | 8.2	2.2 2.0		250,000 800,000	1 500 1 600					6D6	
6D7	ST-12	Pentode	7H-5-6	Cathode	6.3	0 300	0.07*	5.0*	6.5*	Amplifier	Characteristics Same as Type 6C6.										6D7
6D8G	ST-12	Heptode	8A-0-0	Cathode	6.3	0.150	0.2	8.0	11.0	Converter	135 | 3.0 | 67.5 | 1.5 250 | 3.0 | 100 | 3.5	1.7 2.6		600 000 400,000	325 Δ (Ga=135 V, 1.8 Ma) 550 Δ (Ga=250 V \square 4.5 Ma.)					6D8G	
6DA4	T 9	Diode	4CG	Cathode	6.3	1 200				TV Damper	Maximum Peak Inverse Plate Voltage = 4,400 Volts. Maximum D.C. Plate Current = 155 Ma										6DA4
6DA7	T 6½	Duotriode	9EF-0-0	Cathode	6.3	1 000	2.3* 6.9*	2.0* 5.5*	0.415* 0.82*	Sect 2 Vert. Defl. Amp. Sect 1 Vert. Osc.	Maximum Peak Positive Pulse Plate Voltage = 1 800 Volts. Maximum D.C. Cathode Current = 40 Ma Maximum Plate Dissipation = 6 Watts. 150 | 17.5 | 40.0 250 | 8.0 | 9.0										6DA7
6DB5	T-6½	Beam Pent	9GR 0-0	Cathode	6.3	1 200	0.2	13	8	Vert. Defl. Amp	Maximum Peak Positive Pulse Plate Voltage = 2,000 Volts. Maximum D.C. Cathode Current = 55 Ma Maximum Plate Dissipation = 10 Watts. 200 | 180 ^m | 125 | 46.0 | 2.2 | 28,000 | 8,000										6DB5
6DB6	T 5½	Pentode	7CM-0-2	Cathode	6.3	0.300	0.035*	6.0*	5.0*	Color Demod	150 | 1.0 | 150 | 5.8	6.6		50,000	2,050 μmhos when Eg 3 = -3 Volts.					6DB6	
6DC6	T 5½	Pentode	7CM 0-7	Cathode	6.3	0.300	0.2*	6.5*	2.0*	Amplifier	200 | 180 ^m | 150 | 9.0	3.0		500 000	5 500					6DC6	
6DC8	T 6½	Duod Pent	9HE	Cathode	6.3	0.300	0.025*	5.0*	5.2*	R F Amp	200 | 1.5 | 100 | 11	3.3		6 Meg \downarrow	4 500					6DC8	
6DE4	T-9	Diode	4CG	Cathode	6.3	1 600				TV Damper	P I V — 5 000 Volts Max. D-C Plate Current = 175 Ma Max										6DE4
6DE6	T 5½	Pentode	7CM	Cathode	6.3	0.300	0.15m	6.5	3.0	VHF Amp.	125 | 56 ^m | 125 | 15.5 EC1 = -9 Volts for Ib = 20 μa .	4.2		250,000	8 000					6DE6	

6DE7	T-6½	Duotriode	9HF	Cathode	6 3	0 900	4 0* 8 5*	2 2* 5 5*	0 52* 1 0*	Sect No 2 Vert Defl Amp	Maximum Peak Positive Plate Maximum Plate Dissipation =	Voltage = 1 500 Volts 7 0 Watts	Maximum Cathode Current = 50 Ma	6DE7									
											150 250	17 5 11.0	35.0 5 5	925 8 750	6 500 2 000	6 17.5							
6DG6GT	T-9	Beam Pent.	7S-0-0	Cathode	6 3	1 200				Power Amp	110 200	7.5 180	110 125	49 46	4 0 2.2	13 000 28,000	8 000 8,000		2 000 4,000	2 100 3,800	6DG6GT		
6DG7	T-6½	Pentode	9BA	Cathode	6 3	0 300	0018*	5 5*	5 0*	R F or I-F Amplifier	100 250	68 68	100 100	10 8 11 0	4 4 4 2	250,000 1 Meg	4 300 4,400				6DG7		
6DJ8	T-6½	Duotriode	9AJ	Cathode	6 3	0 365	1.4*	3 3*	1 8*	VHF Amp	90	1 3		15		2,700	12,500	33			6DJ8		
6DK6	T-5½	Pentode	7CM-0 7	Cathode	6 3	0 300	025*m	6 3*	1 9*	VHF Amp	125	56*	125	12 0	3 8		9,800				6DK6		

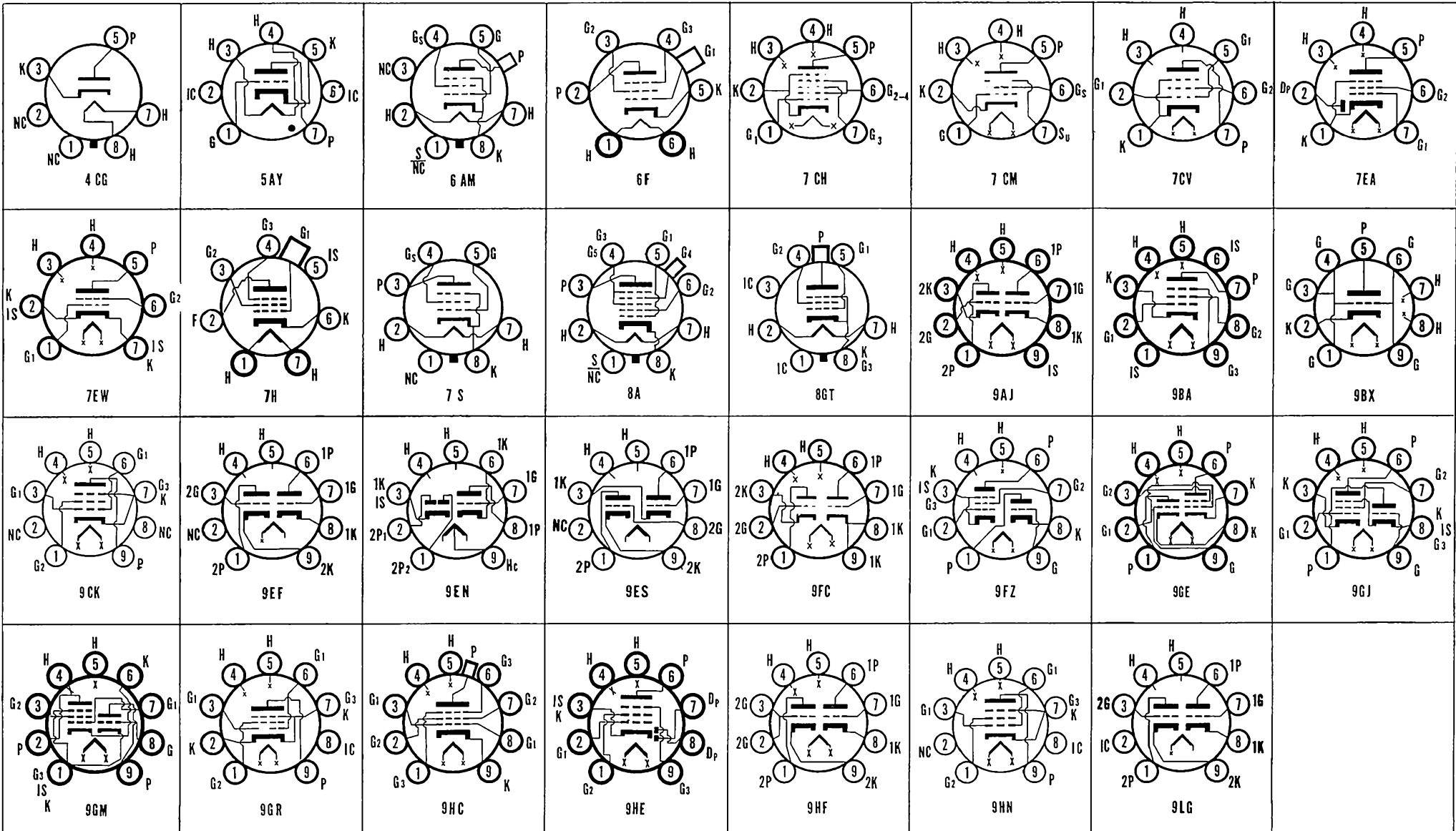
(1) Values are given shielded unless marked with (*) (2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)

(3) Has special mechanical and/or life characteristics (4) Average Contact potential bias developed across specified grid resistor

Per Tube or Section § Plate and Target Supply Voltage † Maximum Signal

□ Applied through 20 000 ohms ▲ Conversion Transconductance ** Triode Operation

‡ Plate to Plate † Approximate m maximum Cathode Resistor (ohms)



SYMBOLS FOR BASE DIAGRAMS Dp—Diode Plate F—Filament Fc—Filament Center, G—Grids numbered according to their position from the cathode H—Heater Hc—Heater Center Ht—Heater Tap IC—Internal Connection DO NOT USE J—Jumper K—Cathode, NC—No Connection P—Plate Rc—Ray Control S—Metal Shell SA—Starter Anode T—Target; XS—External Shield; □—Top Cap ■—Locating Key

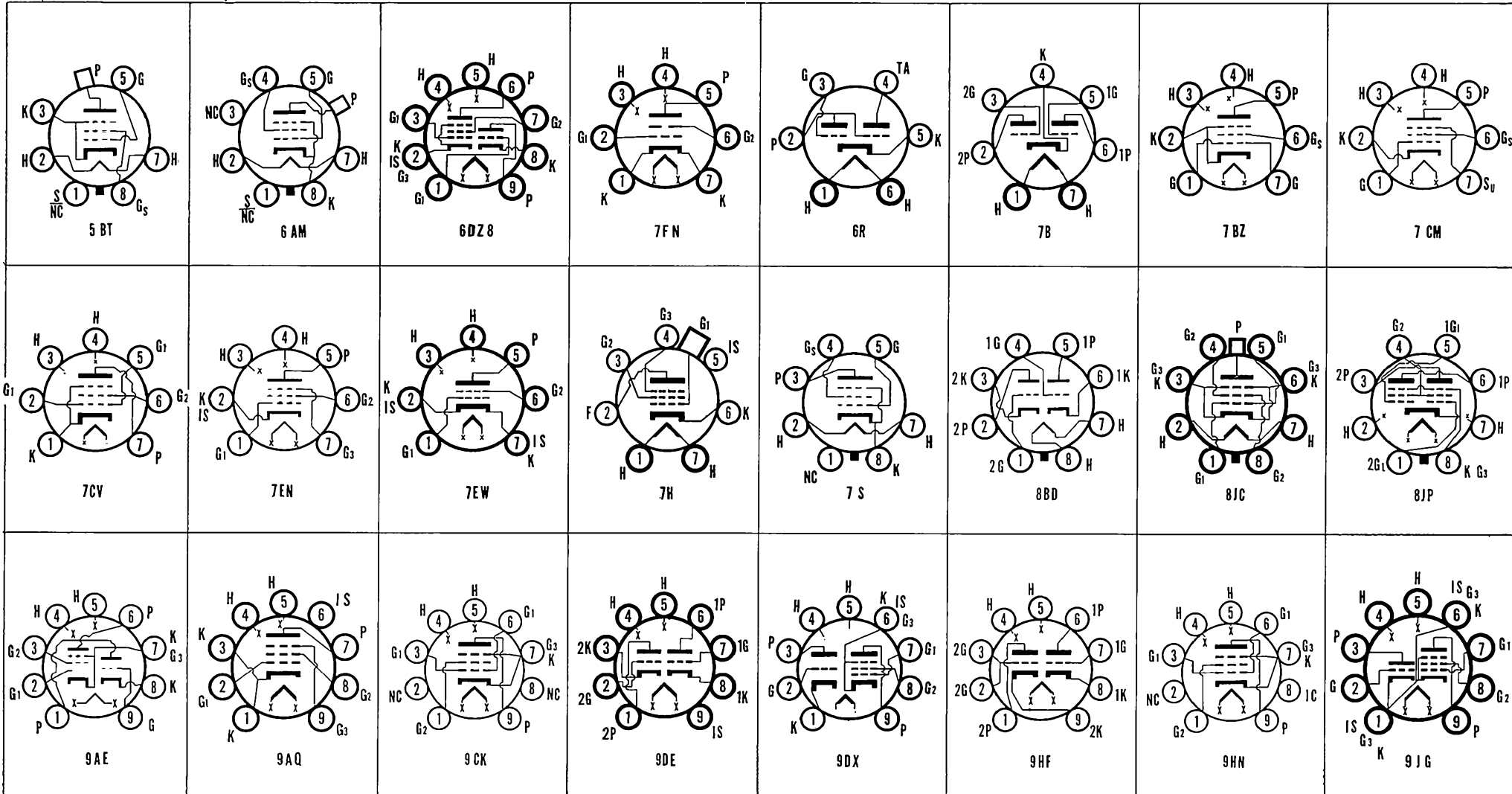
SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) () Capacitances in $\mu\mu\text{f}$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma.	Plate Resistance Ohms	Transcon-ductance Micromhos	Ampli-fication Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp.	Cln	Cout												
6DN6	T 12	Beam Pent	5BT 0-0	Cathode	6.3	2,500	0.8*	22.0*	11.5*	Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 6 600 Volts. Maximum D.C. Cathode Current = 200 Ma Maximum Plate Dissipation = 15 Watts 125 18 125 70										6DN6
6DN7	T-9	Duotriode	8BD	Cathode	6.3	0.900	5.5 4.0	4.6 2.2	1.0 0.7	Sect 2 Vert Defl. Amp Sect 1 Vert Osc	Maximum Peak Positive Pulse Plate Voltage = 2 500 Volts. Maximum D.C. Cathode Current = 50 Ma Maximum Plate Dissipation = 10 Watts. 250 9.5 41 8.0 250 8 41 8.0 250 8 41 8.0										6DN7
6DQ5	T 12	Beam Pent	8JC	Cathode	6.3	2,500	0.5*	23*	11*	Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 7 000 Volts. Maximum D.C. Cathode Current = 285 Ma Maximum Plate Dissipation = 24 Watts. 175 25 125 110										6DQ5
6DQ6	T 12	Beam Pent	6AM-0-0	Cathode	6.3	1,200	0.55*	15.0*	7.0*	Horiz. Defl. Amp.	6,000 Max. Peak Pos. Plate Volts 120 Ma Max. Cathode Current. 15 Watts Max. Plate Dissipation 2.5 Watts Max. Screen Dissipation 250 22.5 150 75 2.4 20,000 6,000										6DQ6
6DQ6A	T 12	Beam Pent	6AM	Cathode	6.3	1,200	0.55*	15.0*	7.0*	Horiz. Defl. Amp.	6 000 Max. Peak Pos. Plate Volts 140 Ma Max. Cathode Current 15 Watts Max. Plate Dissipation 2.5 Watts Max. Screen Dissipation 250 22.5 150 75 2.4 20 000 6 600										6DQ6A
6DQ6B	T 12	Beam Pent	6AM	Cathode	6.3	1,200	0.5*	17*	7.0*	Horiz. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 6 500 Volts. Maximum D.C. Cathode Current = 175 Ma Maximum Plate Dissipation = 17.5 Watts Maximum Screen Dissipation = 3.5 Watts. 250 22.5 150 75 2.4 20,000 6 600 4.1 | G1 to G2										6DQ6B
6DR7	T-6½	Duotriode	9HF	Cathode	6.3	0.900	4.5* 8.5*	2.2* 5.5*	0.34* 1.0*	Sect 2 Vert Defl. Amp. Sect 1 Vert Osc.	Maximum Peak Positive Pulse Plate Voltage = 1 500 Volts. Maximum Cathode Current = 50 Ma Maximum Plate Dissipation = 7.0 Watts. 150 17.5 35 1.4 250 3 40,000 6,500 6 68										6DR7
6DS5	T-5½	Beam Pent	7BZ	Cathode	6.3	0.800	0.19*	9.5*	6.3*	Power Amp.	200 180 200 34.5 3.5 28 000 6 000 2 800 3 600 250 270 200 27 3 28,000 5,800 8 000										6DS5
6DT5	T-6½	Beam Pent	9HN	Cathode	6.3	1,200	0.57	12.5	4.9	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2 200 Volts Maximum D.C. Cathode Current = 55 Ma Maximum Plate Dissipation = 9 Watts. 250 16.5 250 44 1.5 6 200										6DT5
6DT6	T-5½	Gated Beam	7EN 0-0	Cathode	6.3	0.300	0.2			Quad F M Det.	150 560 100 1.1 2.1 150,000 615 Gr #1 -4.5 Gr #1 for 10 μa IB 250 515 Gr #3 -3.5 Gr #3 for 10 μa IB										6DT6
6DT8	T-6½	Duotriode	9DE	Cathode	6.3	0.300	1.6	2.7	1.6	Amplifier	100 270 200 3.7 15 000 4,000 60 60 250 200 10 10,900 5,500 60										6DT8
6DW5	T-6½	Beam Pent	9CK	Cathode	6.3	1,200	0.5	14	9	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2 200 Volts. Maximum D.C. Cathode Current = 65 Ma. Maximum Plate Dissipation = 11 Watts. 200 22.5 150 55 2.0 15,000 5 500										6DW5
6DY7	T-12	Dual Beam Pent	8JP	Cathode	6.3	1,200				ST A1 Amp. PP AB1 Amp. PP AB1 Amp.	250 12.5 250 50 3.0 28,000 6 000 250 16 250 77.74† 3.5-15.5† 400 20 250 58.74† 1.7-14†										6DY7
6DZ7	T-12	Double Beam Pent	8JP	Cathode	6.3	1,520	0.7* 0.5*	11* 11*	5.0* 5.0*	PP AB1 Amp. PP AB1 Amp.	400 11 250 40-100† 4-13† 300 120 250 66-80† 7.15†										6DZ7
6DZ8	T-6½	Tri Beam Pent.	6DZ8	Cathode	6.3	0.900				A F Triode Volt Amp and Pent Power Amp	120 1500 0.8 71,000 1,400 100 145 180 120 45 6 2,500 7 500 2 500 2,000										6DZ8
6E5	T-9	Electron Ray	6R-0-0	Cathode	6.3	0.300				Indicator	100 (Series Plate Resistor 0.5 Meg Target Current 1.0 Ma Grid Bias = 3.3 for 90° Shadow) 250 (Series Plate Resistor 1.0 Meg Target Current 4.0 Ma. Grid Bias = 8.0 for 90° Shadow)										6E5
6E6	ST 14	Duotriode	7B-0-0	Cathode	6.3	0.600				Power Amp. (1 Section)	180 90.0 11.5 4 300 1,400 6.0 15 000† 250 27.5 18.0 3 500 1,700 6.0 14 000†										6E6
6E7	ST-12	Pentode	7H 5-6	Cathode	6.3	0.300				Amplifier	Characteristics Same as Type 6D6.										6E7
6EA5	T 5½	Tetrode	7EW	Cathode	6.3	0.200	0.5	4.5	3.0	VHF Amp.	250 1.0 140 10 0.95 150,000 8 000										6EA5
6EA7	T-9	Duotriode	8BD	Cathode	6.3	1,050	4.0* 8.0*	2.2* 6.0*	0.6* 1.3*	Sect 2 Vert. Amp. Sect 1 Vert. Osc.	Maximum Peak Positive Pulse Plate Voltage = 1 500 Volts. Maximum D.C. Cathode Current = 50 Ma Maximum Plate Dissipation = 10 Watts. 175 25 48 1.5 70 6 500 5 250 3 34 000 1,900 65										6EA7
6EA8	T-6½	Tri Pentode	9AE	Cathode	6.3	0.450	1.7 0.1	3.2 5	1.1 3.4	Tri. VHF Amp. Pent. Amp.	150 56 18 5 000 8 500 125 1.0 125 12 80,000 6,400 40										6EA8
6EB8	T-6½	Tri. Pentode	9DX	Cathode	6.3	0.750	4.4 0.1	2.4 11	0.36 4.2	A F Amp. Video Amp.	250 2.0 2 37,000 2 700 200 68 125 25 7 75 000 12 500 100										6EB8
6EC7	T-6½	Pentode	9AQ	Cathode	6.3	0.200	0.017	5.2	5.0	VHF Amp.	175 1.3 100 12 3.5 220,000 4,400										6EC7
6EF6	T-9	Beam Pent	7S	Cathode	6.3	0.900	0.8*	11.5*	9.0*	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2,000 Volts Maximum D.C. Cathode Current = 60 Ma Maximum Plate Dissipation = 10 Watts. 250 18 250 50 2 5 000										6EF6
6EH5	T 5½	Beam Pent	7CV	Cathode	6.3	1,200	0.65*	17*	9*	ST A1 Amp.	110 62 115 42 11.5 11,000 14 600 3 000 1 400 3 Volts Peak Driving Voltage Required for 1.4 Watts Output										6EH5
6EH8	T-6½	Tri. Pentode	9JG	Cathode	6.3	0.450	1.8 0.12	2.8 4.8	2.2 3.2	VHF Osc VHF Amp.	125 1.0 13.5 7 500 40 125 1.0 125 12 4 170,000 6,000										6EH8
6EM5	T-6½	Beam Pent	9HN	Cathode	6.3	0.800	0.7*	10*	5.1*	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2 200 Volts. Maximum D.C. Cathode Current = 60 Ma Maximum Plate Dissipation = 10 Watts. 250 18 250 35 3 5 100 8.7 G1 to G2 Instantaneous Plate Knee Values = EB = 60 Volts EC² = 250 Volts EC¹ = 0 Volts. IB = 180 Ma and IC² = 30 Ma										6EM5

6ER5	T-5½	Tetrode	7FN	Cathode	6.3	0.180	0.36	4.4	4.0	VHF Amp	200	1.2	0	10	0	8,000	10,500	80		6ER5	
6ES6	T-5½	Pentode	7EN	Cathode	6.3	0.300	.015*	6.5*	4.0*	R-F or I-F Amplifier	12.6 6.3	10 Meg [†] 10 Meg [†]	6.3 3.2	3 1	1.1 0.4	150,000 70,000	1,900 1,000	G3 = 0 Volts G3 = 0 Volts		6ES6	
6ES8	T-6½	Duotriode	9DE	Cathode	6.3	0.365	1.85		0.17	VHF Amp.	90	1.2		15		12,500			6ES8		
6ET6	T-5½	Pentode	7EN	Cathode	6.3	0.300	.015*	6.7*	4.0*	I-F Amp. Power Amp. Driver	12.6 6.3 12.6 6.3	10 Meg [†] 10 Meg [†] 10 Meg [†]	6.3 3.2 12.6 6.3	2 0.6 2.7 1.1	0.7 0.2	200,000 100,000	2,000 1,000	G3 = 0 Volts G3 = 0 Volts G3 Tied to Plate G3 Tied to Plate	6,000 5,800	11 1.2	6ET6
6EV5	T-5½	Tetrode	7EW	Cathode	6.3	0.200	.035	4.5	2.9	VHF Amp	250	1.0	80	11.5	0.9	150,000	8,800			6EV5	
6EW6	T-5½	Pentode	7CM	Cathode	6.3	0.400	.03	10	3.4	VHF Amp	125	56*	125	11	3.2	200,000	14,000			6EW6	
6EX6	T-12	Beam Pent	5BT	Cathode	6.3	2.250	1.1*	22*	8.5*	Horiz. Defl Amp	Maximum Peak Positive Pulse Plate Voltage = 7,000 Volts. Maximum D.C. Cathode Current = 220 Ma 22 Watt Maximum Plate Dissipation. 3.5 Watts Maximum Screen Dissipation										6EX6
6EY6	T-9	Beam Pent	7S	Cathode	6.3	0.680	0.7*	8.5*	7.0*	Vert. Defl Amp	Maximum Peak Positive Pulse Plate Voltage = 2,500 Volts. Maximum D.C. Cathode Current = 60 Ma Maximum Plate Dissipation = 11 Watts										6EY6
											250	17.5	250	44	3	60,000	4,400				

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate; RF Input. Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. (5) Per Tube or Section. (6) Plate and Target Supply Voltage. (7) Maximum Signal. (8) Applied through 20,000 ohms Conversion Transconductance. (9) Plate to Plate Approximate. (10) m maximum Cathode Resistor (ohms). (11) Triode Operation.

‡ Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)



SYMBOLS FOR BASE DIAGRAMS Dp—Diode Plate F—Filament Fc—Filament Center, G—Grids numbered according to their position from the cathode H—Heater Hc—Heater Center Ht—Heater Tap, IC—Internal Connection. DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target XS—External Shield □—Top Cap. ■—Locating Key

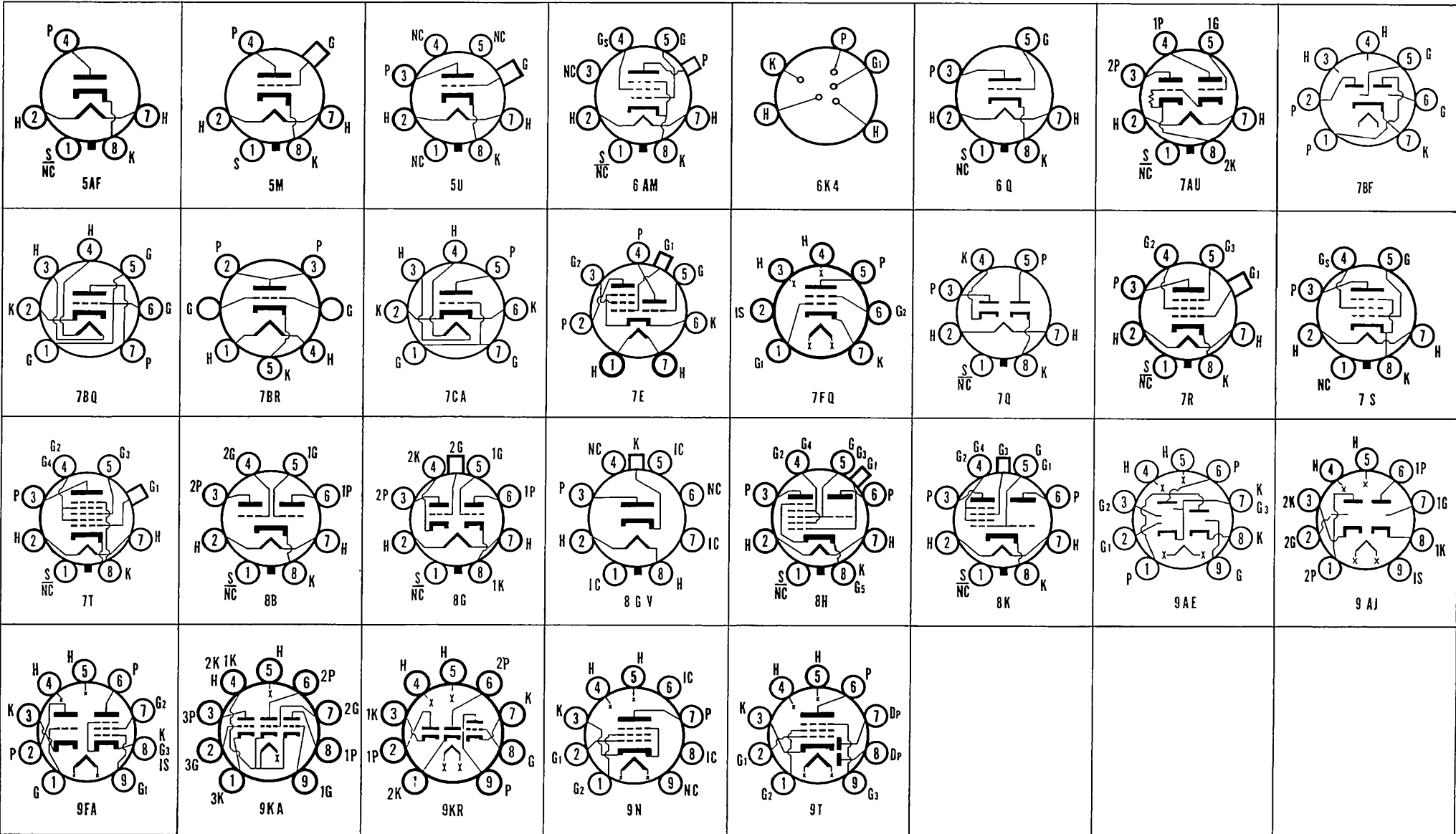
SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in $\mu\text{f.}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type	
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp.	Cin	Cout													
6E28	T-6½	Triple Triode	9KA	Cathode	6.3	0.450	1.5 1.5 1.5	2.6 2.6 2.6	1.4 1.2 1.2	Amplifier	125	1.0		4.2		13 600	4 200	57			6E28	
6F4	Acom	Triode	7BR-0-0	Cathode	6.3	0.225	1.9*	2.0*	0.6*	Amplifier	80	150 ^m		13.0		2 900	5 800	17			6F4	
6F5 6F5GT	Metal T-9	Triode	5M-1.0 5M-0-0	Cathode	6.3	0.300	2.3 2.8*	5.5 2.2*	4.0 3.2*	Amplifier	250	2.0		0.9		66 000	1 500	100			6F5 6F5GT	
6F6 6F6G 6F6GT	Metal ST-14 T-9	Power Pent.	7S-1.0 7S-0-0	Cathode	6.3	0.700				Power Amp. S.T. A1 Amp. P.P. A1 Amp. P.P. AB2 Amp.	250 285 315 375	16.5 20.0 24.0 26.0	250 285 285 250	34.0 38.0 62-80† 34-82†	6.5 7.0 12-19.5† 5-19.5†	80 000 78 000 (Current & Output for Two Tubes)	2,500 2,550 (Current & Output for Two Tubes)		7,000 7,000 10,000†	3,200 4,800 11,000		6F6 6F6G 6F6GT
6F7 6F7S	ST-12	Pent. Triode	7E-0-6 7E-6-6	Cathode	6.3	0.300	0.08m 2.0*	3.2 2.5*	12.5 3.0*	Pent. Amp. Pent. Amp. Tri. Amp.	100 250 100	3.0 3.0 3.0	100 100	6.3 6.5 3.5	1.6 1.5	890 000 850 000 16,200	1 050 1 100 525	8.5		Pentode Section Pentode Section Triode Section (One Section)	6F7 6F7S	
6F8G	ST-12	Duotriode	8G-0-0	Cathode	6.3	0.600	3.8* 3.2*	3.2* 1.9*	1.0* 1.9*	Amplifier Inverter	250 250	8.0 5.5		9.0 Plate Load 50,000 Ohms Per Plate Voltage Amplification 29		7,700 Self Bias Resistor 1,150 Ohms Output Volts 65 RMS for Inverter Service	2,600	20				6F8G
6FH6	T-12	Beam Pent.	6AM	Cathode	6.3	1.200	0.4	33	8	Horiz. Defl. Amp	Maximum Peak Positive Pulse Plate Voltage = 6 000 Volts Maximum Plate Dissipation = 17 Watts Maximum D.C. Cathode Current = 155 Ma.										6FH6	
6FM8	T-6½	Duodiode Tri.	9KR	Cathode	6.3	0.450	1.8*	1.5*	0.16*	Def. Amp.	250	3		1.0		58,000	1 200	70			6FM8	
6FV6	T-5½	Tetode	7FQ	Cathode	6.3	0.200	0.3	4.5	3.0	VHF Amp.	125	1.0	80	10	1.5	100 000	8 000				6FV6	
6FV8	T-6½	Tri Pentode	9FA	Cathode	6.3	0.450	1.8 0.1	2.8 5.0	2.0 3.0	Var. Osc. VHF Amp.	125 125	1.0 1.0		14 12	4.0	5 000 200,000	8 000 6 500	40			6FV8	
6FW8	T-6½	Duotriode	9AJ	Cathode	6.3	0.400	1.9 1.9	3.4	2.4	VHF Amp	125	2.0		15		2,600	12 500	33			6FW8	
6G5	Now Known as Type 6U5																				6G5	
6G6G	ST-12	Power Pent	7S-0-0	Cathode	6.3	0.150				Power Amp.	135 180	6.0 9.0	135 180	11.5 15.0	2.0 2.5	170,000 175 000	2 100 2 300		12,000 10 000	600 1 100	6G6G	
6GH8	T-6½	Tri Pentode	9AE	Cathode	6.3	0.450	1.7 0.1	3.6 5.5	1.1 3.4	Tri Gen Pur Pent Horiz. Osc.	125	1.0		13.5		8 500	5 400	46			6GH8	
6H4GT	T-9	Diode	5AF-0-0	Cathode	6.3	0.150				Rectifier	100			4.0							6H4GT	
6H6, 6H6GT	T-9, Metal	Duodiode	7Q-0-1	Cathode	6.3	0.300				Rectifier	117 A.C. Volts Per Plate RMS 80 Ma. Output Current Per Plate										6H6GT, 6H6	
6J4 GB-6J4WA (3)	T-5½	Triode	7BQ-0-0	Cathode	6.3	0.400	3.9	4.6	0.24	Amplifier	150	100 ^m		15.0		4 500	12 000	55			6J4 GB-6J4WA	
6J5 6J5GT	Metal T-9	Triode	6Q-1-0	Cathode	6.3	0.300	3.4 3.8	3.4 4.2	3.6 5.0	Amplifier	250	8.0		9.0		7 700	2 600	20			6J5 6J5GT	
6J6 6J6A 6J6WA (3)	T-5½	Duotriode	7BF-0-7	Cathode	6.3 6.3I	0.450 0.450	1.5 1.5	2.6 2.6	1.6 1.0	VHF Osc. VHF Amp.†	150 100	10.0 50 ^m		30.0 8.5		7 100	5,300	38		3 500	6J6 6J6A 6J6WA	
6J7 6J7G 6J7GT	Metal ST-12 T-9	Pentode	7R-1.1 7R-0.1 7R-1-1	Cathode	6.3	0.300	0.05m 0.07m 0.07m	7.0 5.4 5.4	12.0 12.0 12.0	R-F Amp	250	3.0	100	2.0	0.5	1.0 Meg >	1,225				6J7 6J7G 6J7GT	
6J8G	ST 12	Tri Heptode	8H-0-8	Cathode	6.3	0.300	0.2m	4.4	10.0	Mixer Oscillator	250 250	3.0 Plate Supply Thru 20 000 Res.	100 1.3	2.9	4.0 Meg	290 A	(Heptode Section)				6J8G	
6K4	T 3	Triode	6K4	Cathode	6.3	0.150	2.2*	2.4*	0.85*	Osc. Amp.	100	2.0		12.0		3 650	5 500	20			6K4	
6K5G 6K5GT	ST 12 T-9	Triode	5U-0-0 5U-0-0	Cathode	6.3	0.300	2.0 2.8	2.9 2.9	5.75 4.7	Amplifier	100 250	1.5 3.0		0.35 1.10		78,000 50 000	900 1,400	70			6K5G 6K5GT	
6K6GT	T-9	Power Pent.	7S-0-0	Cathode	6.3	0.400				S.T. A1 Amp.	100 250 315	7.0 18.0 21.0	100 250 250	9.0 32.0 25.5	1.6 5.5 4.0	104,000 68 000 75 000	1 500 2,300 2 100		12,000 7,600 9,000	350 3,400 4 500	6K6GT	
6K7 6K7G 6K7GT	Metal ST-12 T-9	Pentode	7R-1.0 7R-0.8 7R-1.8	Cathode	6.3	0.300	0.05m 0.07m 0.05m	7.0 5.0 4.6	12.0 12.0 12.0	R-F Amp.	100 250 250	1.0 3.0 3.0	100 100 125	9.5 7.0 10.5	2.7 1.7 2.6	150 000 † 800,000 † 600,000 †	1 650 1,450 1,650				6K7 6K7G 6K7GT	
6K8 6K8G 6K8GT	Metal ST 12 T-9	Tri. Hexode	8K-1.0 8K-0.8 8K-1.8	Cathode	6.3	0.300	0.3m 0.8m 0.8m	6.6 4.6 5.0	3.5 4.8 4.3	Mixer Osc.	250 100	3.0 Grid Resistor 50 000	100 Plate Current 3.8 Ma.	2.5 6.0	6.0	600 000	350 A	(Hexode Section) (Triode Section not Oscillating)				6K8 6K8G 6K8GT
6L4	Acom	Triode	7BR-0-0	Cathode	6.3	0.225	1.6*	1.8*	0.5*	Osc. Amp.	80	150 ^m		9.5		4 400	6 400	28			6L4	
6L5G	ST-12	Triode	6Q-0-0	Cathode	6.3	0.150	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 6L6GB	Metal ST-16 ST-14 T-12	Beam Pent	7S-1.0 7S-0-0 7S-0.0 7S-0-0	Cathode	6.3	0.900	0.9*	11.5*	9.5*	S.T. A1 Amp. S.T. A1 Amp. P.P. AB1 Amp. P.P. AB2 Amp.	250 350 270 360	14.0 18.0 17.5 22.5	250 250 270 270	72.0 54.0 134-155† 88-132†	5.0 2.5 11-17† 5-15†	22 500 33 000 23 500 (Current & Output for Two Tubes)	6 000 5,200 5 700 (Current & Output for Two Tubes)		2 500 4 200 5 000† 3 800†	6,500 10 800 17,500 26,500		6L6 6L6G 6L6GA 6L6GB
6L6GC	T-12	Beam Pent	7S	Cathode	6.3	0.900	0.6*	10*	6.5*	P.P. AB1 Amp. P.P. AB1 Amp. P.P. AB1 Amp.	360 360 450	22.5 22.5 37	270 270 400	88-132† 88 140† 116-210†	5-15† 5-11† 5.6-22†				6 600† 3,800† 5,600†	26 500 18,000 55,000		6L6GC
6L6GAY	ST-14	Beam Pent	7S-0-0	Cathode	6.3	0.900				Power Amp.	Low Loss Base. Characteristics Same as 6L6GA.										6L6GAY	
6L7 6L7G	Metal ST-12	Heptode	7T-1.1 7T-0.8	Cathode	6.3	0.300	0.01m 0.05m	7.5 6.0	11.0 10.0	Amplifier Mixer Amp.	250 250	6.0 3.0	150 100	3.3 5.3	9.2 6.5	1 Meg. > 600 000	350 A 1,100		(G3 = Neg 15 Volts) (G3 = Neg 3.0 Volts)		6L7 6L7G	
6M3	T 12	Diode	8GV	Cathode	6.3	3.000				H-W Rect	Television Service Peak Inverse Volts = 6 KV Output = 320 Ma										6M3	

6M5	T-6½	Beam Pent.	9N-0-0	Cathode	6.3	0 710	1.0m	10 0	6 2	Power Amp.	250	170*	250	36	5 2	40,000	10,000	7,000	3,900	6M5	
6N4	T-5½	Triode	7CA-0-0	Cathode	6.3	0 200	1 1	3 0	1 6	Amplifier	180	3.5		12 0		5,400 †	6,000 †			6N4	
6N6G	ST-14	Duotriode	7AU-0-0	Cathode	6.3	0 800				Power Amp	300	0 0		(Input Section)	8 0					6N6G	
6N7GT	T-9	Duotriode	8B-0-0	Cathode	6.3	0 800				Power Amp.	300	0 0		17 5-35†	Per Plate. Class B Push-Pull	24,000 †	2,400	58	7,000	4,000	6N7GT
6N7	Metal									Driver	250	5 0		6 0	Sections	11 300	3,100	35	8,000†	10 000	6N7
6N8	T-6½	Duodi. Pent	9T-0-0	Cathode	6.3	0 300	002m	4.0	4 6	R-F Amp	250	2		7 0	Paralled	11,000	3,200	35	(Class A Driver)		6N8
6P5GT	T 9	Triode	6CQ-0-0	Cathode	6 3	0 300	2.6	3.4	5 5	Amplifier Detector	250	13 5		5 0	1 75	1.6 Meg	2,200				6P5GT
											250	20 0 †				9,500	1,450	13 8			
													(Plate Current to be adjusted to 0.2 Ma. with no Input Signal)								

(1) Values are given shielded unless marked with (*) (3) Has special mechanical and/or life characteristics (4) Average Contact potential bias developed across specified grid resistor. † Per Tube or Section ‡ Plate and Target Supply Voltage † Maximum Signal. □ Applied through 20 000 ohms. ▲ Conversion Transconductance ** Triode Operation. ‡ Plate to Plate. † Approximate m maximum □ Cathode Resistor (ohms)

(2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode H—Heater; Hc—Heater Center; Ht—Heater Tap IC—Internal Connection DO NOT USE: J—Jumper; K—Cathode; NC—No Connection; P—Plate Rc—Ray Control. S—Metal Shell SA—Starter Anode. T—Target XS—External Shield □—Top Cap ■—Locating Key.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (?) Capacitances in $\mu\mu\text{f}$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type	
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp	Cin	Couf													
6P7G	ST 12	Pent. Triode	7U-0-8	Cathode	6.3	0.300	007m 2 0	2 8 2 7	12.0 2 5	R-F Amp.	Characteristics Same as Type 6F7 Except Capacitances.										6P7G	
6Q4	T-6½	Triode	9S-0-0	Cathode	6.3	0.480	3 4	5 4	06m	R F Amp.	250	1 0		15			12,000	80		6Q4		
6Q7	Metal ST 12 T 9	Duodiode Tri.	7V-1 8 7V 0-8 7V 1 8	Cathode	6.3	0.300	1 4 1 5 1 6	5 0 3 2 2 2	3 8 5 0 5 0	Det. Amp.	100 250	1 5 3 0		0 8 1 1		58,000 58 000	1 200 1 200	70 70		6Q7 6Q7G 6Q7GT		
6R4	T 6½	Triode	9R-0-0	Cathode	6.3	0.200	1 5	1 7	0.5	Oscillator	150	2		30			5 500	16		6R4		
6R6G	ST 12	Pentode	6AW-0-0	Cathode	6.3	0.300	007m	4.5*	11.0*	R F Amp.	250	3 0	100	7 0	1 7	800,000	1 450	1 160		6R6G		
6R7	Metal T 9	Duodiode Tri.	7V 1 1 7V 0-8	Cathode	6.3	0.300	2.3 2 1	4.8 2.6	3 8 5 2	Det. Amp.	250	9 0		9 5		8 500	1 900	16		6R7 6R7GT		
6R8	T 6½	Triple Dio. Tri.	9E-0-3&8	Cathode	6.3	0.450	2.4	1 5*	1 1*	Det. Amp.	250	9		9 5		8 500	1 900	16	300	6R8		
6S4	T 6½	Triode	9AC-0-0	Cathode	6.3	0.600	2.6*	4.2*	0.9*	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2,200 Volts. Maximum D-C Cathode Current = 30 Ma. Maximum Plate Dissipation = 7.5 Watts.										6S4	
6S4A	T-6½	Triode	9AC-0-0	Cathode	6.3I	0.600	2.6*	4.2*	0.9*	Vert. Defl. Amp.	Characteristics Same as Type 6S4. (6S4A Designed for Series String TV Receivers) Except Plate Dissipation - 8.5 Watts										6S4A	
6S7	Metal ST-12	Pentode	7R-1-1 7R-0-8	Cathode	6.3	0.150	005m 008m	6.5 4.4	10.5 8 0	R F Amp.	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			6S7 6S7G		
6S8GT	T 9	Triple Dio. Tri.	8CB-0 2	Cathode	6.3	0.300	2 0	1 2	5 0	Det. Amp.	250	2 0		0.9		91,000	1 100	100		6S8GT		
6SA7	Metal T 9	Heptode	8R 1 0 8AD-0 6 8AD 1 6	Cathode	6.3	0.300	0 25m 0 5m 0 5m	9 5 9 5 9 5	9 5 9 5 9 5	Converter	100 250	2 0 2 0	100 100	3 3 3 5	8.5 8.5	500,000 1 0 Meg	425A 450A			6SA7 6SA7GT 6SA7GT		
6SB7Y	Metal T 9	Heptode	8R 1 0	Cathode	6.3	0.300	0 13m	9 6	9 2	Converter	250	1 5	100	4.0	8 5		880A			6SB7Y		
6SC7 6SC7GT	Metal T 9	Duotriode	8S-1 0	Cathode	6.3	0.300	2 0	2 0	3 0	Amplifier	250	2 0		2 0		53 000	1 325	70	(Each Triode)	6SC7 6SC7GT		
6SD7GT	T 9	Pentode	8N 1 5	Cathode	6.3	0.300	0035	9 0	7 5	R-F Amp.	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	T 9	Pentode	8N-1.5	Cathode	6.3	0.300	0035m	6.0	7 5	R F Amp.	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 T 9	Triode	6AB-1.0 6AB-0-0	Cathode	6.3	0.300	2.4 2.6	4.0 4.2	3 6 3 8	Amplifier	250	2.0		0 9		66,000	1 500	100		6SF5 6SF5GT		
6SF7	Metal T 9	Diode Pent	7AZ 1-1	Cathode	6.3	0.300	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 T 9	Pentode	8BK-1-1	Cathode	6.3	0.300	003m 004m	8 5 8 5	7 0 7 0	R F Amp.	100 250	1 0 1 0	100 150	8 2 11 8 9 2	3 2 4.4 3 4	250,000 900,000 1 Meg >	4 100 4 700 4 000			6SG7 6SG7GT		
6SH7	Metal T 9	Pentode	8BK 1 1	Cathode	6.3	0.300	003m 004m	8.5 8 5	7 0 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			6SH7 6SH7GT		
6SJ7	Metal T 9	Pentode	8N-1 5 8N-0.5 8N 0-5 8N-0 5	Cathode	6.3	0.300	005m 005m 005m 005m	6.0 7 0 7 0 7 0	7 0 7 0 7 0 7 0	R F Amp.	100 250	3 0 3 0 100 100	100 125 150	2 9 11 8 9 2	0 9 4.4 3 4	700,000 900,000 1 0 Meg. >	1 575 1 650			6SJ7 6SJ7GT 6SJ7WGT (3) 6SJ7GT 6SJ7GT 6SJ7GT		
6SK7	Metal T 9	Pentode	8N 1 1 8N-1 5 8N-1 5	Cathode	6.3	0.300	003m 005m 005m	6.0 6.5 6.5	7 0 7 5 7 5	R F Amp.	100 250	1 0 3 0	100 100	13.0 9 2	4.0 2.6	120 000 800 000	2 350 2 000			6SK7 6SK7GT 6SK7GT		
6SL7GT	T 9	Duotriode	8BD-0-0	Cathode	6.3	0.300	2 8* 2 8*	3 0* 3 4*	2 8* 3 2*	Amplifier#	250	2 0		2 3		44,000	1,600	70		6SL7GT GB-6SL7WGT		
6SN7GT	T 9	Duotriode	8BD	Cathode	6.3	0.600	3 8* 4.0*	2 8* 3 0*	0 8* 1 2*	Amplifier	90 250	0 8.0		10 0 9 0		6 700 7 700	3 000 2 600	20 20		6SN7GT 6SN7WGT 6B-6SN7WGT		
6SN7GTA	T 9	Duotriode	8BD	Cathode	6.3	0.600	4.0* 3 8*	2 2* 2 6*	0 7* 0 7*	Vertical Osc. Amp.	Same as 6SN7GT except for Higher Maximum Plate Voltage and Dissipation Ratings (6SN7GTB designed for Series String TV Receivers)										6SN7GTA 6SN7GTB	
6SQ7	Metal T 9	Duodiode Tri.	8Q 1 1 8Q-1 3	Cathode	6.3	0.300	1 6 1 8	3 2 4.2	3 0 3 4	Det. Amp.	250	2 0		1 1		85 000	1 175	100		6SQ7 6SQ7GT		
6SR7	Metal T 9	Duodiode Tri.	8Q-1 1 8Q-0-3	Cathode	6.3	0.300	2.4 2 3	3 6 3 5	2 8 3 8	Det. Amp.	250	9 0		9 5		8 500	1 900	16		6SR7 6SR7GT		
6SS7	Metal T 9	Pentode	8N-1-0	Cathode	6.3	0.150	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 T 9	Duodiode Tri.	8Q 1 0	Cathode	6.3	0.150	1 5	2 8	3 0	Det. Amp.	250	9 0		9 5		8 500	1 900	16 0		6ST7		
6SU7GT	T 9	Duotriode	8BD-0-0	Cathode	6.3	0.300				Amplifier	250	2 0		2.3		44 000	1 600	70		6SU7GT		
6SV7	Metal T 9	Diode Pent.	7AZ 1 0	Cathode	6.3	0.300	004m	6 5	6 0	Det. Amp.	250	1 0	150	7 5	2 8	1 5 Meg.	3 600			6SV7		
6SZ7	Metal T 9	Duodiode Tri.	8Q-1 0	Cathode	6.3	0.150	1 1	2 6	2 8	Amplifier	250	3 0		1 0		58 000	1 200	70		6SZ7		
6T4	T 5½	Triode	7DK	Cathode	6.3	0.225	1 7*	2 6*	0 4*	UHF Osc.	80	150		18		1 860	7 000	13		6T4		
6T5	ST 12	Electron Ray	6R-0-0	Cathode	6.3	0.300				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.	7V 0-8	Cathode	6.3	0.150	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		
6T8	T 6½	Triple Dio. Tri.	9E-0-3 & 7	Cathode	6.3	0.450				Det. Amp.	100 250	1 0 3.0		0.8 1 0		54 000 58 000	1 300 1 200	70 70		6T8 6T8A		
6U4GT	T-9	Diode	4CG-0-0	Cathode	6.3	1.200				H W Rect.	350 A.C. Volts Per Plate R M S 125 Ma. Output Current. Condenser Input to Filter										6U4GT	
6U5	T 9	Electron Ray	6R 0-0	Cathode	6.3	0.300				Indicator	100 250	(Series Plate Resistor 0.5 Meg., Target Current 1 0 Ma. Grid Bias - 8 0 for 0° Shadow.) (Series Plate Resistor 1 0 Meg. Target Current 4 0 Ma. Grid Bias - 22 0 for 0° Shadow.)										6U5
6U6GT	T-9	Beam Pent	7S-0-0	Cathode	6.3	0.750				Power Amp.	110 200	10.5 14.0	110 135	44.0 55 0	4.0 3 0	10 000 20,000	5,600 6 200		2 000 3 000	2 000 5 500	6U6GT	

6U7G	ST-12	Pentode	7R-0-8	Cathode	6.3	0.300	007m	5.0	9.0	R-F Amp.	100 250	3.0 3.0	100 100	8.0 8.2	9.2 9.0	250,000 800,000	1,500 1,600				6U7G
6U8 6U8A	T-6½	Tri. Pentode	9AE-0-7	Cathode	6.3 6.3X	0.450 0.450	1.8 006	2.8 5.0	2.0 3.5	VHF Osc VHF Amp.	125 125	1.0 1.0	110	13.5 9.5	3.5	5,000 200,000	7,500 5,000	40			6U8 6U8A
6V3, 6V3A	T-6½	Diode	9BD	Cathode	6.3	1.750				T V Damper	P I V = 6,000 Volts Abs Max, D-C Plate Current = 135 Ma Max										6V3, 6V3A
6V4	T-6½	Duodiode	9M-0-0	Cathode	6.3	0.600				F-W Rect	350 A.C. Volts Per Plate, R.M.S. 90 Ma Output Current Condenser Input to Filter.										6V4
6V5GT	T-9	Pentode	6AO-0-0	Cathode	6.3	0.450	0.6	9.0	10.0	Power Amp Push Pull	250 250	12.5 15	250 250	45 70	4.5 5.0		4,100		5,000 10,000†	4,500 10,000	6V5GT
6V6 6V6GT 6V6GT 6V6GT	Metal T-9 T-9 T-9	Beam Pent.	7S-1-0 7S-0-0 7S-0-0 7S-0-0	Cathode	6.3	0.450	0.3 0.7* 0.7* 0.7*	10.0 9.0* 9.0* 9.0*	11.0 7.5* 7.5* 7.5*	Power Amp Class A1 Amplifier Class AB1 Amplifier	180 950 950 315 950 985	8.5 19.5 13.0 15.0 19.0	180 950 925 950 985	99.0 45.0 34.0 70.79† 70.92†	3.0 4.5 2.2 5.43† 4-13.5†	50,000 50,000 80,000 (Class AB1 Two Tubes)	3,700 4,100 3,750 (Class AB1 Two Tubes)		5,500 5,000 8,500 10,000† 8,000†	2,000 4,500 5,500 10,000 14,000	6V6 6V6GT 6V6GT 6V6GT
											Low Loss Base for Type 6V6GT.										

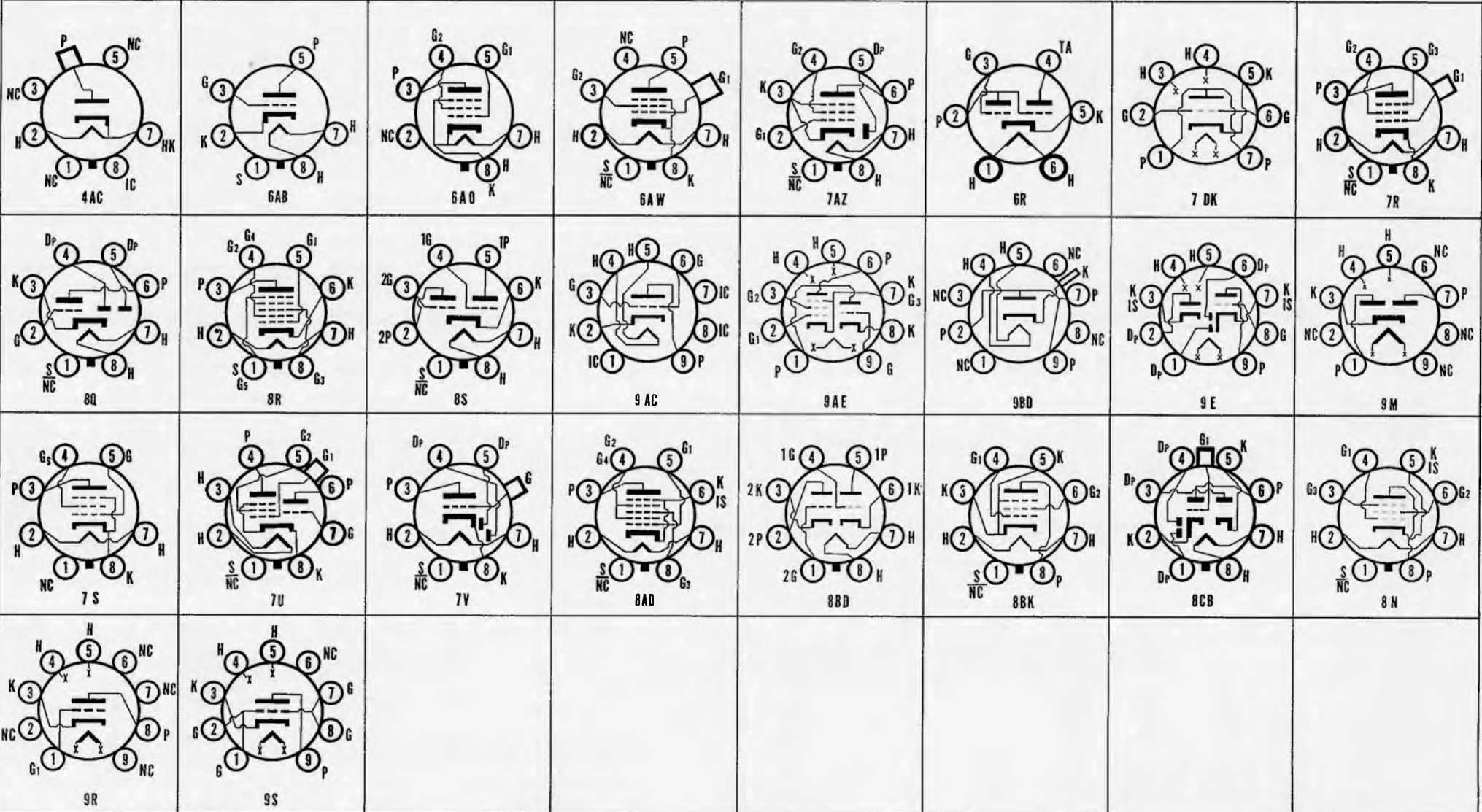
(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate, RF Input, Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

† Per Tube or Section
‡ Plate and Target Supply Voltage
§ Conversion Transconductance
¶ Triode Operation

□ Applied through 20,000 ohms.
▲ Conversion Transconductance.
•• Triode Operation.

†† Plate to Plate.
‡‡ Approximate.

m maximum.
■ Cathode Resistor (ohms).



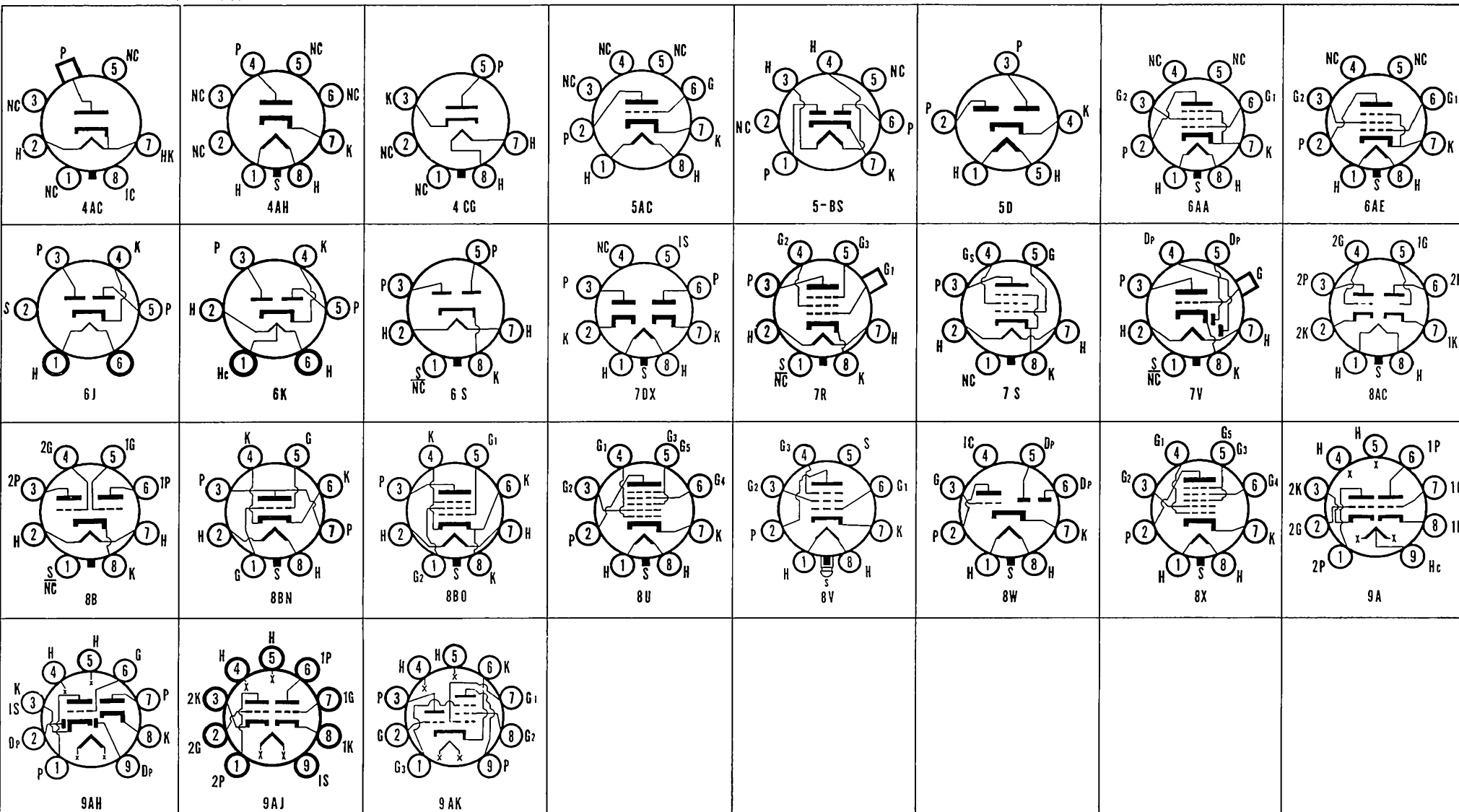
SYMBOLS FOR BASE DIAGRAMS Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target XS—External Shield, □—Top Cap, ■—Locating Key.

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp	Cin	Cout												
6V7G	ST-12	Duodiode Tri.	7V-0-8	Cathode	6.3	0.300	1.3	1.5	6.0	Det. Amp	135 180 250	10.5 13.5 20.0		3.7 6.0 8.0		11,000 8,500 7,500	750 975 1,100	8.3 8.3 8.3	25,000 20,000 20,000	75 160 350	6V7G
6V8	T-6½	Triple Diode Triode	9AH-0-3	Cathode	6.3	0.450				Det. Amp	100 250	1.0 3.0		0.8 1.0		54,000 58,000	1,300 1,200	70 70			6V8
6W4GT	T-9	Diode	4CG-0-0	Cathode	6.3	1.200				H-W Rect.	350 A-C Volts RMS 125 Ma DC Output Condenser Input to Filter										6W4GT
6W5G	ST-12	Duodiode	6S-0-0	Cathode	6.3	0.900				F-W Rect.	325 A-C Volts Per Plate RMS 90 Ma Output Current Condenser Input to Filter 450 A-C Volts Per Plate RMS 90 Ma Output Current Choke Input to Filter										6W5G
6W6GT	T-9	Beam Pent.	7S-0-0	Cathode	6.3	1.200	0.8*	15.0*	9.0*	Power Amp. Vert. Defl. Amp.	110 200	7.5 18.0	110 125	49 46	4.0 2.2	13,000 28,000	8,000 8,000		2,000 4,000	2,100 3,800	6W6GT
6W7G	ST-12	Pentode	7R-0-8	Cathode	6.3	0.150	0.07m	5.0	8.5	R-F Amp.	250	3.0	100	2.0	0.5	1.5 Meg	1,225				6W7G
6X4 GB-6X4WA (3)	T-5½	Duodiode	5BS-0-0	Cathode	6.3	0.600				F-W Rect.	325 Volts RMS Per Plate 70 Ma D-C Output Condenser Input to Filter										6X4 GB-6X4WA
6X5 6X5GT 6X5WGT (3) GB-6X5WGT (3)	Metal T-9 T-9	Duodiode	6S-0-0	Cathode	6.3	0.600				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										6X5 6X5GT 6X5WGT GB-6X5WGT
6X8 6X8A	T-6½	Triode Pentode	9AK	Cathode	6.3 6.3X	0.450 0.450	1.5 0.6	2.4 4.8	1.0 1.6	VHF Osc VHF Amp.	125 125	1.0 1.0	125	12 9	2.2	6,000 0.3 Meg	6,500 5,500	40			6X8 6X8A
6Y3G	ST-12	Diode	4AC-0-0	Cathode	6.3	0.700				H-W Rect.	5,000 A-C Volts Per Plate RMS 7.5 Ma Output Current Choke or Condenser Input to Filter										6Y3G
6Y5	ST-12	Duodiode	6J-2-0	Cathode	6.3	0.800				F-W Rect.	350 A-C Volts Per Plate RMS 50 Ma Output Current										6Y5
6Y6G 6Y6GA	ST-14 T-12	Beam Pent.	7S-0-0	Cathode	6.3	1.250				Power Amp.	135 200	13.5 14.0	135 135	58.0 61.0	3.5 2.2	9,300 18,300	7,000 7,100		2,000 2,600	3,600 6,000	6Y6G 6Y6GA
6Y7G	ST-12	Duotriode	8B-0-0	Cathode	6.3	0.600				Power Amp.	250	0.0		10.5-46†		(Class B Operation)			14,000†	8,000	6Y7G
6Z4	ST-12	Duodiode	5D-0-0	Cathode	6.3	0.500				F-W Rect.	325 A-C Volts Per Plate RMS 60 Ma Output Current Condenser Input to Filter 450 A-C Volts Per Plate RMS 60 Ma Output Current Choke Input to Filter										6Z4
6Z5/12Z5	ST-12	Duodiode	6K-0-0	Cathode	6.3 12.6	0.800 0.400				F-W Rect.	230 A-C Volts Per Plate, RMS, 60 Ma. Output Current.										6Z5/12Z5
6Z7G	ST-12	Duotriode	8B-0-0	Cathode	6.3	0.300				Power Amp.	135	0.0		6-40†		(Class B Operation)			9,000†	2,500	6Z7G
6ZY5G	ST-12	Duodiode	6S-0-0	Cathode	6.3	0.300				F-W Rect.	325 A-C Volts Per Plate RMS 40 Ma. Output Current. Condenser Input to Filter										6ZY5G
7A4/XXL	Lock-in	Triode	5AC-L-0	Cathode	6.3	0.300	4.0	3.4	3.0	Amplifier	90 250	0.0 8.0		10.0 9.0		6,700 7,700	3,000 2,600	20 20			7A4/XXL
7A5	Lock-in	Beam Pent.	6AA-L-0	Cathode	6.3	0.750	0.44	13.0	7.2	Power Amp.	110 125	7.5 9.0	110 125	40.0 44.0	3.0 3.3	16,000 17,000	5,800 6,000		2,500 2,700	1,500 2,200	7A5
7A6	Lock-in	Duodiode	7DX-L-5	Cathode	6.3	0.150				Det. Rect.	150 A-C Volts Per Plate RMS 8 Ma. Current Output Per Plate.										7A6
7A7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.300	0.03m	6.0	7.0	R-F Amp.	100 250	1.0 3.0	100 100	13.0 9.2	4.0 2.6	120,000 800,000	2,350 2,000				7A7
7A8	Lock-in	Octode	8U-L-7	Cathode	6.3	0.150	0.15m	7.5	9.0	Converter	100 250	3.0 3.0	75 100	1.8 3.0	2.7 3.2	650,000 700,000	375A 550A	(Ga = 100 V. 2.8 Ma.) (Ga = 250 V □ 4.2 Ma.)			7A8
7AB7	Lock-in	Pentode	8BO-L-0	Cathode	6.3	0.150	0.06m	3.5	4.0	R-F Amp.	250	2.0	100	4.0	1.3	500,000	1,800				7AB7
7AD7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.600	0.3	11.5	7.5	Amplifier TV Amplifier	300 300	68 68	150 125	28 25	7.0 6.0	300,000	9,500				7AD7
7AF7	Lock-in	Duotriode	8AC-L-0	Cathode	6.3	0.300	2.3*	2.2*	1.6*	Amplifier (per unit)	100 100 250	0 3.0 1.0		10.8 5.0 9.0		6,500 8,400 7,600	2,600 1,900 2,100	17 16 16			7AF7
7AG7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.150	0.05m	7.0	6.0	R-F Amp.	250	250	250	6.0	2.0	1.0 Meg >	4,200				7AG7
7AH7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.150	0.05m	7.0	6.5	R-F Amp.	250	250	250	6.8	1.9	1 Meg	3,300				7AH7
7AJ7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.300	0.07m	6.0	6.5	R-F Amp.	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				7AJ7
7AK7 GB-7AK7 (3)	Lock-in	Pentode	8V-L-0	Cathode	6.3	0.800	4.0 SutoP 0.7	12.0	9.5	R-F Amp.	150 150 150	0 11 0	90 90 90	40 2.5 Max 2.0 Max	21 0.45 60 Max	11,500	6,000				7AK7 GB-7AK7
7AU7	T-6½	Duotriode	9A-0-0	Cathode	7.0/ 3.5X	0.300/ 0.600	1.5* 1.5*	1.6* 1.6*	0.4* 0.32*	Amplifier	Characteristics Same as Type 12AU7A. (7AU7 Designed for Series String TV Receivers).										7AU7
7B4	Lock-in	Triode	5AC-L-0	Cathode	6.3	0.300	1.6	3.2	3.2	Amplifier	100 250	1.0 2.0		0.4 0.9		85,000 66,000	1,150 1,500	100 100			7B4
7B5	Lock-in	Power Pent.	6AE-L-0	Cathode	6.3	0.400	0.8	7.4	8.0	Power Amp.	100 250 315	7.0 18.0 21.0	100 250 250	9.0 32.0 25.5	1.6 5.5 4.0	104,000 68,000 75,000	1,500 2,300 2,100		12,000 7,600 9,000	350 3,400 4,500	7B5
7B6	Lock-in	Duodiode Tri.	8W-L-7	Cathode	6.3	0.300	1.6	3.0	2.4	Det. Amp.	100 250	1.0 2.0		0.4 0.9		110,000 91,000	900 1,100	100 100			7B6
7B7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.150	0.04m	5.0	6.0	R-F Amp.	100 250	3.0 3.0	100 100	8.2 8.5	1.8 1.7	300,000 750,000	1,675 1,750				7B7
7B8	Lock-in	Heptode	8X-L-0	Cathode	6.3	0.300	0.2m	10.0	9.0	Converter	100 250	1.5 3.0	50 100	1.1 3.5	1.3 2.7	600,000 360,000	360A 550A	(Ga = 100 V. 2.0 Ma.) (Ga = 250 V □ 4.0 Ma.)			7B8
7C4	Lock-in	H. F. Diode	4AH-L-0	Cathode	6.3	0.150				Detector	Half Wave Cathode Type Rectifier for High Frequency Use										7C4

7C5	Lock-in	Beam Pent.	6AA-L-0	Cathode	6.3	0.450	0.4	9.5	9.0	Power Amp. Class A1	180 250 315 250 285	8.5 12.5 13.0 15.0 19.0	180 250 225 250 285	29.0 45.0 34.0 70-79† 70-92†	3.0 4.5 2.2 5.13† 4-13.5†	58,000 52,000 77,000 (Class AB1 Two Tubes) (Class AB1 Two Tubes)	3,700 4,100 3,750	5,500 5,000 8,500 10,000† 8,000†	2,000 4,500 5,500 10,000 14,000	7C5
7C6	Lock-in	Duodiode Tri.	8W-L-7	Cathode	6.3	0.150	1.6	2.4	2.4	Det. Amp.	100 250	0.0 1.0		1.0 1.3		100,000 100,000	850 1,000	85 100		7C6
7C7	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.150	004m	5.5	6.5	R-F Amp	100 250	3.0 3.0	100 100	1.8 2.0	0.4 0.5	1.2 Meg. † 2.0 Meg. †	1,225 1,300			7C7
7DJ8	T-6½	Duotriode	9AJ	Cathode	7.0	0.300	1.4	3.3	2.5	VHF Amp	90	1.3		15			12,500	33		7DJ8
7E5	Lock-in	Triode	8BN-L-0	Cathode	6.3	0.150	1.5	3.6	2.8	Osc. Amp.	250 150	3.5 10.2		13.0 16.0		Oscillator for 750 mc. Service. Oscillator-Amplifier for 300 mc. Service.			200	7E5
7E6	Lock-in	Duodiode Tri.	8W-L-7	Cathode	6.3	0.300	1.5	3.0	2.4	Det. Amp.	250 100	9.0 3.0		9.5 3.9		8,500 11,000	1,900 1,500	16 16.5		7E6

(1) Values are given shielded unless marked with (*) (3) Has special mechanical and/or life characteristics # Per Tube or Section
(2) Converter tube capacitances given are signal (4) Average Contact potential bias developed across § Plate and Target Supply Voltage
grid to plate; RF Input. Mixer Output spec.ified grid resistor † Maximum Signal
† Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.) □ Applied through 20,000 ohms
▲ Conversion Transconductance †† Triode Operation
‡ Plate to Plate † Approximate
‡ Cathode Resistor (ohms)



SYMBOLS FOR BASE DIAGRAMS Dp—D.ode Plate F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater Hc—Heater Center; Ht—Heater Tap IC—Internal Connection DO NOT USE,
J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target XS—External Shield; □—Top Cap ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts	Type				
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin	Coil																
7E7	Lock-in	Duodi. Pent.	8AE-L-7	Cathode	6.3	0.300	005m	4.6	5.5	Det. Amp.	100 250	1.0 3.0	100 100	10.0 7.5	2.7 1.6	150,000 \downarrow 700,000 \downarrow	1,600 1,300				7E7				
7ED7	T 6½	Pentode	9AQ	Cathode	7.3	0.300	0073	9.0	4.4	Amplifier	170	1.9	170	10	2.6	8,800					7ED7				
7EY6	T 9	Beam Pent.	7S	Cathode	7.2I	0.600	0.7*	8.5*	7.0*	Vert. Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 2,500 Volts. Maximum D.C. Cathode Current = 60 Ma. Maximum Plate Dissipation = 11 Watts. Characteristics Same as Type 6EY6.													7EY6	
7F7	Lock-in	Duotriode	8ACL-0	Cathode	6.3	0.300	1.6	2.4	2.0	Amplifier#	100 250	1.0 2.0		0.65 2.3		62,000 \downarrow 44,000 \downarrow	1,125 1,600	70 70				7F7			
7F8	Lock-in	Duotriode	8BW-L-0	Cathode	6.3	0.300	1.7 1.7	2.8 2.8	1.4 1.4	Osc. Amp.	250	500 #		6.0#			3,300#	48				7F8			
GB-7F8W(3)	Lock-in	Duotriode	8BW-L-0	Cathode	6.3	0.300	1.6	3.0	1.7	Osc. Amp.	250	200 #		11.0			5,200	50				GB-7F8W			
7G7	Lock-in	Pentode	8VL-5	Cathode	6.3	0.450	006m	9.0	7.0	R-F Amp.	250	2.0	100	6.0	2.0	800,000 \downarrow	4,500					7G7			
7G8	Lock-in	Duotetrode	8BV-L-0	Cathode	6.3	0.300	0.15m	3.4	2.6	R-F Amp. #	250	2.5	100	4.5	0.8	225,000	2,100					7G8			
7H7	Lock-in	Pentode	8VL-5	Cathode	6.3	0.300	004m	8.0	7.0	Amplifier	100 250	1.5 1.80 #	100 150	7.5 10.0	2.6 3.2	350,000 \downarrow 800,000 \downarrow	4,000 4,000					7H7			
7J7	Lock-in	Tri. Heptode	8BL-L-7	Cathode	6.3	0.300	03m	4.6	7.5	Hep. Mixer Tri. Osc.	100 250 100	3.0 3.0 0.05 Meg.	100 100 0.05 Meg.	1.5 1.4 3.2	2.6 2.8 (Triode Grid Current 0.3 Ma.) (Triode Grid Current 0.4 Ma.)	500,000 280 290 Δ						7J7			
7K7	Lock-in	Duodiode Tri.	8BF-L-7	Cathode	6.3	0.300	1.8	2.6	3.0	Det. Amp.	250	2.0		2.3		44,000	1,600	70				7K7			
7L7	Lock-in	Pentode	8VL-5	Cathode	6.3	0.300	01m	8.0	6.5	R-F Amp.	100 250	1.0 1.5	100 100	5.5 4.5	2.4 1.5	100,000 \downarrow 1.0 Meg	3,000 3,100					7L7			
7N7	Lock-in	Duotriode	8ACL-0	Cathode	6.3	0.600	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	8AL-L-0	Cathode	6.3	0.300	0.15m	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 Δ 550 Δ	(Osc. Grid Resistor 20,000) (Osc. Grid Current 0.5 Ma.)				7Q7			
7R7	Lock-in	Duodi. Pent.	8AE-L-7	Cathode	6.3	0.300	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 5.7	1.0 2.2 1.0 2.1	500,000 \downarrow 350,000 \downarrow 1,800,000 \downarrow 1,000,000 \downarrow	2,100 3,000 2,200 3,200					7R7			
7S7	Lock-in	Tri. Heptode	8BL-L-7	Cathode	6.3	0.300	03m	5.0	8.0	Hep. Mixer Tri. Osc.	100 250 100	2.0 2.0 0.05 Meg.	100 100 0.05 Meg.	1.9 1.8 3.0	3.0 3.0 (Triode Grid Current 0.3 Ma.) (Triode Grid Current 0.4 Ma.)	500 Δ 525 Δ						7S7			
7T7	Lock-in	Pentode	8VL-5	Cathode	6.3	0.300	005m	8.0	7.0	R-F Amp.	250 100	1.0 1.0	150 100	10.8 5.3	4.1 2.1	900,000 \downarrow 350,000 \downarrow	4,900 4,000					7T7			
7V7	Lock-in	Pentode	8VL-5	Cathode	6.3	0.450	002m	9.5	6.5	R-F Amp.	300	160 #	150	10.0	3.9	300,000	5,800					7V7			
7W7	Lock-in	Pentode	8BJ-L-5	Cathode	6.3	0.450	002m	9.5	7.0	R-F Amp.	Characteristics Same as Type 7V7. Except Capacitances.													7W7	
7X6	Lock-in	Duodiode	7DX-L-0	Cathode	6.3	1.200				H-W Rect. Doubler	235 Volts Per Plate. RMS 75 Ma. DC Output Per Plate. 117 Volts Per Plate. RMS 75 Ma. DC Output													7X6	
7X7	Lock-in	Duodiode Tri.	8BZ-L-4	Cathode	6.3	0.300				Det. Amp.	100 250	0 1.0		1.2 1.9		85,000 67,000	1,000 1,500	85 100					7X7		
7Y4	Lock-in	Duodiode	5AB-L-0	Cathode	6.3	0.500				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	5AB-L-0	Cathode	6.3	0.900				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	
8AU8 8AU8A	T 6½	Tri. Pentode	9DX-0-6	Cathode	8.4I	0.450	2.2* 046*	2.8* 7.0*	0.32* 2.6*	Tri. Amp. Pent. Amp.	Characteristics Same as Type 6AU8 (8AU8 and 8AU8A Designed for Series String Operation). 8AU8A Characteristics Same as Type 6AU8A.														8AU8 8AU8A
8AW8A	T 6½	Tri. Pentode	9DX-0-6	Cathode	8.4I	0.450	2.2 03	3.4 10.0	1.7 4.5	Sync. Sep. Video Amp.	Characteristics Same as Type 6AW8A (8AW8A Designed for Series String TV Receivers).														8AW8A
8BA8A	T 6½	Tri. Pentode	9DX-0-0	Cathode	8.4I	0.450	2.2* 03*	2.7* 10.0*	1.9* 4.5*	Sync. Sep. Video Amp.	Characteristics Same as Type 6BA8A (8BA8A Designed for Series String TV Receivers).														8BA8A
8BH8	T 6½	Tri. Pentode	9DX-0-6	Cathode	8.4I	0.450	2.4* 046*	2.6* 7.0*	3.8* 2.4*	Tri. Amp. Pent. Amp.	Characteristics Same as Type 6BH8 (8BH8 Designed for Series String TV Receivers).														8BH8
8BN8	T 6½	Duodiode Tri.	9ER	Cathode	8.4I	0.450	2.5*	3.6*	0.32*	Amplifier	Characteristics Same as Type 6BN8 (8BN8 Designed for Series String TV Receivers).														8BN8
8BQ5	T 6½	Beam Pent.	9CV	Cathode	8.0I	0.600				*P P AB1 Amp	Characteristics Same as Type 6BQ5 (8BQ5 Designed for Series String Receivers).														8BQ5
8CG7	T 6½	Duotriode	9AJ-0-9	Cathode	8.4I	0.450	4.0*	2.3*	2.2*	Amplifier	Characteristics Same as Type 6CG7 (8CG7 Designed for Series String TV Receivers).														8CG7
8CM7	T 6½	Duotriode	9ES-0-0	Cathode	8.4I	0.450	3.8* 3.0*	2.0* 3.5*	0.5* 0.4*	Vert. Defl. A.	Characteristics Same as Type 6CM7 (8CM7 Designed for Series String TV Receivers).														8CM7
8CN7	T 6½	Duodiode Tri.	9EN-0-3	Cathode	8.4/ 4.2I	0.225/ 0.450	1.8*	1.5*	0.5*	Det. Amp.	Characteristics Same as Type 6CN7 (8CN7 Designed for Series String TV Receivers).														8CN7
8CS7	T 6½	Duotriode	9EF-0-0	Cathode	8.4I	0.450	2.6* 2.6*	1.8* 3.0*	0.5* 0.5*	Vert. Osc. Vert. Defl. Amp.	Characteristics Same as Type 6CS7 (8CS7 Designed for Series String TV Receivers).														8CS7
8CY7	T 6½	Duotriode	9LG	Cathode	7.9I	0.600	1.8* 4.4*	1.5* 5.0*	0.3* 1.0*	Vert. Osc. Vert. Defl. A.	Characteristics Same as Type 6CY7 (8CY7 Designed for Series String TV Receivers).														8CY7
8EB8	T 6½	Tri. Pentode	9DX	Cathode	8.0I	0.600	4.4 0.1	2.4 11	0.36 4.2	A-F Amp. Video Amp.	Characteristics Same as Type 6EB8 (8EB8 Designed for Series String Receivers).														8EB8
8EM5	T 6½	Beam Pent.	9HN	Cathode	8.4I	0.600	0.7*	1.0*	5.1*	Vert. Defl. Amp.	Characteristics Same as Type 6EM5 (8EM5 Designed for Series String Operation).														8EM5
9A8	T 6½	Tri. Pentode	9DC-0-7	Cathode	9.0	0.300	025* 1.5*	5.5* 2.5*	3.8* 1.8*	VHF Osc. VHF Amp.	Characteristics Same as Type 6BL8.														9A8

9AU7	T-6½	Duotriode	9A-0-0	Cathode	9.4 4.7I	0.225 0.450	1.5	1.8	2.0	Amplifier	Characteristics Same as Type 7AU7. (9AU7 Designed for Series String TV Receivers).						9AU7		
9BR7	T-6½	Duodiode Tri.	9CF	Cathode	4.7I 9.4I	0.600 0.300	1.9	2.8	1.0	Det. Amp.	250	200	10	10,900	4,000	60	9BR7		
9BR8	T-6½	Tri. Pentode	9FA	Cathode	9.45	0.300	1.8 008m	2.5 5.0	1.0 3.5	VHF Osc. VHF Amp.	150 250	56 68	110	18 10	3.5	5,000 400,000	8,500 5,200	40	9BR8
9CL8	T-6½	Tri. Tetrode	9FX-0-0	Cathode	9.5I	0.300	1.8 016	2.7 5.0	1.2 3.0	VHF Osc. VHF Amp.	Characteristics Same as Type 6CL8. (9CL8 Designed for Series String TV Receivers).						9CL8		
9DZ8	T-6½	Tri. Beam Pent.	6DZ8	Cathode	9.0	0.600				A-F Voltage Amp. and Power Amp.	Characteristics Same as Type 6DZ8. (9DZ8 Designed for Series String Receivers).						9DZ8		

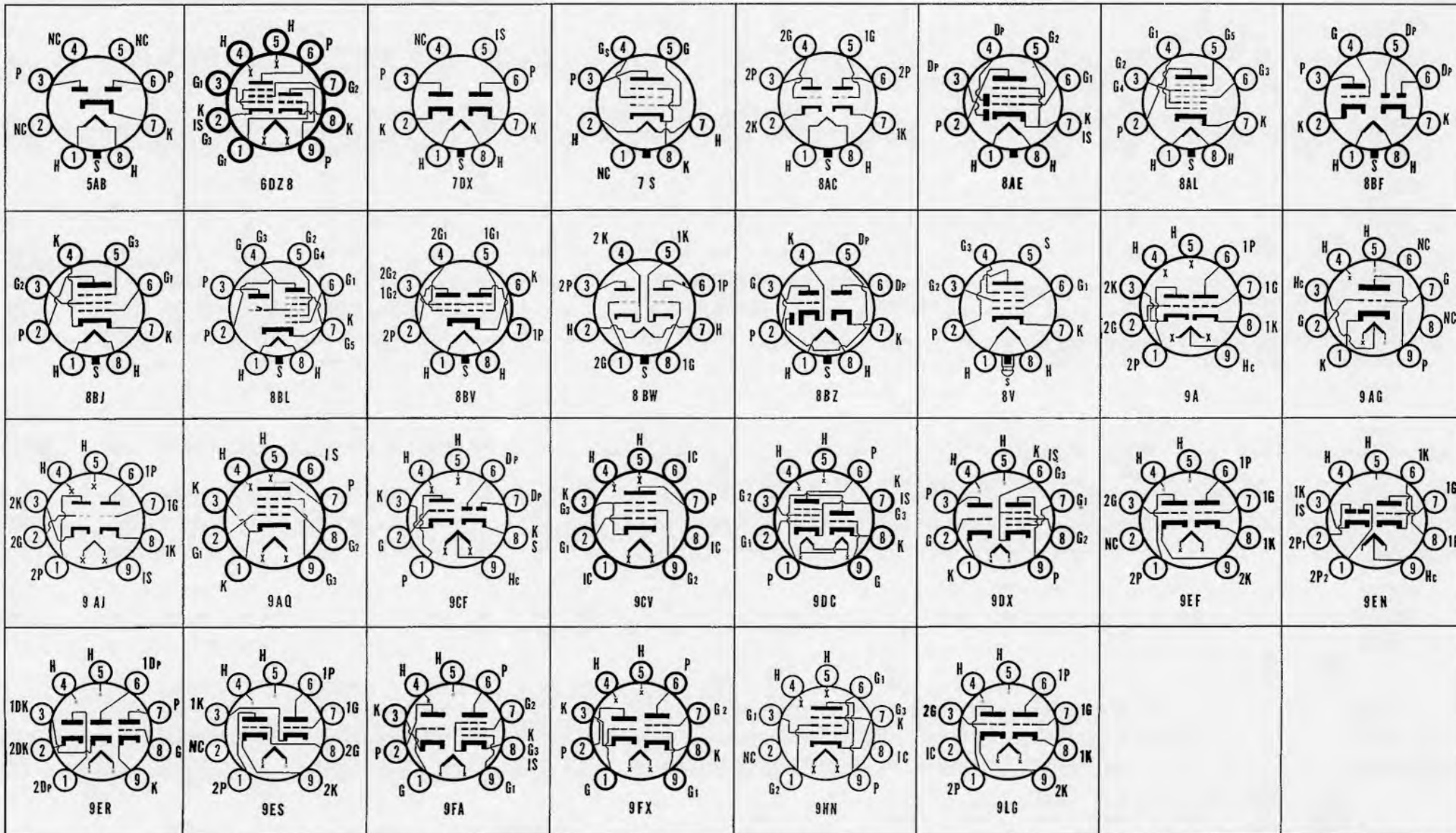
(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics.
 (2) Converter tube capacitances given are signal grid to plate; RF Input, Mixer Output.
 (4) Average Contact potential bias developed across specified grid resistor.
 X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

‡ Per Tube or Section
 § Plate and Target Supply Voltage.
 † Maximum Signal.

□ Applied through 20,000 ohms.
 ▲ Conversion Transconductance.
 ** Triode Operation.

‡ Plate to Plate.
 † Approximate.

m maximum.
 ■ Cathode Resistor (ohms).



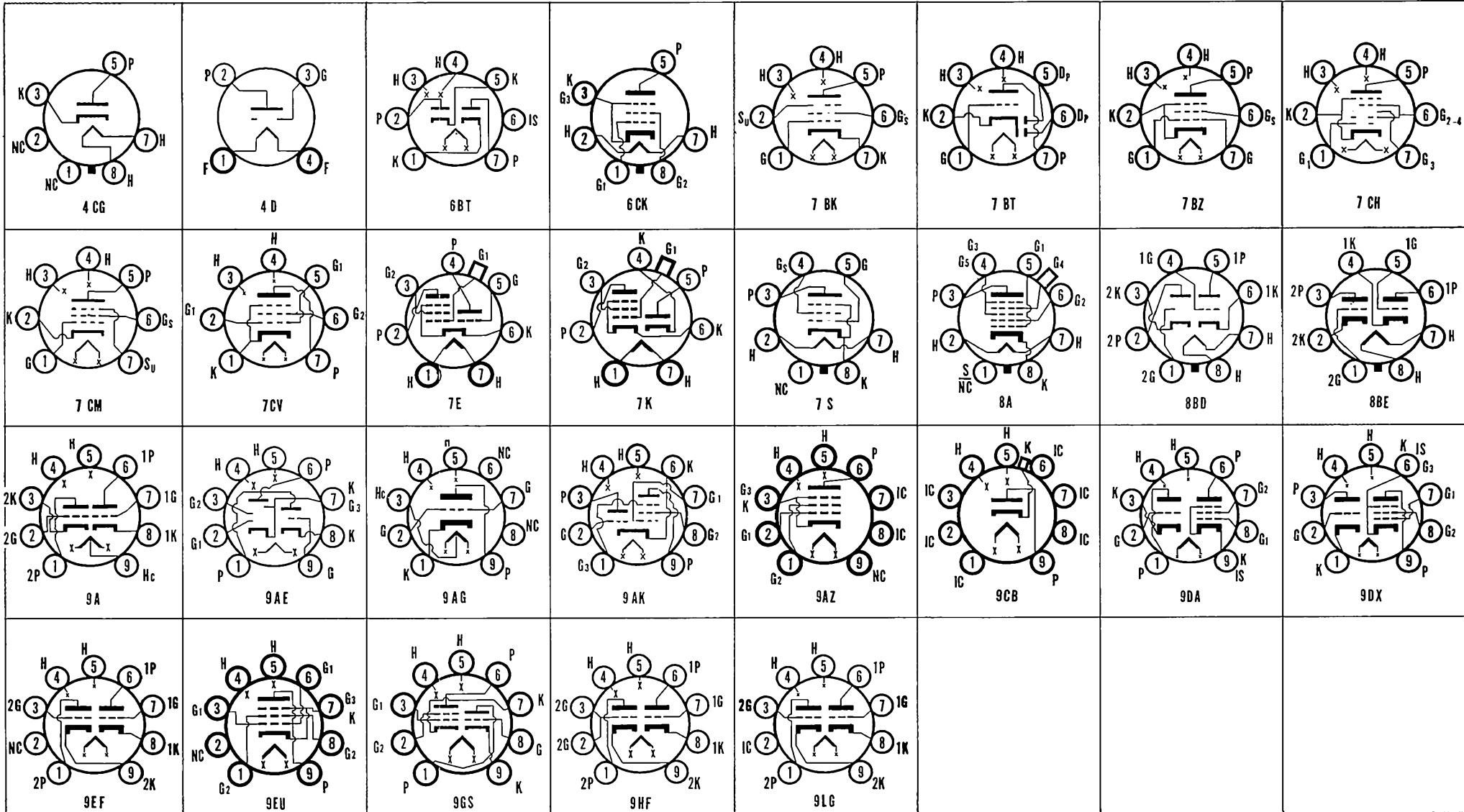
SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament; Fc—Filament Center, G—Grids numbered according to their position from the cathode; H—Heater, Hc—Heater Center, Ht—Heater Tap; IC—Internal Connection. DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield; □—Top Cap, ■—Locating Key.

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in $\mu\mu$.			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resistance Ohms	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp.	Cin	Cout												
9EF6	T-9	Beam Pent.	7S	Cathode	9.4I	0.600	0.8*	11.5*	9.0*	Vert Defl Amp	Characteristics Same as Type 6EF6. (9EF6 Designed for Series String TV Receivers).										9EF6
9U8A	T-6½	Tri. Pentode	9AE	Cathode	9.45I	0.300	1.8 006	2.5 5.0	1.0 3.5	VHF Osc. VHF Amp.	Characteristics Same as Type 6U8. (9U8A Designed for Series String TV Receivers).										9U8A
9X8	T-6½	Tri. Pentode	9AK	Cathode	9.5I	0.300	1.4 06	2.6 4.5	1.0 1.4	VHF Osc VHF Amp.	Characteristics Same as Type 6X8 (9X8 Designed for Series String TV Receivers).										9X8
10	ST-16	Triode	4D-0-0	Filament	7.5	1.250	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
10C8	T-6½	Tri Pentode	9DA-0-9	Cathode	10.5I	0.300	1.6* 04*	2.4* 7.0*	0.2* 2.2*	Tri Amp Pent. Amp.	250 135	390 ^m 100 ^m	135	7.3 11.5	3.2	12,000 190,000	4,400 8,000	53			10C8
10DA7	T-6½	Duotriode	9EF-0-0	Cathode	10.5I	0.600	2.3* 6.9*	2.0* 5.5*	0.415* 0.82*	Vert Osc Vert Defl. A	Characteristics Same as Type 6DA7 (10DA7 Designed for Series String TV Receivers).										10DA7
10DE7	T-6½	Duotriode	9HF	Cathode	9.7I	0.600	4.0* 8.5*	2.2* 5.5*	0.52* 1.0*	Vert Osc. Vert Defl Amp	Characteristics Same as Type 6DE7 (10DE7 Designed for Series String TV Receivers).										10DE7
10DR7	T-6½	Duotriode	9HF	Cathode	9.7I	0.600	4.5* 8.5*	2.2* 5.5*	0.34* 1.0*	Vert Amp. Vert Osc.	Characteristics Same as Type 6DR7. (10DR7 Designed for Series String Receivers).										10DR7
10EB8	T-6½	Tri. Pentode	9DX	Cathode	10.5I	0.450	4.4 0.1	2.4 11	0.36 4.2	A-F Amp. Video Amp.	Characteristics Same as Type 6EB8 (10EB8 Designed for Series String Receivers).										10EB8
10EG7	T-9	Duotriode	8BD	Cathode	9.7I	0.600	4.4* 9.5*	2.2* 7.0*	0.6* 1.6*	Vert. Amp Vert. Osc.	150 250	17.5 11.0		45 5.5		800 8.750	7.500 2.000	6 17.5			10EG7
11C5	T-5½	Beam Pent	7CV	Cathode	11.6I	0.450	0.6*			Power Amp.	Characteristics Same as Type 35C5 (11C5 Designed for Series String TV Receivers).										11C5
11CY7	T-6½	Duotriode	9LG	Cathode	11I	0.450	1.8* 4.4*	1.5* 5.0*	0.3* 1.0*	Vert Osc. Vert Defl. A	Characteristics Same as Type 6CY7 (11CY7 Designed for Series String TV Receivers).										11CY7
12A	ST-14	Triode	4D-0-0	Filament	5.0	0.250	8.5*	4.0*	2.0*	Det. Amp.	180	13.5		7.7		4.700	1.800	8.5	10,650	285	12A
12A4	T-6½	Triode	9AG-0-0	Cathode	6.3 12.6	0.600 0.300	5.6*	4.9*	0.9*	Amplifier	250	9.0		23		2.500	8,000	20			12A4
12A5	ST-12 T-9	Beam Pent.	7E-0-0	Cathode	12.6 6.3	0.300 0.600	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 \downarrow 35,000 \downarrow	1.700 2.400		4.500 3.300	800 3.400	12A5
12A6 12A6GT	Metal T-9	Beam Pent.	7S-1.0 7S-0-0	Cathode	12.6	0.150				Power Amp.	250	12.5	250	30	3.5	70,000	3,000		7.500	3.400	12A6 12A6GT
12A7	ST-12	Diode Pent.	7K-0-0	Cathode	12.6	0.300				H-W Rect. Power Amp.	125 RMS 135	13.5	135	30.0 Max 9.0	2.5	102,000	975	100	13,500	550	12A7
12A8G 12A8GT	T-12 T-9	Heptode	8A-1.0	Cathode	12.6	0.150	0.26	9.5	12.0	Converter	Characteristics Same as Type 6A8G.										12A8G 12A8GT
12AB5	T-6½	Beam Pent.	9EU	Cathode	12.6	0.200	0.7*	8*	8.5*	S.T.A1 Amp. P.P.A1 Amp.	250 250	12.5 15	250 250	45 70	4.5 5	50,000	4,100		5,000 10,000	4,500 10,000	12AB5
12AC6	T-5½	Pentode	7BK	Cathode	12.6	0.150	004	4.3	5.0	R-F Amp.	12.6	0	12.6	550 $\mu\alpha$	200 $\mu\alpha$	0.5 Meg.	730				12AC6
12AD5	T-6½	Pentode	9AZ	Cathode	12.6	0.100	002m*	5.1	8.1	R-F Amp	100	2.5	100	6.0	1.75	600,000 \downarrow	2,200				12AD5
12AD6	T-5½	Heptode	7CH	Cathode	12.6	0.150	0.25m	8.0	13	Hep. Mixer	12.6	1.6	12.6	450 $\mu\alpha$	1.5		260 Δ				12AD6
12AD7	T-6½	Duotriode	9A	Cathode	12.6 6.3	0.225/ 0.450	1.8 1.8	1.7 1.7	1.6 1.9	Amplifier #	250	2		1.25		62,500	1,600	100			12AD7
12AE6	T-5½	Duodiode Tri.	7BT	Cathode	12.6	0.150	2.0	1.8	1.1	Class A1 Amp.	12.6	0		0.75		15,000	1,000	15			12AE6
12AE6A	T-5½	Duodiode Tri	7BT	Cathode	12.6	0.150	2.0	1.8	1.1	Det. Amp.	12.6	10 Meg \uparrow		0.32		20,000	715	14.3			12AE6A
12AE7	T-6½	Duotriode	9A	Cathode	12.6	0.450	3.9* 3.4*	4.7* 4.2*	0.75* 0.85*	Dissimilar Tri's Voltage Amp. Pwr. Amp. Dr.	12.6 12.6	1.5Meg \uparrow 1.0Meg \uparrow		1.9 7.5		3,150 985	4,000 6,500	13 6.4			12AE7
12AF3	T-6½	Diode	9CB	Cathode	12.6I	0.600				TV Damper	Characteristics Same as Type 6AF3 (12AF3 Designed for Series String Receivers).										12AF3
12AF6	T-5½	Pentode	7BK-0-2	Cathode	12.6	0.150	006*	5.5*	4.8*	R-F Amp.	12.6	0	12.6	1.1	0.45	0.35 Meg.	1,500				12AF6
12AG6	T-5½	Heptode	7CH	Cathode	12.6	0.150	0.065m*	5.5*	7.5*	Converter	12.6	0.85	12.6	0.55	1.4	300 Δ			G1 = 20,000 Ohms; G1 = 0.050 Ma.		12AG6
12AH7GT	T-9	Duotriode	8BE-0-0	Cathode	12.6	0.150	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
12AJ6	T-5½	Duodiode Tri	7BT	Cathode	12.6	0.150	2.0*	2.2*	0.8*	Det. Amp	12.6	0		0.75		45,000	1,200	55			12AJ6
12AL5	T-5½	Duodiode	6BT-0-6	Cathode	12.6	0.150				Detector	Characteristics Same as Type 6AL5										12AL5
12AL8	T-6½	Tri. Tetrode	9GS	Cathode	12.6	0.550	5.7* 14.0*	1.8* 13.0*	0.4* 1.6*	Tri Amp. Tet. Amp.	12.6 12.6	0.9 \uparrow G2=0.5 \uparrow		0.5 40	75	13,000 480	1,000 15,000	13			12AL8
12AQ5	T-5½	Beam Pent	7BZ-0-0	Cathode	12.6	0.225	0.35*	8.3*	8.2*	Power Amp	Characteristics Same as Type 6AQ5.										12AQ5
12AT6	T-5½	Duodiode Tri.	7BT-0-0	Cathode	12.6	0.150	2.1*	2.2*	1.1*	Det. Amp.	Characteristics Same as Type 6AT6										12AT6
12AT7	T-6½	Duotriode	9A-0-0	Cathode	6.3 12.6	0.300 0.150	1.45* 1.45*	2.5* 2.5*	0.45* 0.35*	Amplifier	100 250	270 ^m 200 ^m		3.7 10.0			4,000 5,500	60 60			12AT7 12AT7WA
12AT7WA(3)																					12AT7WA
12AU6	T-5½	Pentode	7BK-0-2	Cathode	12.6	0.150	0.035m*	5.5*	5.0*	R-F Amp	Characteristics Same as Type 6AU6.										12AU6
12AU7 12AU7A	T-6½	Duotriode	9A-0-0	Cathode	12.6 6.3	0.150 0.300	1.5* 1.5*	1.6* 1.6*	0.4* 0.32*	Amplifier	250 100	8.5 0		10.5 11.8		7,700 6,500	2,200 3,100	17 20			12AU7 12AU7A
12AV5GA	T-11 or T-12	Beam Pent.	6CK-0-0	Cathode	12.6I	0.600	0.5*	14.0*	7.0*	Horizontal Defl. Amp	Characteristics Same as Type 6AV5GA. (12AV5GA Designed for Series String TV Receivers).										12AV5GA

12AV6	T-5½	Duodiode Tri	7BT 0-0	Cathode	12.6	0.150	2.1*	0.9*	Det. Amp.	Characteristics Same as Type 6AV6.								12AV6	
12AV7	T-6½	Duodiode	9A 0-0	Cathode	12.6	0.225	1.7	1.8	1.9	Amplifier	100	120	90		6 100	6 100	37		12AV7
					6.3	0.450	1.7	1.8	1.9		150	56	18		4 800	4 800	41		
12AW6	T-5½	Pentode	7CM-0.7	Cathode	12.6	0.150	0.25m*	6.5*	1.5*	R-F Amp.	250	200	150	7 0	2 0	0 8 Meg	5,000		12AW6
											125	100	125	7 2	2 1	0.5 Meg.	5 100		
											100	100	100	5 2	1 6	0.3 Meg.	4 750		
12AX4GT 12AX4GTA	T-9	Diode	4CG 0-0	Cathode	12.6	0.600				TV Damper	PIV = 4,400 Volts Max. D-C Plate Current = 125 Ma. Max. (12AX4GTA Designed for Series String TV Receivers).								12AX4GT 12AX4GTA
12AX4GTB	T-9	Diode	4CG	Cathode	12.6I	0.600				TV Damper	PIV = 5 000 Volts Max. D.C. Plate Current = 125 Ma. Max.								12AX4GTB
12AX7	T-6½	Duodiode	9A 0-0	Cathode	12.6	0.150	1.7*	1.6*	0.46*	Amplifier#	100	1	0.5		80 000	1 250	100		12AX7
					6.3	0.300	1.7*	1.6*	0.34*		250	2	1.2		62 500	1 600	100		
12AX7A	T-6½	Duodiode	9A	Cathode	12.6	0.150	1.7*	1.6*	0.46*	Audio Amplifier	Low Noise and Low Microphoism Version of Identical Type 12AX7								12AX7A
					6.3	0.300	1.7*	1.6*	0.34*										

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate/RF Input. Mixer Output
 (3) Has special mechanical and/or life characteristics (4) Average Contact potential bias developed across specified grid resistor
 † Per Tube or Section. ‡ Plate and Target Supply Voltage. † Maximum Signal. □ Applied through 20,000 ohms. ▲ Conversion Transconductance. ** Triode Operation. †† Plate to Plate. ††† Approximate. m maximum Cathode Resistor (ohms).



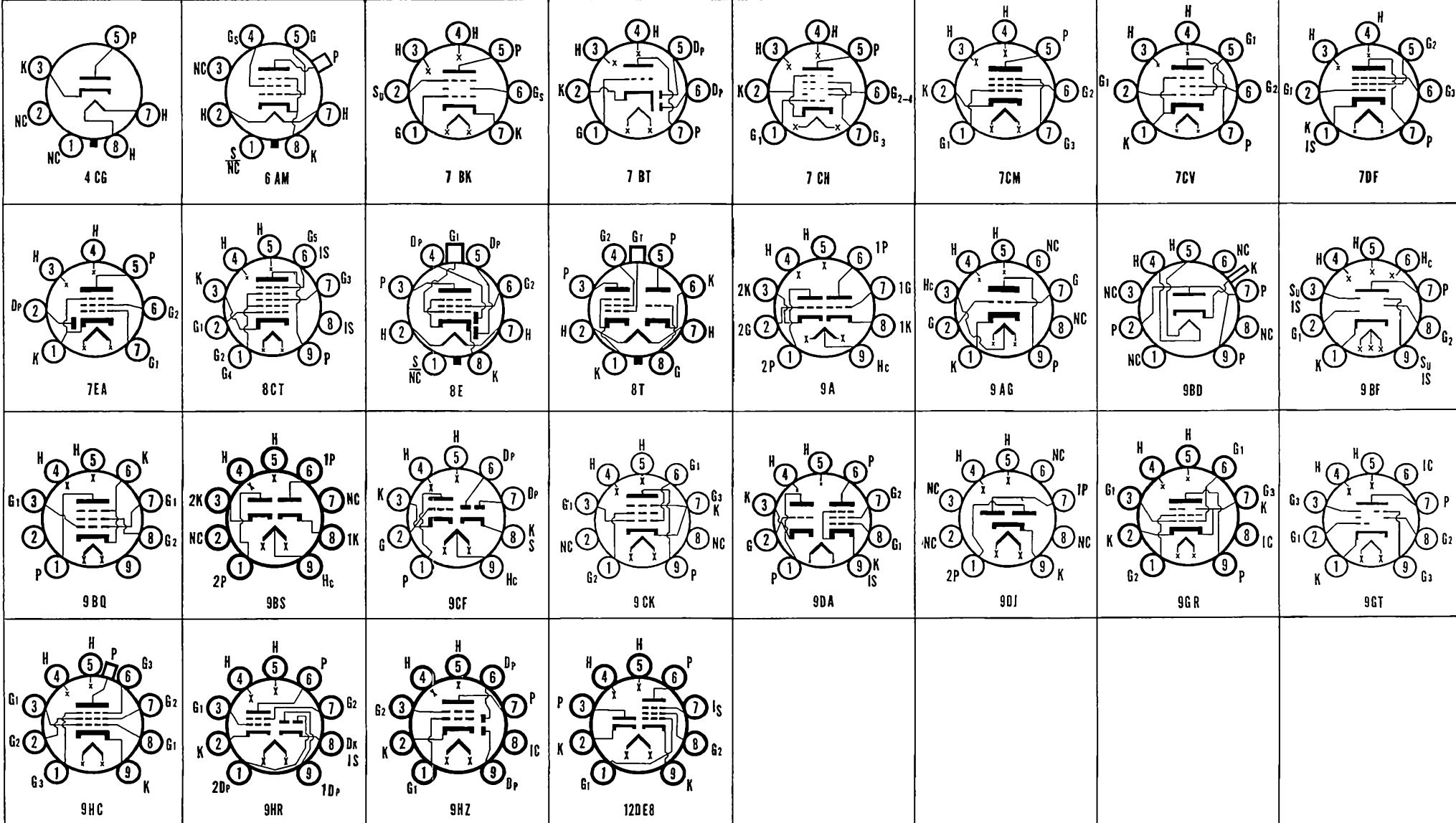
SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate; Rc—Ray Control S—Metal Shell, SA—Starter Anode, T—Target; XS—External Shield □—Top Cap, ■—Locating Key

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (?) Capacitances in $\mu\mu\text{f}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma	Plate Resistance Ohms	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli watts	Type
	Bulb Size or Style	Class	Biasing Diag	Type	Volts	Amps	C _{sp}	C _{in}	C _{out}												
12AY7	T-6½	Duotriode	9A-0-0	Cathode	12.6	0.150	1.3*	1.3*	0.6*	Audio Amp #	250	4.0		3.0			1,750	40		12AY7	
12AZ7	T-6½	Duotriode	9A-0-0	Cathode	6.3 12.6	0.450 0.225	1.9	2.8	1.2 1.6	Amplifier	100 250	270 ^m 200 ^m		3.7 10.0		15,000 10,900	4,000 5,500	60 60		12AZ7	
12B3	T-6½	Diode	9BD-0-0	Cathode	12.6†	0.600				TV Damper	Characteristics Same as Type 6B3 (12B3 Designed for Series String TV Receivers)										12B3
12B4	T-6½	Triode	9AG-0-0	Cathode	6.3†/12.6	0.600/0.300	4.0	6.2	4.2	Vert Defl. Amp	Max Peak Pos Pulse Plate Voltage = 1,000 Volts Max D.C. Cathode Current = 30 Ma Max Plate Dissipation = 6 Watts (12B4A Designed for Series String TV Receivers)										12B4A
12B4A											150	17.5		35		6,500		6.5		12B4	
12B7	Now Known as Type 14A7																				12B7
12B8GT	T-9	Pentode Tri	8T-0-1	Cathode	12.6	0.300	0.15* 2.3	5.2* 5.0	9.6* 6.3	Pent Amp Tri Amp	90 90	3.0 0	90	7.0 2.8	2.0	200,000 35,000	1,800 2,400	90		(Pentode Section) (Triode Section)	12B8GT
12BA6	T-5½	Pentode	7BK-0-0	Cathode	12.6	0.150	0.035*	5.5*	5.5*	R-F Amp	Characteristics Same as Type 6BA6										12BA6
12BA7	T-6½	Heptode	8CT-0-6&8	Cathode	12.6	0.150	0.19m	9.5	8.3	Converter	Characteristics Same as Type 6BA7										12BA7
12BD6	T-5½	Pentode	7BK-0-2	Cathode	12.6	0.150	0.04	4.3	5.0	R-F Amp	Characteristics Same as Type 6BD6										12BD6
12BE6	T-5½	Heptode	7CH-0-0	Cathode	12.6	0.150	0.3*	7.0*	8.0*	Converter	Characteristics Same as Type 6BE6										12BE6
12BF6	T-5½	Duodiode Tri	7BT-0-0	Cathode	12.6	0.150	1.9*	1.9*	1.2*	Det Amp	250	9.0		9.5		8,500	1,900	16	10,000	300	12BF6
12BH7	T-6½	Duotriode	9A-0-0	Cathode	6.3†/12.6	0.600/0.300	2.4	3.0	2.0	Vert Defl. Amp	Max Peak Pos Pulse Plate Voltage = 1,500 Volts Max D.C. Cathode Current = 20 Ma Max Plate Dissipation = 3.5 Watts (12BH7A Designed for Series String TV Receivers)										12BH7A
12BH7A							2.4	3.0	2.0		250	10.5		11.5		3,100		17		12BH7	
12BK5	T-6½	Beam Amp	9BQ-0-0	Cathode	12.6†	0.600	0.6*	13.0*	5.0*	Power Amp	Characteristics Same as Type 6BK5 (12BK5 Designed for Series String TV Receivers)										12BK5
12BK6	T-5½	Duodiode Tri	7BT-0-2	Cathode	12.6	0.150				Det Amp	100 250	1.0 2.0		0.5 1.2		80,000 62,000	1,250 1,600	100 100		12BK6	
12BL6	T-5½	Pentode	7BK	Cathode	12.6	0.150	0.06	5.5	4.8	R-F Amp	12.6	0.65 ⁴	12.6	1.35	0.5	500,000†	1,350			12BL6	
12BN6	T-5½	Gated Beam	7DF-0.1	Cathode	12.6	0.150				Quad. F M Det	Characteristics Same as Type 6BN6										12BN6
12BQ6GA	T-11	Beam Pent	6AM-0-0	Cathode	12.6†	0.600	0.8*	14.0*	6.5*	Horiz Defl Amp	Characteristics Same as Type 6BQ6GA (12BQ6GA and 12BQ6GTA Designed for Series String TV Receivers)										12BQ6GA
12BQ6GTA	T-9	Beam Pent	6AM-0-0	Cathode	12.6†	0.600	0.6*	15.0*	7.5*	Horiz Amp	Characteristics Same as Type 6BQ6GTA (12BQ6GTA Designed for Series String TV Receivers)										12BQ6GTA
12BQ6GTB	T-9	Beam Pent	6AM-0-0	Cathode	12.6†	0.600	0.6*	15.0*	7.5*	Horiz Amp	Characteristics Same as Type 6BQ6GTB (12BQ6GTB Designed for Series String TV Receivers)										12BQ6GTB
12BR7	T-6½	Duodiode Tri	9CF	Cathode	12.6/6.3	0.225/0.450	1.9	2.8	1.0	Amplifier	100 250	270 ^m 200 ^m		3.7 10.0		15,000 10,900	4,000 5,500	60 60		12BR7	
12BR7A	T-6½	Duodiode Tri	9CF	Cathode	6.3†/12.6	0.450/0.225	1.9	2.8	1.0	Det Amp	Characteristics Same as Type 9BR7A (12BR7A Designed for Series String Receivers when Operated at the 6 Volts Con.)										12BR7A
12BT6	T-5½	Duodiode Tri	7BT-0-2	Cathode	12.6	0.150				Det Amp	100 250	1.0 3.0		0.8 1.0		54,000 58,000	1,300 1,200	70 70		12BT6	
12BU6	T-5½	Duodiode Tri	7BT-0-2	Cathode	12.6	0.150				Det Amp	250 100	3.0 9.0		3.9 9.5		11,000 8,500	1,500 1,900	16.5 16	10,000	300	12BU6
12BV7	T-6½	Pentode	9BF-0.3&9	Cathode	12.6/6.3	0.300/0.600	0.55*	11.0*	3.0*	Class A1 Amplifier	250	68 ^m	150	27	6.0	85,000	13,000	10,000		12BV7	
12BW4	T-6½	Duodiode	9DJ	Cathode	12.6	0.450				F W Rect	Characteristics Same as Type 6BW4										12BW4
12BY7	T-6½	Pentode	9BF-0.3&4	Cathode	6.3 12.6	0.600 0.300	0.63*	10.2*	3.5*	Video Amp	250	100 ^m	180	26	5.75	93,000	11,000	1,035		12BY7	
12BZ6	T-5½	Pentode	7CM	Cathode	12.6	0.150	0.15m	7.0	3.0	R-F Amp	Characteristics Same as Type 6BZ6										12BZ6
12BZ7	T-6½	Duotriode	9A-0-0	Cathode	6.3/12.6	0.600/0.300	0.45	6.5		Sync Sep or Amplifier #	250	2		2.5		31,800	3,200	100		Cout Sec 1 = 0.7 $\mu\mu\text{f}$	12BZ7
12C5	T-5½	Beam Pent	7CV-0-0	Cathode	12.6†	0.600	0.6*	13.0*	8.5*	Power Amp	120 200	8 82 ^m	110 125	49 15.0	4.0	10,000 150,000	7,500 7,000			2,500 2,300	12C5
12C8	Metal	Duodi Pent	8E-1-1	Cathode	12.6	0.150	0.05m	6.0	9.0	Det Amp	Characteristics Same as Type 6B8										12C8
12CA5	T-5½	Beam Pent	7CV-0-0	Cathode	12.6†	0.600	0.5*	15.0*	9.0*	Power Amp	Characteristics Same as Type 6CA5 (12CA5 Designed for Series String TV Receivers)										12CA5
12CM6	T-6½	Beam Pent	9CK-0-0	Cathode	12.6	0.225	0.7*	8.0*	8.5*	Power Amp	Characteristics Same as Type 6CM6										12CM6
12CN5	T-5½	Pentode	7CV	Cathode	12.6	0.450	0.2			I-F Amp	12.6	2.2Meg ⁴	12.6	4.5	0.35	40,000†	3,800			12CN5	
12CR5	T-6½	Beam Pent	9HC-0-0	Cathode	12.6†	0.600	0.32*	12.9*	6.9*	Horiz Defl Amp	Characteristics Same as Type 6CR5 (12CR5 Designed for Series String TV Receivers)										12CR5
12CR6	T-5½	Diode Pent	7EA	Cathode	12.6	0.150				Audio Amp	250	2	100	9.6	2.6	800,000	2,200			12CR6	
12CS5	T-6½	Beam Pent	9CK	Cathode	12.6†	0.600		15.0		Power Amp	Characteristics Same as Type 6CS5 (12CS5 Designed for Series String TV Receivers.)										12CS5
12CS6	T-5½	Dual Control Heptode	7CH-0-0	Cathode	12.6	0.150	0.05m 0.36m	5.5 7.0	7.5	Sync. Sep	100 100	0.0Gr #1 1.0Gr #1	30 30	0.8 0.75	4.0 1.1	700,000 1,0 Meg.	950 Gr #1 1,250 Gr #3		Grid #3 Volts = 0 Grid #3 Volts = 1.0		12CS6
12CT8	T-6½	Tri Pentode	9DA-0-9	Cathode	12.6†	0.300	2.2* 0.44*	2.4* 7.5*	0.19* 2.4*	Sync Amp. Video Amp	150 200	150 ^m 82 ^m		9.0 15.0	3.4	8,200 150,000	4,900 7,000	40		12CT8	
12CU5	T-5½	Beam Pent	7CV	Cathode	12.6†	0.600	0.6*	13*	8.5*	Power Amp	Characteristics Same as Type 6CU5 (12CU5 Designed for Series String TV Receivers)										12CU5
12CU6	T-12	Beam Pent	6AM-0-0	Cathode	12.6†	0.600	0.55*	15.0*	7.0*	Horiz Defl Amp	Characteristics Same as Type 6BQ6G, Except Max D.C. Plate Supply = 550 Volts (12CU6 Designed for Series String TV Receivers)										12CU6
12CX6	T-5½	Pentode	7BK	Cathode	12.6	0.150	0.5*	7.6*	6.2*	R-F Amp	12.6	2.2Meg ⁴	12.6	3.0	1.4	40,000	3,100			12CX6	
12CY6	T-5½	Pentode	7BK	Cathode	12.6	0.200	0.18*	8.5*	4.0*	R-F Amp	12.6	2.2Meg ⁴	12.6	1.6	0.4	140,000	3,250			12CY6	
12D4	T-9	Diode	4CG-0-0	Cathode	12.6†	0.600				TV Damper	Maximum Inverse Peak Plate Voltage = 4,400 Volts Maximum D.C. Plate Current = 155 Ma										12D4
12DB5	T-6½	Beam Pent	9GR-0-0	Cathode	12.6†	0.600	0.2	1.3	8.0	Vert Defl. Amp	Characteristics Same as Type 6DB5 (12DB5 Designed for Series String TV Receivers)										12DB5
12DE8	T-6½	Diode Pent	12DE8	Cathode	12.6	0.200	0.06*	5.5*	5.7*	R-F or I-F Amplifier	12.6	0.8 ⁴	12.6	1.3	0.5	300,000†	1,500			12DE8	
12DF5	T-6½	Duodiode	9BS	Cathode	12.6 6.3	0.450 0.900				F W Rect	325 A V Volts Per Plate RMS 100 Ma Output Current Condenser Input 450 A C Volts Per Plate RMS 100 Ma Output Current Choke Input										12DF5

12DF7	T 6½	Duotriode	9A	Cathode	12.6 6.3	0.150 0.300	1.4* 1.4*	1.6* 1.6*	0.4* 0.3*	Audio Amp.	Characteristics Same as Type 12AX7 (Special Low Noise).										12DF7	
12DK5	T 6½	Pentode	9GT	Cathode	12.6	0.300	0.45	9.5	2.65	R-F Amp.	12.6	2.2Meg [†]	12.6	2.0	0.65	100 000	3 300					12DK5
12DK7	T 6½	Duodiode Tetrode	9HZ	Cathode	12.6	0.500				Def. Power Amp. Driver	12.6	15 Meg [†]	12.6	6.0	1.0	4,000	5 000			3 500	10	12DK7
12DL8	T 6½	Duodiode Tetrode	9HR	Cathode	12.6	0.550	1.4*	12*	1.3*	Def. Power Amp. Driver	12.6	G2=2	G1=12.6	8	75	480	15 000			800	40	12DL8
12DM5	T 5½	Beam Pent	7CV	Cathode	12.6†	0.450	0.55*	13.0*	9.0*	Power Amp.	110	7.5	110	49.0	4.0	14,000	7 500			2 500	1 900	12DM5
12DM7	T 6½	Duotriode	9A	Cathode	6.3 12.6	0.260 0.130	1.7 1.7	1.6 1.6	0.46 0.34	A F Amp.	Low Noise and Low Microphonism Version of Type 12AX7										12DM7	
12DQ6	T 12	Beam Pent	6AM-0-0	Cathode	12.6†	0.600	0.55*	15.0*	7.0*	Horiz. Def. Amp.	Characteristics Same as Type 6DQ6. (12DQ6 Designed for Series String TV Receivers)										12DQ6	

(1) Values are given shielded unless marked with (*) (3) Has special mechanical and/or life characteristics (4) Average Contact potential bias developed across specified grid resistor
 (2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output
 † Per Tube or Section ‡ Plate and Target Supply Voltage. § Conversion Transconductance ¶ Applied through 20 000 ohms. †† Plate to Plate. ‡‡ Approximate. ††† Maximum
 † Maximum Signal †††† Cathode Resistor (ohms).
 ††††† Triode Operation.
 †††††† Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)



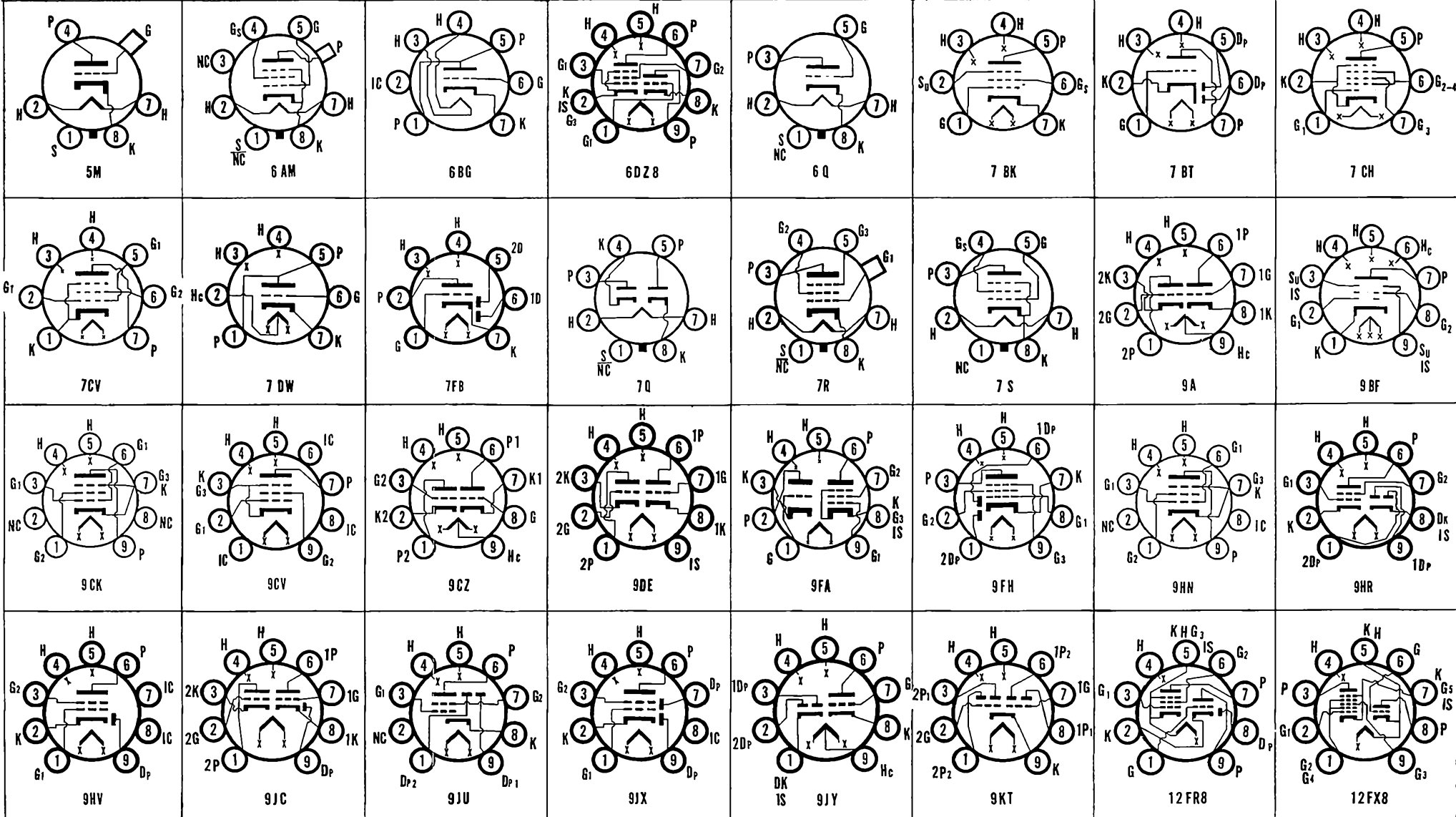
SYMBOLS FOR BASE DIAGRAMS. Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode; H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection P—Plate, Rc—Ray Control S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield □—Top Cap, ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Cgp.	Cin	Coul												
12DQ6A	T-12	Beam Pent.	6AM	Cathode	12.6I	0.600	0.55*	15.0*	7.0*	Horiz. Defl Amp	Characteristics Same as Type 6DQ6A. (12DQ6A Designed for Series String TV Receivers.)										12DQ6A
12DQ7	T-6½	Pentode	9BF	Cathode	12.6/6.3I	0.300/0.600	0.1*	10*	3.8*	Video Amp	200	68 [#]	125	26	5.6	53,000	10,500				12DQ7
12DS7 12DS7A	T-6½	Duodiode Tetrode	9JU	Cathode	12.6	0.400	12.5*	13*	2.2*	Det. Power	12.6	2.2 Meg [#]	G1 = 12.6	40.8†	75			800	40	12DS7 12DS7A	
12DT5	T-6½	Beam Pent.	9HN	Cathode	12.6I	0.600	0.57	12.5	4.9	Vert Defl Amp	Characteristics and Ratings Same as Type 6DT5 (12DT5 Designed for Series String Receivers)										12DT5
12DT7	T-6½	Duotriode	9A	Cathode	6.3 12.6	0.300 0.150	1.7*	1.6*	0.46*	A-F Amp	Characteristics Same as Type 12AX7 Controlled for Hum and Noise.										12DT7
12DT8	T-6½	Duotriode	9DE	Cathode	12.6	0.150	1.6	2.7	1.6	Amplifier	100 250	270 [#] 200 [#]		3.7 10		15,000 10,900	4,000 5,500	60 60			12DT8
12DU7	T-6½	Duodiode Tetrode	9JX	Cathode	12.6	0.250	0.6*	11*	3.6*	Det Power Amp. Driver	12.6	2.2 Meg [#]	12.6	12	1.5	6,000	6,200		2,700	25	12DU7
12DV7	T-6½	Duodiode Tri.	9JY	Cathode	12.6	0.150	1.6*	1.3*	0.38*	Det. Amp.	12.6	2.2 Meg		0.4		19,000	750	14			12DV7
12DV8	T-6½	Duodiode Tetrode	9HR	Cathode	12.6	0.375	12*	9*	1.0*	Detector Power Amp Driver	12.6	18 Ohm [#]	G1 = 12.6 and 4.7 Meg [#]	6.8	54	900	8,500	7.6	1,250	5	12DV8
12DW5	T-6½	Beam Pent	9CK	Cathode	12.6I	0.600	0.5	14	9	Vert Defl. Amp.	Maximum Peak Positive Plate Voltage = 2,200 Volts. Maximum D C Cathode Current = 65 Ma. Maximum Plate Dissipation = 11 Watts. 200 22.5 150 55										12DW5
12DW7	T-6½	Duotriode	9A	Cathode	6.3 12.6	0.300 0.150	1.7 1.5	1.8 1.8	2.0	Sect. 1 A-F Voltage Amp Sect. 2 A-F Phase Inverter	100 250	1.0 2.0		0.5 1.2		80,000 62,500	1,250 1,600	100 100			12DW7
12DW8	T-6½	Diode Duo-Triode	9JC	Cathode	12.6	0.450	1.8 3.5	2.9 4.4	1.4 2.1	Dissimilar Tri's Voltage Amp. Pwr. Amp. Dr.	12.6 12.6	1.5 Meg [#] 1.0 Meg [#]		1.9 7.5		3,520 970	2,700 6,500	9.5 6.4			12DW8
12DZ6	T-5½	Pentode	7BK	Cathode	12.6	0.190	0.15m*	9.5*	4.0*	R-F Amp	12.6	G1 = 10 Meg [#] G3 = 0	12.6	4.5	2.2	25,000 †	3,800				12DZ6
12DZ8	T-6½	Tri Beam Pent	6DZ8	Cathode	12	0.450				A-F Voltage Amp and Power Amp	Characteristics Same as Type 6DZ8 (12DZ8 Designed for Series String Receivers)										12DZ8
12E5GT	T-9	Triode	6Q-1-0	Cathode	12.6	0.150	2.6	3.4	5.5	Amplifier	100 250	5.0 13.5		2.5 5.0		12,000 9,500	1,150 1,450	13.8 13.8			12E5GT
12EA6	T-5½	Pentode	7BK	Cathode	12.6	0.190	0.4m*	11*	4*	I-F Amp.	12.6	G1 = 10 Meg [#] G3 = 0	12.6	3.2	1.4	32,000 †	3,800				12EA6
12EC8	T-6½	Tri. Pentode	9FA	Cathode	12.6	0.225	1.7 0.2	2.6 4.6	0.4 2.6	FM Osc FM Amp.	12.6 12.6	0	12.6	2.4 0.66	0.28	6,000 750,000	4,700 2,000	25			12EC8
12ED5	T-5½	Pentode	7CV	Cathode	12.6	0.450	0.26	14	8.5	S.T.A.1 Amp.	110 125	4.0 4.5	110 125	32 37	4 7	14,000 14,000	8,100 8,500		4,500 4,500	1,100 1,500	12ED5
12EF6	T-9	Beam Pent	7S	Cathode	12.6I	0.450	0.8*	11.5*	9.0*	Vert Defl Amp	Characteristics Same as Type 6EF6 (12EF6 Designed for Series String TV Receivers).										12EF6
12EG6	T-5½	Heptode	7CH	Cathode	12.6	0.150	0.25	6.5	12	Mixer Oscillator	12.6	0.8†	12.6	0.4	0.24	150,000	800				12EG6
12EH5	T-5½	Beam Pent	7CV	Cathode	12.6I	0.600	0.65*	17*	9*	S.T.A.1 Amp	Characteristics Same as Type 6EH5 (12EH5 Designed for Series String Receivers)										12EH5
12EK6	T-5½	Pentode	7BK	Cathode	12.6	0.190	0.36	10	5.0	FM Amp	12.6	2.2†	12.6	4.0	1.7	50,000	4,200				12EK6
12EL6	T-5½	Duodiode Tri.	7FB	Cathode	12.6	0.150	1.8*	2.2*	1.0*	Detector	12.6	1.0 Meg [#]		75		45,000	1,200	55			12EL6
12EM6	T-6½	Diode Tetrode	9HV	Cathode	12.6	0.500				Det. Power Amp	12.6	15 Meg [#]	12.6	6.0	1.0	4,000	5,000		3,500	10	12EM6
12EN6	T-9	Beam Pent	7S	Cathode	12.6I	0.600	0.65*	14*	8.0*	Vert. Defl Amp	Maximum Peak Positive Pulse Plate Voltage = 1,200 Volts. Maximum D C Cathode Currents = 50 Ma. Maximum Plate Dissipation = 7.0 Watts. 200 9.5 110 50										12EN6
12EZ6	T-5½	Pentode	7BK	Cathode	12.6	0.175	0.08*	7.8*	5.5*	R-F or I-F Amp	12.6	0.7 2.2 Meg [#]	12.6	1.9	0.7	400,000	2,700				12EZ6
12F5GT	T-9	Triode	5M-0-0	Cathode	12.6	0.150	2.8*	2.2*	3.2*	Amplifier	Characteristics Same as Type 6F5GT										12F5GT
12F8	T-6½	Duodi Pent.	9FH	Cathode	12.6	0.150	0.6	4.5	3.0	Amplifier	12.6	0	12.6	1.0	0.38	0.33 Meg	1,000				12F8
12FA6	T-5½	Heptode	7CH	Cathode	12.6	0.150	0.25	7.2	12	Converter	12.6	0.5 2.2 Meg [#]	12.6	45	1.0	800,000	320 [▲]				12FA6
12FB5	T-6½	Beam Pent.	9CV	Cathode	12.6	0.300				S.T.A.1 Amp	170	10.3	180	31	7.3			5,000	2,250		12FB5
12FK6	T-5½	Duodiode Tri.	7BT	Cathode	12.6	0.150	1.6*	1.8*	0.7*	Det. Amp.	12.6	2.2 Meg [#]		1.3		6,200	1,200	7.4			12FK6
12FM6	T-5½	Duodiode Tri.	7BT	Cathode	12.6	0.150	1.7*	2.7*	1.7*	Det. Amp.	12.6	2.2 Meg [#]		1.0		7,700	1,300	10			12FM6
12FQ8	T-6½	Twin, Double-Plate Triode	9KT	Cathode	12.6	0.150	0.9* 0.9*	1.7* 1.7*	0.34* 0.24*	Sect. No. 1 Double Plate Triode Sect. No. 2 Double Plate Triode	250 250	1.5		1.5		76,000	1,250	95			12FQ8
12FR8	T-6½	Tri. Pentode Diode	12FR8	Cathode	12.6	0.320	1.7* 0.15*	2.6* 8.5*	2.0* 5.5*	Det. Amp. R-F Amp.	12.6 12.6	2.2 Meg [#] 2.2 Meg [#]	12.6	1.0 1.9	0.7	400,000	1,200 2,700	10			12FR8

12FT6	T-5½	Duodiode Triode	7BT	Cathode	12.6	0.150	2.0*	1 8*	1 1*	Det Power Amp Driver	12.6	2.2 Meg†		0.6		13 000	1.000	14				12FT6	
12FX8	T-6½	Tri Heptode	12FX8	Cathode	12.6	0.300	1.3* 0.01*	2.2* 15*	0.48* 15*	Tri R-F Amp. Heptode Cony.	12.6 12.6	2.2 Meg† (Rg ₃ 2.2 Meg†)	12.6	1.3 29		1 250	500,000	1 400 300 A	10	Self Osc With 33 K Rg ¹			12FX8
12G4	T-5½	Triode	6BG	Cathode	12.6	0.150	3.4	2.6	3 2	Amplicifier	Identical to One Section of Type 6SN7GT.										12G4		
12G8	T-6½	Duotriode	9CZ	Cathode	12.6	0.400				Amplicifier	12.6 12.6	0	Input Tri. Output Tri.	3.0 7.2		8,500	2,600	22	2,000	25		12G8	
12H4	T-5½	Triode	7DW	Cathode	6.3/ 12.6	0.300/ 0.150	3.4	2.6	3 2	Amplicifier	90 250	0 8		10 9.0			3,000 2 600	20	20			12H4	
12H6	Metal	Duodiode	7Q-1-1	Cathode	12.6	0.150				Rectifier	Characteristics Same as Type 6H6.										12H6		
12J5GT	T-9	Triode	6Q-0-0	Cathode	12.6	0.150	3 8	4.2	5 0	Amplicifier	Characteristics Same as Type 6J5GT										12J5GT		
12J7GT	T-9	Pentode	7R-1-1	Cathode	12.6	0.150	007m	5.4	12 0	R-F Amp.	Characteristics Same as Type 6J7G.										12J7GT		

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate, RF Input. Mixer Output
 (3) Has special mechanical and/or life characteristics (4) Average Contact potential bias developed across specified grid resistor
 † Per Tube or Section ‡ Plate and Target Supply Voltage. † Maximum Signal.
 □ Applied through 20 000 ohms. ▲ Conversion Transconductance ** Triode Operation.
 †† Plate to Plate. ††† Approximate. m maximum. ■ Cathode Resistor (ohms).
 X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)



SYMBOLS FOR BASE DIAGRAMS. Dp—Diode Plate; F—Filament Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center, Ht—Heater Tap; IC—Internal Connection. DO NOT USE, J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target; XS—External Shield; □—Top Cap; ■—Locating Key

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	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type
	Bulb Size or Style	Class	Biasing Diag	Type	Volts	Amps	C _{gp}	C _{in}	C _{out}												
12J8	T-6½	Duo Tetrode	9GC	Cathode	12.6	0.300	0.7*	10.5*	4.4*	Det Amp	12.6	2.2Meg	12.6	12	1.5	6,000	5,500		2,700	20	12J8
12K5	T-5½	Tetrode	7FD	Cathode	12.6	0.400				Power Amp Driver	12.6	G2=2	G1=12.6	8	75	480	15,000	7.2	800	40	12K5
12K7GT	T-9	Pentode	7R 1-8	Cathode	12.6	0.150	0.07m	5.0	12.0	R-F Amp	Characteristics Same as Type 6K7G										12K7GT
12K8	Metal T 9	Tri Hexode	8K 1-8	Cathode	12.6	0.150	0.03m 0.08m	6.6 5.0	3.5 4.8	Mixer Osc Converter	Characteristics Same as Type 6K8GT										12K8 12K8GT
12L6GT	T-9	Beam Pent	7S-0-0	Cathode	12.6	0.600				Power Amp	Characteristics Same as Type 25L6GT (12L6GT Designed for Series String TV Receivers)										12L6GT
12L8GT	T 9	Duo Pentode	8BU-0-0	Cathode	12.6	0.150	0.7*	5.0*	6.0*	Power Amp	110	5.5	110	6.1#	1.3#	220,000#	1,680#		14,000#	300#	12L8GT
12Q7GT	T-9	Duodiode Tri	7V 1-8	Cathode	12.6	0.150	1.6	2.2	5.0	Det Amp	Characteristics Same as Type 6Q7GT										12Q7GT
12R5	T-5½	Beam Pent	7CV-0-0	Cathode	12.6	0.600	0.55*	13.0*	9.0*	Vert Defl Amp	Maximum Peak Positive Pulse Plate Voltage = 1,500 Volts Maximum D C Cathode Current = 45 Ma Maximum Plate Dissipation — 4.5 Watts. 110 | 8.5 | 110 | 40.0 | 3.3 | 13,000 | 7,000										12R5
12S8GT	T 9	Triple Dio Tri	8CB-0-2	Cathode	12.6	0.150	2.0	1.2	5.0	Det Amp	Characteristics Same as Type 6S8GT										12S8GT
12SA7	Metal T-9	Heptode	8R 1-0 8AD 1-6	Cathode	12.6	0.150	0.25 0.5m	9.5 11.0	9.5 11.0	Converter	Characteristics Same as Type 6SA7										12SA7 12SA7GT
12SC7	Metal	Duotriode	8S 1-0	Cathode	12.6	0.150	2.0	2.2	3.0	Amplifier	Characteristics Same as Type 6SC7										12SC7
12SF5	Metal T-9	Triode	6AB-0-0	Cathode	12.6	0.150	2.4 2.6	4.0 4.2	3.6 3.8	Amplifier	Characteristics Same as Type 6SF5										12SF5 12SF5GT
12SF7	Metal	Diode Pent	7AZ 1-0	Cathode	12.6	0.150	.004m	5.5	6.0	Det Amp	Characteristics Same as Type 6SF7										12SF7
12SG7	Metal	Pentode	8BK 1 1	Cathode	12.6	0.150	.003m	8.5	7.0	R-F Amp	Characteristics Same as Type 6SG7										12SG7
12SH7	Metal T-9	Pentode	8BK 1-0 8BK 1 1	Cathode	12.6	0.150	.003m	8.5	7.0	R-F Amp	Characteristics Same as Type 6SH7										12SH7 12SH7GT
12SJ7	Metal T-9	Pentode	8N 1 1 8N 1-5	Cathode	12.6	0.150	.005m 0.05m	6.0 6.3	7.0 7.5	R-F Amp	Characteristics Same as Type 6SJ7										12SJ7 12SJ7GT
12SK7	Metal T-9	Pentode	8N 1 1 8N 1-5	Cathode	12.6	0.150	.003m 0.05m	6.0 6.5	7.0 7.5	R-F Amp	Characteristics Same as Type 6SK7										12SK7 12SK7GT
12SL7GT	T-9	Duotriode	8BD-0-0	Cathode	12.6	0.150				Amplifier	Characteristics Same as Type 6SL7GT										12SL7GT
12SN7GT	T-9	Duotriode	8BD-0-0	Cathode	12.6	0.300	3.8* 4.0*	2.8* 3.0*	0.8* 1.2*	Amplifier	Characteristics Same as Type 6SN7GT										12SN7GT
12SN7GTA	T 9	Duotriode	8BD 0-0	Cathode	12.6	0.300	4.0* 3.8*	2.2* 2.6*	0.7* 0.7*	Vertical Osc. Amp.	Characteristics Same as Type 6SN7GTA										12SN7GTA
12SQ7	Metal T 9	Duodiode Tri	8Q 1-3	Cathode	12.6	0.150	1.6 1.8	3.2 4.2	3.0 3.4	Det Amp	Characteristics Same as Type 6SQ7										12SQ7 12SQ7GT
12SR7	Metal	Duodiode Tri	8Q 1 1	Cathode	12.6	0.150	2.3	3.0	3.0	Det Amp	Characteristics Same as Type 6SR7										12SR7
12SW7	Metal	Duodiode Tri	8Q 1-0	Cathode	12.6	0.150	2.4	3.0	2.8	Det Amp	26.5 250	Self 9		1.1 9.5		15,500 8,500	1,100 1,900	17 16	(2 Meg Grid Res.)		12SW7
12SX7GT	T-9	Duotriode	8BD-0-0	Cathode	12.6	0.300	3.6* 3.6*	3.0* 2.8*	0.8* 1.2*	Amplifier	26.5 90 250	Self 0 8				11,500 6,700 7,700	1,800 3,000 2,500	21 20 20	(.05 Meg Grid Res.)		12SX7GT
12SY7	Metal	Heptode	8R 1 0	Cathode	12.6	0.150	0.13*	9.5*	12.0*	Converter	250	2.0	100	3.5	8.5	1 Meg. \downarrow	450 Δ				12SY7
12U7	T-6½	Duotriode	9A	Cathode	12.6	0.150	1.5	1.8	2.0	Class A1 Amp.	12.6	0		1.0		12,500	1,600	20			12U7
12V6GT	T-9	Beam Pent	7S	Cathode	12.6	0.225	0.7	9.0	7.5	Power Amp	180 250	8.5 12.5	180 250	29 45	3 4.5	50,000 \downarrow 50,000 \downarrow	3,700 4,100		5,500 5,000	2,000 4,500	12V6GT
12W6GT	T-9	Beam Pent	7S-0-0	Cathode	12.6	0.600	0.8* Triode Connection	15.0* Triode Connection	9.0* Triode Connection	Power Amp Vert Defl Apm	Characteristics Same as Type 6W6GT (12W6GT Designed for Series String TV Receivers)										12W6GT
12X4	T 5½	Duodiode	5BS	Cathode	12.6	0.450				F W Rect	Characteristics same as type 6X4										12X4
12Z3	T 9	Diode	4G-0-0	Cathode	12.6	0.300				H W Rect.	235 A-C Volts Per Plate, RMS, 55 Ma. Output Current. Condenser Input to Filter.										12Z3
13DE7	T 6½	Duotriode	9HF	Cathode	13.0	0.450	4.0* 8.5*	2.2* 5.5*	0.52* 1.0*	Vert Osc Vert Defl Amp	Characteristics Same as Type 16DE7 (13DE7 Designed for Series String TV Receivers)										13DE7
13DR7	T-6½	Duotriode	9HF	Cathode	13.0	0.450	4.5* 8.5*	2.2* 5.5*	0.34* 1.0* S	2 Ver Amp. 1 Ver Osc	Characteristics Same as Type 6DR7 (13DR7 Designed for Series String Receivers)										13DR7
13EC7	T-6½	Pentode	9AQ	Cathode	13.0	0.100	.0017	5.2	5.0	VHF Amp	Characteristics Same as Type 6EC7										13EC7
13GC8	T-6½	Triode Beam Tet	9KZ	Cathode	13.0	0.300	2.7 0.21	3.7 11	3.0 8.6	Tri Amp Tet Amp	200 170	9.6	180	10 28	6.5	5,300	3,400	18	5,300	2,350	13GC8
14A4	Lock-in	Triode	5AC-L-0	Cathode	12.6	0.150	4.0	3.4	3.0	Amplifier	Characteristics Same as Type 7A4										14A4
14A5	Lock-in	Beam Amp	6AA-L-0	Cathode	12.6	0.150	0.4	6.8	7.0	Power Amp	250	12.5	250	30.0	3.5	70,000 \downarrow	3,000		7,500	2,800	14A5
14A7	Lock-in	Pentode	8V-L-5	Cathode	12.6	0.150	.003m	6.0	7.0	R-F Amp	Characteristics Same as Type 7A7										14A7
14AF7/XXD	Lock-in	Duotriode	8AC-L-0	Cathode	12.6	0.150	2.3*	2.2*	1.6*	Amplifier	Characteristics Same as Type 7AF7										14AF7/XXD
14B6	Lock-in	Duodiode Tri	8W-L 7	Cathode	12.6	0.150	1.5	3.0	2.4	Det Amp	Characteristics Same as Type 7B6										14B6
14B8	Lock-in	Heptode	8X L-0	Cathode	12.6	0.150	0.2m	10.0	9.0	Converter	Characteristics Same as Type 7B8										14B8
14C5	Lock-in	Beam Pent	6AA L-0	Cathode	12.6	0.225	0.4	9.5	9.0	Power Amp	Characteristics Same as Type 7C5										14C5
14C7	Lock-in	Pentode	8V-L 5	Cathode	12.6	0.150	.004m	6.0	6.5	R-F Amp	100 250	1.0 3.0	100 100	5.7 2.2	1.8 0.7	400,000 \downarrow 1.0 Meg \downarrow	2,275 1,575				14C7
14E6	Lock-in	Duodiode Tri	8W-L 7	Cathode	12.6	0.150	1.5	3.0	2.4	Det Amp	Characteristics Same as Type 7E6										14E6

14E7	Lock-in	Duodi. Pent	8AE L 7	Cathode	12.6	0.150	005m	4.6	5 5	Det. Amp.	Characteristics Same as Type 7E7	14E7
14F7	Lock-in	Duotriode	8AC-L-0	Cathode	12.6	0.150	1 6#	2.4#	2.0#	Amplifier	Characteristics Same as Type 7F7	14F7
14F8	Lock-in	Duotriode	8BW-L-0	Cathode	12.6	0.150	1 6	2.8#	1.4#	Osc. Amp.	Characteristics Same as Type 7F8	14F8

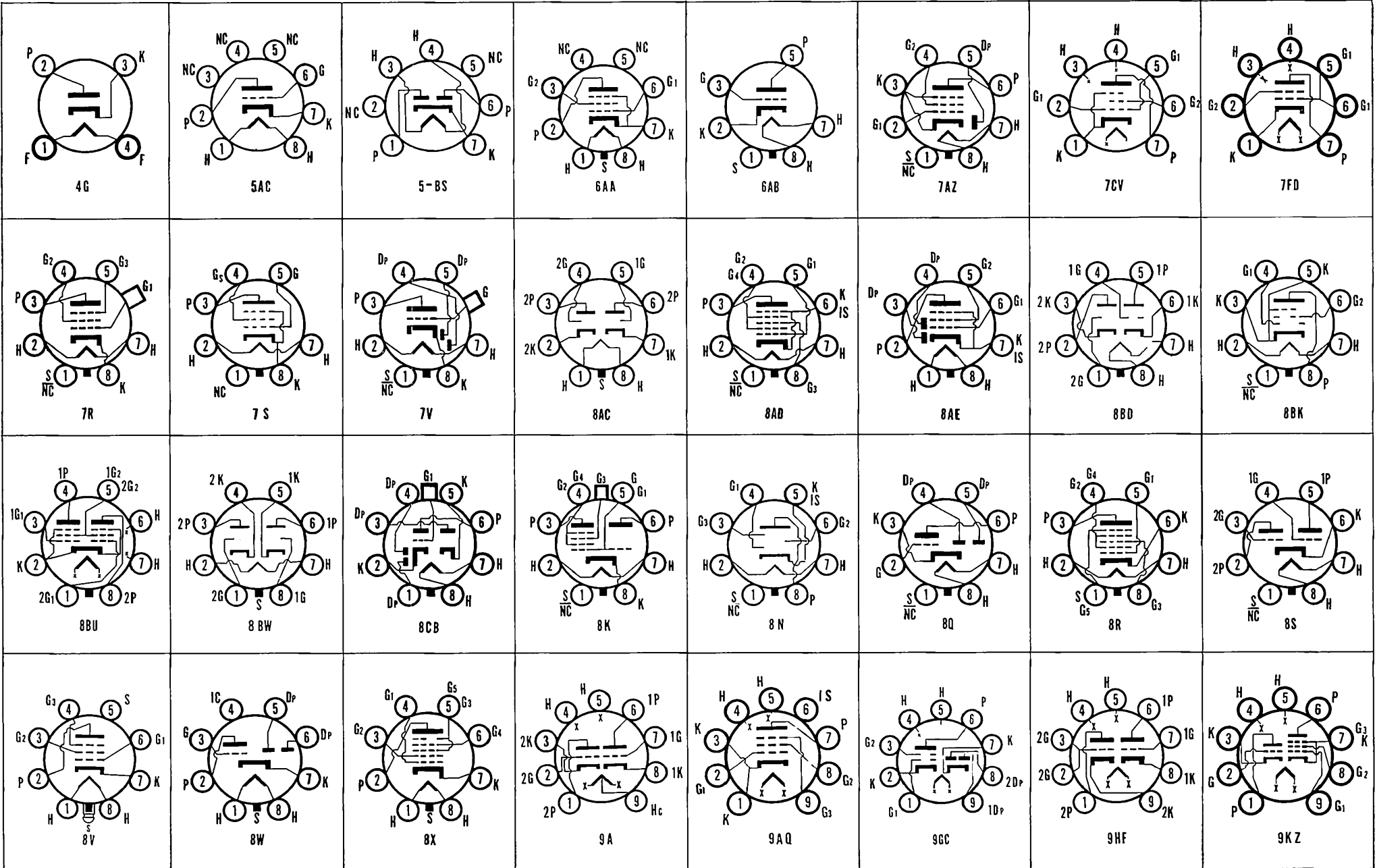
- (1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics.
 (2) Converter tube capacitances given are signal grid to plate RF Input Mixer Output (4) Average Contact potential bias developed across specified grid resistor
 X Controlled Heater Warm up Time (applies to parallel connections of types having a tapped heater)

‡ Per Tube or Section
 § Plate and Target Supply Voltage.
 † Maximum Signal

□ Applied through 20 000 ohms
 ▲ Conversion Transconductance.
 ** Triode Operation.

†† Plate to Plate
 ††† Approximate

m maximum.
 ■ Cathode Resistor (ohms).



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode, H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield, □—Top Cap, ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type		
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Cgp	Cin	Cout														
14G6	T-6½	Duodiode Tri	9Z	Cathode	14	0 100	1 3*	2 4*	1 3*	Det. Amp	100	1 0		0 8		50,000	1,400	70			14G6		
14H7	Lock-in	Pentode	8V-L-5	Cathode	12 6	0 150	004m	8 0	7 0	R-F Amp	Characteristics Same as Type 7H7										14H7		
14J7	Lock-in	Tri Heptode	8BL-L-7	Cathode	12 6	0 150	03m	4 6	7 5	Mixer Osc.	Characteristics Same as Type 7J7										14J7		
14N7	Lock-in	Duotriode	8AC-L-0	Cathode	12 6	0 300	See 7N7			Amplifier	Characteristics Same as Type 7N7										14N7		
14Q7	Lock-in	Heptode	8AL-L-0	Cathode	12 6	0 150	0 15m	9 0	9 0	Converter	Characteristics Same as Type 7Q7										14Q7		
14R7	Lock-in	Duodi Pent.	8AE-L-7	Cathode	12 6	0 150	004m	5 6	5 3	Det. Amp	Characteristics Same as Type 7R7										14R7		
14S7	Lock-in	Tri Heptode	8BL-L-7	Cathode	12 6	0 150	03m	5 0	8 0	Mixer Osc.	Characteristics Same as Type 7S7										14S7		
14W7	Lock-in	Pentode	8BJ-L-5	Cathode	12 6	0 225	002m	9 5	7 0	R-F Amp	Characteristics Same as Type 7V7, Except Capacitances.										14W7		
14X7	Lock-in	Duodiode Tri	8BZ-L-4	Cathode	12 6	0 150				Det. Amp.	Characteristics Same as Type 7X7.										14X7		
14Y4	Lock-in	Duodiode	5AB-L-0	Cathode	12 6	0 300				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		
14Y7	T-6½	Tri. Hexode	9Q	Cathode	14 0	0 100	1 4* 0 1*	5 6* 3 8*	2 4* 9 2*	Tri. Osc Hex Amp	100 100	0 1 0	10 4 3	1 2 1 2	1 46 0 3	1 0 Meg \downarrow	2 800 530 Δ	22			14Y7		
15	ST 12	Pentode	5F-0-4	Cathode	2 0	0 220	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		
15A8	T 9	Tri Beam Pent	8GS	Cathode	15 0I	0 600	3 4 0 7	2 6 11 0	0 9 5 0	Pent Vert Defl. Amp.	Maximum Peak Positive Pulse Plate Voltage = 1,200 Volts. Maximum D.C. Cathode Current = 40 Ma. Maximum Plate Dissipation = 7.5 Watts										15A8		
17AV5GA	T-11 or T-12	Beam Pent.	6CK-0-0	Cathode	16 8I	0 450	0 5*	14 0*	7 0*	Tri Vert. Osc.	110 250	7 5 8 0	110 9 0	45 0 9 0	4 0	13 000 7,700	7 300 2,600				17AV5GA		
17AX4GT	T-9	Diode	4CG-0-0	Cathode	16 8I	0 450				TV Damper	Characteristics Same as Type 6AX4GT (17AX4GT Designed for Series String TV Receivers).										17AX4GT		
17BQ6GTB	T-12	Beam Pent.	6AM	Cathode	16 8I	0 450	0 6*	15 0*	7 5*	Horiz Defl Amp	Characteristics Same as Type 6BQ6GTB (17BQ6GTB designed for Series String TV Receivers)										17BQ6GTB		
17C5	T-5½	Beam Pent.	7CV-0-0	Cathode	16 8I	0 450	0 6*	13 0*	8 5*	Power Amp	Characteristics Same as Type 12C5 (17C5 Designed for Series String TV Receivers)										17C5		
17C8	T-6½	Pentode	9T	Cathode	17	0 100	0025*	4 2*	4 9*	R-F Amp	200	295 \square	60	5	1 75	1 Meg \downarrow	2,200				17C8		
17CA5	T-5½	Beam Pent	7CV-0-0	Cathode	16 8I	0 450	0 5*	15 0*	9 0*	Power Amp	Characteristics Same as Type 12CA5 (17CA5 Des gned for Series String TV Receivers)										17CA5		
17D4	T-9	Diode	4CG	Cathode	16 8I	0 450				T V. Damper	Maximum Peak Inverse Plate Voltage = 4,400 Volts. Maximum D.C. Plate Current = 155 Ma.										17D4		
17DE4	T-9	Diode	4CG	Cathode	17 0I	0 600				TV Damper	Characteristics and Ratings Same as 6DE4 (17DE4 Designed for Series String Receivers)										17DE4		
17DQ6	T-12	Beam Pent.	6AM	Cathode	16 8I	0 450	0 55*	15 0*	7 0*	Horiz Defl Amp	Characteristics Same as Type 6DQ6. (17DQ6 and 17DQ6A are Designed for Series String TV Receivers)										17DQ6		
17DQ6A	T-12	Beam Pent.	6AM	Cathode	16 8I	0 450	0 55*	15 0*	7 0*	Horiz Defl Amp	Characteristics Same as Type 6DQ6A										17DQ6A		
17H3	T-6½	Diode	9FK-0-0	Cathode	17 5I	0 300				T V Damper	Maximum Peak Inverse Plate Voltage = 2,000 Volts Maximum D.C. Output Current = 75 Ma										17H3		
17L6GT	T-9	Beam Pent	7S-0-0	Cathode	16 8I	0 450				Power Amp	Characteristics Same as Type 25L6GT (17L6GT Designed for Series String TV Receivers)										17L6GT		
17R5	T-5½	Beam Pent.	7CV-0-0	Cathode	16 8I	0 450	0 55*	13 0*	9 0*	Vert. Defl. Amp.	Characteristics Same as Type 12R5 (17R5 Designed for Series String TV Receivers)										17R5		
18	ST-14	Beam Pent	6B-0-0	Cathode	14 0	0 300				Power Amp.	Characteristics Same as Type 6F6G										18		
18A5	T-9	Beam Pent	6CK-0-0	Cathode	18 5I	0 300	0 7*	13 0*	7 0*	Horiz Defl Amp.	Maximum Peak Positive Pulse Plate Voltage = 3 000 Volts Maximum D.C. Cathode Current = 90 Ma. Maximum Plate Dissipation = 9 Watts.										18A5		
18DZ8	T-6½	Tri. Beam Pent.	6DZ8	Cathode	18 0	0 300				A-F Voltage Amp and Power Amp	200	17 0	125	40 0	1 1	27,000	4,800				18DZ8		
18FW6	T-5½	Pentode	7CC	Cathode	18 0	0 100	0035m	5 5	5 0	R-F or I-F Amp.	100	68 \square	100	11	4 4	250,000	4 400				18FW6		
18FX6	T-5½	Heptode	7CH	Cathode	18 0	0 100	0 25m 0 05	7 0 5 5	13	Converter	100	1 5	100	2 3	6 2	400 000	480			Osc. Grid Res. = 20 000 Ohms Osc. Grid Current = 0.5 Ma.	18FX6		
18FY6	T-5½	Duodiode Tri.	7BT	Cathode	18 0	0 100	1 8	2 4	2	A-F Amp	100	1 0		0 6		77,000	1,300	100			18FY6		
18GD6	T-5½	Pentode	7BK	Cathode	18 0	0 100	0035m	6 0	5 0	R F Amp.	100	150 \square	100	5 0	2 0	500,000	4 300				18GD6		
18GE6	T-5½	Duodiode Tri.	7BT	Cathode	18 0	0 100	1 8*	2 4*	0 2*	Det. Amp	100	1 0		1 0		40 000	1 700	70			18GE6		
19	T-9	Duotriode	6C-0-0	Filament	2 0	0 260				Power Amp	135	0 0		5 18 \uparrow						(Class B Operation)	10,000 \square	2,100	19
19AQ5	T-5½	Beam Pent.	7BZ	Cathode	18 9	0 150				Power Amp	Same as 6AQ5										19AQ5		
19AU4	T-9	Diode	4CG-0-0	Cathode	18 9I	0 600				T V Damper	Characteristics Same as Type 6AU4GT. (19AU4 Designed for Series String TV Receivers)										19AU4		
19AU4GTA	T-9	Diode	4CG-0-0	Cathode	18 9I	0 600				T V. Damper	Characteristics Same as Type 6AU4GTA. (19AU4GTA Designed for Series String TV Receivers).										19AU4GTA		
19BG6G	ST-16	Beam Pent.	5BT-0-0	Cathode	18 9	0 300	0 34* 0 8*	12 0* 11 0*	6 5* 6 0*	Horiz. Defl Amp.	Characteristics Same as Type 6BG6G.										19BG6G		
19BG6GA	T-12	Beam Pent.	5BT-0-0	Cathode	18 9	0 300	0 34* 0 8*	12 0* 11 0*	6 5* 6 0*	Horiz. Defl Amp.	Characteristics Same as Type 6BG6G.										19BG6GA		
19C8	T-6½	Tri. Heptode	9E-0-0	Cathode	18 9	0 150				Det. Amp	100	1 0		0 5		80,000	1,250	100			19C8		
19CL8A	T-6½	Tri Tetrode	9FX	Cathode	18 9	0 150	1 8 .01	2 7 5	1 2 3.0	VHF Osc VHF Amp	Characteristics Same as Type 6CL8A.										19CL8A		
19CS4	T-9	Diode	8JT	Cathode	19 0	0 300				T V Damper	P.I.V. = 4 500 Volts Max., D-C Plate Current = 135 Ma Max										19CS4		
19D8	T-6½	Tri. Heptode	9CA	Cathode	19 0	0 100	1 0 006	2 6 4 8	2 1 7 9	F.M Tri. Osc A M Hept Converter	100 100	0 1 1	63	13 5 1 7	3 7	800 000	3 700 620 Δ	22			19D8		
19DE7	T-6½	Duotriode	9HF	Cathode	19 4I	0 300	4 0* 8 5*	2 2* 5 5*	0 52* 1 0*	Vert Defl Amp. and Osc	Characteristics Same as Type 6DE7. (19DE7 Designed for Series String Receivers).										19DE7		
19EA8	T-6½	Tri. Pentode	9AE	Cathode	18 9	0 150	1 7 01	3 2 5	1 1 3 4	Tri. VHF Amp. Pent. Amp.	Characteristics Same as Type 6EA8										19EA8		

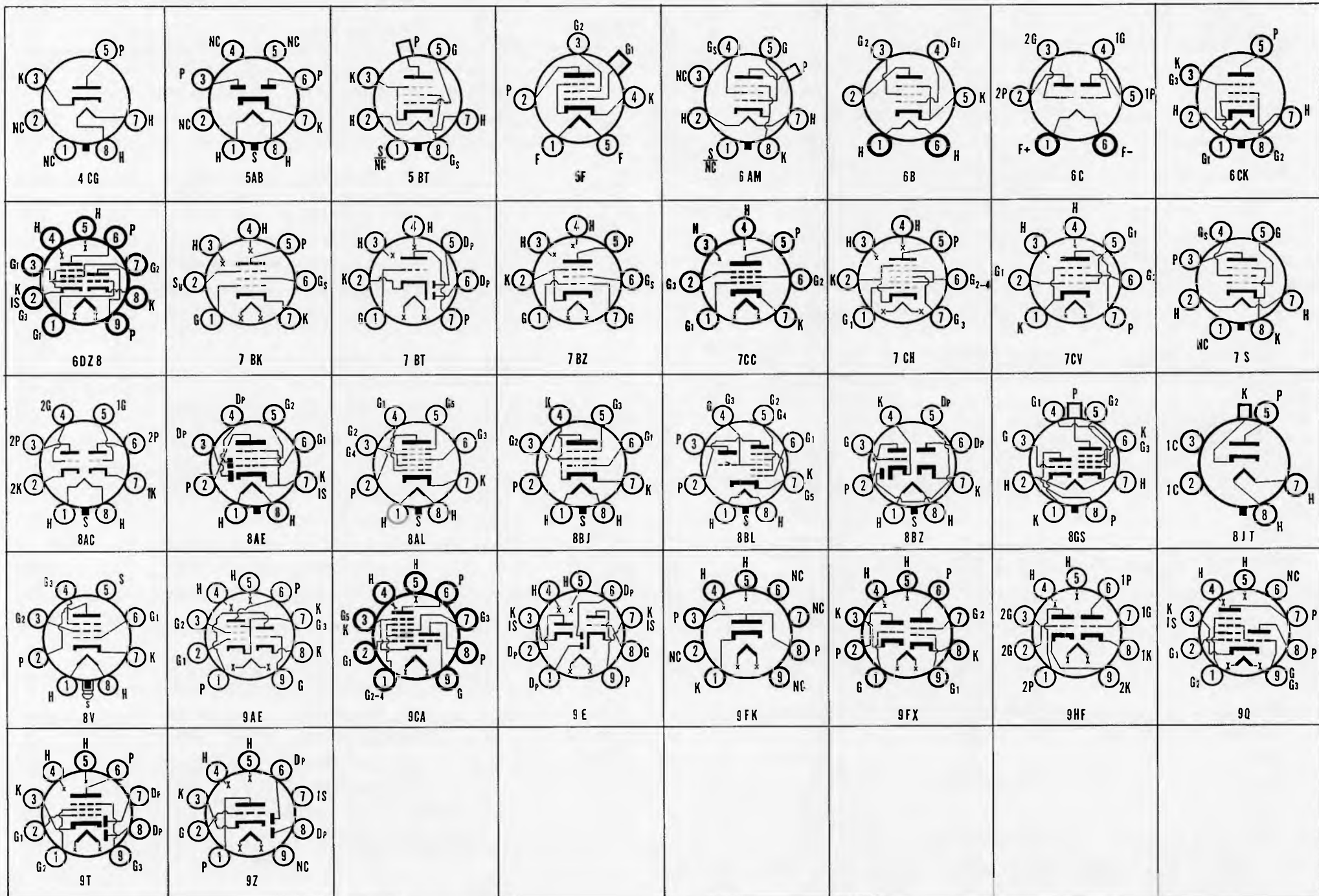
(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics.
 (2) Converter tube capacitances given are signal grid to plate, RF Input, Mixer Output. (4) Average Contact potential bias developed across specified grid resistor.
 X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

‡ Per Tube or Section
 § Plate and Target Supply Voltage
 † Maximum Signal.

□ Applied through 20,000 ohms
 ▲ Conversion Transconductance.
 ** Triode Operation.

‡ Plate to Plate
 † Approximate.

m maximum
 ■ Cathode Resistor (ohms).



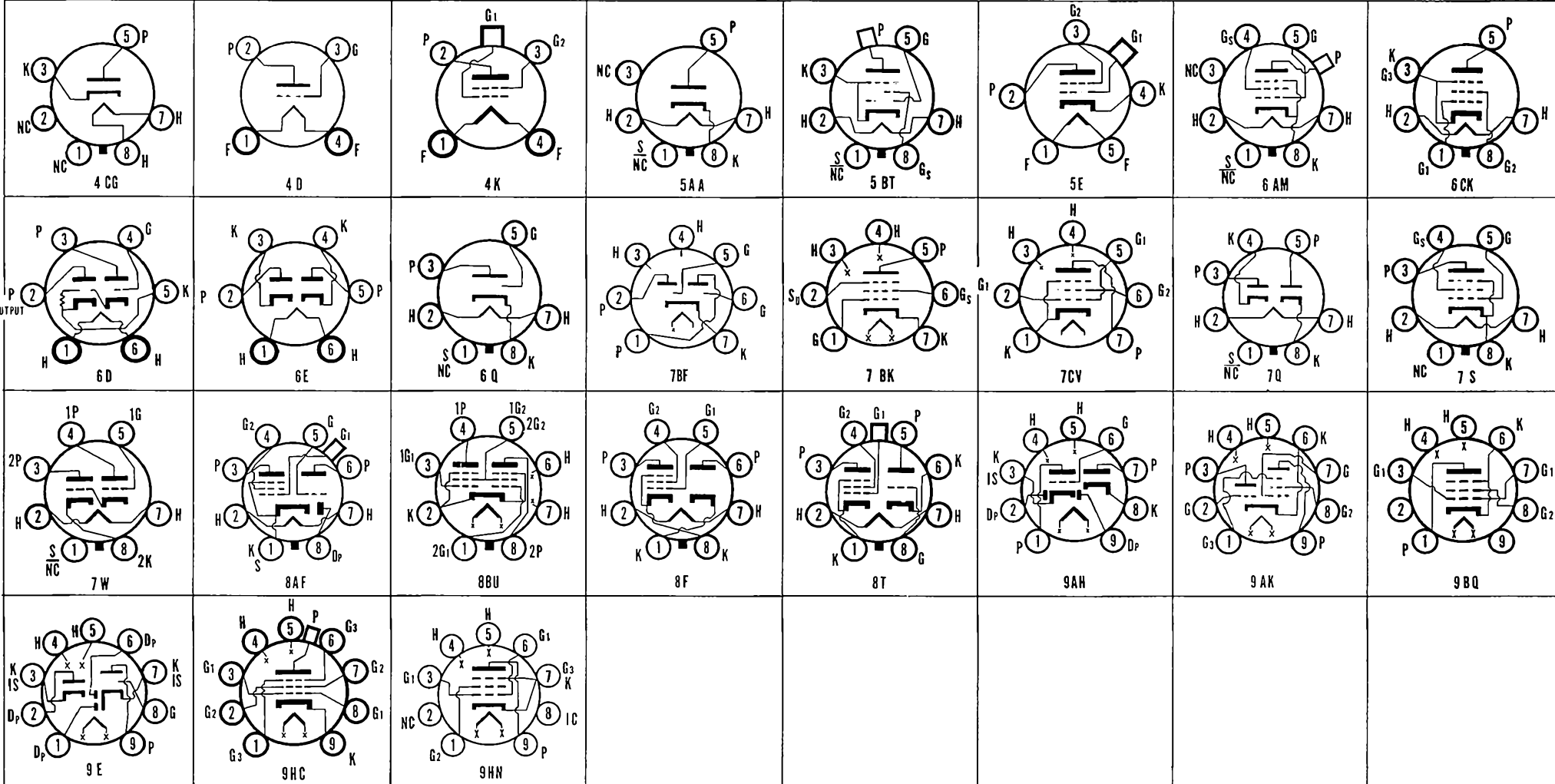
SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection. DO NOT USE J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target; XS—External Shield □—Top Cap; ■—Locating Key.

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	Transcon-ductance Micromhos	Ampli-fication Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type	
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp	Cin	Cout													
19J6	T-5½	Duotriode	7BF-0-0	Cathode	18 9	0 150	1 5*	2 0*	0 4*	VHF Osc Amp	150	810 ^m		4 8		10 200	1 900				19J6	
19T8	T-6½	Triple Diode Triode	9E-0-3 & 7	Cathode	18 9	0 150	1 7*	1 7*	2 4*	Det Amp	Characteristics Same as Type 6T8										19T8	
19V8	T-6½	Triple Diode Triode	9AH-0-3	Cathode	18 9	0 150				Det Amp	100 250	1 0 3 0		0 8 1 0		54 000 58,000	1 300 1,200	70 70			19V8	
19X8	T-6½	Tri. Pentode	9AK	Cathode	18 9	0 150				VHF Osc Amp	Characteristics Same as Type 6X8										19X8	
20	T 8	Triode	4D-0-0	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	
21EX6	T 12	Beam Pent	5BT	Cathode	21 5I	0 600	1 1*	2 2*	8.5*	Horiz Defl Amp	Characteristics Same as Type 6EX6 (21EX6 Designed for Series String Receivers)										21EX6	
22	ST 14	Tetrode	4K-0-3	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	
22DE4	T-9	Diode	4CG	Cathode	22I	0 450				TV Damper	Characteristics and Ratings Same as Type 6DE4 (22DE4 Designed for Series String Receivers)										22DE4	
24A 24S	ST-14	Tetrode	5E-0-3 5E-4-3	Cathode	2.5	1 750	007m	5.3	10 5	R-F Amp Detector	180 250	3 0 3 0	90 90	4 0 4 0	1 7 1 7	400 000 600 000	1 000 1,050	400 630			24A 24S	
25A6 25A6GT	Metal T-9	Power Pent	7S-1-0 7S-0-0	Cathode	25 0	0 300				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 2,200	25A6 25A6GT	
25A7GT	T-9	Diode Pent	8F-0-0	Cathode	25 0	0 300				H. W Rect Power Amp	117 100	A-C Volts Per Plate, RMS, 75 Ma Output Current			75 150	4.0	50,000	1,800		4,500	770	25A7GT
25AC5GT	T-9	Triode	6Q-0-0	Cathode	25 0	0 300				Power Amp Coupled Amp	110 165	+15 Bias from 6AE5GT/G 46 0		45 0		15,200	3,800	58	2,000	2,000	25AC5GT	
25AV5GT	T-9	Beam Pent	6CK-0-0	Cathode	25 0	0 300	0 7*	14 0*	7 0*	Horiz. Defl Amp	Characteristics Same as Type 6AV5GT										25AV5GT	
25AV5GA	T-11 or T-12	Beam Pent	6CK-0-0	Cathode	25 0	0 300	0 5*	14 0*	7 0*	Horiz. Defl Amp	Characteristics Same as Type 6AV5GA										25AV5GA	
25AX4GT	T-9	Diode	4CG	Cathode	25 0	0 300				TV Damper	P I V = 4,000 Volts Max. D C Plate Current = 125 Ma. Max.										25AX4GT	
25B5	ST-12	Duotriode	6D-0-0	Cathode	25 0	0 300				Power Amp	Characteristics Same as Type 25N6G										25B5	
25B6G	ST-14	Beam Pent	7S-0-0	Cathode	25 0	0 300				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	T-9	Pentode Tri.	8T-0-1	Cathode	25 0	0 150	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	
25BK5	T 6½	Beam Pent	9BQ	Cathode	25 0	0 300	0.6	13.0	5 0	Power Amp	Same as 6BK5										25BK5	
25BQ6GA 25BQ6GT	T-11 T-9	Beam Pent	6AM-0-0	Cathode	25 0	0 300	0 6*	15 0*	7 5*	Horiz. Defl Amp	Characteristics and Ratings Same as Type 6BQ6G Characteristics Same as Type 6BQ6GT										25BQ6GA 25BQ6GT	
25BQ6GTB	T-9	Beam Pent	6AM-0-0	Cathode	25 0	0 300	0 6*	15 0*	7 5*	Horiz. Amp	Characteristics Same as Type 6BQ6GTB										25BQ6GTB	
25C5	T-5½	Beam Pent	7CV	Cathode	25 0	0 300	0 6*	13 0*	8 5*	Power Amp	120	8	110	49	4 0	10,000	7,500		2,500	2,300	25C5	
25C6G 25C6GA	ST-14 T-12	Beam Pent	7S-0-0	Cathode	25 0	0 300				Power Amp	Characteristics Same as Type Y6G										25C6G 25C6GA	
25CA5	T-5½	Beam Pent	7CV-0-0	Cathode	25 0	0 300	0 5*	15 0*	9 0*	Power Amp	Characteristics Same as Type 6CA5										25CA5	
25CD6G 25CD6GA	ST-16	Beam Pent	5BT-0-0	Cathode	25 0 25 0I	0 600 0 600	1 0m*	26 0m*	10 0m*	Horiz. Defl Amp	Characteristics Same as Type 6CD6G (25CD6GA Designed for Series String TV Receivers)										25CD6G 25CD6GA	
25CD6GB	T-12	Beam Pent	5BT-0-0	Cathode	25 0I	0 600	1 1*	22 0*	8 5*	Horiz. Defl Amp	Characteristics Same as Type 6CD6GA (25CD6GB Designed for Series String TV Receivers)										25CD6GB	
25CR5	T-6½	Beam Pent	9HC-0-0	Cathode	25 0	0 300	0 32*	12 9*	6 9*	Horiz. Defl Amp	Characteristics Same as Type 6CR5										25CR5	
25CU6	T-12	Beam Pent	6AM-0-0	Cathode	25 0	0 300	0 55*	15 0*	7 0*	Horiz. Defl Amp	Characteristics Same as Type 6BQ6G, except Max. D C. Plate Supply = 550 Volts										25CU6	
25D4	T-9	Diode	4CG	Cathode	25I	0 300				TV Damper	Characteristics Same as Type 6DA4 (25D4 Designed for Series String Receivers)										25D4	
25D8GT	T-9	Diode Triode Pentode	8AF-0-1	Cathode	25 0	0 150	2 5* .015m	3 7* 5.2	4.5* 10.0	Det. Amp. R-F Amp.	100 100	1 0 3.0	100	0 5 8 5	2 7	91,000 200,000	1,100 1,900	100			25D8GT	
25DN6	T-12	Beam Pent	5BT-0-0	Cathode	25 0I	0 600	0 8*	22 0*	11 5*	Horiz. Defl. Amp	Peak Positive Pulse Plate Voltage = 6,600 Volts Max. D C Cathode Current = 200 Ma. Maximum Plate Dissipation = 15 Watts Maximum Screen Dissipation = 3 0 Watts (25DN6 Designed for Series String TV Receivers)										25DN6	
25DQ6	T-12	Beam Pent	6AM-0-0	Cathode	25 0	0 300	0 55*	15 0*	7 0*	Horiz. Defl Amp	Characteristics Same as Type 6DQ6										25DQ6	
25DQ6A	T 12	Beam Pent	6AM	Cathode	25I	0 300	0 55*	15 *	7*	Horiz. Defl Amp	Characteristics Same as Type 6DQ6A (25DQ6A Designed for Series String Receivers)										25DQ6A	
25DT5	T-6½	Beam Pent	9HN	Cathode	25I	0 300	0 57*	12 5*	4 9*	Vent Defl Amp	Characteristics Same as Type 6DT5 (25DT5 Designed for Series String Operation)										25DT5	
25EH5	T 5½	Beam Pent	7CV	Cathode	25	0 300	0 65*	17*	9*	ST A1 Amp	Characteristics Same as Type 6EH5										25EH5 50EH5	
25F5	T-5½	Beam Pent	7CV	Cathode	25 0	0 150	0 57*	12 0*	6 0*	Power Amp	110	8 0	110	70	7 5				4,500	2,900	25F5	
25L6 25L6GT	Metal T 9	Beam Pent	7S-0-0	Cathode	25 0	0 300				Power Amp	110 200	7 5 180 ^m	110 125	49 0 46	4 0 2 2	13 000 28,000	8,000 8,000		2,000 4,000	2,100 3,800	25L6 25L6GT	
25N6G	ST 12	Duotriode	7W-0-0	Cathode	25 0	0 300				Power Amp	110 180	0 0	110 100	45 46	7 0 5 8	(Direct Coupled)	2 200 2,300		2,000 4,000	2,000 3,800	25N6G	
25S	Now Known as Type 1B5																				25S	

25W4GT	T-9	Diode	4CG-0-0	Cathode	25 0	0.300				H W Rect.	350 A C Volts RMS	125 Ma	D-C Output.	Condenser Input to Filter	25W4GT						
25W6GT	T-9	Beam Pent	7S	Cathode	25 0	0.300	0.5	15 0	9 0	Power Amp.	110 225**	-7.5 30	110	50 22**	4.0	13 000 1 600 †**	8,000 3 800**	6.2**	2 000	2 100	25W6GT
25X6GT	T 9	Duodiode	7Q-0-0	Cathode	25 0	0.150				H W Rect. Doubler	125 Volts RMS Per Plate 60 Ma D-C Output Per Plate. 125 Volts RMS Per Plate 60 Ma. D-C Output.										25X6GT
25Y5	ST 12	Duodiode	6E 0-0	Cathode	25.0	0.300				Doubler H W Rect.	117 A C Volts Per Plate RMS 75 Ma Output Current. 235 A C Volts RMS 75 Ma Output Current Per Plate.										25Y5
25Z4	Metal	Diode	5AA-1-0	Cathode	25 0	0.300				H W Rect.	117 A-C Volts Per Plate RMS 125 Ma Output Current 235 A C Volts Per Plate RMS 125 Ma Output Current. Condenser Input to Filter										25Z4
25Z5	ST 12	Duodiode	6E 0-0	Cathode	25 0	0.300				Doubler	Characteristics Same as Type 25Z6GT										25Z5
25Z6	Metal	Duodiode	7Q-1-0	Cathode	25 0	0.300				Doubler H-W Rect.	117 A C Volts Per Plate RMS 75 Ma. Output Current. 235 A C Volts Per Plate RMS 75 Ma Output Current Per Plate										25Z6 25Z6GT
26	ST 14	Trode	4D-0-0	Filament	1 5	1 050	8.1*	2.8*	2.5*	Amplifier	90 135 180	7 0 10.0 14.5		2 9 5 5 6.2		8 900 7 600 7 300	935 1,100 1 150	8.3 8 3 8.3			26
26A6	T-5½	Pentode	7BK-0-2	Cathode	26.5	0.070	0035	6.0	5 0	R F Amp	26.5 250	Self 125*	26.5	1 7 10.5	0 7 4 0	250,000 1 Meg	2,000 4 000	(Grid Leak Bias = 2 Meg.)			26A6
26A7GT	T 9	Duo Beam Pent	8BU-0-0	Cathode	26.5	0.600	1.2*	16.0*	13.0*	Power Amp	26.5	4.5	26.5	20.0#	1 9#	1 500#	5 700#		1 500#	180#	26A7GT

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate RF Input Mixer Output
 (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor
 † Per Tube or Section ‡ Plate and Target Supply Voltage. § Applied through 20 000 ohms. ¶ Plate to Plate
 †† Maximum Signal ††† Conversion Transconductance. †††† Approximate
 # Triode Operation m maximum Cathode Resistor (ohms).



SYMBOLS FOR BASE DIAGRAMS. Dp—Diode Plate, F—Filament, Fc—Filament Center; G—Grids numbered according to their position from the cathode, H—Heater Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection, DO NOT USE.
 J—Jumper, K—Cathode, NC—No Connection P—Plate, Rc—Ray Control, S—Metal Shell SA—Starter Anode T—Target XS—External Shield □—Top Cap, ■—Locating Key

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	Transcon ductance Micromhos	Ampli fication Factor	Ohms Load for Rated Power Output	Power Output Milli watts	Type	
	Bulb Size or Style	Class	Biasing Diag	Type	Volts	Amps.	Cgp	Cin	Cout													
26BK6	T-5 $\frac{1}{2}$	Duodiode Tri	7BT-0-2	Cathode	26.5	0.070				Det Amp	100 250	10 2.0		0.5 1.2		80,000 62,500	1,250 1,600	100 100			26BK6	
26C6	T-5 $\frac{1}{2}$	Duodiode Tri	7BT-0-0	Cathode	26.5	0.070	2.0	1.8	1.4	Amplifier	96.5 250	2 Meg 9.0		1.1 9.5		15,500 8,500	1,100 1,900	17 16			26C6	
26CG6	T-5 $\frac{1}{2}$	Pentode	7BK-0-2	Cathode	26.5	0.070	.008m	5.0	5.0	R-F Amp	Characteristics Same as Type 6CG6										26CG6	
26D6	T-5 $\frac{1}{2}$	Heptode	7CH-0-0	Cathode	26.5	0.070	0.3	7.5	14.0	Converter Oscillator	100 250 100	1.5 1.5 0	100 100 100	2.8 3.0 27.0	8.0 7.8	500,000 \downarrow 1 Meg \downarrow	455 Δ 475 Δ 7,200		22		26D6	
27 27S	ST-12	Triode	5A-0-0 5A-0-4	Cathode	2.5	1.750	3.3*	3.2*	2.3*	Amplifier	90 135 180	6.0 9.0 13.5		3.0 4.7 5.0		10,000 9,000 9,000	900 1,000 1,000	9.0 9.0 9.0			27 27S	
28D7 28D7W (3) GB-28D7W(3)	Lock-in	Duo Beam Pent	8BS-L-0	Cathode	28.0	0.400				Amplifier (per section) P.P.A2 Total	28 28 28	3.5 3.5 0	28 28 28	9.0 12.5 64.0	0.7 1.0 4.0	4,200	(Rk = 390 Ohms) 3,400		4,000 4,000 1,500 \uparrow	80 100 600	28D7 28D7W GB-28D7W	
28Z5	Lock-in	Double Diode	6BJ-L-0	Cathode	28.0	0.240				F-W Rect	395 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	
30	ST 12 T-9	Triode	4D-0-0	Filament	2.0	0.060	6.0*	3.0*	2.2*	Det Amp	90 135 180	4.5 9.0 13.5		2.5 3.0 3.1		11,000 10,300 10,300	850 900 900	9.3 9.3 9.3			30	
31	ST 12	Triode	4D-0-0	Filament	2.0	0.130				Power Amp	135 180	22.5 30.0		8.0 12.3		4,100 3,600	925 1,050	3.8 3.8	7,000 5,700	185 375	31	
32	ST 14	Tetrode	4K-0-3	Filament	2.0	0.060	.015m	5.3*	10.5*	R F Amp. Detector	135 180 180	3.0 3.0 6.0 \downarrow	67.5 67.5 67.5	1.7 1.7 (Plate Current to be adjusted to 0.2 Ma with no Input Signal)	0.4 0.4	950,000 1.2 Meg	640 650	610 780			32	
32E5	T-5 $\frac{1}{2}$	Beam Pent	7CV	Cathode	32	0.100	0.6	12	6.0	Power Amp	110	7.5	110	30	2.8	21,500	5,500		2,800	1,200	32E5	
32L7GT	T-9	Diode Beam Pent	8Z-0-0	Cathode	32.5	0.300				H W Rect Power Amp	125 RMS Volts Per Plate, 60 Ma Output Current 110	7.5	110	40	3.0	15,000	6,000	81	2,600	1,000	32L7GT	
33	ST 14	Power Pent	5K-0-0	Filament	2.0	0.260	1.0*	8.0*	12.0*	Power Amp	135 180	13.5 18.0	135 180	14.5 22.0	3.0 5.0	50,000 55,000	1,450 1,700	70 90	7,000 6,000	700 1,400	33	
34	ST 14	Pentode	4M-0-4	Filament	2.0	0.060	.015m	6.0*	11.0*	R F Amp	67.5 135 180	3.0 3.0 3.0	67.5 67.5 67.5	2.7 2.8 2.8	1.1 1.0 1.0	400,000 600,000 1 Meg	560 600 620	224 360 620			34	
EL34/6CA7	T 10 (SP)	Beam Pent	8ET	Cathode	6.3	1.500				ST A1 Amp P.P.AB1 Amp.	250 430	13.5 23.5*	250 425	100 125 140 \uparrow	15 10 15 \uparrow	15,000 Ultra-Linear Circuit	11,000		2,000 6,600 \uparrow	11,000 37,000		EL34/6CA7
35/51 35S/51S	ST 14	Tetrode	5E-0-3 5E-4-3	Cathode	2.5	1.750	.007m	5.3*	10.5*	R-F Amp A F Amp	180 250 250*	3.0 3.0 1.0	90.0 90.0 45 to 67.5	6.3 6.5 0.5	2.5 2.5	300,000 400,000 2 Meg	1,020 1,050	305 420			35/51 35S/51S	
35A5	Lock in	Beam Pent	6AA-L-0	Cathode	35.0	0.150				Power Amp	110 200	7.5 18.0*	110 110	40.0 43.0	3.0 2.0	14,000 \downarrow 34,000 \downarrow	5,800 6,100		2,500 5,000	1,500 3,000	35A5	
35B5	T-5 $\frac{1}{2}$	Beam Pent	7BZ-0-0	Cathode	35.0	0.150	0.4*	11.0*	6.5*	Power Amp	110	7.5	110	40.0	3.0	5,800			2,500	1,500	35B5	
35C3	T-5 $\frac{1}{2}$	Diode	7ET	Cathode	35.0	0.150				H W Rect	117 Volts RMS Per Plate, 100 Ma D C Output Condenser Input to Filter										35C3	
35C5	T-5 $\frac{1}{2}$	Beam Pent	7CV-0-0	Cathode	35.0	0.150	0.6			Power Amp	110	7.5	110	40	3.0	5,800			2,500	1,500	35C5	
35CD6GA	T-12	Beam Pent	5BT	Cathode	35.0	0.450	1.1*	22.0*	8.5*	Horiz Defl Amp	Characteristics Same as Type 6CD6GA (35CD6GA Designed for Series String TV Receivers)										35CD6GA	
35D5	T-6 $\frac{1}{2}$	Beam Pent	9FU	Cathode	35	0.150	0.3	13.7	6.7	ST A1 Amp	110 170	6.5 10.5	110 170	34.5 58	2.5 3	18,000 20,000	8,000 9,500		2,500 2,500	1,700 4,800	35D5	
35DZ8	T-6 $\frac{1}{2}$	Tri Beam Pent	6DZ8	Cathode	35	0.150				A-F Voltage Amp and Power Amp	Characteristics Same as Type 6DZ8 (35DZ8 Designed for Series String Receivers)											
35L6GT	T 9	Beam Pent	7S-0-0	Cathode	35.0	0.150	0.8*	13.0*	9.5*	Power Amp	110 200	7.5 8.0	110 110	40.0 43.0	3.0 2.0	14,000 \downarrow 34,000 \downarrow	5,800 6,100		2,500 5,000	1,500 3,000	35L6GT	
35W4	T 5 $\frac{1}{2}$	Diode	5BQ-0-0	Cathode	35.0	0.150				H W Rect	117 A-C Volts RMS 60 Ma Output Current with Panel Lamp 117 A-C Volts, RMS, 100 Ma. Output Current without Panel Lamp										35W4	
35Y4	Lock-in	Diode	5AL-L-0	Cathode	35.0	0.150				H W Rect	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	
35Z3	Lock-in	Diode	4Z-L-0	Cathode	35.0	0.150				H W Rect	235 Max. A-C Volts Per Plate, RMS, 100 Ma Output Current Condenser Input to Filter										35Z3	
35Z4GT	T-9	Diode	5AA-0-0	Cathode	35.0	0.150				H W Rect	117 A-C Volts, RMS, 100 Ma Output Current Condenser Input to Filter										35Z4GT	
35Z5GT	T 9	Diode	6AD-0-0	Cathode	35.0	0.150				H W Rect	Characteristics Same as Type 35Y4										35Z5GT	
35Z6G	ST 14	Duodiode	7Q-0-0	Cathode	35.0	0.300				Doubler H W Rect	117 A-C Volts Per Plate RMS 110 Ma Output Current. 235 A-C Volts Per Plate, RMS, 110 Ma Output Current Per Plate										35Z6G	
36	ST 12	Tetrode	5E-0-3	Cathode	6.3	0.300	.007m	3.7*	9.2*	R-F Amp Detector	135 180 250 250	1.5 3.0 3.0 6.0 \downarrow	67.5 90.0 90.0	2.8 3.1 3.2	Not Over $\frac{1}{2}$ of Plate Ma	575,000 500,000 550,000	1,000 1,050 1,080	475 525 595			36	
36AM3	T-5 $\frac{1}{2}$	Diode	5BQ	Cathode	36	0.100				H W Rect	117 A C Volts, RMS 75 Ma Capacitor Input to Filter										36AM3	
37	ST 12	Triode	5A-0-0	Cathode	6.3	0.300	2.0*	3.5*	2.9*	Amplifier	135 180 250	9.0 13.5 18.0		4.1 4.3 7.5		10,000 10,200 8,400	925 900 1,100	9.2 9.2 9.2			37	
EL37	Curved Bulb	Beam Pent	7S	Cathode	6.3	1.400	1.0*	17.5*	9.0*	ST A1 Amp P.P.AB1 Amp	250 400	13.5 36	250 400	100 100-276 \uparrow	13.5 12.72 \uparrow	13,500	11,000		2,500 3,250 \uparrow	11,500 69,000		EL37
38	ST 12	Power Pent	5F-0-0	Cathode	6.3	0.300	0.3*	3.5*	7.5*	Power Amp	135 180 250	13.5 18.0 25.0	135 180 250	9.0 14.0 22.0	1.5 2.4 3.8	130,000 110,000 100,000	925 1,050 1,200	120 120 120	13,500 11,600 10,000	550 1,000 2,500	38	

38A3	T 6½	Diode	9BM	Cathode	38	0.100				H-W Rect.	250 A.C. Volts	RMS 110 Ma	Max. Output Current							38A3	
39/44	ST-12	Pentode	5F-0-4	Cathode	6.3	0.300	007m	3.5*	10.0*	R-F Amp.	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.		Eb thru 0.25 Meg Res	.....	.....
40	ST-14	Triode	4D-0-0	Filament	5.0	0.250	8.0	2.8	2.2	Amplifier	135	1.5	.....	0.2	.....	150,000	200	30	.....	.....	40
											180	3.0	.....	0.2	.....	150,000	200	30	.....	.....
40A1	T-9	Ballast	8ES							Horiz. Reg	Avg. Operating Current—0 Ma. at 20 Volts; 150 Ma. at 40 Volts; 155 Ma. at 60 Volts										40A1
40B2	T-9	Ballast	8ES							Horiz. Reg	Avg. Operating Current—140 Ma. at 20 Volts; 150 Ma. at 40 Volts; 155 Ma. at 60 Volts										40B2
40Z5/45Z5GT	T-9	Diode	6AD-0-0	Cathode	45.0	0.150				H-W Rect.	Characteristics Same as Type 35Y4.										40Z5/45Z5GT
41	ST-12	Power Pent.	6B-0-0	Cathode	6.3	0.400				Power Amp	Characteristics Same as Type 6K6GT										41
42	ST-14	Power Pent.	6B-0-0	Cathode	6.3	0.700				Power Amp	Characteristics Same as Type 6F6G.										42
43	ST-14	Power Pent.	6B-0-0	Cathode	25.0	0.300				Power Amp	Characteristics Same as Type 25A6GT.										43

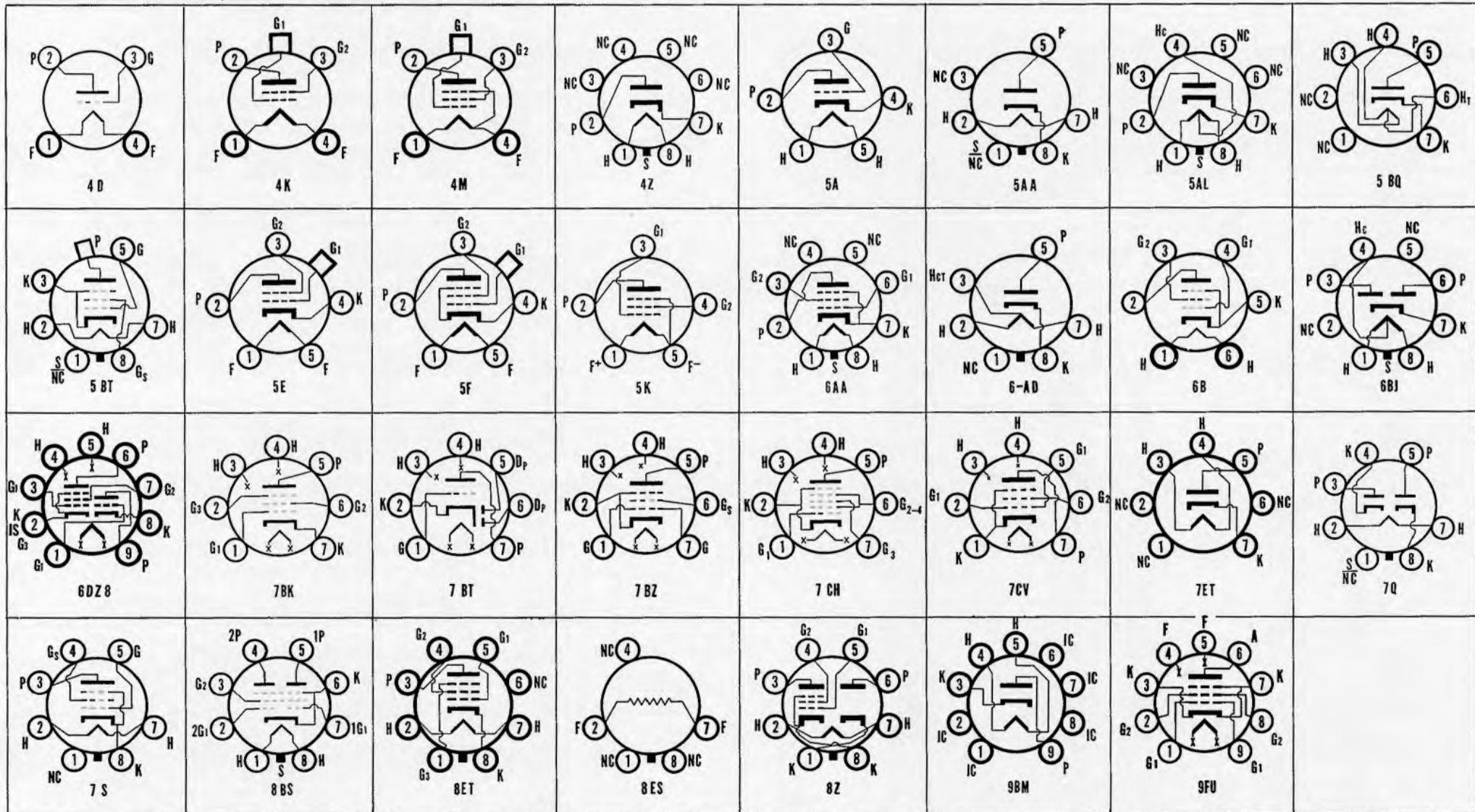
(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate; RF input. Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average contact potential bias developed across specified grid resistor. I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

‡ Per Tube or Section
§ Plate and Target Supply Voltage.
† Maximum Signal.

□ Applied through 20,000 ohms.
▲ Conversion Transconductance.
•• Triode Operation.

†† Plate to Plate.
‡‡ Approximate.

m maximum.
■ Cathode Resistor (ohms).



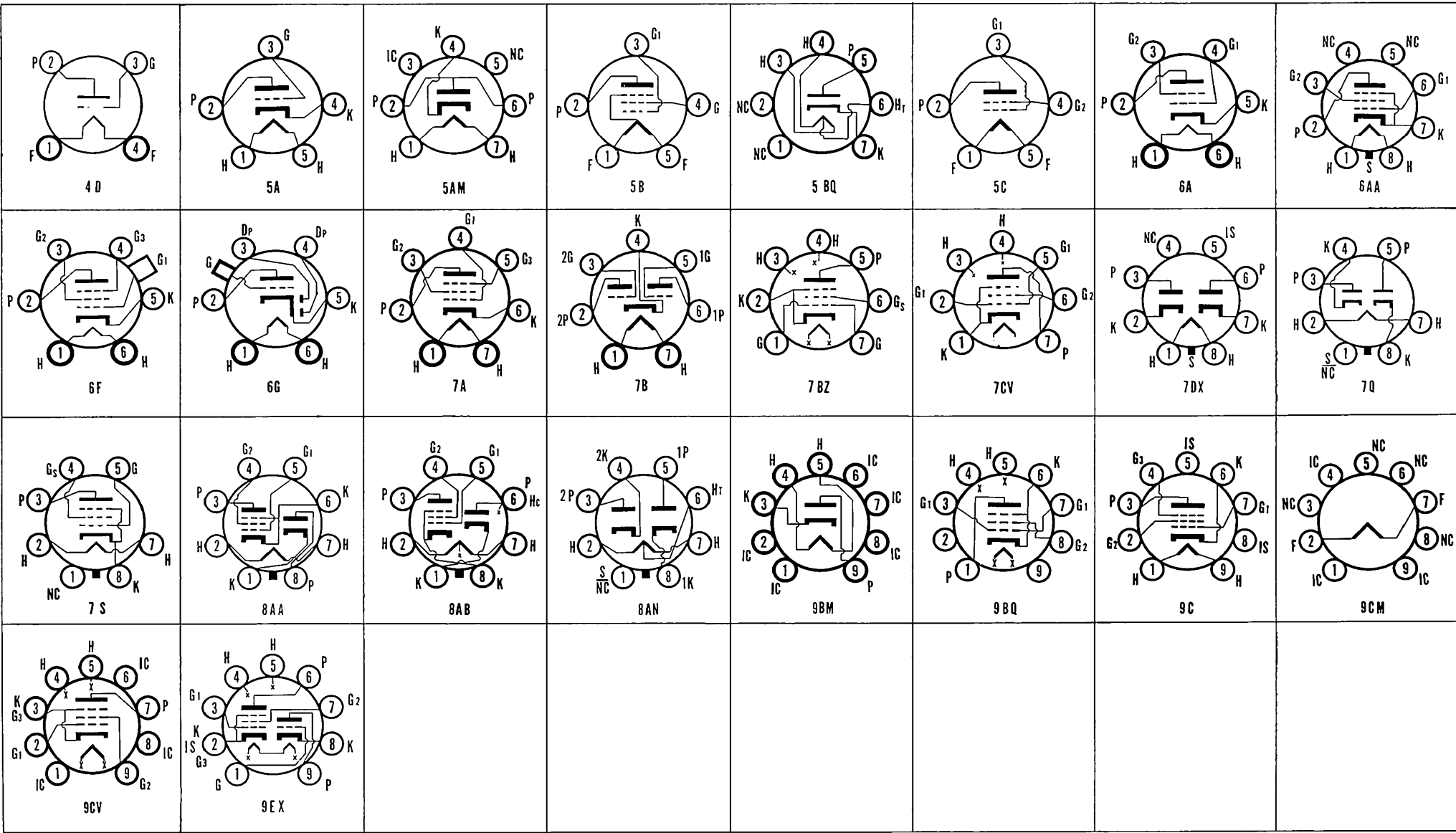
SYMBOLS FOR BASE DIAGRAMS. Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection. DO NOT USE, J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target; XS—External Shield; □—Top Cap; ■—Locating Key

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	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp.	Cin	Cout												
45	ST 14	Triode	4D-0-0	Filament	2.5	1.500	7.0*	4.0*	3.0*	Power Amp	180 250 275	31.5 50.0 56.0		31.0 34.0 36.0		1,650 1,610 1,700	2,125 2,175 2,050	3.5 3.5 3.5	2,700 3,900 4,600	830 1,600 2,000	45
45B5	T-6½	Beam Pent	9CV	Cathode	45.0	0.100	0.6*	12.0*	6.0*	Power Amp	100 170	6.7 12.5	100 170	43.0 70.0	3.0 5.0	23,000 23,000	9,000 10,000		2,400 2,400	1.9 5.6	45B5
45Z3	T 5½	Diode	5AM-0-0	Cathode	45.0	0.075				H W Rect	117 A-C Volts Per Plate, RMS, 65 Ma Output Current										45Z3
45Z5GT	Now Known as Type 40Z5/45Z5GT																				45Z5GT
46	ST-16	Power Tet.	5C-0-0	Filament	2.5	1.750				Power Amp	250 300 400	33.0 0.0 0.0	Tie Gs to P Tie Gs to G Tie Gs to G	22.0 4.0# 6.0#		2,380 (Class B Operation) 2,350 (Class B Operation)		5.6	6,400 5,200# 5,800#	1,950 16,000 20,000	46
47	ST 16	Power Pent	5B-0-0	Filament	2.5	1.750	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	Power Tet	6A-0-0	Cathode	30.0	0.400				Power Amp	95 125	20.0 22.5	95.0 100	52.0 52.0	12.0 12.0	4,000 11,000	3,900 3,900	15.6 43	1,500 1,500	2,000 3,000	48
49	ST 14	Power Tet	5C-0-0	Filament	2.0	0.120				Power Amp	135 180	20.0 0.0	Tie Gs to P Tie Gs to G	6.0 2.0#		4,175 (Two Tubes Class B Operation)	1,125	4.7	11,000 12,000#	170 3,500	49
50	ST-16	Triode	4D-0-0	Filament	7.5	1.250	7.1*	4.2*	3.4*	Power Amp	300 350 400 450	54.0 63.0 70.0 84.0		35.0 45.0 55.0 55.0		2,000 1,900 1,800 1,800	1,900 2,000 2,100 2,100	3.8 3.8 3.8 3.8	4,600 4,100 3,670 4,350	1,600 2,400 3,400 4,600	50
50A1	T 6½	Ballast	9CM							Fil. Ballast	Avg Operating Current—59 Ma. at 30 Volts; 54 Ma. at 50 Volts; 56 Ma. at 65 Volts										50A1
50A5	Lock-in	Beam Pent	6AA-L-0	Cathode	50.0	0.150				Power Amp	110 200	7.5 8.0	110 110	49.0 50.0	4.0 1.5	13,000# 28,000#	8,000 8,000		2,000 4,000	2,100 3,800	50A5
50AX6G	ST-14	Duodiode	7Q-0-0	Cathode	50.0	0.300				F W Rect	Characteristics Same as Type 6AX6G										50AX6G
50B5	T-5½	Beam Pent	7BZ-0-0	Cathode	50.0	0.150	0.6*	13.0*	8.5*	Power Amp	120	8	110	49	4.0	10,000	7,500		2,500	2,300	50B5
50BK5	T-6½	Beam Pent	9BQ-0-0	Cathode	50.0	0.150	0.6*	13.0*	5.0*	Power Amp	250	5.0	250	35	3.5	0.1 Meg #	8,500		6,500	3,500	50BK5
50BM8	T-6½	Tri. Pentode	9EX	Cathode	50	0.100	4.2* 0.3*	2.7* 9.3*	4.3* 8.0*	A-F Tri Amp Power Amp	100 100 200	0 6 16	100 100 200	3.5 26 35	5 7	28,000 15,000 20,000	2,500 6,800 6,400	70	3,900 5,600	1,050 3,500	50BM8
50C5	T-5½	Beam Pent	7CV-0-0	Cathode	50.0	0.150	0.6*	13.0*	8.5*	Power Amp	120	8	110	49	4.0	10,000	7,500		2,500	2,300	50C5
50C6G 50C6GA	ST 14 T 12	Beam Pent	7S-0-0	Cathode	50.0	0.150				Power Amp	Characteristics Same as Type 6Y6G										50C6G 50C6GA
50CA5	T-5½	Beam Pent	7CV	Cathode	50	0.150	0.5*	15*	9*	Power Amp	Characteristics Same as Type 6CA5										50CA5
50DC4	T 5½	Diode	5BQ	Cathode	50	0.150				H W Rect	117 A-C Volts Per Plate, RMS, 110 Ma Output Current Heater Top Voltage (Pin 4 to Pin 6) = 7.5 Volts										50DC4
50EH5	T-5½	Beam Pent	7CV	Cathode	50	0.150	0.65*	17*	9*	ST A1 Amp	Characteristics Same as Type 6EH5										50EH5
50L6GT	T-9	Beam Pent	7S-0-0	Cathode	50.0	0.150				Power Amp	Characteristics Same as Type 25L6GT										50L6GT
50X6	Lock-in	Duodiode	7DX-L-0	Cathode	50.0	0.150				H W Rect Doubler	235 Volts RMS Per Plate, 75 Ma D-C Output Per Plate 117 Volts RMS Per Plate, 75 Ma D-C Output										50X6
50Y6GT	T-9	Duodiode	7Q-0-0	Cathode	50.0	0.150				F W Rect	Characteristics Same as Type 25Z6GT										50Y6GT
50Y7GT	T 9	Duodiode	8AN-0-0	Cathode	46.0	0.150				Doubler H W Rect.	117 A-C Volts RMS, 65 Ma Output with Panel Lamp 150 A-C Volts RMS, 65 Ma Output Per Plate with Panel Lamp 235 A-C Volts, RMS, 65 Ma Output Per Plate with Panel Lamp.										50Y7GT
50Z6G	ST 12	Duodiode	7Q-0-0	Cathode	50.0	0.300				F-W Rect	235 Volts RMS Per Plate, 250 Ma D-C Output										50Z6G
50Z7G	ST 12	Duodiode	8AN-0-0	Cathode	50.0	0.150				Doubler H-W Rect	117 A-C Volts Per Plate, RMS, 65 Ma. Output Current. With Current passing thru Panel Lamp Section 235 A-C Volts, RMS, 65 Ma Output Current Per Plate										50Z7G
EF50	Metal Glass	Pentode	9C L-5 & 8	Cathode	6.3	0.300	0.07m	8.0	5.0	R-F Amp.	250	160#	250	10.0	3.1	600,000	6,300				EF50
52	ST 14	Power Tet	5C-0-0	Filament	6.3	0.300				Class A Amplifier Class B	110 180	0 0		43 1.5#	G2 to P G1 to G2	1,750 Two Tubes in P.P.	3,000	5.2	2,000# 10,000#	1,500 5,000	52
VT52	S 17	Triode	4D-0-0	Filament	7.0	1.180	7.7	5.0	3.0	Amplifier	220	43.5		29.0		1,650	2,300	3.8	3,800	1,000	VT52
53	ST-14	Duodiode	7B-0-0	Cathode	2.5	2.000				Power Amp	Characteristics Same as Type 6A6										53
55 55S	ST 12	Duodiode Tri	6G-0.5 6G-5-5	Cathode	2.5	1.000	1.5*	1.5*	4.3*	Det Amp	Characteristics Same as Type 6V7G										55 55S
55N3	T-6½	Diode	9BM	Cathode	55	0.100				H W Rect	250 A-C Plate Volts, R.M.S., 180 Ma Output Current Condenser Input to Filter										55N3
56 56S	ST 12 T 9	Triode	5A-0-0 5A-4-0	Cathode	2.5	1.000	3.2*	3.2*	2.4*	Amplifier Detector	250	13.5		5.0		9,500	1,450	13.8			56
56AS	ST 12	Triode	5A-4-0	Cathode	6.3	0.400	2.8*	3.5*	2.5*	Amplifier	Characteristics Same as Type 56										56AS
57 57S	ST 12	Pentode	6F-0-5 6F-5-5	Cathode	2.5	1.000	0.07m	5.0*	6.5*	R-F Amp Detector	100 250	3.0 3.0	100 100	2.0 2.0	0.5 0.5	1 Meg 1 Meg >	1,185 1,225				57 57S
57AS	ST 12	Pentode	6F-5-5	Cathode	6.3	0.400	0.07*	5.0*	6.5*	R-F Amp	Characteristics Same as Type 57										57AS
58 58S	ST 12	Pentode	6F-0-5 6F-5-5	Cathode	2.5	1.000	0.07m	4.7*	6.0*	R-F Amp	100 250	3.0 3.0	100 100	8.0 8.2	2.2 2.0	250,000 800,000	1,500 1,600				58 58S
58AS	ST 12	Pentode	6F-5-5	Cathode	6.3	0.400	0.07*	4.7*	6.0*	R-F Amp	Characteristics Same as Type 58										58AS
59	ST-16	Power Pent	7A-0-0	Cathode	2.5	2.000				Power Amp	250** 250 300** 400**	28.0 18.0 0.0 0.0	Tie Gs to P Tie Gs to G Tie Gs to G and Su to P	26.0 35.0 20.0 26.0		2,300 4,000 (Class B Operation Two Tubes) (Class B Operation Two Tubes)	2,600 2,500 100	6.0	5,000 6,000 4,600# 6,000#	1,250 3,000 15,000 20,000	59

KT66	Curved Bulb	Beam Pent	7S	Cathode	6.3	1 270	1 1*	16*	11 5*	S.T. A1 Amp P P AB1 Amp.	250 450	15 250	250 415	85 104-125†	6.3 5-18†	22 500	6 300	2 200 8 000††	7 250 30,000	KT66	
70A7GT	T 9	Diode Beam Pent	8AB-0-0	Cathode	70.0	0 150				H-W Rect. Power Amp	125 A. C Volts Per Plate. RMS 60 Ma.	40			3	5 800		2 500	1 500	70A7GT	
70L7GT	T-9	Diode Beam Pent	8AA-0-0	Cathode	70 0	0 150				H-W Rect. Power Pent.	117 A. C Volts RMS 70 Ma	40			3 0	15 000	7 500		2 000	1 800	70L7GT
71A	ST-14	Triode	4D-0-0	Filament	5 0	0.250	7 5*	3 2*	2.9*	Power Amp	90 135 180	16.5 27.0 40.5		10.0 17.3 20.0		2 170 1 820 1 750	1 400 1 650 1 700	3 0 3 0 3 0	3 000 3 000 4 800	125 400 790	71A
75 75S	ST-12	Duodiode Tri.	6G-0-5 6G-5 5	Cathode	6.3	0 300	1 7*	1 7*	3 8*	Det. Amp.	250	2 0		0.9		91,000	1 100	100		75 75S	

(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics. † Per Tube or Section
(2) Converter tube capacitances given are signal grid to plate, RF input. Mixer Output ‡ Plate and Target Supply Voltage. § Applied through 20 000 ohms.
X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater) ¶ Conversion Transconductance
† Maximum Signal ** Triode Operation †† Plate to Plate
‡ Approximate ††† Cathode Resistor (ohms).



SYMBOLS FOR BASE DIAGRAMS. Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection DO NOT USE, J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target; XS—External Shield □—Top Cap. ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts	Type
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp	Cin	Cout												
76	ST 12	Triode	5A-0-0	Cathode	6.3	0.300	2.8*	3.5*	2.5*	Amplifier Detector	250 250	13.5 20.0 \downarrow		5.0 (Plate Current to be adjusted to 0.2 Ma with no Input Signal.)		9,500	1,450	13.8			76
77	ST 12	Pentode	6F-0-3	Cathode	6.3	0.300	007m	4.7*	11.0*	R-F Amp	100 250	1.5 3.0	60.0 100	1.7 2.3	0.4 0.5	600,000 \downarrow 1.0 Meg. >	1,100 1,250				77
78	ST-12	Pentode	6F-0-5	Cathode	6.3	0.300	007m	4.5*	11.0*	R-F Amp	90 180 250	3.0 3.0 3.0	90.0 75.0 100	5.4 4.0 7.0	1.3 1.0 1.7	300,000 \downarrow 1.0 Meg. \downarrow 800,000 \downarrow	1,275 1,100 1,450				78
79	ST 12	Duotriode	6H-0-0	Cathode	6.3	0.600				Power Amp	180 250	0.0 0.0		7.5# 10.5#		(Class B Operation) (Class B Operation)		7,000 \uparrow 14,000 \uparrow	5,500 8,000		79
80	ST 14	Duodiode	4C-0-0	Filament	5.0	2.000				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	4B-0-0	Filament	7.5	1.250				H W Rect	700 A-C Volts Per Plate, RMS, 85 Ma. Output Current. Condenser Input to Filter.										81
82	ST 14	Duodiode	4C-0-0	Filament	2.5	3.000				F W Rect	450 A-C Volts Per Plate, RMS, 115 Ma. Output Current. Condenser Input to Filter.										82
83	ST 16	Duodiode	4C-0-0	Filament	5.0	3.000				F W Rect	450 A-C Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.										83
83V	ST 14	Duodiode	4A-D-0-0	Cathode	5.0	2.000				F W Rect	375 A-C Volts Per Plate, RMS, 175 Ma. Output Current. Condenser Input to Filter.										83V
84/6Z4	ST 12	Duodiode	5D-0-0	Cathode	6.3	0.500				F W Rect	325 A-C Volts Per Plate, RMS, 60 Ma. Output Current. Condenser Input to Filter.										84/6Z4
EL84/6BQ5	T-6 $\frac{1}{2}$	Beam Pent	9CV	Cathode	6.3	0.760	0.5m*	10.8*	6.5*	ST A1 Amp. P.P. AB1 Amp.	250 300	135# 130#	250 300	48 72-92 \uparrow	5.5 8-22 \uparrow	38,000	11,300		5,200 8,000 \uparrow	5,700 17,000	EL84/6BQ5
85	ST 12	Duodiode Tri	6G-0-5	Cathode	6.3	0.300	1.5*	1.5*	4.3*	Det Amp	Characteristics Same as Type 6V7G										85
85AS	ST 12	Duodiode Tri	6G-5-5	Cathode	6.3	0.300	1.5*	1.5*	4.3*	Det Amp	250 9.0 4.5 16,000 1,250 20										85AS
EF86/6267	T-6 $\frac{1}{2}$	Pentode	9CQ	Cathode	6.3	0.200	0.25	4.0	5.5	A F Amp	250 2.0 140 3.0 0.6 2.5 Meg 1,800										EF86/6267
KT88	ST 16	Beam Pent	7S	Cathode	6.3	1.800				P.P.AB1 Amp	450	65	450	100-240 \uparrow		(Plate and Grid No 2 Current). Ultra-Linear Circuit		3,800 \uparrow	65,000		KT88
89	ST-12	Power Pent	6F 0-0	Cathode	6.3	0.400				Power Amp	160** 180 180	20.0 18.0 0.0	Gs & Su to P 17.0 180 20.0 3.0#	3.0 80,000	3.300 1,425 1,550	4.7 195	7,000 8,000 9,400 \uparrow	300 1,500 3,500		89	
VR-90 105 150				Cold						Now Listed as OB3, OC3 and OD3										VR-90 105 150	
V 99	T-8	Triode	4E-0-0	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	4D-0-0	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	T-9	Diode Beam Pent	8A-O-0-0	Cathode	117	0.090				H W Rect Power Amp	117 A-C Volts RMS, 75 Ma. Output Current. Condenser Input to Filter. 105 5.2 105 43 4.0 17,000 \downarrow 5,300 4,000 850										117L7/M7GT
117N7GT	T 9	Diode Beam Pent	8AV-0-0	Cathode	117	0.090				H W Rect Power Amp	117 A-C Volts, RMS, 75 Ma. Output Current. Condenser Input to Filter. 100 6.0 100 51 5.0 16,000 \downarrow 7,000 3,000 1,200										117N7GT
117P7GT	T-9	Diode Beam Pent	8AV-0-0	Cathode	117	0.090				H W Rect Power Amp	117 A-C Volts Per Plate, RMS, 75 Ma. Output Current. 105 5.2 105 43 4 17,000 5,300 4,000 850										117P7GT
117Z3	T 5 $\frac{1}{2}$	Diode	4CB-0-0	Cathode	117	0.040				H W Rect	117 Volts Per Plate, RMS, 90 Ma. D-C Output										117Z3
117Z4GT	T-9	Diode	5AA-0-0	Cathode	117	0.040				H W Rect	117 A-C Volts Per Plate, RMS, 90 Ma. Output Current										117Z4GT
117Z6GT	T 9	Duodiode	7Q-0-0	Cathode	117	0.075				Volt Dblr	117 A-C Volts Per Plate, RMS, 60 Ma. Output Current.										117Z6GT
182B/482B	ST 14	Triode	4D-0-0	Filament	5.0	1.250				Power Amp	250 35.0 20.0 2,500 2,000 5.0 4,500 1,350										182B/482B
183/483	ST 14	Triode	4D-0-0	Filament	5.0	1.250				Power Amp	250 65.0 20.0 2,000 1,500 3.0 4,500 1,800										183/483
210 T	ST-16	Triode	4D 0-0	Filament	7.5	1.250	7.0*	4.0*	3.0*	Power Amp	(Standard Type 10 with Ceramic Base, See Type 10 Characteristics.)										210 T
407A GB-407A(3)	T-6 $\frac{1}{2}$	Duotriode	407A	Cathode	40	0.050 0.100	1.1 1.1	2.2 2.2	1.0 1.0	Amplifier	150 240# 8.2 6,370 5,500										407A GB-407A
408A GB-408A(3)	T-5 $\frac{1}{2}$	Pentode	7BD	Cathode	20	0.050	0.1	3.9	2.85	Amplifier	120 200# 120 7.0 2.2 340,000 5,000										408A GB-408A
417A	T-6 $\frac{1}{2}$	Triode	9V	Cathode	6.3	0.300	0.48*	9*	1.8*	UHF R-F Amp	Characteristics Same as Type 5842										417A
485	ST 12	Triode	5A 0-0	Cathode	3.0	1.250				Det Amp	180 9.0 5.8 8,900 1,400 12.5										485
807 807W(3)	ST 16 T 12	Beam Pent	5AW-0-0	Cathode	6.3	0.900	0.2m	12.0*	7.0*	P.P.AB1 Amp P.P.AB2 Amp. P.P.AB2 Amp.	400 45 300 60 140 \uparrow 2.15 \uparrow 400 25 300 90-240 \uparrow 0.716 \uparrow 600 30 300 60-200 \uparrow										807 807W
864	T-9	Triode	4D 0-0	Filament	1.1	0.250	5.3*	3.3*	2.1*	Det. Amp	90 4.5 2.9 13,500 610 8.2 135 9.0 3.5 12,700 645 8.2										864
884	ST 12	Gas Triode	6Q-0-0	Cathode	6.3	0.600	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	5A-0-0	Cathode	2.5	1.500	6.0*	2.0*	0.6*	Relay Tube	Characteristics Same as Type 884										885
950	ST 14	Beam Pent	5K-0-0	Filament	2.0	0.120				Power Amp	135 16.5 135 7.0 2.0 125,000 1,000 125 13,500 575										950
954	Acorn	Pentode	5BB-0-0	Cathode	6.3	0.150	007m	3.4	3.0	R-F Amp	90 3.0 90 1.2 0.5 1.0 Meg. > 250 3.0 100 2.0 0.7 1.400										954
955	Acorn	Triode	5BC-0-0	Cathode	6.3	0.150	1.3	1.0	0.4	Osc Amp	250 7.0 6.3 11,400 2,200 25 90 2.5 2.5 14,700 1,700 25										955
956	Acorn	Pentode	5BB-0-0	Cathode	6.3	0.150	007m	3.4	3.0	R-F Amp.	250 3.0 100 6.7 2.7 700,000 \downarrow 1,800										956
957	Acorn	Triode	5BD-0-0	Filament	1.2	0.050	1.2	0.3	0.7	Osc Amp	135 5.0 2.0 20,800 \downarrow 650 12										957
958-A	Acorn	Triode	5BD-0-0	Filament	1.25	0.100	2.6	0.6	0.8	Osc Amp	135 7.5 3.0 10,000 1,200 12										958 A
959	Acorn	Pentode	5BE-0-0	Filament	1.25	0.050	0.15m	1.8	2.9	R-F Amp	135 3.0 67.5 1.7 0.4 800,000 \downarrow 600										959
FM1000	Lock-in	Heptode	FM1000	Cathode	6.3	0.300				F-M Det.											FM1000
1005/CK1005	Metal	Gas Duodi	5AQ-0 1	Filament	6.3	0.100				F W Rect	450 Max Peak Inverse V, 210 Ma Max Peak Current, 70 Ma Avg Current D-C Avg Tube Drop = 20										1005/CK1005
1201	Now Known as Type 7E5																				1201

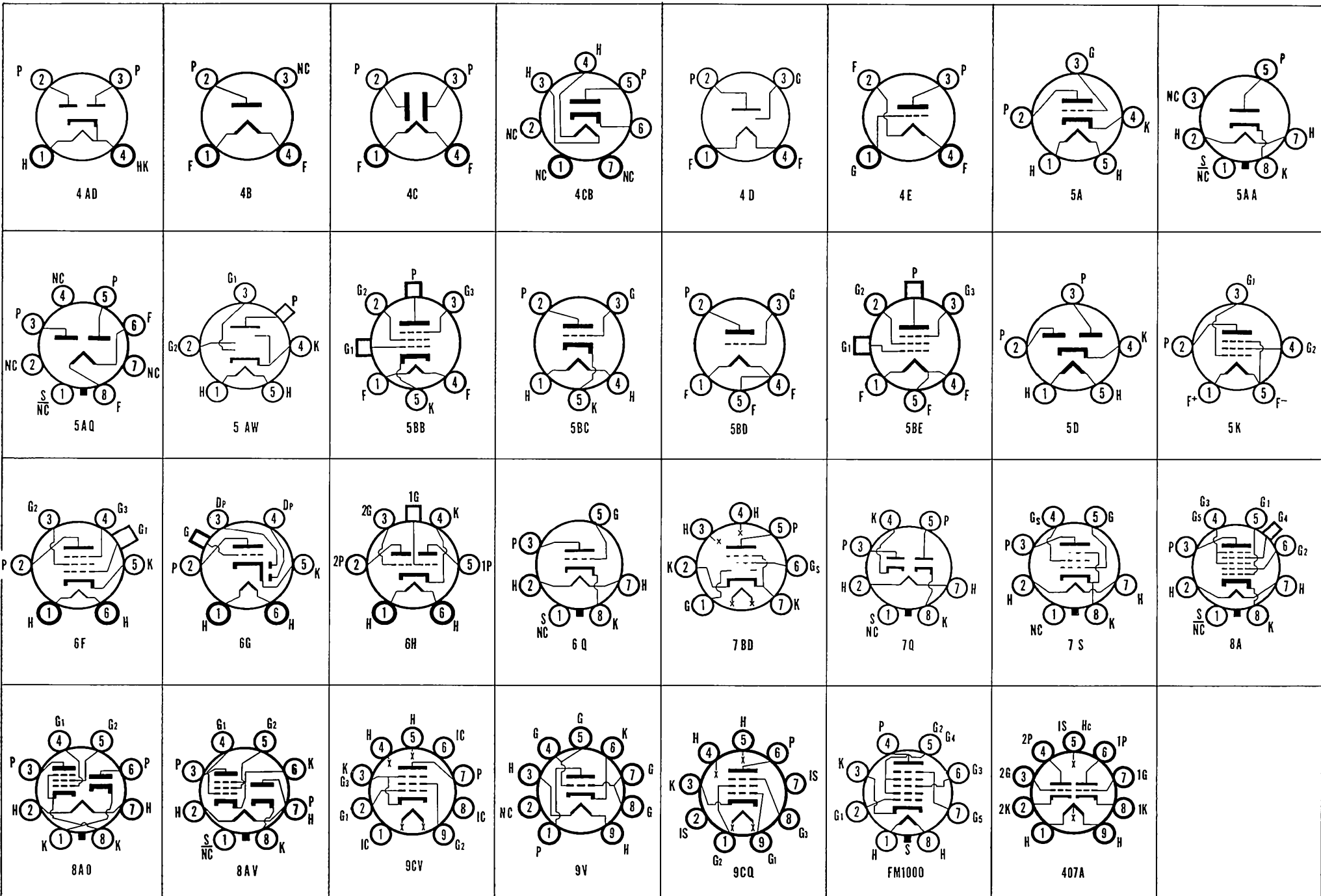
(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics.
 (2) Converter tube capacitances given are signal grid to plate RF Input Mixer Output (4) Average Contact potential bias developed across specified grid resistor
 X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)

Per Tube or Section.
 § Plate and Target Supply Voltage.
 † Maximum Signal

□ Applied through 20 000 ohms.
 ▲ Conversion Transconductance.
 ** Triode Operation.

† Plate to Plate
 † Approximate.

m maximum
 Cathode Resistor
 (ohms).



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate; F—Filament; Fc—Filament Center; G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center; Ht—Heater Tap; IC—Internal Connection DO NOT USE; J—Jumper; K—Cathode; NC—No Connection; P—Plate; Rc—Ray Control; S—Metal Shell; SA—Starter Anode; T—Target; XS—External Shield □—Top Cap; ■—Locating Key

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	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps	Cgp	Cin	Cout												
1203-A	Now Known as Type 7C4																				1203-A
1204	Now Known as Type 7AB7																				1204
1206	Now Known as Type 7G8																				1206
1216(3) GB-1216(3)	T-5½	Duotriode	7BF	Cathode	6.3	0.300	2.7 2.7	2.4 2.4	0.5 0.4	Computer	100 150 150	470 [■] 0 10	4.8 4.8 Min. 0.1 Max.	7.950	3,400	27	Plate Res. = 20K Ohms. Plate Res. = 20K Ohms.	Grid Res. = 47K Ohms. Grid Res. = 47K Ohms.			1216 GB-1216
1217(3) GB-1217(3)	T-5½	Heptode	7CH	Cathode	6.3	0.300	.035*	6.9*	7.6*	Dual-Control Computer	67.5 67.5 150	0 4 0	67.5 67.5 75	Grid No. 3 = 0 Volts Grid No. 3 = 0 Volts 9	2,400 1,700	Rb = 20K, RG ₁ = 47K, RG ₂ = 47K, RG ₂₋₄ = 470 Ohms.					1217 GB-1217
1221	ST-12	Pentode	6F-0-5	Cathode	6.3	0.300				Amplifier	Special Non-Microphonic Tube, Characteristics Same as Type 6C6.										1221
1222	ST-14	Beam Pent.	1222	Cathode	6.3	0.900				Power Amp	Characteristics Similar to Type 6L6GA.										1222
1223	ST-12	Pentode	7R-0-0	Cathode	6.3	0.300				Amplifier	"G" Equivalent of Type 1221 Above										1223
1229	ST-12	Tetrode	4K-0-0	Filament	2.0	0.060				Special Type 32 Made for Low Grid Current Application											1229
1230	T-9	Triode	4D-0-0	Filament	2.0	0.060	6.0*	3.0*	2.1*	Special Type 30 Made for Low Grid Current Applications											1230
1231	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.450	.015m	8.5	6.5	R-F Amp. Tel. Amp.	300 300	900 [■] 200 [■]	150 150	10.0 12.0	2.5 0.5	700,000 540,000	5,500 6,500	3,850 3,500			1231
1232	Now Known as Type 7G7																				1232
1236A	T-9	Diode	1236A	Filament	1.9	0.450				Regulator	Plate Voltage = 330 Volts (Abs. Max.) D.C. Current = 0.8 Ma. (Abs. Max.) Plate Current = 0.63 Ma. Plate Load Resistance = 0.25 Meg.										1236A
1238	T-9	Duo Beam Amplifier	8BS-L-0	Cathode	28.0	0.400				Amplifier	Characteristics Similar to 28D7.										1238
1247	T-3	Diode	1247	Filament	0.7	0.065				R-F Probe	300 A-C Volts RMS, 0.4 Ma. D-C Plate Current.										1247
1265	ST-12	Diode	4AJ-0-0	Cold K						Voltage Reg.	Starting Voltage = 135, Operating Voltage = 90, Operating Current = 5 to 30 Ma.										1265
1266	T-9	Diode	4AJ-0-0 No Jumper	Cold K						Regulator	Voltage Regulator Similar to Type OB3/VR-90-30, Except Regulating at 70 Volts.										1266
1267	T-9	Gas Triode	4V-0-0	Cold K						Relay Tube	Similar to Type 0A4G										1267
1273	Lock-in	Pentode	8V-L-5	Cathode	6.3	0.300	.004m	6.0	6.5	Amplifier	Characteristics Same as Type 14C7 (Special Non-Microphonic Tube)										1273
1274	T-9	Duotriode	6S-0-0	Cathode	6.3	0.600				F W Rect.	Characteristics Same as Type 7Y4.										1274
1275	ST-16	Duotriode	4C-0-0	Filament	5.0	1.750				F W Rect.	Similar to Type 5Z3.										1275
1276	ST-16	Triode	4D-0-0	Filament	4.5	1.140				Power Amp	Similar to Type 6A3.										1276
1280	Lock-in	Pentode	8V-L-5	Cathode	12.6	0.150	.004m	6.0	6.5	Amplifier	Characteristics Same as Type 14C7 (Special Non-Microphonic Tube).										1280
1284	Lock-in	Pentode	8V-L-5	Cathode	12.6	0.150	.01	5.0	6.0	R-F Amp.	250	3	100	9.0	2.5	800,000	200				1284
1291	Now Known as Type 3B7																				1291
1293	Lock-in	Triode	4AA-L-0	Filament	1.4	0.110	1.7	1.7	3.0	Oscillator	90 90	0 20		5.2 13.25		150 Mc. Oscillator Rg = 10,000 Ohms.	1.500	15			1293
1294	Now Known as Type 1R4																				1294
1299	Now Known as Type 3D6																				1299
1612	Metal	Heptode	7T-1-0	Cathode	6.3	0.300	.001m	7.5	11.0	Mixer Amp.	Characteristics Same as Type 6L7.										1612
1614	T-10 Sp.	Beam Pent.	7S	Cathode	6.3	0.900	0.4m*	10*	12*	P.P.AB1 Amp. P.P.AB2 Amp.	360 530	22.5 36	270 340	88-132† 60-160†	15† 20†				6,600 7,200	26,500 50,000	1614
1625	ST-16	Beam Pent.	5AZ	Cathode	12.6	0.450	0.2m*	11*	7*	P.P.AB1 Amp. P.P.AB2 Amp.	**Characteristics Same as Type 807.										1625
1626	ST-12	Triode	6Q-0-0	Cathode	12.6	0.250	4.4*	3.2*	3.4	Oscillator	250	70		25	Class C, Oscillator or Amplifier.					4,000	1626
1629	T-9	Electron Ray	7AL-0-0	Cathode	12.6	0.150				Indicator	Characteristics Same as Type 6E5.										1629
2050	ST-12	Gas Tetrode	6BS-0-0	Cathode	6.3	0.600	0.26*	4.2*	3.6*	Relay Tube	400 220	5.0 4.0	0 0	100 75	For Relay Operation Limit Time to 30 Secs. 1 Amp. Peak Current, 8 Volts Tube Drop.					2050	
2051	ST-12	Gas Tetrode	6BS-0-0	Cathode	6.3	0.600	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	
5516	T-11	Beam Pent.	5516	Filament	6.0	0.700	0.12*	8.5*	6.5*	ST.A1 Amp. P.P.AB1 Amp. P.P.AB2 Amp.	450 500 500	19 25 25	250 250 250	34-90† 34-140†	1.14† 1-24†		4,000	9(G1 to G2)	12,000 8,000	28,000 53,000	5516
5517/CK1013 (3)	T-5½	Gas Diode	5-BU	Cold K						H-W Rect.	2800 Max. Peak Inverse V., 50 Ma. Max. Peak Current, 6 Ma. Avg. Current D-C, Avg. Tube Drop = 100.										5517/CK1013
5590	T-5½	Pentode	7BD-0-0	Cathode	6.3	0.150	.01	3.4	2.9	R-F Amp.	90	820 [■]	90	3.9	1.4	300,000	2,000	600			5590
5591	T-5½	Pentode	7BD-0-0	Cathode	6.3	0.150	.02	4.0	2.8	R-F Amp.	120 150 180	200 [■] 330 [■] 200 [■]	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			5591
5608-A	ST-14	Duotriode	7B-0-0	Cathode	2.5	2.000				Amplifier#	250 300	5 6		5.0 6.0		14,000 13,000	2,200 2,450	31.5 32			5608-A
5633	T-3	Pentode	5633	Cathode	6.3	0.150	.01m	4.0	2.8	R-F Amp.	100	150 [■]	100	7.0	2.8	200,000	3,400				5633
5634	T-3	Pentode	5633	Cathode	6.3	0.150	.01m	4.4	2.8	R-F Amp.	100	150 [■]	100	6.5	2.5	240,000	3,500				5634
5635	T-3	Duotriode	8DB-0-0	Cathode	6.3	0.450	1.2	2.6	1.6	Amplifier	100	100 [■]		4.8		10,000	3,800	38			5635
5636 (3)	T-3	Pentode	8DC-0-0	Cathode	6.3	0.150	.015m	4.0	3.4	Mixer	100	150 [■]	100	3.6	5.3	320,000	1,280 [▲]				5636
5637	T-3	Triode	8DK-0-0	Cathode	6.3	0.150	1.3	2.8	3.2	Amplifier	100	820 [■]		1.4		26,000	2,700	70			5637
5638	T-3	Pentode	5638	Cathode	6.3	0.150	0.19	4.0	6.5	Amplifier	100	270 [■]	100	4.8	1.25	150,000	3,300				5638
5639 (3)	T-3	Beam Pent.	8DL-0-0	Cathode	6.3	0.450	0.1m	9.5	7.5	Power Amp.	150	100 [■]	100	21	4	50,000	9,000			1,000	5639
5640	T-3	Beam Pent.	8DL-0-0	Cathode	6.3	0.450	.09	9.0	6.5	Power Amp.	100	270 [■]	100	31.0	2.2	15,000	5,000		3,000	1,250	5640

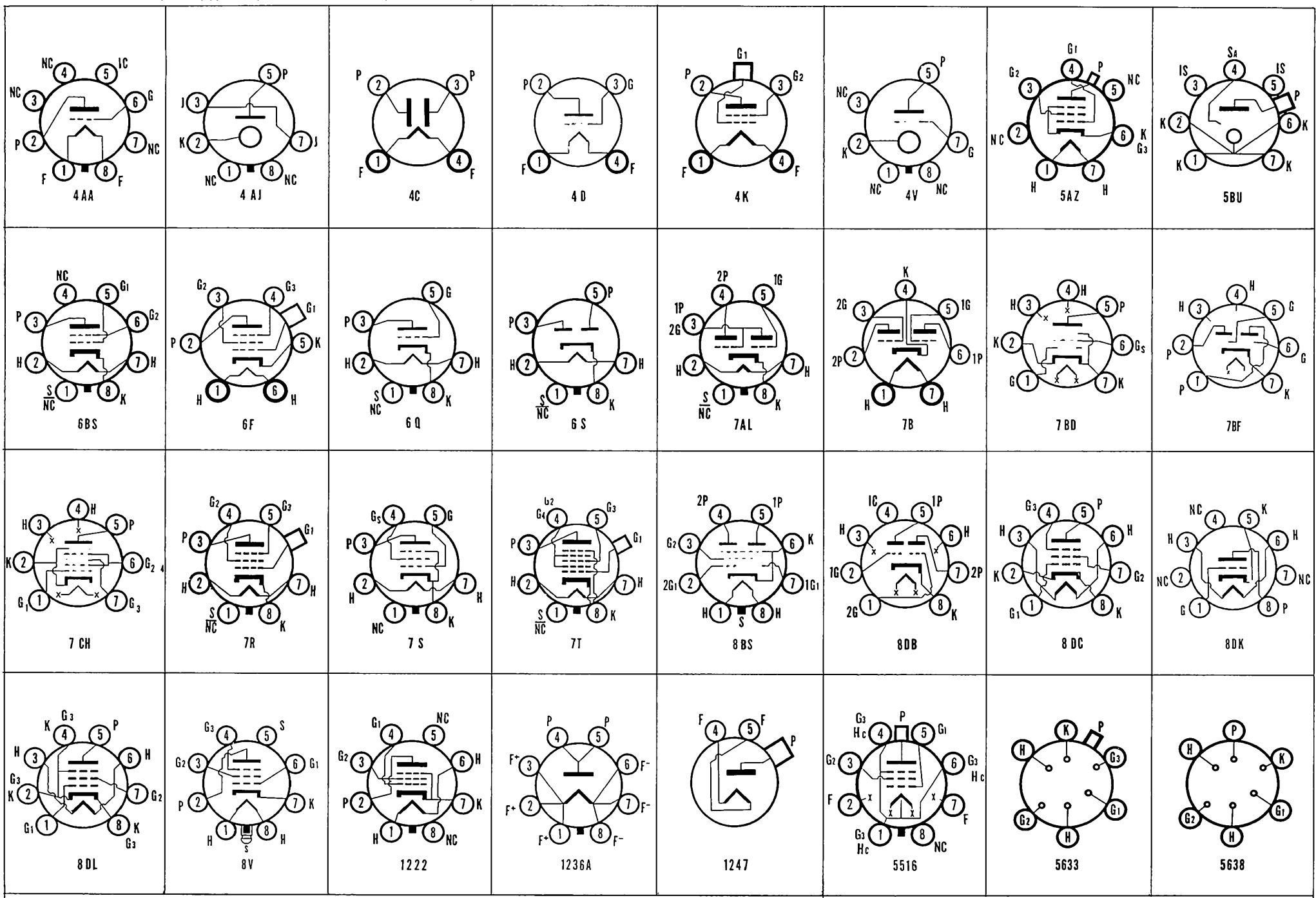
(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics
 (2) Converter tube capacitances given are signal grid to plate RF input Mixer Output
 grid to plate RF Input Mixer Output
 X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)

‡ Per Tube or Section.
 § Plate and Target Supply Voltage.
 † Maximum Signal

□ Applied through 20 000 ohms
 ▲ Conversion Transconductance.
 ** Triode Operation

‡ Plate to Plate
 † Approximate.

m maximum
 Cathode Resistor
 (ohms).



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament; Fc—Filament Center, G—Grids numbered according to their position from the cathode; H—Heater; Hc—Heater Center Ht—Heater Tap; IC—Internal Connection DO NOT USE
 J—Jumper, K—Cathode; NC—No Connection P—Plate, Rc—Ray Control. S—Metal Shell SA—Starter Anode; T—Target XS—External Shield □—Top Cap; ■—Locating Key

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Em'itter			Note () (°) Capacitances in $\mu\mu\text{f}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma	Plate Resistance Ohms	Transcon-ductance Micromhos	Ampli-fication Factor	Ohms Load for Stated Power Output	Power Output Milli-watts	Type
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp	Cn	Coil												
5641 (3)	T-3	Diode	6CJ-0-0	Cathode	6.3	0.450				H-W Rect	117 A-C Volts Per Plate, RMS 45 Ma. D-C Output					Condenser Input to Filter.				5641	
5642	T-3	Diode	5642	Filament	1.25	0.200			0.6*	H-W Rect	235 A-C Volts Per Plate, RMS 45 Ma. D-C Output					Condenser Input to Filter.				5642	
5643 (3)	T-3	Gas Tetrode	8DD-0-0	Cathode	6.3	0.15	0.1	1.7	1.6	Relay Tube	150	5 A-C	0	20		(Grid Bias Voltage 180° Out of Phase with Anode Voltage)				5643	
5644 (3)	T-3	Gas Diode	4CN-0-0	Cold K						Voltage Regulator with Starting Voltage at 130					Operating Voltage 95, Operating Current 5 to 25 Ma				5644		
5645	T-2	Triode	5646	Cathode	6.3	0.150	1.2	2.4	3.4	Amplifier	100	560 [■]		5.0		7,400	2,700	20		5645	
5646	T-2	Triode	5646	Cathode	6.3	0.150	1.2	2.4	3.4	Amplifier	100	820 [■]		1.4		29,000	2,400	70		5646	
5647 (3)	T-1	Diode	5647	Cathode	6.3	0.150				Detector	117 Volts RMS Plate, 9 Ma. D-C Output									5647	
5651	T-5 1/2	Gas Diode	580-0-0	Cold K						Volt Ref	Starting Voltage = 115 Volts Max. Operating Voltage = 92 Volts Max. Operating Current = 3.5 Ma. Max.									5651	
5651WA(3)	T-5 1/2	Pentode	7BD-0-2&7	Cathode	6.3	0.175	0.2m	4.0	2.9	R-F Amp.	120	200 [■]	120	7.5	2.5	340,000	5,000			5651WA	
5654/6AK5W(3) 5654/6AK5W/6096 GB-5654(3)	T-5 1/2	Pentode	7BD-0-2&7	Cathode	6.3	0.175	0.2m	4.0	2.9	R-F Amp.	120	200 [■]	120	7.5	2.5	340,000	5,000			5654/6AK5W 5654/6AK5W/6096 GB-5654	
5670 (3) GB-5670(3) 5670WA(3)	T-6 1/2	Duotriode	8CJ-0-5	Cathode	6.3	0.350	1.1	2.2	1.0	H-F Amp. #	150	240 [■]				6,370 [†]	5,500	35		5670 GB-5670 5670WA	
5679	Lock in	Duodiode	7CX L-5	Cathode	6.3	0.150					Characteristics Same as Type 7A6 For VTVM Use										5679
5686	T-6 1/2	Beam Pent.	9G-0-0	Cathode	6.3	0.350	0.8m	6.5	8.5	Power Amp	250	12.5	250	27	5.0		3,100		9,000	2,700	5686
5687 (3)	T-6 1/2	Duotriode	9H-0-0	Cathode	6.3	0.900	3.8*	4.0*	0.45*	Amplifier#	250	12.5		12		3,000	5,400	16		5687	
					12.6	0.450					180	7.0		23		2,000	8,500	17			
5691	T-9	Duotriode	8BD-0-0	Cathode	6.3	0.600	3.6*	2.4*	2.3*	Amplifier	250	2		2.3		44,000	1,600	70		5691	
							3.6*	2.7*	2.6*												
5692	T-9	Duotriode	8BD-0-0	Cathode	6.3	0.600	3.5*	2.3*	2.5*	Amplifier	250	9		6.5		9,100	2,200	20		5692	
							3.3*	2.6*	2.7*												
5693	Metal	Pentode	8N 1-0	Cathode	6.3	0.300	0.05m	5.8	6.8	R-F Amp	250	3	100	3.0	0.85		1,650			5693	
5694	ST-14	Duotriode	8CS-0-0	Cathode	6.3	0.800				Amplifier	250	5		6		11,300	3,100	35		5694	
											294	6		7		11,000	3,200	35			
5702	T-3	Pentode	5702	Cathode	6.3	0.200	0.3m	4.4	3.5	R-F Amp	120	200 [■]	120	7.5	2.5	340,000	5,000			5702	
5702WA(3)																				5702WA	
5702WB(3)																				5702WB	
5703	T-3	Triode	5703	Cathode	6.3	0.200	1.15	2.7	2.1	H-F Osc.	120	220 [■]		9.0		5,000		25		5703	
5703WA(3)																				5703WA	
5703WB(3)																				5703WB	
5704 (3)	T-2	Diode	5704	Cathode	6.3	0.150				VHF Det	150 Volts, RMS Plate, 9 Ma. D-C Output Current.									5704	
5718 (3)	T-3	Triode	8DK-0-0	Cathode	6.3	0.150	1.3	2.4	2.4	Amplifier	100	150 [■]		8.5		4,650	5,800	27		5718	
											150	180 [■]		13.0		4,150	6,500	27			
5719 (3)	T-3	Triode	8DK-0-0	Cathode	6.3	0.150	0.8	1.9	2.2	Amplifier	150	680 [■]		1.85		30,500	2,300	70		5719	
5722 (3)	T-5 1/2	Diode	5CB-0-0	Filament	4.9	1.600			1.5	Noise Diode	200									5722	
5725 (3)	T-5 1/2	Pentode	7BD-0-0	Cathode	6.3	0.175	0.1	3.9	3.0	Amplifier	120	2	120	5.2	3.5	3,200				5725	
GB-5725(3)																				GB-5725	
5725/6AS6W(3)																				5725/6AS6W	
5726/6AL5W(3) GB-5726(3) 5726/6AL5W/6097(3)	T-5 1/2	Duodiode	6BT-0-6	Cathode	6.3	0.300				Rectifier	117 Volts RMS Plate, 9 Ma. D-C Output Current Per Plate.									5726/6AL5W GB-5726 5726/6AL5W/6097	
5731	Acorn	Triode	58C-0-0	Cathode	6.3	0.150	1.3*	1.0*	0.4*	A-F Amp.	90	2.5		2.5		14,700	1,700	25		5731	
											135	3.75		3.5		13,900	1,900	25			
											180	5		4.5		12,500	2,000	25	20,000	135	
											180	35		7.0						500	
5744	T-3	Triode	5744	Cathode	6.3	0.200	0.8	2.7	2.4	A-F Amp	250	500 [■]		4		4,000		70		5744	
5749	T-5 1/2	Pentode	7BK-0-2	Cathode	6.3	0.300	0.035m	5.5	5.5	Class A Amplifier	100	68 [■]	100	10.8	4.4	250,000 [†]	4,300			5749	
6BA6W(3) GB-5749											250	68 [■]	100	11.0	4.2	1.0 Meg. [†]	4,400			6BA6W GB-5749	
5750(3) 5750/6BE6W(3) GB-5750(3)	T-6 1/2	Heptode	9A	Cathode	6.3	0.300	0.3*	7.1*	7.6*	Converter	Characteristics Same as Type 6BE6.										5750 5750/6BE6W GB-5750
5751WA(3) 5751(3) GB-5751(3)	T-6 1/2	Duotriode	9A-0-0	Cathode	6.3	0.350	1.4*	1.4*		A-F Amp.	Characteristics Same as Type 12AX7. For Reliable Operation.						Coil Sec. 1 = 46 $\mu\mu\text{f}$. *				5751WA 5751 GB-5751
5783	T-3	Gas Diode	5783	Cold K						Voltage Regulator with Starting Voltage at 115 Volts, Operating Voltage 85, Operating Current 1.5 to 3.5 Ma										5783	
5784	T-3	Pentode	5784	Cathode	6.3	0.200	0.3m	3.9	3.0	Amplifier	120	2	120	5.2	3.5	3,200				5784	
5785	T2x3	Diode	5785	Filament	1.25	0.015				H-W Rect	1235 Volts, RMS Plate, 100 μa D-C Output Current									5785	
5787	T-3	Gas Diode	5783	Cold K						Voltage Regulator with Starting Voltage at 135 Volts, Operating Voltage 100, Operating Current 5 to 25 Ma										5787	
5814 (3) GB-5814A(3) 5814WA(3)	T-6 1/2	Duotriode	9A-0-0	Cathode	6.3/	0.350/	1.5*	1.6*	0.5*	Class A	100	0		11.8		6,250 [†]	3,100	19.5		5814 GB-5814A 5814WA	
					12.6	0.175	1.5*	1.6*	0.4*	Amplifier #	250	8.5		10.5		7,700 [†]	2,200	17.0			
5823	T-5 1/2	Gas Triode	4CK-0-0	Cold K						Relay Tube	Peak Cathode Ma = 100 Max. D-C Cathode Ma = 25 Max. Starter Anode Volt Drop = 61 Volts Anode Drop = 62 Volts										5823
5824 (3)	ST-14	Beam Pent.	7S-0-0	Cathode	25.0	0.300				Power Amp	135	22	135	61	2.5	15,000 [†]	5,000		1,700	4,300	5824
5838 (3)	T-9	Duodiode	6S-0-0	Cathode	12.0	0.600				F-W Rect	300 A-C Volts Per Plate RMS 65 Ma. Output Current, Condenser Input to Filter.									5838	
											400 A-C Volts Per Plate RMS 60 Ma. Output Current, Choke Input to Filter.										
5839 (3)	T-9	Duodiode	6S-0-0	Cathode	26.5	0.285				F-W Rect	Characteristics Same as Type 5838.										5839
5840 (3)	T-3	Pentode	8DL-0-0	Cathode	6.3	0.150	0.15m	4.2	3.4	R-F Amp	100	150 [■]	100	7.5	2.4	280,000	5,000			5840	

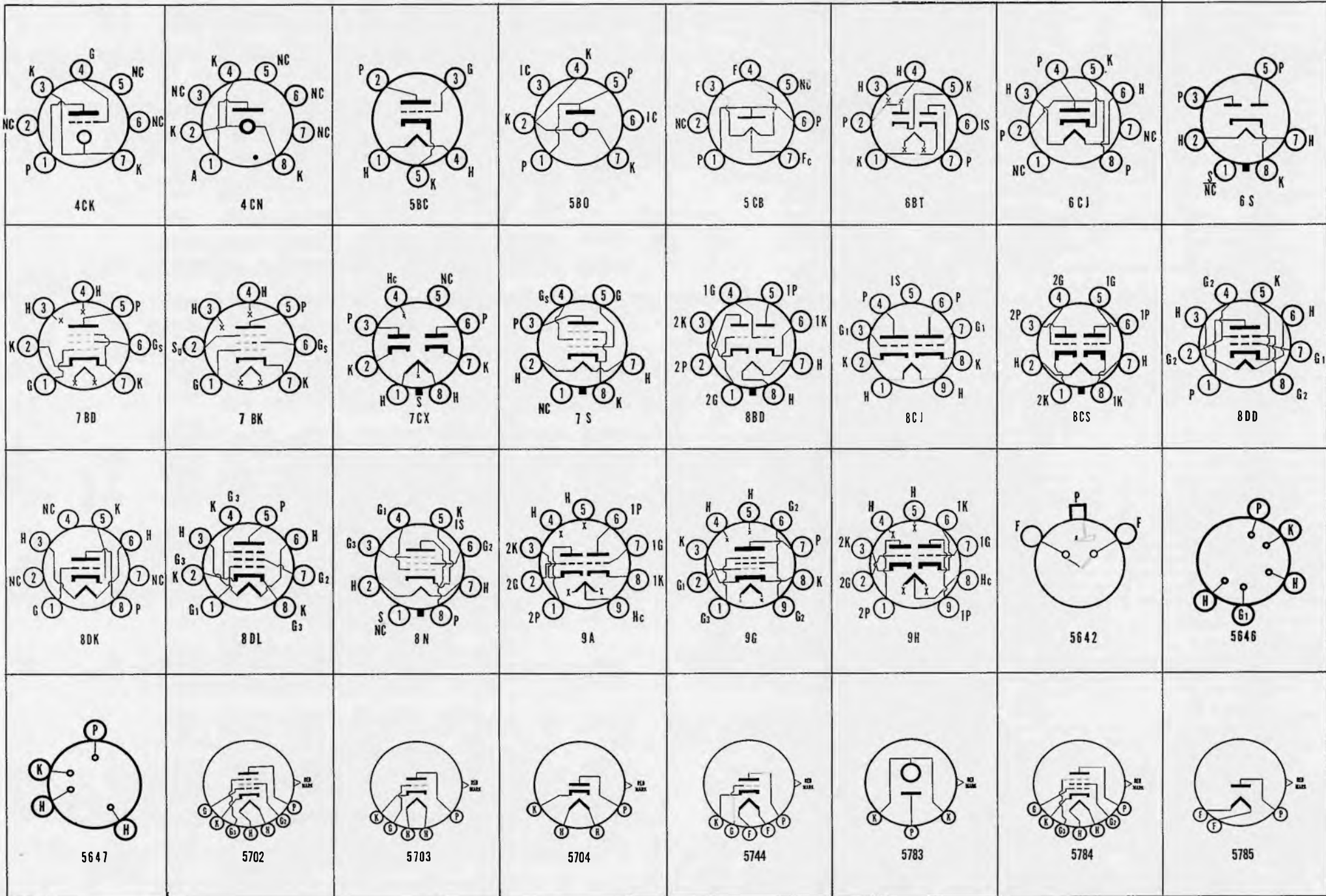
(1) Values are given shielded unless marked with () (3) Has special mechanical and/or life characteristics
 (2) Converter tube capacitances given are signal grid to plate, RF Input, Mixer Output (4) Average Contact potential bias developed across specified grid resistor
 I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)

Per Tube or Section
 † Plate and Target Supply Voltage
 ‡ Maximum Signal

□ Applied through 20 000 ohms.
 ▲ Conversion Transconductance
 Triode Operation.

†† Plate to Plate
 ††† Approximate

m maximum
 ■ Cathode Resistor (ohms)



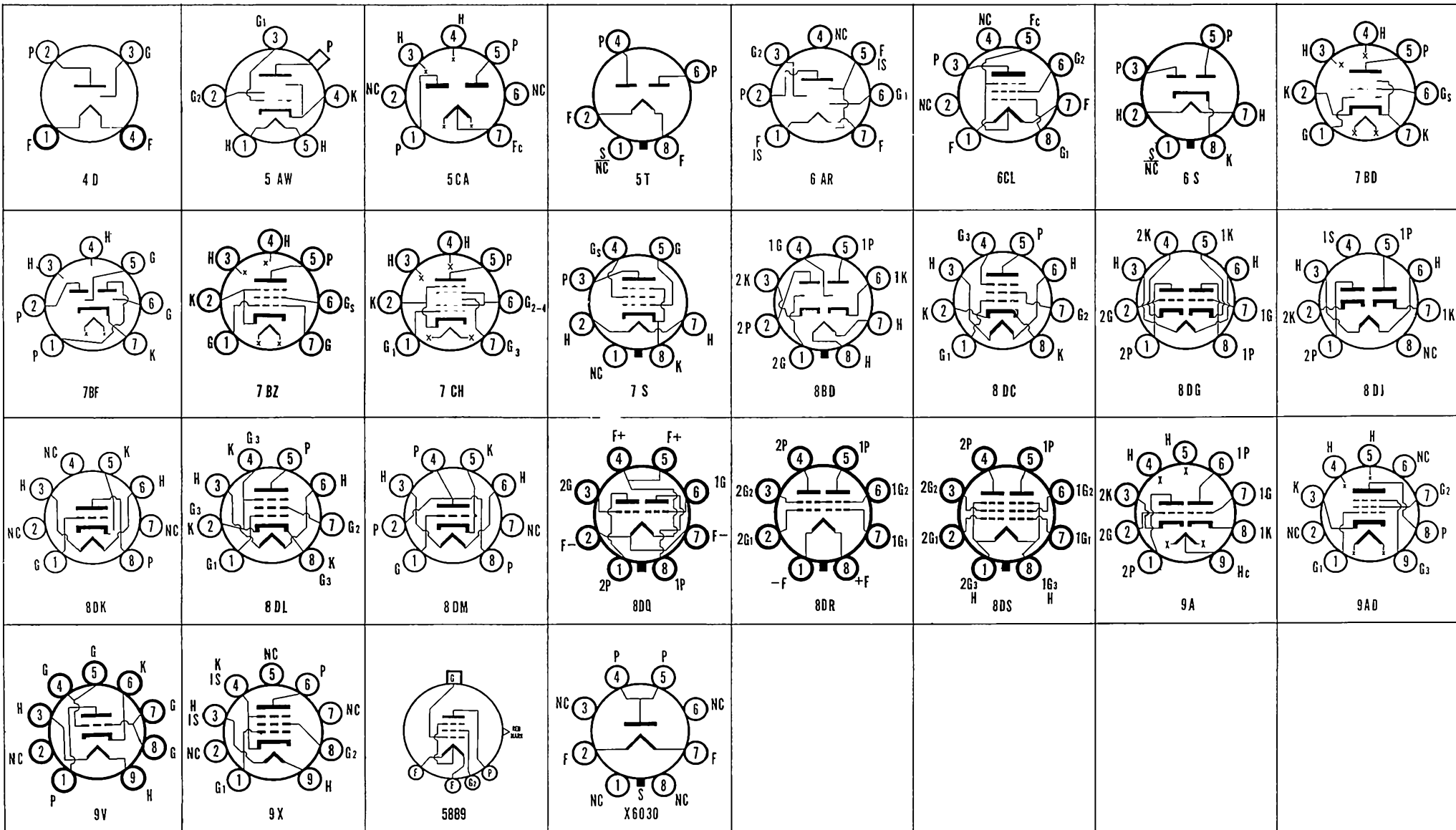
SYMBOLS FOR BASE DIAGRAMS: Dp—Dode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode, H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection, DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield, □—Top Cap, ■—Locating Key

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	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type	
	Bulb Size or Style	Class	Basing Diag.	Type	Volts	Amps.	Cgp	Cin	Couf													
5842 (3)	T-6½	Triode	9V	Cathode	6.3	0.300	0.55*	9*	18*	UHF R-F Amp	150	62 ^m		26		1 800	24 000	43		5842		
5844(3) GB-5844(3)	T-5½	Duotriode	7BF-0-0	Cathode	6.3	0.300	2.6*	2.6*	0.5*	Class A1 Amplifier #	100	470 ^m		4.8		7,550 †	3 700	28		5844 GB-5844		
5845	T-5½	Duodiode	5CA-0-0	Filament	5.0m	0.435			0.8	Control Diode	300m			2.0m						5845		
5847 (3)	T-6½	Pentode	9X-0-3 & 4	Cathode	6.3	0.300	0.4m	7.1	2.9	R-F Amp	150	110 ^m	150	13	4.5		12,500			5847		
5851	T-3	Pentode	6CL-0-0	Filament	1.25 2.50	0.110 0.055	0.055	2.5	3.0	R F Amp	125 180	7.5 7.0	125 135	5.5	0.9	175,000	1,600			650 5851		
5852 (3)	T-9	Duodiode	6S-0-0	Cathode	6.3	1.200				F-W Rect.	Characteristics Same as Type 5838										5852	
5871	T-9	Beam Pent.	7S-0-0	Cathode	6.3	0.450	0.7*	9.5*	7.5*	Power Amp	Characteristics Same as Type 6V6GT										5871	
5879	T-6½	Pentode	9AD-0-0	Cathode	6.3	0.150	0.11m*	2.7	2.4	R-F Amp	250 250	3 8	100 **	1.8	0.4	2 000,000 † 13,700	1 000 1,530			5879		
5881	T-11	Beam Pent	7S-0-0	Cathode	6.3	0.900				Power Amp	Characteristics Same as Type 6L6G										5881	
5889	T-3	Pentode	5889	Filament	1.25	7.5Ma				Amplifier	12	2.0		0.05	0.05	1.8 Meg				(For Low Grid Current Applications)	5889	
5896 (3)	T-3	Duodiode	8DJ-0-4	Cathode	6.3	0.300				F-W Rect	150 Volts RMS Per Plate, 18 Ma D-C Output Current										5896	
5897	T-3	Triode	8DK-0-0	Cathode	6.3	0.150	1.3	2.4	2.4	R-F Osc	100 150	150 ^m 180 ^m		8.5 13		4,650 4,150	5,800 6,500	27 27		5897		
5898	T-3	Triode	8DK-0-0	Cathode	6.3	0.150	0.8	1.9	2.2	Amplifier	100 150	150 ^m 680 ^m		0.73 1.85		41,000 30,500	1,700 2,300	70 70		5898		
5899 (3)	T-3	Pentode	8DL-0-0	Cathode	6.3	0.150	0.15m	4.4	3.4	R-F Amp	100	120 ^m	100	7.2	2.2	260,000	4,500			5899		
5900	T-3	Pentode	8DL-0-0	Cathode	6.3	0.150	0.15m	4.4	3.4	R-F Amp.	Characteristics Same as Type 5899.										5900	
5901	T-3	Pentode	8DL-0-0	Cathode	6.3	0.150	0.15m	4.2	3.4	R-F Amp	100	150 ^m	100	7.5	2.4	280,000	5,000			5901		
5902 (3)	T-3	Pentode	8DL-0-0	Cathode	6.3	0.450	0.2m	6.5	7.5	Power Amp	110	270 ^m	110	30	2.2	15,000	4,200			5902		
5903(3)	T-3	Duodiode	8DJ	Cathode	26.5	0.075				UHF Det	PIV = 460 Volts. PKIb = 60 Ma, Ib = 10 Ma and EHK = 360 Volts.										5903	
5904(3)	T-3	Triode	8DK	Cathode	26.5	0.045	1.8*	2.2*	0.8*	UHF Osc./ Amp.	26.5	2.2 Meg†		3.0		4 000	5 000	20		5904		
5905(3)	T-3	Pentode	8DL	Cathode	26.5	0.045	0.15	4.0	3.4	UHF Amp	26.5	2.2 Meg†	26.5	2.1	0.75	150,000	2,850			5905		
5906(3)	T-3	Pentode	8DL	Cathode	26.5	0.045	0.15	4.2	3.4	UHF Amp	100	150 ^m	100	7.5	2.4	260,000	5,000			5906		
5907(3)	T-3	Pentode	8DL	Cathode	26.5	0.045	0.15	4.0	3.4	UHF Amp	26.5	2.2 Meg†	26.5	2.7	1.1	100 000	3,000			5907		
5908(3)	T-3	Pentode	8DC	Cathode	26.5	0.045	0.6	4.0	4.6	UHF Amp	26.5	2.2 Meg†	26.5	3.3	2.0	31,000	2,200			5908		
5910 (3)	T-5½	Pentode	6AR-0-5	Filament	1.4	0.050	0.08m	3.6	7.5	R F Amp	90	0	90	1.6	0.45	1,500,000 †	900			5910		
5915 (3) 5915A (3) GB-5915A (3)	T-5½	Dual Control Heptode	7CH-0-0	Cathode	6.3	0.300	0.8* 0.35*	5.4* 6.9*	7.6*	Computer	150□ 150□ 150□	0 10.0 0	75 75 0	5.8 0 0	9.0 0 14.0		Grid No 3 Voltage = 0 Grid No 3 Voltage = 0 Grid No 3 Voltage = -10			5915 5915A GB-5915A		
5916(3)	T-3	Pentode	8DC	Cathode	26.5	0.045	0.2	4.0	3.4	Dual-Control Mixer	100	150 ^m	100	5.3	3.6	110 000	3 200			5916		
5930 (3) GB-5930(3)	T-12	Triode	4D-0-0	Filament	2.5	2 500				Power Amp	Characteristics Same as Type 2A3										5930 GB-5930	
5931 (3) GB-5931(3)	T-12	Duodiode	5T-0-0	Filament	5.0	3 000				F-W Rect	Characteristics Same as Type 5U4G										5931 GB-5931	
5932 (3) GB-5932(3)	T-12	Beam Pent	7S-0-0	Cathode	6.3	0.900				Power Amp	Characteristics Same as Type 6L6G										5932 GB-5932	
5933(3) 5933WA(3) GB-5933(3)	T-12	Beam Pent	5AW	Cathode	6.3	0.900	0.2m*	12.0*	7.0*	Power Amp.	Characteristics Same as Type 807W										5933 5933WA GB-5933	
5963 (3) GB-5963 (3)	T-6½	Duotriode	9A-0-0	Cathode	6.3 12.6	0.300 0.150	1.5* 1.5*	1.9* 1.9*	0.5* 0.35*	Computers	67.5 150	0 0		8.5 5.4		6 600 (Rb - 20,000 Ohms)	3,200	21		5963 GB-5963		
5964 (3) GB-5964 (3)	T-5½	Duotriode	7BF-0-0	Cathode	6.3	0.450	1.3*	2.1*	0.4*	Computers	100 150	50 ^m 0		9.5 5.0		6,500 (Rb = 20,000 Ohms)	6,000	39		5964 GB-5964		
5965 GB-5965 (3)	T-6½	Duotriode	9A-0-0	Cathode	6.3/ 12.6	0.450/ 0.225	3.0* 3.0*	4.0* 4.0*	0.5* 0.36*	Computer #	150	220 ^m		8.5		7 000 †	6 700	47		5965 GB-5965		
5968	T-3	Duotriode	8DQ	Filament	1.25	0.120	2.3*	0.9*	0.9*	VHF Mixer	45	0		0.7			1,300	50		5968		
5969	T-3	Duotetrode	8DR	Filament	1.25	0.200	0.3*	2.5*	2.5*	VHF Amp or VHF Osc.	135 Class A Ratings	3.0	45	6.0	0.6		1 700			5969		
5970	T-3	Duo Pentode	8DS	Filament	1.25	0.160	0.1*	3.3*	2.4*	VHF Amp	45	5 Meg†	45	3.0	0.9	170,000	1,850			5970		
5977 (3)	T-3	Triode	8DK-0-0	Cathode	6.3	0.150	1.3	2.0	2.2	Amplifier	100	270 ^m		10.0		3,650	4,500	16		5977		
5987 (3)	T-3	Triode	8DM-0-0	Cathode	6.3	0.450	3.2	3.2	5.0	Amplifier	100	18		9.0		1,850		4.1		5987		
6004	T-9	Duodiode	5T-0-0	Filament	5.0	2 000				F-W Rect.	375 Volts RMS Per Plate, 120 Ma D-C Output Condenser Input to Filter										6004	
6005 (3) GB-6005 (3) 6005/6AQ5W/6095(3) 6005/6AQ5W (3)	T-5½	Beam Pent	7BZ-0-0	Cathode	6.3	0.450				ST Class A1 ST Class A1 P.P Class AB1	180 250 250	8.5 12.5 15	180 250 250	29 45 70.79†	3.0 4.5 5.13†	58 000 52 000	3 700 4,100			5 500 5,000 10 000†	2 000 4,500 10,000	6005 GB-6005 6005/6AQ5W/6095 6005/6AQ5W
6021 (3)	T-3	Duotriode	8DG-0-0	Cathode	6.3	0.300	1.4	2.1		J-H-F Amp. #	100	150 ^m		6.5		6 480 †	5 400	35		Couf Sec 1 = 1.3 μf	6021	
6028	T-5½	Pentode	7BD	Cathode	20	0.050	0.2	4.0	2.8	Amplifier	120	180 ^m	120	7.5	2.5	300,000	5,000			6028		
X6030	Lock-in	Diode	X6030	Filament	3.0m	0.600				Noise Diode	90 250 1400			4.0m 3.0m 535m						X6030		

6045	T-5½	Duotriode	7BF-0-0	Cathode	6.3	0.350	1 3* 1 3*	2 0* 2 0*	0.45* 0.34*	VHF Amp	100 Cout Sec. 1 = 0 45 μμf	50 #	9 0	5.940 †	6.400	38	Cathodes Tied Together	6045	
6049 (3)	T-3	Pentode	8DL-0-0	Cathode	6.3	0.150	009m	3 6		UHF Amp.	100	150 #	100	7 5	2.5	400,000	3.550	6049	
6052 (3)	T-3	Duotriode	8DJ-0-4	Cathode	6.3	0.300				Detector	150 Volts RMS Per Plate 18 Ma D-C Output. Condenser Input to Filter							6052	
6053 (3)	T-3	Duotriode	8DJ-0-4	Cathode	26.5	0.075				Detector	150 Volts RMS Per Plate 18 Ma D C Output. Condenser Input to Filter							6053	
6055 (3)	T-3	Triode	8DK-0-0	Cathode	26.5	0.045	1 8*	2 2*	0.8*	Amplifier	26.5	Self	3 0			5 000	19.	(Rg1 = 2.2 Megs.)	6055
6056 (3)	T-3	Pentode	8DL-0-0	Cathode	26.5	0.045	015m	4.0	3 4	Amplifier	26.5	Self	26.5	2 7	1 1	100 000	3 000	(Rg1 = 2.2 Megs.)	6056
6080	T-12	Duotriode	8BD	Cathode	6.3	2.500	8*	6*	2.2*	Passing Tube For V R. Service	135	250 #		125 #		280	7 000	2	6080

(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics. † Per Tube or Section
(2) Converter tube capacitances given are signal grid to plate. RF Input, Mixer Output. ‡ Plate and Target Supply Voltage. § Applied through 20,000 ohms.
X Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater) (4) Average Contact potential bias developed across specified grid resistor †† Maximum Signal ‡‡ Conversion Transconductance.
††† Plate to Plate †††† Approximate. m maximum Cathode Resistor (ohms).
* Triode Operation.



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield □—Top Cap, ■—Locating Key

SYLVANIA TUBES — AVERAGE CHARACTERISTICS

Type	Construction			Emitter			Note (1) (2) Capacitances in $\mu\text{f.}$			Use	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma	Screen Current Ma	Plate Resistance Ohms	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps.	Cgp	Cin	Coil												
6080WA	T-12	Duo Power Triode	8BD	Cathode	6.3	2.500	8.4*	6.2*	2.2*	Passing Tube For V.R. Service	135	250 ^m		125 ^f			7,100	2.0			6080WA
6082A	T-12	Duo Power Triode	8BD	Cathode	26.5	0.600				Power Amp #	135	250 ^m		125		280	7,000	2		13 Watts Plate Dissipation	6082A
6097	T-5½	Duodiode	6BT	Cathode	6.3	0.300				F-W Rect	Characteristics Same as Type 5726/6AL5W										6097
6101(3) GB-6101	T-5½	Duotriode	7BF	Cathode	6.3	0.450	1.3*	2.1*	0.45*	VHF Osc./Amp.	Characteristics Same as Type 6J6.										6101 GB-6101
6110 (3)	T-3	Duodiode	8DJ	Cathode	6.3	0.150				UHF Det	Peak Inverse Voltage = 460 Volts Peak Anode Current = 26.4 Ma. Per Plate.										6110
6111 (3)	T-3	Duotriode	8DG	Cathode	6.3	0.300	1.5	1.9	0.28 0.32	Med. Mu Amp.	100	220 ^m		8.5		4,200	4,750	20			6111
6112 (3)	T-3	Duotriode	8DG	Cathode	6.3	0.300	1.0	1.7	0.23 0.28	High Mu Amp.	100	1500 ^m 820 ^m		0.8 1.75		38,900 28,000	1,800 2,500	70 70			6112
6118 (3)	Metal	Duodiode Tri.	7V-1-1	Cathode	6.3	0.300	1.4	5.0	3.8	Det. Amp.	100 150 250	1.0 3.0		0.8 1.0		58,000 58,000	1,200 1,200	70 70			6118
6135(3) GB-6135(3)	T-5½	Triode	6BG	Cathode	6.3	0.170	1.6*	1.5*	0.65*	VHF Osc./Amp.	Characteristics Same as Type 6C4.										6135 GB-6135
6145 GB-6145(3)	T-9	Pentode	8V-0-5	Cathode	6.3	0.600	0.6m	14.0	7.5	Computer	150	0	100	34	8.0	0.1 Meg	9,700				6145 GB-6145
6146	T-12	Beam Pent.	7CK-8-1, 4, 6	Cathode	6.3	1.250	0.24*	15.9*	10.6*	P.P.AB1 Amp. P.P.AB1 Amp. P.P.AB2 Amp	600 500 600	45 44 44	180 175 165	26-200† 27-242† 22-207†	1-23† 0.7-18† 0.6-17†	(Current and Output for Two Tubes) (Current and Output for Two Tubes)		7.000† 4.600† 6.800†	82,000 † 83,000 90,000		6146
6147	T-3	Power Pent.	6CL	Filament	1.25	0.125	0.55	2.6	3.0	VHF Power Amplifier	125	7.5	125	5.5	0.9	175,000	1,600				6147
6186(3) 6186/GAG5WA (3) GB-6186(3)	T-5½	Pentode	7BD	Cathode	6.3	0.300	0.25m*	6.1*	2.3*	VHF Amp	Characteristics Same as Type 6AG5										6186 6186/GAG5WA GB-6186
6189(3) 6189/12AU7WA (3) GB-6189 (3)	T-6½	Duotriode	9A	Cathode	6.3 12.6	0.300 0.150	1.5* 1.5*	1.6* 1.6*	0.4* 0.32*	Osc./Amp	Characteristics Same as Type 12AU7										6189 6189/12AU7WA GB-6189
6201(3) GB-6201(3)	T-6½	Duotriode	9A	Cathode	6.3 12.6	0.300 0.150	1.6* 1.6*	2.5* 2.5*	0.45* 0.38*	VHF Amp.	Characteristics Same as Type 12AT7.										6201 GB-6201
6205 (3)	T-3	Pentode	8DC-0-2&8	Cathode	6.3	0.150	0.15	4.2	3.4	U-H-F Amp	100	150 ^m	100	7.5	2.4	0.26 Meg	5,000				6205
6206 (3)	T-3	Pentode	8DC	Cathode	6.3	0.150	0.15	4.2	3.4	U-H-F Amp	100	120 ^m	100	7.5	2.0	0.26 Meg	4,500	Semi-Remote Cutoff			6206
6287 (3)	T-6½	Beam Pent.	9CT-0-0	Cathode	6.3	0.600	1.1m	8.0	9.0	Audio Amp.	250	12.5	250	46	5.0	55,000	4,100		6,000	4,500	6287
6308 (3)	T-3	Gas Diode	8EX-0-0	Cold K						Voltage Regulator with Starting Voltage at 115 Volts, Operating Voltage at 87 Volts and Current at 3.5 Ma. Max											6308
6336A	TT-16	Duo Power Triode	8BD	Cathode	6.3	5.000	21.8*	16.7*	3.8*	Passing Tube For V.R. Service	190 200 ^m RK = 200 Ohm Per Section, RG = 500 Ohm Per Section.	182 ^f		300 †		13,500	2.7		30 Watts Plate Dissipation†		6336A
6350 (3) GB-6350 (3)	T-6½	Duotriode	9CZ-0-0	Cathode	6.3 12.6	0.600 0.300	3.2*	3.6*	0.6*	Computer #	150	5.0		11.0		3,900	4,600	18			6350 GB-6350
6352 (3)	T-3	Duodiode	8EY-0-0	Filament	3.0 Series	0.360 Series				Regulator	Temperature Limited Diode. Max. Ef. = 4.0 Max. Eb. = 275. Max. Ib. = 1.1 Ma.										6352
6394A	TT-16	Duo Power Triode	8BD	Cathode	26.5	1.300	21.8*	16.7*	3.8*	Passing Tube For V.R. Service	Characteristics Same as Type 6336A.										6394A
6463	T-6½	Duotriode	9CZ-0-0	Cathode	6.3 12.6	0.600 0.300	5.0* 5.0*	3.0* 3.0*	0.6* 0.5*	Computer #	200 250	11.0 620 ^m		1.0 14.5		3850 †	5200	20			6463
6486A	T-6½	Pentode	9DV	Cathode	6.3	0.250	0.4	4.4	3.7	Dual Control Pentode	120	2	120	3.5	3.3	3,250					6486A
6516	T-5½	Beam Pent.	6CH	Cathode	6.3	0.200	0.3m	4.25	6.5	VHF/AF Power Amp.	250	13.5	250	16.0	2.25	150,000	2,550		16,000	1,400	6516
6520	T-16	Duo Power Triode	8BD	Cathode	6.3	2.500	9.4*	8.4*	2.2*	Passing Tube for V.R. Serv	Characteristics Same as Type 6A57G										6520
6528	ST-16	Duo Power Triode	8BD	Cathode	6.3	5.000	23.8*	17.8*	2.9*	Passing Tube For V.R. Service	100	4		185		245	37,000	9			6528
6550	ST-16	Beam Pent	7S-0-0	Cathode	6.3	1.600	0.85*	14.0*	12.0*	S.T.A1 Amp. P.P.AB1 Amp.	400 600	16.5 33	225 300	87.0 100-280†	4.0 3-33†	27,000 (Current and Output for Two Tubes)		3,000 5,000	20,000 100,000		6550
6582A	T-6½	Pentode	9EJ	Cathode	6.3	0.250	0.3	4.5	3.0	R-F Pent	120	180 ^m	120	7.5	2.5	.5 Meg. †	4,500				6582A
6626	T-5½	Gas Diode	5BO-0-0	Cold K						Voltage Reg.	Starting Voltage = 165. Operating Voltage = 148. Operating Current = 5 to 30 Ma.										6626
6627	T-5½	Gas Diode	5BO-0-0	Cold K						Voltage Reg.	Starting Voltage = 130. Operating Voltage = 108. Operating Current = 5 to 30 Ma.										6627
6690 (3)	T-3	Duotriode	8GQ-0-0	Cathode	6.3	0.300	2.1m 2.1m	3.2m 3.2m	1.8m 2.2m	Video Amp. #	100	100 ^m		8.0		4,800	35				6690
6788 (3)	T-3	Pentode	8DL	Cathode	6.3	0.175	.032	2.4	3.3	Audio Amp.	100	1500 ^m	100	0.7	0.1	1.2 Meg.	1,100				6788
6814 (3)	T-3	Triode	8DK	Cathode	6.3	0.150	1.3	2.4	2.4	Computer	100	0		10		4,800	6,000	29			6814
6832	T-3	Duotriode	8DG	Cathode	6.3	0.400				D.C. Amp	100	3000 ^m		0.8		1,050					6832
6840	T-6½	Duotriode	9CZ	Cathode	12.6 6.3	0.400 0.800	5.5* 5.5*	4.0* 4.0*	0.7* 0.7*	Computer	250	620 ^m		14		3,400	7,100	20			6840
6851	T-6½	Duotriode	9A	Cathode	6.3	0.250	1.4* 1.4*	1.6* 1.6*	0.46* 0.36*	Amplifier #	250	3100 ^m		1.0		60,000	1,200	70			6851

6854	T 6½	Duotriode	9FV	Cathode	6.3	0.500	1.7* 1.7*	2.4* 2.4*	1.1* 1.1*	Amplifier	150	240	8.2	6.500	5.225	35	6854
6870	T 6½	Beam Pent.	98F	Cathode	6.3	0.600	0.025m	8.5*	7.0*	VHF Power Amp	250	120	25.0	3.5	230	8.500	6870
6877	T 6½	Power Triode	9GB	Cathode	6.3	0.800				Power Amp	150	12	75	2.000	6.500	3.75	12.000
6883 GB-6883(3)	T 12	Beam Pent.	7CK-8-1.4.6	Cathode	12.6	0.625	0.24*	13.5*	8.5*	Power Amp.	Characteristics Same as Type 6146.						6883 GB-6883
6893	T 9	Beam Pent.	7CK-8-1.4.6	Cathode	12.6	0.400	0.2*	12.5*	7.0*	Power Amp.	Characteristics Same as Type 2E26.						6893
6900	T 6½	Duotriode	6900	Cathode	6.3	1.000	4.0* 4.0*	6.5* 6.5*	0.8* 0.6*	Pulse Amp	120	2	36	1.700	11.500	18.5	6900
6913	T 6½	Duotriode	9A-0-0	Cathode	12.6	0.300	3.4*	3.6*	0.5*	Computer	150	5.0	11.0	3.900	4.600	18	6913

(1) Values are given shielded unless marked with (*). (3) Has special mechanical and/or life characteristics.

(2) Converter tube capacitances given are signal grid to plate; RF Input Mixer Output

(4) Average Contact potential bias developed across specified grid resistor

† Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater)

‡ Per Tube or Section
§ Plate and Target Supply Voltage.
† Maximum Signal

□ Applied through 20 000 ohms.

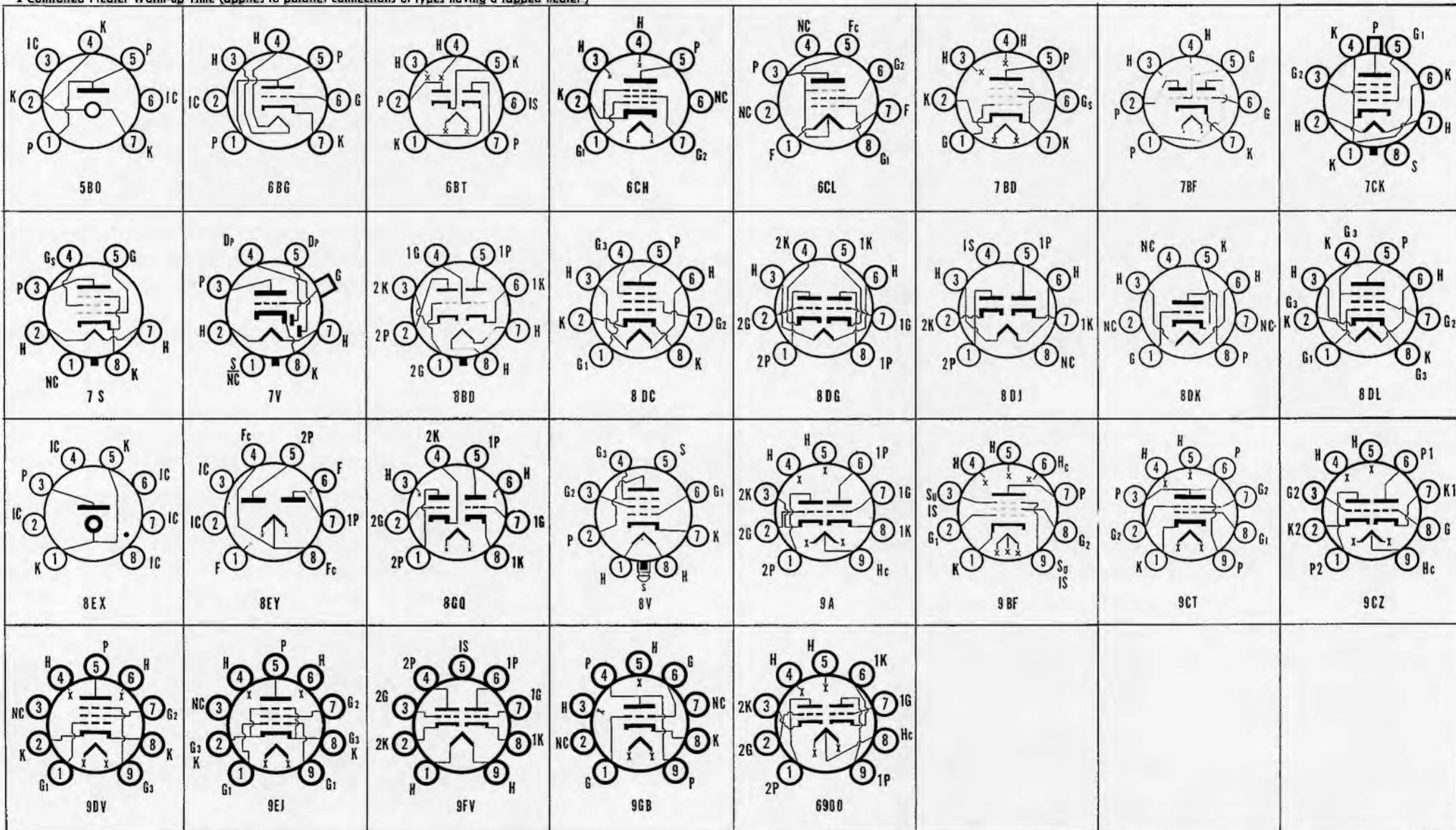
▲ Conversion Transconductance

** Triode Operation

†† Plate to Plate

‡ Approximate

m maximum
‡ Cathode Resistor
(ohms)



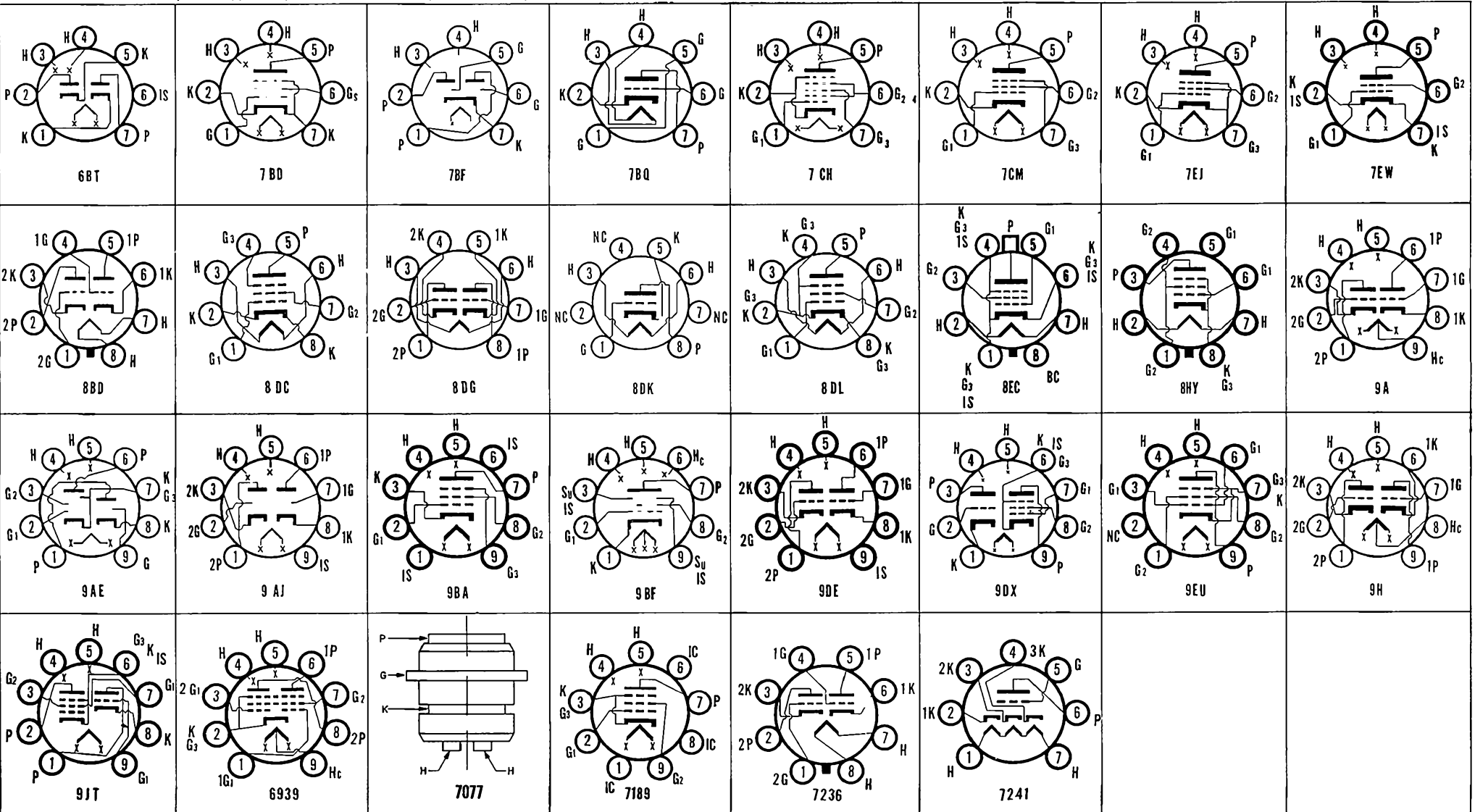
SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode, H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection, DO NOT USE J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield, □—Top Cap, ■—Locating Key.

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	Transcon- ductance Micromhos	Ampli- fication Factor	Ohms Load for Stated Power Output	Power Output Milli- watts	Type	
	Bulb Size or Style	Class	Basing Diag	Type	Volts	Amps	Cgp	Cin	Cout													
6919	T-5½	Duodiode	6BT	Cathode	6.3	0.200				F.W Rect Computer	Maximum Inverse Peak Plate Voltage = 300 Volts Maximum D.C. Output Current = 10 Ma (Design Max Values) Maximum Peak Plate Current = 30 Ma										6919	
6922	T-6½	Duotriode	9DE	Cathode	6.3	0.300	1.4* 1.4*	3.3* 3.3*	1.75* 1.65*	VHF Amp	90	120 ^m		12		2 800	11 500	33			6922	
6939	T-6½	Duotetrode	6939	Cathode	6.3	0.600 0.300	0.15* 0.15*	6.4* 6.4*	1.6* 1.6*	P.P.A1 Amp P.P.A1 Amp	150 200	3.5 3.5	150 150	27-31.6 28-31.6	3.6 6.15	7 000 7 500			10 560 17,400	1,750 2,660	6939	
6943 (3)	T-3	Pentode	8DC	Cathode	6.3	0.175	0.15	3.0	3.0	R-F Amp	100	150 ^m	100	8	2.3	300,000	3,600				6943	
6944 (3)	T-3	Pentode	8DC	Cathode	6.3	0.175	0.15	2.9	3.1	R-F Amp	100	150 ^m	100	7	2.1	280,000	3,200				6944	
6945 (3)	T-3	Beam Pent.	8DL	Cathode	6.3	0.350	0.13	5.0	5.5	Power Amp.	100	270 ^m	100	25	1.5	20,000	3,500		3,000	800	6945	
6946 (3)	T-3	Triode	8DK	Cathode	6.3	0.175	1.0*	1.6*	0.75*	Amplifier	100	270 ^m		9.0			3,800	16.5			6946	
6947 (3)	T-3	Duotriode	8DG	Cathode	6.3	0.350	1.2* 1.2*	1.6* 1.6*	0.2* 0.25*	Amplifier	150	270 ^m		6.5			4,000	35			6947	
6948 (3)	T-3	Duotriode	8DG	Cathode	6.3	0.350	0.75* 0.75*	1.6* 1.6*	0.2* 0.25*	Amplifier	100	1500 ^m		0.8			1 650	70			6948	
6954	T-5½	Pentode	7CM	Cathode	6.3	0.300	0.035m*	6.0*	5.0*	Dual-Control Computer	150	1.0	150	5.8	6.6	50 000	2 050		Grid No 3 = -3.0 Volts		6954	
6955	T-6½	Duotriode	9A	Cathode	6.3 12.6	0.350 0.175	1.4* 1.4*	1.5* 1.5*	0.5* 0.4*	Amplifier	100 250	0 8.5		13.0 11.5		5 800 [†] 7,000 [†]	3,500 2,350	21.3 16.5			6955	
6968	T-5½	Pentode	7BD	Cathode	6.3	0.175	0.2	4.0	2.85	VHF Amp	Characteristics Same as Type 6AK5										6968	
6973	T-6½	Beam Pent	9EU	Cathode	6.3I	0.450	0.4	6	6	ST A1 Amp P.P. AB1 Amp. P.P. AB1 Amp.	250 300 350	15 230 ^m 22	250 300 280	46 80-96 [†] 58-106 [†]	3.5 6.14 [†] 3.5-14 [†]	73,000	4 800		5 500 7,500	15 000 [†] 20,000 [†]	6973	
7001	T 5½	Beam Tetrode	7EJ	Cathode	6.3	0.450	0.1m	7.0	8.75	Power Amp.	120	250 ^m	120	35	4		4 800				7001	
7025	T-6½	Duotriode	9A	Cathode	12.6 6.3	0.150 0.300	1.7* 1.7*	1.6* 1.6*	0.46 0.34*	Audio Amplifier	Characteristics Same as Type 12AX7 except Controlled for Noise and Hum										7025	
7027 7027A	T-12	Beam Pent.	8HY	Cathode	6.3	0.900	1.5*	10*	7.5*	P.P AB1 Amp	330 400 450 400 380 410	24 25 30 200 ^m 180 ^m 220 ^m	330 300 350 300 380 410	122 184 [†] 102 152 [†] 95 194 [†] 112 128 [†] 138 170 [†] 134 155 [†]	5 6-18 5 [†] 6 17 [†] 3 4-19 2 [†] 7 16 [†] 5 6-20 [†] (Cathode Current) Ultra-Linear Circuit			4 500 [†] 6 600 [†] 6 000 [†] 6 600 [†] 4,500 [†] 8,000 [†]	31 500 34 000 50 000 32 000 36 000 24,000	7027 7027A		
7032	T-5½	Heptode	7CH	Cathode	6.3	0.300	0.5 35	5.8 8.0	12.5	Computer	150 150 150 150	6 [†] +3=0 6 [†] +3=0 6.0 0	75 75 75 75	3.5 3.5 <0.1 <0.1	6.0 6.0 <0.3 8.8	G ² +1=470K G ² +1=470K G ² +1=470K G ² +1=470K	1 400 650 G ³ = 0 Volts G ³ = -6 Volts				7032	
7036	T-5½	Heptode	7CH	Cathode	6.3	0.300	0.8* 35*	5.4* 6.9*	7.6*	Dual Control Computer	Characteristics Same as Type 5915A										7036	
7044 GB-7044 (3)	T 6½	Duotriode	9H	Cathode	6.3 12.6	0.900 0.450	6.0 6.0	4.8 4.8	0.65 0.55	Computer	120	2.0		36		1,900	10 000	19			7044 GB 7044	
7054	T-6½	Power Pent	9BF	Cathode	13.5	0.275	0.63	10.2	3.5	ST A1 Amp Class "C" Amp	250 300	120 ^m 12	150 175	19 26	3.5 5.5	100 000 Peak R-F (Ec1) = 16 Volts, IC2 = 1 Ma Driving Power = 15 MW.	11,500		4 000		7054	
7055	T-5½	Duodiode	6BT	Cathode	13.5	0.155	3.2	3.6	0.26	Detector	117 A C Volts Per Plate, R.M.S. 9 Ma Output Current 300 Ohms Min Effective Plate Supply Impedance										7055	
7056	T-5½	Pentode	7CM	Cathode	13.5	0.150	0.1m	6.5	3	VHF Amp	200	180 ^m	150	9.5	2.8	600,000	6,200				7056	
7057	T-6½	Duotriode	9AJ	Cathode	13.5	0.180	1.2	2.6	1.2	VHF Amp	150	220 ^m		10		5,300	6,800	36			7057	
7058	T-6½	Duotriode	9A	Cathode	13.5	0.155	1.7* 1.7*	1.6* 1.6*	0.46* 0.34*	A-F Amp	250	2		1.25		61 000	1 650	100			7058	
7059	T-6½	Tri Pentode	9AE	Cathode	13.5	0.195	1.7 0.06m	2.7 5.0	1.0 3.4	VHF Osc VHF Amp	150 250	56 ^m 68 ^m	110	18 10	3.5	4 700 400,000	8,500 5,200	40			7059	
7060	T-6½	Tri Pentode	9DX	Cathode	13.5	0.280	2.2 0.44	2.4 7.1	0.22 2.5	Tri Amp Pent Amp	150 200	150 ^m 82 ^m	125	9 15	3.4	8 200 150,000	4 900 7,000	40			7060	
7061	T-6½	Beam Pent	9EU	Cathode	13.5	0.210	0.7m*	8*	8.5*	ST.A1 Amp	200	10	200	35.5	9	60 000	4,200		5,000	3,000	7061	
7077	Ceramic and Metal	Triode	7077	Cathode	6.3	0.240	1.0*	1.9*	10*	UHF R-F Amp	250	82 ^m		6.4		8 900	9,000	80			7077	
7105	T-12	Duo Power Triode	8BD	Cathode	12.6	1.250	8.4*	6.2*	2.2*	Passing Tube For V R Service	Characteristics Same as Type 6080WA										7105	
7119	T-6½	Duotriode	9H	Cathode	6.3 12.6	0.640 0.320	3.9 4.0	5.8 5.8	1.1 1.0	Computer	120 150	2.0 14		36 0.2			15,000	24				7119
7137 GB 7137 (3)	T-5½	Triode	7BQ	Cathode	6.3	0.225	1.7	6.0	4.5	VHF Amp	150	100 ^m		13.5		8 500	40				7137 GB-7137	
7167	T-5½	Tetrode	7EW	Cathode	13.5	0.090	0.3m	4.4	2.74	VHF Amp	250	1.0	80	10	1.4	125 000	8 000				7167	
7189	T-6½	Beam Pent	7189	Cathode	6.3	0.760	0.5*	10.8*	6.5*	ST.A1 Amp P.P. AB1 Amp. P.P. AB1 Amp.	250 400 375	7.3 15 220 ^m	250 300 375	48 15-105 [†] 75-81 [†]	5.5 1.6-25 [†] (Cathode Current) (Ultra-Linear Conn.)	40 000	11,300	19.5 (G ¹ to G ²)		24 000 16 500		7189
7199	T-6½	Tri Pentode	9JT	Cathode	6.3	0.450	2.0* 0.6*	2.3* 5*	0.3* 2*	A-F Tri Amp A-F Pent Amp	215 100 220	8.5 1000 ^m 62 ^m	50 130	9 1.1 12.5	0.35 3.5	8,100 1 Meg 0.4 Meg	2,100 1,500 7 000	17			7199	

7212	T 12	Beam Pent	8EC	Cathode	6.3	1 250	0.24m*	13 5*	8 5*	P P AB1 Amp. P P AB1 Amp. P P AB2 Amp	600 500 600	45 40 44	180 185 165	26-200† 57 215† 22 207†	1 23† 2-25† 0.6-17†				7,000 5 500 6 800	82,000 70,000 90,000	7212
7227	T 6½	Pentode	9BA	Cathode	27 5	0.175	0.35m*	12.5*	7 5*	Power Amp.	27 5	2.5	27 5	11	1 1	8,000	5 500	4		70	7227
7236	T 12	Duotrode	7236	Cathode	6.3	2.400	10*	9 0*	3 3*	Passing Tube For V R Serv	120	14		100		12 500	4.8		15 Watts Plate Dissipation	7236	
7241	TT 18	Trode	7241	Cathode	6.3	7 500				Passing Tube For V R Serv	190	200 #		550		67	40,000	2 7	100 Watts Plate Dissipation	7241	
7242	TT 18	Triode	7241	Cathode	6.3	7 500				Passing Tube For V R Serv	100	4 RG = 500 Ohms		555		82	111 000	9 0	100 Watts Plate Dissipation	7242	
7244	T 5½	Duotrode	7BF	Cathode	6.3	0.450	1 4* 1 4*	3 0* 3 0*	0 34* 0 28*	Amplifier	100	50 #		9 0		6 300	6 000	38		7244	
7244A										(Frame-Grid Construction).										7244A	
7245	T 5½	Trode	7BQ	Cathode	6.3	0.400	2.8*	9 5*	3 0*	Amplifier	150	100 #		13 5		4 500	11 000	50		7245	

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate. RF Input. Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. † Per Tube or Section. ‡ Plate and Target Supply Voltage. † Maximum Signal. □ Applied through 20 000 ohms. ▲ Conversion Transconductance. ** Triode Operation. †† Plate to Plate. ††† Approximate. # maximum Cathode Resistor (ohms).



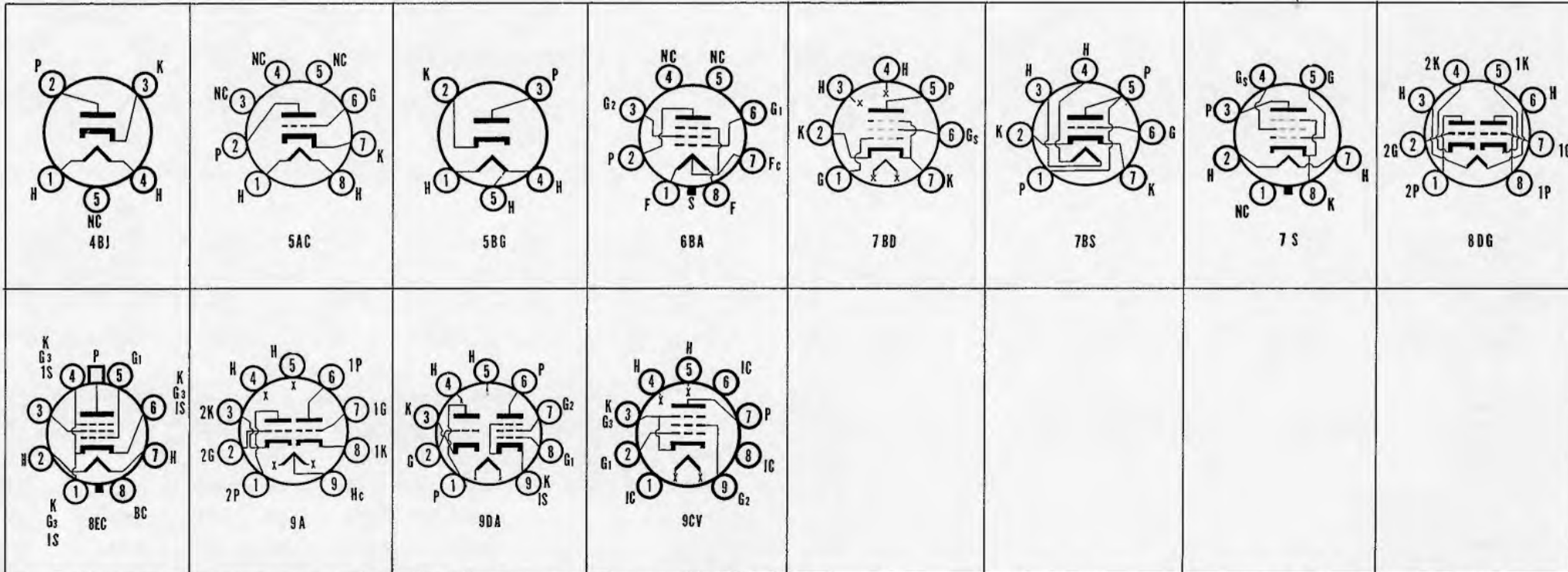
SYMBOLS FOR BASE DIAGRAMS: Dp—Drode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode; H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell SA—Starter Anode, T—Target XS—External Shield □—Top Cap ■—Locating Key

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	Transconductance Micromhos	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts	Type		
	Bulb Size or Style	Class	Biasing Diag.	Type	Volts	Amps	Cgp	Cin	Cout														
7258	T-6½	Tri. Pentode	9DA	Cathode	13.5	0.210	1.5* 0.4*	2.0* 7.0*	0.26* 2.4*	Tri. Amp. Pent. Amp.	150 125 (Designed for Mobile Operation)	3 56 \square 125	15 12	3.8	4,700 170,000	4,500 7,800	21				7258		
7318	T-6½	Duotriode	9A	Cathode	6.3 12.6	0.350 0.175	1.4* 1.4*	1.5* 1.5*	0.5* 0.5*	Pulse Amp.	100 250	0 8.5	13 11.5		5,800 7,000	3,500 2,350	21.3 16.5				7318		
7320	T-6½	Beam Pent	9CV	Cathode	6.3	0.760	0.5*	9.6*	6*	Power Amp.	Characteristics Same as Type EL84										7320		
7327(3)	T-3	Duotriode	8DG	Cathode	6.3	0.300	1.5* 1.5*	1.9* 1.9*	0.28* 0.32*	Pulse Amp. Blocking Osc.	150	25	Pulse Applied to Grid = 40 Volts at $T_p = 10 \mu\text{sec}$, $P_{rr} = 1,000 \text{ Pps}$, $T_r = 0.2 \mu\text{sec}$ Max. $T_f = 0.2 \mu\text{sec}$ Max. —PEAK Plate Current = 400 Ma Min.										7327
7358	T-12	Pentode	8EC	Cathode	6.3	1.250	0.24m*	13*	8.5*	Pulse Mod.	200 3000	175	200 300	100 15	4	7,000	4,200 (G2 to G1)	IC1 = 2.5 Ma, RL = 100 Watts 1500 Ohm Non Ind. Res.			7358		
7408	T-9	Beam Pent	7S	Cathode	6.3	0.450	0.7*	9.0*	7.5*	A-F Pwr. Amp.	Characteristics Same as Type 6V6GT										7408		
7550(3)	T-3	Duotriode	8DG	Cathode	6.3	0.525				Pulse Amp. Blocking Osc.	300	30	Pulse Applied to Grid = 40 Volts at $T_p = 10 \mu\text{sec}$, $P_{rr} = 1,000 \text{ Pps}$, $T_r = 0.2 \mu\text{sec}$ Max. $T_f = 0.2 \mu\text{sec}$ Max. —PEAK Plate Current = 1,600 Ma Min.										7550
9001	T-5½	Pentode	7BD-0.7	Cathode	6.3	0.150	0.1	3.6	3.0	R-F Amp.	950	3.0	100	9.0	0.7	1 Meg	1,400				9001		
9002	T-5½	Triode	7BS-0.0	Cathode	6.3	0.150	1.4	1.2	1.1	Amplifier	250	7.0		6.3		11,400	2,200	25			9002		
9003	T-5½	Pentode	7BD-0.7	Cathode	6.3	0.150	.01m	3.6	3.0	R-F Amp.	250	3.0	100	6.7	2.7	700,000	1,800				9003		
9004	Acorn	Diode	4BJ-0.0	Cathode	6.3	0.150				H W Rect.	117 Volts RMS Plate, 5 Ma. D-C Output										9004		
9005	Acorn	Diode	5BG-0.0	Cathode	6.3	0.150				H W Rect.	117 Volts RMS Plate, 1.0 Ma. D-C Output										9005		
9006	T-5½	Diode	6BH-0.0	Cathode	6.3	0.150				H W Rect.	270 Volts RMS Plate, 5 Ma. D-C Output										9006		
XXD	Now Listed as 14AF7/XXD																			XXD			
XXFM	Now Known as Type 7X7																			XXFM			
XXL	Lack-in	Triode	5AC-L-0	Cathode	6.3	0.300				Amplifier	100 250	0.0 8.0		10.0 8.0		7,000 8,700	3,600 2,300	25 20			XXL		

(1) Values are given shielded unless marked with (*). (2) Converter tube capacitances given are signal grid to plate; RF Input, Mixer Output. (3) Has special mechanical and/or life characteristics. (4) Average Contact potential bias developed across specified grid resistor. $\#$ Per Tube or Section. \S Plate and Target Supply Voltage. \uparrow Maximum Signal. \square Applied through 20,000 ohms. \blacktriangle Conversion Transconductance. \square Triode Operation. \uparrow Plate to Plate. \blacklozenge Approximate. m maximum Cathode Resistor (ohms).

I Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)



SYMBOLS FOR BASE DIAGRAMS: Dp—Diode Plate, F—Filament, Fc—Filament Center, G—Grids numbered according to their position from the cathode, H—Heater, Hc—Heater Center, Ht—Heater Tap, IC—Internal Connection, DO NOT USE, J—Jumper, K—Cathode, NC—No Connection, P—Plate, Rc—Ray Control, S—Metal Shell, SA—Starter Anode, T—Target, XS—External Shield, \square —Top Cap, \blacksquare —Locating Key.

RESISTANCE COUPLED AMPLIFIER DATA

SYMBOLS USED

INDEX

TYPE	TABLE	TYPE	TABLE
5AV8	B C	12AV7	Q
5B8	B C	12AY7	R
6AB4	A	12AZ7A	A
6AN8 6AN8A 5AN8	B C	12DM7	G
6AQ6	D	12DT7	G
6AS8 5AS8	C	12DT8	A
6AT6 12AT6	D	13D2	K
6AU6 6AU6A 3AU6	F	18FY6	F
4AU6 12AU6	E	1273	M
6AV6 3AV6 12AV6	F	1280	M
6AX7 12AX7	G	1620	M
6AX8	H I	5691	N
6BE8 5BE8	H I	5693	O
6BF6 12BF6	J	5751	O
6B8	K	6072	R
6BR8 6BR8A 5BR8	H I	6118	D
6BT8 5BT8	C	6135	L
6BY8	E	6136	E
6C4	L	6180	K
6CG7 8CG7	K	6201	A
6CH8	B C	6320	N
6CN7 8CN7	D	6321	K
6CU8	B C	6679	A
6F5 6F5GT 12F5GT	F	6680	L
6J5 6J5GT 12J5 12J5GT	K	6681	G
6J7 6J7GT, 12J7GT 12J7	M	7025	G
6Q7 6Q7GT 12Q7GT	D	7058	G
6R7	J	7059	H I
6SF5 6SF5GT 12SF5,	F	7258	B C
12SF5GT	F	7543	E
6SH7 12SH7	E	B36	K
6SJ7 6SJ7GT, 12SJ7,	O	B65	K
12SJ7GT	N	B152	A
6SL7GT 12SL7GT	N	B309	A
6SN7GTB 8SN7NTB	K	B329	L
12SN7GTA	K	B339	D
6SQ7, 6SQ7GT, 12SQ7,	P	DH77	D
12SQ7GT	J	EABC80.	D
6SR7, 12SR7	J	EBC90	D
6ST7,	J	EBC91	F
6T8A 5T8 19T8	D	ECC81	A
6U8, 6U8A, 5U8, 9U8A	H I	ECC82	A
7A4, 14A4.	K	ECC83	G
7B4	F	EC90.	L
7B6, 14B6	P	EC92	A
7C7, 14C7	M	HBC90	D
7E6 14E6	J	HBC91	F
7F7, 14F7.	N	H63	F
7K7	N	L63	K
7N7, 14N7	K	L77	L
12AT7	A	12AU7, 12AU7A, 9AU7,	L
12AU7, 12AU7A, 9AU7,	L	7AU7,	L

SYMBOLS USED

Symbol	Function	Unit
Rb	Plate Load Resistor	Megohms
Rc2	Screen Dropping Resistor	Megohms
Rcf	Grid Resistor of following Tube	Megohms
Ebb	Plate Supply Voltage	Volts
Eb	Plate Voltage at Plate	Volts
Ec or Ecl	Grid to Neg. Fil. Voltage	Volts
Ec2	Screen Grid Voltage	Volts
Esig	Input Signal	RMS Volts
Eout	Output to following Grid	RMS Volts
Ib	Plate Current	Ma
Ic2	Screen Grid Current	Ma
Cc	Coupling Condenser	mfd
Cc2	Screen By-pass Condenser	mfd

Values of capacity are not specified since these are dependent mostly on the frequency characteristic required in each individual case.

For low frequency limit = f_1

$$C_c = \frac{1.6 \times 10^6}{f_1 R_{cf}} \text{ mfd}$$

$$C_k = \frac{1.6 \times 10^6}{f_1 R_k} \text{ mfd}$$

$$C_{c2} = \frac{1.6 \times 10^6}{f_1 R_{c2}} \text{ mfd}$$

Some text books show a more complicated method for calculating these by-pass condensers, but this method is quite rapid and gives conservative values. The loss due to incomplete by-passing will be less than 1% except for the cathode by-pass where it will be about 3%. The size condenser may be halved where economy is essential unless stages are cascaded and highest quality is required.

Table A

Rb	Ebb = 100 Volts				Ebb = 250 Volts									
	0.1	0.27	0.47	1.0	0.1	0.27	0.47	1.0						
Ref	0.27	0.47	0.27	0.47	1.0	0.27	0.47	0.27	0.47	1.0				
Rk	1500	1800	3900	3900	4700	5000	0800	080	680	1800	1800	2200	3300	3900
Ib	0.54	0.51	0.23	0.23	0.22	0.150	0.141	1.02	1.62	0.69	0.09	0.05	0.41	0.40
Ec1	-0.81	-0.92	-0.90	-0.90	1.04	-0.840	-0.900	1.10	1.10	1.24	1.24	1.43	1.35	1.56
Eb	45.2	48.1	37.1	37.1	39.6	28.7	32.7	86.9	86.9	82.3	62.3	75.0	55.7	59.9
Esig	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Eout	3.0	3.0	2.8	3.0	3.1	2.95	3.0	3.90	4.10	3.55	3.70	3.65	3.50	3.60
Gain	30.0	30.0	28.0	30.0	31.0	29.5	30.0	39.0	41.0	35.5	37.0	36.5	35.0	36.0
% Dist.	1.9	1.7	1.9	1.7	1.4	1.8	1.4	54	1.0	1.0	.92	79	89	75
Esig (°)	0.54	0.29	0.30	0.29	0.38	0.22	0.34	0.61	0.49	0.54	0.56	0.71	0.64	0.77
Eout	0.0	8.7	8.4	8.4	11.5	6.5	10.0	23.0	19.7	19.0	20.6	25.5	22.1	27.0
Gain	30.0	30.0	28.0	28.9	30.3	29.5	29.4	37.0	40.2	35.2	36.8	35.9	34.5	35.1
% Dist.	3.9	4.7	5.0	4.5	4.9	3.6	4.1	4.4	4.2	4.7	4.2	4.6	4.8	4.6

Table B

Triode Section

Rb	Ebb = 100 Volts						Ebb = 250 Volts					
	047		0.1		0.27		047		0.1		0.27	
Rcf	1	27	1	47	27	.47	1	27	1	47	27	.47
Rk	1200	1200	2200	3300	6800	8200	560	660	1000	1200	3900	3900
Ib	1.33	1.33	0.70	0.61	275	260	3.81	3.84	1.98	1.93	0.70	0.76
Ec1	1.6	1.6	1.5	2.1	1.9	2.1	2.2	2.2	2.0	2.3	-3.0	3.0
Eb	30	36	29	34	24	28	06	66	50	53	42	42
Esig	1	1	1	1	1	1	1	1	1	1	1	1
Eout	1.25	1.27	1.13	1.22	1.10	1.12	1.45	1.50	1.37	1.44	1.25	1.28
Gain	12.5	12.7	11.3	12.2	11.0	11.2	14.5	15.0	13.7	14.4	12.5	12.8
% Dist.	0.9	0.9	0.9	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.5	0.5
Esig (°)	0.00	0.63	60	98	83	1.07	1.17	1.17	1.02	1.28	1.65	1.65
Eout	7.4	8.0	0.8	11.5	9.7	12.0	17.0	17.5	14.0	18.5	20.7	21.1
Gain	12.3	12.7	11.3	11.7	11.0	11.2	14.5	15.0	13.7	14.4	12.5	12.8
% Dist.	4.7	4.5	4.0	4.9	4.7	4.3	5.2	5.0	5.0	4.6	4.8	4.2

Table C

Pentode Section

Rb	Ebb = 100 Volts						Ebb = 250 Volts							
	0.1		0.27		0.47		0.1		0.27		0.47			
Rcf	33		1.0		1.8		33		1.0		1.8			
Ref	27	.47	27	1.0	47	1.0	27	.47	27	.47	1.0	47	1.0	
Rk	1000	1000	2700	2700	2700	4700	390	330	1000	1000	1000	1800	1800	
Ib	.66	.66	.256	.256	.256	151	151	1.88	1.95	73	73	73	.44	.44
Ec1	.265	.265	.076	.076	.076	.043	.043	60	61	23	23	23	124	124
Ec2	.86	.86	.89	.89	.89	.91	.91	97	.85	98	.96	96	1.0	1.0
Ec3	33.8	83.8	24.0	24.0	24.0	22.5	22.5	32.0	45.0	20.0	20.0	20.0	27.0	27.0
Eb	34.0	34.0	31.0	31.0	31.0	29.0	29.0	62.0	55.0	53.0	53.0	53.0	43.0	43.0
Esig	.05	.05	.05	.05	.05	.05	.05	1	1	1	1	1	1	1
Eout	6.0	6.8	5.9	7.0	8.4	6.4	8.2	22.0	24.0	23.0	27.6	32.4	26.6	32.0
Gain	120	138	118	140	168	128	164	220	240	230	276	324	266	320
% Dist.	1.5	1.3	2.6	2.0	1.30	2.1	1.8	1.5	1.8	2.8	2.4	3.0	3.2	3.7
Esig (°)	1	.09	.08	1	1	.08	.09	22	13	15	16	15	14	14
Eout	11.6	12.0	9.2	13.8	16.6	10.4	15.2	45.6	31.0	34.0	43.0	47.6	34.6	43.4
Gain	116	133	116	138	166	130	169	208	238	226	288	318	247	310
% Dist.	3.4	2.6	4.5	4.7	3.9	4.7	4.7	4.1	3.1	5.0	4.5	4.4	6.0	4.7

Table D

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0.1		0.27		0.47		0.1		0.27		0.47			
Rcf	0 27	0 47	0 27	0 47	1 0	0 47	1 0	0 27	0 47	0 27	0 47	1 0	0 47	1 0
Rk	3300	3300	5600	5600	6800	8200	10,000	1800	2200	3300	3900	4700	5600	6800
Ib	288	288	161	161	146	108	099	95	88	476	46	425	31	25
Ec	95	95	9	9	99	89	99	1 71	1 94	1 57	1 79	2 0	1 73	1 97
Eb	71 2	71 2	56 5	56 5	60 6	49 2	53 5	155	162	121 5	125 8	135 2	104 4	113 7
Esig.	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
Eout	3 53	3 82	4 1	4 53	4 73	4 63	4 9	4 23	4 4	4 9	5 2	5 4	5 3	5 7
Gain	35 3	38 2	41	45 3	47 3	46 3	49	42 3	44	49	52	54	53	57
% Dist.	55	0 9	1 6	1 2	1 1	1 5	1 2	3	3	25	3	3	3	2
Esig (°)	23	24	19	2	25	19	25	79	89	63	77	91	71	84
Eout	8	8 9	7 75	8 93	11 8	8 7	12 2	33 3	38 5	30 8	39 6	49	37 5	48 6
Gain	34 8	37 1	40 8	44 6	47 2	45 8	48 8	42 2	43 3	48 9	51 4	53 9	52 8	56 6
% Dist.	3 6	3 4	3 95	3 4	4 15	3 9	4 6	3 67	4 28	3 4	4 3	4 75	4 8	4 97

Note (1) For Self Bias Operation This is Taken at the Grid Current Point With Less Than 1/2 Microampere Grid Current.

RESISTANCE COUPLED AMPLIFIER DATA

Table E

Rb	Ebb = 100 Volts						Ebb = 250 Volts							
	1		27		47		.1		.27		.47			
Rc ₂	27		.68		1.2		.27		.68		1.2			
Rcf	.27	.47	.27	.47	1.0	.47	1.0	.27	.47	.27	.47	1.0	.47	1.0
Rk	1200	1200	2700	2700	2700	4700	4700	470	470	1000	1000	1200	1500	1800
Ib	.57	.57	.246	.246	.246	.143	.143	1.74	1.74	.74	.74	.72	.44	.42
Ic ₂	.24	.24	106	106	106	.063	.063	.68	.68	.30	.30	.29	.18	.175
Ec	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.0	-1.0	-1.2	-0.9	-1.1
Ec ₂	41	41	28	28	28	25	25	66	66	46	40	52	34	40
Eb	40	46	34	34	34	33	33	70	70	50	50	55	43	52
Esig	.05	.05	.05	.05	.05	.05	.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Eout	5.8	6.0	5.6	0.9	8.3	6.4	8.5	19.0	20.0	20.5	26.0	29.8	25.1	31.0
Gain	116	120	112	138	166	128	170	100	200	205	250	298	251	310
% Dist	3.6	3.7	3.0	3.3	2.4	4.7	3.5	2.7	2.5	3.4	1.1	0.8	2.2	0.7
Esig(°)	.07	.07	.06	.09	.11	.05	.07	.32	.32	.26	.27	.29	1.4	.22
Eout	8.0	8.3	6.6	12.0	10.5	6.4	11.5	54.0	66.0	37.0	47.7	67.0	34.0	57.5
Gain	114	119	110	133	150	128	164	169	185	185	217	231	243	261
% Dist	5.1	4.9	4.7	4.9	3.5	4.7	4.7	4.9	3.3	5.1	2.6	3.3	3.5	3.7

Table F

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0 1		0 27		0 47		0 1		0 27		0 47			
Rcf	0 27	0 47	0 27	0 47	1 0	0 47	1 0	0 27	0 47	0 27	0 47	1 0	0 47	1 0
Rk	3900	3900	5600	5600	6800	8200	10,000	1500	800	2700	2700	2700	3900	4700
Ib	0 22	0 22	0 144	0 144	0 13	0 10	0 091	0 84	0 76	0 443	0 443	0 443	0 295	0 271
Ec	-0 86	-0 86	-0 81	-0 81	-0 88	-0 82	-0 91	-1 26	-1 37	1 19	-1 19	-1 19	1 15	1 27
Eb	78	78	61 1	61 1	64 9	53	57 2	166	174	131	131	131	111 5	123
Esig	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
Eout	4 25	4 3	4 8	5 35	5 62	5 4	6 4	5 65	5 8	6 5	7 15	7 65	7 3	7 65
Gain	42 5	43 0	48 0	53 5	56 2	54 0	64 0	56 5	58 0	65 0	71 5	76 5	73 0	76 5
% Dist.	4 1	4 1	4 3	3 7	3 2	4 1	3 6	0 9	0 9	1 0	1 0	1 0	1 3	1 2
Esig(°)	0 12	0 12	0 1	0 1	0 13	0 1	0 15	0 47	0 54	0 39	0 39	0 39	0 33	0 45
Eout	5 1	5 15	4 8	5 35	7 25	5 4	9 0	26 5	30 5	24 5	29 5	29 2	23 5	34 0
Gain	42 5	43 0	48	53 5	55 8	54 0	60 0	56 4	56 5	63 0	70 5	75 0	71 3	75 5
% Dist	5 1	5 0	4 3	3 7	4 6	4 1	5 0	4 5	5 3	5 1	4 2	3 9	5 2	5 3

Table G

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0 1		0 27		0 47		0 1		0 27		0 47			
Rcf	0 27	0 47	0 27	0 47	1 0	0 47	1 0	0 27	0 47	0 27	0 47	1 0	0 47	1 0
Rk	4700	5600	8200	10,000	10,000	12,000	15,000	1800	1800	3300	3300	3900	4700	5600
Ib	.23	.204	.132	.117	.117	.092	.08	.84	.84	.45	.45	.41	.30	.28
Ec	-1 08	-1 143	-1 03	-1 17	-1 17	-1 10	-1 2	-1 51	-1 51	-1 49	-1 40	-1 59	1 41	-1 57
Eb	77 0	79 6	64 4	68.4	68.4	56 8	62 4	166	166	128	128	130	109	118.5
Esig	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
Eout	3 6	3 8	4 2	4 35	5 0	4 7	5 2	5 4	5 7	0 1	6 6	6 0	6 8	7 1
Gain	36 0	38 0	42 0	43.5	50 0	47 0	52 0	54 0	67 0	61 0	66 0	69 0	66 0	71 0
% Dist	3 4	3 4	3 6	3 2	2 6	3 2	2 6	0 3	0 5	0 2	0 2	0 2	0 4	0 2
Esig(°)	14	14	11	14	17	13	17	.5	.5	.41	.45	.54	.38	.48
Eout	5 0	5 2	4 6	6 0	8.3	6 1	8 5	26 5	28 5	24 5	29 0	37 0	25 0	33 5
Gain	35 7	37 2	41.8	42 9	48 8	46 9	50 0	53 0	62 0	59 8	64 4	68 5	65 8	69.8
% Dist.	5 0	5 1	4 1	4 9	5 1	4 4	5 0	5 0	4 4	4 95	4 4	4 8	4 1	4 2

Table H

Rb	Triode Section						Ebb = 250 Volts					
	Ebb = 100 Volts			Ebb = 250 Volts			.647		0 1		0 27	
Rcf	0.1	0.27	0.1	0.47	0.27	0.47	0.1	0.27	0.1	0.47	0.27	0.47
Rk	1000	1200	1800	2700	4700	5600	470	470	820	1200	2700	3300
Ib	1.2	1.1	0.64	0.66	0.26	0.25	3.5	3.5	1.80	1.73	0.70	0.68
Ec	-1.2	-1.3	-1.2	-1.5	-1.2	-1.4	-1.0	-1.6	-1.5	-2.1	-1.9	-2.2
Eb	43	47	35	43	29	32	84	84	63	75	54	64
Esig	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1
Eout	2.0	2.10	1.98	2.05	1.96	2.00	2.45	2.63	2.38	2 45	2.25	2.25
Gain	20.0	21.0	19.8	20.5	19.6	20.0	24.5	26.3	23.8	24.5	22.5	22.5
% Dist.	1.4	1.2	1.5	1.0	1.2	1.0	0.8	0.8	0.9	0.7	0.7	0.6
Esig(°)	.37	.49	.36	.62	.40	.53	.78	.78	.60	1.04	1.02	1.25
Eout	7 4	10.0	6.9	12.5	7 7	10.5	19 1	20.3	15 7	25.5	22.5	22.0
Gain	20.0	20.4	19.7	20 1	19.2	19.8	24.5	26 1	23.8	24.5	22 1	22.4
% Dist	4.6	5.1	4.5	5.1	4.2	4 1	4.8	4.4	4.5	4.7	4.9	4.7

Table I

Rb	Ebb = 100 Volts						Ebb = 250 Volts							
	0 1		0 27		0 47		0 1		0 27		0 47			
Rcf	27		.68		1.2		.33		.82		1 2			
Rk	.27	.47	.27	.47	1.0	.47	1.0	.27	.47	.27	.47	1.0	.47	1.0
Rk	1000	1000	2200	2200	2700	3300	3900	390	470	820	1000	1200	1800	1800
Ib	.65	.65	.28	.28	.27	.17	.16	1 75	1 70	.74	.73	.72	.46	.46
Ic ₂	.26	.26	12	12	11	.07	.07	.62	.61	.270	.265	.260	183	183
Ec ₁	.9	.9	.9	.9	-1.0	.8	.9	-.9	-1.0	.8	-1.0	-1.0	-1.2	-1.2
Ec ₂	30	30	18	18	25	16	16	40	49	29	33	37	30	30
Eb	35	35	24	24	27	20	25	75	80	50	53	55	34	34
Esig	1	1	1	.1	.1	1	1	1	1	1	1	1	.1	.1
Eout	7.9	9.0	8.2	9.8	11.5	9.9	12.4	14.2	16.3	15 7	18.9	22 0	16.7	25.0
Gain	79	90	82	98	115	99	124	142	153	157	189	220	167	250
% Dist.	2 7	2 1	2 9	1 0	.46	2 3	.80	2 4	2 2	2 2	1 5	.82	1 9	2 8
Esig(°)	18	.18	14	14	.23	12	17	.27	.38	18	.27	.35	.30	.35
Eout	13.5	15.0	11.2	13.5	22.6	11 6	19.3	36.2	52.0	27 1	45	63	43.8	67
Gain	75	83.2	80	96.5	98.3	96.6	113	134	137	150	167	180	146	191
% Dist	4.2	2.9	4 1	1 7	4 0	3 2	2 7	4 3	4 5	3 9	3 9	4 8	5 0	4 5

Table J

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
	0 047		0 1		0 27		0 047		0 1		0 27	
Rcf	0 1	0 27	0 1	0 47	0 27	0 47	0 1	0 27	0 1	0 47	0 27	0 47
Rk	1800	2200	2700	3900	6800	8200	1500	1800	2200	3300	5600	8200
Ib	1 07	1 0	0 62	0 56	0 256	0 240	2 85	2 69	1 63	1 46	0 661	0 60
Ec	1 93	-2 2	-1 67	-2 18	-1 74	-1 97	-4 27	4 84	-3 59	-4 82	-3 70	-4 92
Eb	49 6	53 0	38	44	31	35 2	116	123 8	87	104	71 8	88
Esig	0 5	0 5	0 5	0 5	0 5	0 5	1 0	1 0	1 0	1 0	1 0	1 0
Eout	5 3	5 4	5 6	5 8	5 7	5 8	11 2	11 8	11 8	12 4	12 1	12 2
Gain	10 6	10 8	11 2	11 6	11 4	11 6	11 2	11 8	11 8	12 4	12 1	12 2
% Distortion	2 1	1 9	2 0	1 8	2 2	1 8	1 3	1 2	1 8	1 3	1 8	1 3
Esig(°)	1 02	1 24	0 87	1								

RESISTANCE COUPLED AMPLIFIER DATA

Table K

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
	0.047		0.10		0.27		0.047		0.10		0.27	
	0.1	0.27	0.1	0.47	0.27	0.47	0.1	0.27	0.1	0.47	0.27	0.47
R _{cf}	1800	2200	3300	1700	8200	10000	1500	2200	2700	3900	6900	8200
R _k	1.05	0.97	0.57	0.50	0.24	0.22	2.79	2.4	1.49	1.31	0.61	0.58
I _b	1.89	2.13	1.90	2.35	-1.93	2.19	4.18	-5.28	-4.03	5.11	-4.15	4.74
E _c	50.6	54.4	43.0	50.0	36.5	40.9	119	137	101	119	85	94
E _{sig}	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0
E _{out}	6.6	7.1	6.8	7.4	7.3	7.4	14.8	15.0	5.2	16.2	5.9	6.2
Gain	13.2	14.2	13.6	14.8	14.6	14.8	4.8	5.0	15.2	1.2	5.9	16.2
% Distortion	1.4	1.8	2.4	2.0	2.0	1.7	1.4	1.4	1.8	1.3	1.6	1.3
E _{sig} (°)	0.5	1.13	0.95	1.3	0.95	1.20	2.70	3.50	2.55	3.0	2.64	3.05
E _{out}	12.5	15.5	12.9	14.2	13.7	17.7	19.9	52.5	18.4	5.0	42.0	49.4
Gain	13.1	13.9	13.6	14.7	14.4	14.7	14.7	15.0	5.0	16.1	15.9	16.2
% Distortion	3.9	4.2	4.9	4.7	4.4	4.5	4.1	4.9	4.9	4.6	4.7	4.5

Table N

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0.1		0.27		0.47		0.1		0.27		0.47			
	0.39	1.2	1.8	0.39	1.2	2.2								
R _{cf}	1200	1200	2700	2700	2700	4700	4700	560	560	1200	1200	1200	1800	1800
R _k	0.645	0.645	0.259	0.259	0.259	0.165	0.165	1.77	1.77	0.675	0.675	0.675	0.402	0.402
I _b	0.18	0.18	0.068	0.068	0.045	0.045	0.30	0.30	0.183	0.183	0.183	0.102	0.102	
E _c	0.99	-0.99	0.882	-0.882	0.882	-0.99	-0.99	1.27	1.27	1.03	1.03	-1.03	-0.908	-0.908
E _{sig}	29.8	29.8	18.5	18.5	18.5	19.0	9.0	55	55	30.5	30.5	30.5	25.5	25.5
E _{out}	35.5	35.5	30.2	30.2	30.2	22.5	22.5	73	73	67.8	67.8	67.8	61.2	61.2
Gain	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
% Distortion	6.85	7.8	8.2	10.2	2.5	10.2	13.1	10.2	11.5	13.6	17.9	21.6	19.5	25.6
E _{sig} (°)	0.6	0.7	3.4	2.6	2.3	2.8	3.2	0.7	0.8	2.2	1.8	1.5	3.1	2.4
E _{out}	13.15	14.9	11.1	13.9	17.2	12.8	16.6	47	54	33	41.8	50	28	37
Gain	65.8	74.5	79.4	99.5	123	98.5	128	94	108	132	67.5	200	187	247
% Distortion	3.0	2.9	5.1	4.3	3.7	4.6	5.0	4.2	5.0	5.2	4.4	4.7	4.5	3.7

Table L

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
	0.047		0.1		0.27		0.047		0.1		0.27	
	0.1	0.27	0.1	0.47	0.27	0.47	0.1	0.27	0.1	0.47	0.27	0.47
R _{cf}	1200	1200	2200	2700	6800	8200	1000	1000	1500	1800	4700	6800
R _k	1.22	1.22	.66	.628	.259	.246	3.2	3.2	1.78	1.72	.684	.63
I _b	1.465	1.465	1.45	1.695	1.76	2.02	3.2	3.2	2.67	3.10	3.21	4.28
E _c	42.7	42.7	34	37.2	30	33.6	150.5	150.5	72	78	65	80
E _{sig}	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0
E _{out}	6.25	6.6	6.35	6.75	6.3	6.3	13.5	14.1	13.8	14.3	13.4	13.2
Gain	12.5	13.2	12.7	13.5	12.6	12.6	13.5	14.1	13.8	14.3	13.4	13.2
% Distortion	4.0	3.6	4.3	2.9	3.0	2.5	3.3	3.1	3.8	2.8	2.5	2.0
E _{sig} (°)	0.65	0.65	0.57	0.77	0.71	0.98	1.70	1.70	1.34	1.70	1.80	2.52
E _{out}	8.1	8.6	7.2	10.4	8.9	12.4	23.0	24.0	18.5	24.5	24.1	33.1
Gain	12.5	13.2	12.6	13.5	12.5	12.6	13.5	14.1	13.8	14.3	13.4	13.1
% Distortion	4.8	4.4	4.8	4.6	4.6	5.0	4.9	4.6	5.0	5.0	4.9	5.0

Table O

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0.10		0.27		0.47		0.10		0.27		0.47			
	0.27	0.47	0.27	0.47	1.0	4.7	1.0	0.27	0.47	1.0	0.47	1.0		
R _{cf}	3300	3300	5600	5600	6800	8200	1800	2200	3300	3900	3900	4700	5600	
R _k	0.30	0.30	0.169	0.169	0.152	0.1240	0.112	0.917	0.83	0.475	0.44	0.44	0.312	0.29
I _b	-0.99	-0.99	0.948	-0.948	-1.03	-0.844	0.92	1.65	-1.83	-1.57	-1.72	-1.72	-1.47	-1.62
E _c	70	70	54.3	54.3	59.9	41.7	47.3	158.3	167	122	131	131	103	113.5
E _{sig}	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
E _{out}	3.2	3.23	3.7	4.15	4.5	4.28	4.65	4.0	4.1	4.5	5.0	5.25	5.25	5.55
Gain	32.0	32.3	37.0	41.5	45.0	42.8	46.5	40.0	41.0	45.0	50.0	52.5	52.5	55.5
% Dist	1.3	1.3	1.8	1.5	1.4	1.8	1.4	0.6	0.5	0.6	0.5	0.4	0.5	0.4
E _{sig} (°)	0.33	0.33	0.21	0.21	0.34	0.2	0.3	0.87	1.03	0.83	0.97	0.97	0.77	0.90
E _{out}	10.3	10.4	7.7	8.6	14.8	8.5	13.5	33.6	41.5	36.3	46.6	48.8	38.8	48.5
Gain	31.2	31.5	36.6	41.0	43.5	42.5	45.0	38.6	40.2	43.7	48.0	50.4	50.4	54.0
% Dist	4.9	4.8	4.0	3.1	5.0	3.4	4.4	4.0	4.8	4.5	4.8	3.8	3.9	3.7

Table M

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0.1		0.27		0.47		0.1		0.27		0.47			
	0.47	1.2	1.8	0.47	1.2	2.2								
R _{cf}	1000	1000	2200	2200	2200	3900	3900	470	470	1000	1000	1000	1500	
R _k	0.62	0.62	0.27	0.27	0.27	0.168	0.168	1.76	1.76	0.75	0.75	0.44	0.44	
I _b	0.145	0.145	0.064	0.064	0.064	0.465	0.465	0.41	0.41	0.177	0.177	0.10	0.10	
E _c	0.765	-0.765	-0.735	-0.735	-0.735	-0.622	-0.622	-1.02	-1.02	-0.927	-0.927	-0.81	-0.81	
E _{sig}	31.9	31.9	23.3	23.3	23.3	16.3	16.3	57.2	57.2	37.5	37.5	30	30	
E _{out}	38	38	27.2	27.2	27.2	21	21	74	74	47.5	47.5	43.5	43.5	
E _{sig}	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
E _{out}	7.0	8.05	8.0	10.0	12.0	9.8	12.5	10.6	12.0	13.0	17.0	20.4	18.8	24.5
Gain	70.0	80.5	80	100	120	98	125	106	120	130	170	204	188	245
% Distortion	2.7	2.4	3.7	2.7	2.3	3.2	1.9	1.6	1.4	1.5	1.6	2.4	2.0	2.8
E _{sig} (°)	0.18	0.18	0.14	0.14	0.14	0.14	0.14	0.4	0.4	0.27	0.27	0.18	0.18	
E _{out}	12.3	13.9	10.8	13.8	16.7	13.2	17.0	40.3	45.2	33.0	41.6	49.5	32	41.5
Gain	68.5	77.2	77.2	98.7	119	94.5	121.5	101	113	122	154	183.5	178	230
% Distortion	4.7	4.1	5.5	4.6	3.8	4.9	5.0	4.3	4.4	5.0	5.0	4.3	4.9	

Table P

Rb	Ebb = 100 VOLTS						Ebb = 250 VOLTS							
	0.1		0.27		0.47		0.1		0.27		0.47			
	0.27	0.47	0.27	0.47	1.0	0.47	1.0	0.27	0.47	1.0	0.47	1.0		
R _{cf}	3900	3900	5600	6800	6800	8200	10000	1800	1800	2700	3.00	3900	3900	4.00
R _k	0.214	0.214	0.138	0.126	0.126	0.095	0.086	0.725	0.725	0.43	0.395	0.365	0.288	0.261
I _b	0.835	0.835	0.774	-0.857	0.857	-0.78	-0.86	-1.31	-1.31	-1.16	-1.30	-1.42	-1.12	1.25
E _c	78.6	78.6	62.8	66.0	66.0	55.3	59.6	177.5	177.5	134	143.5	151.5	114.5	124.5
E _{sig}	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
E _{out}	3.3	3.5	4.1	4.5	5.0	4.9	5.2	4.37	4.78	5.50	5.92	6.13	6.24	6.75
Gain	33.0	35.0	41.0	45.0	50.0	49.0	52.0	43.7	47.8	55.0	59.2	61.3	62.4	67.5
% Dist	2.7	2.6	3.2	3.0	2.5	3.1	2.6	0.8	0.7	0.8	0.8	0.7	0.8	0.7
E _{sig} (°)	0.16	0.16	0.10	0.17	0.17	0.12	0.19	0.55	0.55	0.40	0.53	0.61	0.40	0.53
E _{out} </														

RESISTANCE COUPLED AMPLIFIER DATA

Table Q

Rb	Ebb = 100 Volts							Ebb = 250 Volts						
	0.1		0.27			0.47		0.1		0.27			0.47	
R _{ef}	0.27	0.47	0.27	0.47	1.0	0.47	1.0	0.27	0.47	0.27	0.47	1.0	0.47	1.0
R _k	2200	2700	5600	5600	6800	10000	12000	1000	1200	2700	3300	3900	5600	6800
I _b	0.01	0.56	0.250	0.250	0.235	0.150	0.140	1.79	1.72	0.70	0.68	0.65	0.41	0.39
E _{c1}	-1.3	-1.5	-1.4	-1.4	-1.6	-1.5	-1.7	-1.8	-2.1	-1.9	-2.2	-2.5	-2.3	-2.7
E _b	38	43	31	31	35	28	33	69	76	59	64	72	55	63
E _{sig}	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
E _{out}	2.05	1.96	1.83	2.00	1.95	1.90	1.93	2.42	2.40	2.20	2.24	2.22	2.12	2.12
Gain	20.5	19.6	18.3	20.0	19.5	19.0	19.3	24.2	24.0	22.0	22.4	22.2	21.2	21.2
% Dist.	1.0	0.9	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5
E _{sig} (°)	0.42	0.61	0.54	0.55	0.71	0.62	0.76	0.93	1.13	1.01	1.20	1.48	1.28	1.62
E _{out}	8.5	11.7	9.9	10.7	13.5	11.5	14.3	22.5	27.0	22.2	28.0	32.5	26.5	31.5
Gain	20.2	19.2	18.3	19.5	19.0	18.6	18.8	24.2	23.9	21.8	22.2	22.0	20.7	20.7
% Dist.	3.9	5.0	4.9	4.1	4.4	4.8	4.5	4.7	4.8	4.7	4.7	4.6	4.9	4.5

Table R

Rb	Ebb = 100 Volts							Ebb = 250 Volts						
	0.1		0.27			0.47		0.1		0.27			0.47	
R _{ef}	0.27	0.47	0.27	0.47	1.0	0.47	1.0	0.27	0.47	0.27	0.47	1.0	0.47	1.0
R _k	1800	2200	3900	3900	4700	6800	8200	1200	1200	2200	2700	3300	3900	4700
I _b	0.48	0.45	0.23	0.23	0.22	0.14	0.14	1.39	1.39	0.64	0.61	0.58	0.39	0.38
E _{c1}	.9	1.0	.9	.9	-1.0	-1.0	1.2	-1.7	-1.7	-1.4	-1.7	-1.9	-1.5	-1.8
E _b	51	54	37	37	40	33	33	109	109	76	83	91	60	65
E _{sig}	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
E _{out}	2.43	2.48	2.46	2.68	2.75	2.45	2.60	2.80	2.90	2.81	3.00	2.98	2.90	2.95
Gain	24.3	24.8	24.6	26.8	27.5	24.5	26.0	28.0	29.0	28.1	30.0	29.8	29.0	29.5
% Dist.	1.3	1.3	1.5	1.3	1.2	1.5	1.2	0.5	0.6	0.7	0.7	0.6	0.8	0.5
E _{sig} (°)	0.35	0.45	0.32	0.32	0.43	0.30	0.46	1.02	1.02	0.79	0.95	1.16	0.83	0.99
E _{out}	8.4	11.0	7.9	8.4	11.6	8.7	11.7	28.1	29.2	22.2	28.0	33.8	24.1	29.5
Gain	24.0	24.4	24.6	26.2	27.0	24.1	25.4	27.5	28.6	28.1	29.4	29.1	29.0	29.8
% Dist.	3.9	4.8	4.4	3.7	4.4	4.7	4.9	4.5	4.0	4.3	4.6	4.9	4.0	4.5

Note (1) For Self Bias Operation This is Taken at the Grid Current Point With Less Than 1/4 Microampere Grid Current



TUBE TYPE BASE ARRANGEMENTS

BASE	TYPE	BASE	TYPE	BASE	TYPE	BASE	TYPE	BASE	TYPE	BASE	TYPE
OA5	OA5	6A	48	7BF	5J6 6J6, WA, 6J6A 19J6		7408 EL 37, KT-66 KT 88	8H	6J8G	9ER	6BJ8, 8BN8
1AG4	1AG4	6AA	7A5, 7C5 14A5 14C5 35A5		1216 5844 5964 6045 6101		6L7, 6L7G 1612	8HC	2B3	9EU	12AB5 7061
1AG5	1AG5		50A5		7244 A	7T	6P7G	8HY	7027 A	9EV	6973
1AJ5	1AJ5	6AB	6SF5 6SF5GT 12SF5 12SF5GT	7BH	2C21	7U	6B6G, 6Q7, 6Q7G, 6Q7GT	8JB	6CK4	9ES	6CM7 8CM7
1AK4	1AK4	6AD	35Z5GT 40Z5/45Z5GT	7BJ	6AN6	7V	12Q7GT 6R7 6R7GT 6T7G	8JC	6DQ5	9EW	6CH7
1AK5	1AK5	6AE	7B5	7BK	3AU6 3BA6, 4AU6, 4BA6		6V7G, 6118	8JP	6DY7, 6DZ7	9EX	6BM8 50BM8
3C	1B3GT 1G3 1J3 1K3	6AF	1Q5GT		6AH6 6AK6, 6AU6 WB		6AC6GT 25N6G	8JT	19CS4	9FA	5BR8 5FV8 6BR8 6BR8A
4AA	1LE3, 1293	6AM	6AL6 6AL6G, 6BQ6G GA		6AU6A 6BA6 6BD6, 6CG6	7W	1A7GT 1B7GT 1C7G 1D7G	8K	6K8, 6K8G 6K8GT 12K8		6FV8, 9BR8, 12EC8
4AB	2X2/879, 2X2A		GTA, GTB, 6BW5 6CU6 6DJ6		12AC6, 12AF6 12AU6, 12	7Z	6A8, 6A8G 6A8GT 6D8G	8L	12K8GT	9FC	9FC 4CX7 6CX7
4AC	3A3 6Y3G		6DQ6 6DQ6A B, 6FH6 12		BA6, 12BD6, 12BL6 12CX6	8A	12A8G, GT	8N	4A6G	9FE	5BT8, 6BJ8
4AD	83V		BQ6GA GTAM GTB, 12CU6		12CY6 12DZ6 12EA6 12EK6	8AA	70A7GT		6AB7, 6AC7, 6AJ7, 6SD7GT	9FG	3BU8 6BU8
4AH	1R4, 7C4		12DQ6 12DQ6A, 17BQ6GTB		12EZ6, 18GD6 26A6 26CG6	8AB	70A7GT		6SE7GT, 12SK7, 6SS7 12SJ7	9FH	12F8
4AJ	OA3/VR75 OB3, OC3 OD3		17DQ6, 25BQ6GA, 25BQ6	7BN	5749/6BA6W	8AC	7AF7, 14AF7/XXD 7F7 14F7		12SJ7GT, 12SK7GT, 5693	9FJ	6BV8
	1265 1266		GT GTB 25CU6 25DQ6 A		2D21		7N7 14N7		6SJ7 GT GTY WGT 6SK7	9FK	17H3

4AM	2C22	6AO	6V5GT	7BQ	6J4 WA 7137 7245	8AD	12SA7GT 6SA7GT GTY	8Q	GT GTY	9FN	6BY8
4B	2Z2/G84.81	6AP	6AH5G	7BR	6F4 6L4	7E7 14E7 7R7 14R7	7E7 14E7 7R7 14R7	6SQ7 6SQ7GT 6SR7 GT	9FT	6CH8	
4BU	9004	6AR	1AE4 1AF4 1L4 1T4 1U4	7BS	9002	8AE	25D8GT	6ST7 6S27 12SQ7 12SQ7GT	9FU	35D5	
4C	OY4 OY4G	6AS	5910	7BT	3AV6 6AT6 6AQ6 6AV6	8AF	1D8GT 188GT	12SR7 12SW7	9FV	6854	
4CB	5X3 5Z3 80 82 83 1275	6AU	6B5		6BF6 6BK6 6BT6 6BU6	8AJ	7Q7 14Q7	6SB7Y 12SA7 12SY7 6SA7	9FX	5CL8 5CL8A 6CL8 6CL8A	
4CG	117Z3	6AW	1AF5 1S5		12AE6 A 12AT6 12AV6	8AL	50Y7GT 50Z7G	6SC7 GT 12SC7		9CL8 19CL8A	
	6AU4GT 6AX4GT A 6DE4	6AX	6R6G		12BF6 12BK6 12BT6 12BU6	8AN	117L7/M7GT	12SB8GT 25B8GT	9FZ	5CM8 6CM8 6CS8	
	6U4GT 6W4GT 12AX4GT B	6B	1LD5		12FK6 12FM6 12FT6 18FY6	8AO	3A8GT	7A8	9G	5686	
	12D4 17AX4GT 17DE4 22-	6B	2A5 18 41 42 43		18GE6 268K6 26C6	8AS	117N7GT 117P7GT	7A7 7AD7 7AG7 7AH7	9GB	6877	
	DE4 25AX4GT 25D4 25W4-	6BA	3D6 3LE4 3LF4	7BW	3C6/XXB	8AV	1LB6	7AJ7 7AK7 7B7 7C7 7G7	9GC	12J8	
	GT 6AU4GTA 12AX4GTA	6BD	1SA6GT	7BZ	5AQ5 6AQ5 6AQ5A 6BF5	8AX	6AD7G	7H7 7L7 7T7 7V7 14A7	9GF	5CO8 6CO8	
	19AU4 GTA	6BE	1SB6GT		6DS5 12AQ5 19AQ5 35B5	8AY	6N7 6Y7G 6Z7G	14C7 14H7 1231 1273 1280	9GE	5CG8 6CG8	
4CK	5823.6DA4 12D4 17D4	6BG	6C4 12G4 6135		50B5 6005 6005/6AQ5W	8B	2C50 2C52 6AS7 6BL7GT	1284 6145	9GJ	5CR8 6CR8	
4CN	5644	6BH	9006		2A7 2A7S 6A7 6A7S	8BD	6BL7GTA 6EA7 6BX7GT	7B6 14B6 7C6 7E6 14E6	9GL	6CY7 8CY7 11CY7	
4D	OOA O1A 2A3 6A3 10	6BJ	28Z5		6N4		6DN7 6SL7GT WGT 6SN7	738 1488	9GM	6CU8	
	12A 20 26 30 31 40 45	6BK	6AR6		1Z2		GT GTA WGT WGTA	6AG7 6AK7	9GR	6DB5 12DB5	
	50 71A X99 182B/482B	6BL	2050 2051		18FW6		6SN7GTB 10EG7 12SL7GT	32L7GT	9GS	12AL8	
	183/483 210-T 864 1276	6BO	3AL5 6AL5 12AL5 5726		38E6 3BY6 3CS6 4BE6 4CS6		12SN7GT 12SN7GTA 12SX7	6AX7 7AU7 9AU7 12AE7	9GT	12DK5	
	V52 1230 5930	6BS	5726/6AL5W/6097 6097		6BE6 6CS6 12AB6 12AD6		GT 5691 5692 6080 6080-	12AT7 WA 12AU7 12AU7	9HC	5687 6900 7044 7119	
	V99	6BT	6919 7055		12BE6 12CS6 12FA6 18FX6		WA 6082A 6394A 6520	7A 12AV7 12AX7 12AX-	9HD	6CR5 12CR5 25CR5	
	1V 1Z23	6BW	1DN5 1U5		26D6 1217 5915 A 7032		6528 7105	7A 12AY7 12AZ7 12BH7	9HE	6DC8	
	1A4T 22 32 1229	6BX	3E6		2E26 6146 6883 6888 6893		6AH7GT 12AH7GT	A 12BZ7 12DF7 12DM7	9HF	6DE7 10DE7 10DR7 13DE7	
	1A4P 1B4P 34	6BY	19		3BZ6 3DK6 4CB6 4BZ6	8BE	7K7	12D7 12D7W 12U7 5750		13DR7 19DE7	
	1Y2	6CC	6AR5		4DE6 4DK6 4EW6 6AS6	8BF	7W7 14W7	5750/6BE6W 5751 WA 5814	9HK	5BR8 6BW8	
	OZ4 OZ4A OZ4G	6CH	6AM5 6BJ5 6516		6BH6 6BJ6 A 6BZ6 6CB6	8BJ	6SG7 GT 12SG7 6SH7 GT*	A WA 5963 5965 6189	9HN	5CZ5 6CZ5 6DT5 6EM5	
	OA4G 1267	6CI	5641		6CB6A 6CF6 6DB6 6DC6	8BK	12SH7 12H7GT	6189/12AU7WA 6201 6851		12DL8 12DV8	
	2W3GT	6CK	6AU5GT 6AV5GT 6AV5-		6DE6 6DK6 6EW6 12AW6	8BL	7J7 14J7 7S7 14S7	6913 6955 7025 7058	9HR	12DM6	
	2V3G		GA 6BD5GT 12AV5GA		12BZ6 6954 7056	8BN	7E5	654 654A	9HV	12EM6	
	35Z3		17AV5GA 18A5 25AV-		6AS5 6CA5 6CU5 6EH5	8BO	7AB7	5879	9HZ	12DK7	
	27 27S 37 56 56S 56AS		5GA 25AV5GT	7CV	11C5 12C5 12CA5 12CN5	8B	28D7 28D7W 1238	5EA8 5GH8 5U8 6AX8	9JC	12DW8	
	76 485 885	6CL	5851 6147		12CU5 12DM5 12ED5 12-	8BS	12L8GT 26A7GT	6EA8 6GH8 6U8 6UA8	9JD	5EH8 6EH8	
5AA	25Z4 35Z4GT 117Z4GT	6CN	6BY5G GA		EH5 12R5 17C5 17CA5	8BU	7G8	9U8A 19EA8 7059	9JE	7199	
5AB	7Y4 7Z4 14Y4	6CS	6C55		17R5 25C5 25CA5 25EH5	8BV	7F8 7F8W 14F8	12A4 12B4 A	9JU	12D57 12S7A	
5AC	7A4 7B4 14A4 XXL	6CS	6D5		25F5 32E5 35C5 50C5	8BW	7X7 14X7	6V8 19V8	9JX	12DU7	
5AD	1LA4 1LB4	6E	25Y5 25Z5		50CA5 50EH5	8BZ	1E7G	4BC8 4BQ7A 4BX8 4BZ7	9JY	12DV7	
5AE	6H4GT	6F	6C6 6D6 57 57S 57AS 58	7CX	5679	8C	658GT 12S8GT	4BZ8 4ES8 5BK7A 5BQ7A	9KA	6E28	
5AG	1LH4		58S 58AS 77 78 89 1221	7CY	3B4	8CB	6AL7GT	5BZ7 6BC8 6BK7 6BK7A	9KG	4CM4 6CM4	
5AH	35Y4	6G	2A6 55 55S 75 75S 85	7D	2B7 2B7S 6B7 6B7S	8CH	2C51 5670 WA	6BK7B 6BN7 6BQ7 6BQ7A	9KR	6FM8	
5AI	45Z3		85AS	7DB	6AM6	8CJ	6AQ7GT	6BX8 6BZ7 6BZ8 6CG7	9KT	12FQ8	
5AJ	1A3	6H	79	7DF	1L6 1U6	8CK	1C8 1E8	6DJ8 6DT8 6ES8 6FW8 7DJ8	9KZ	13GC8	
5AK	1005	6I	6Y5	7DC	3B4	8CN	1Q6	8CG7 12DT8 6922 7057	9L	5A6	
5AL	2C4	6K	6Z5	7DF	3BN6 4BN6 6BN6 12BN6	8CO	1AC5 1AD5 1V5 1W5	5X8 6X8 9X8 19X8	9M	6V4 6CA4	
5AM	807 W 5933 WA	6L	6K4	7DK	2AF4 A 2AF4B 2T4 3AF4A	8CP	6AW7GT	6EC7 7ED7 13EC7	9N	6M5	
5AN	6D4	6M	1A6 1C6		6AF4 A 6AN4 6T4	8CQ	5694	6BJ7 6BC7	9O	6AN7 14Y7	
5AO	1625	6N	1B5	7DT	6AQ4	8CS	6BA7 12BA7	12AD5	9P	6R4	
5AP	6AA/LA 47	6M3	6M3	7DW	12H4	8CT	156 1T6	6DG7 7227	9S	6Q4	
5BB	954 956	6Q	6AC5GT 6AD5G GT 6AE5-	7DX	7A6 7X6 50X6	8DA	5635	6V3 6V3A 6B3 12B3	9T	6N8 17C8	
5BC	955 5731		GT 6AF5G 6CS GT* 6J5	7E	6F7 6F7S	8DB	5636 5908 5916 6205 6206	12BV7 12BY7 12DQ7 6870	9U	1V2	
5BD	957 958A		GT 6L5G 6PSGT 12J5GT	7EA	6CR6	8DC	6943 6944	7054	9V	417A 5842	
5BE	959	6R	25AC5GT 884 1626 12E5GT	7EG	2BN4 A 3BN4 A 4BN4	8DD	5643	55N3	9X	5847	
5BF	1AB5	6S	2E5 6AB5/6N5 6E5 6U5 6T5		6BN4 A	8DE	6AZ5	6BK5 12BK5 25BK5	9Y	1AX2 1X2 1X2A 1X2B	
5BG	9005		6AX5GT 6W5G 6XS5GT	7EJ	7001	8DG	6BF7 A 6BG7 6021 6111	12DF5	9Z	6BD7 14G6	
5BO	OA2 WA OB2 WA OC2		6X5WGT 6ZY5G 1274	7EK	12K5		6112 6BF7W 6832 6947	6CL6	12BR7	12BR7	
	5651 WA 6626 6627		5838 5839 5852	7EN	3DT6 4DT6 6DT6 6E56 6ET6		6948 7327 7550	6AJ4 6AM4 6CR4	12CS5	12CS5	
	35W4 36AM3 50DC4	6T	6A5G	7ES	1AN5		5896 5903 6052 6053 6110	EF50	12FR8	12FR8	
5BQ	6X4 WA 12X4	6W	1F6	7ET	35C3	8DJ	6AD4 6AK4 5637 5718	19D8	12FX8	12FX8	
5BS	19BG6G 6CD6G 6BG6G	6X	1A5GT 1C5GT 1F5G 1G5G	7EW	2CY5 2EA5 2EV5 3CY5	8DK	5719 5897 5898 5904 5977	6AF3 12AF3	EF86	EF86	
5BT	GA 6CD6GA 6DN6 6EX6		1J5G 1T5GT		3EA5 3EV5 4CY5 6CY5		6055 6946	9BR7 12BR7 A	FM1000	FM1000	
	21EX6 25CD6G GA GB	7A	59	7F	6EA5 6EV5 7167	8DL	5639 5640 5840 5899 5900	5CM6 6CM6 6CS5 6DW5	X6030	X6030	
	25DN6 35CD6GA	7A A	1H6G	7FD	12A5		5901 5902 5905 5906 5907	12CM6 12CS5 12DW5	407A	407A	
5BU	5517/CK1013	7AB	1G6GT 1J6G 1J6GT	7FL	12EL6	8DM	6049 6056 6945	50A1	1222	1222	
5BZ	1W4	7AD	1F7G*	7FN	12K5	8DN	5987	6287	9CT	1236A	
5C	46 49 52	7AF	1F7GV	7FQ	2EN5	8DP	1D3	EL84/6BQ5 8BQ5 12FB5	9CV	1247	
5CA	5845	7AG	6AD6G 6AF6G	7G	6ER5	8BD	2B5	45B5 7320		5516	
5CB	5722	7AH	6AE6G	7H	2FV6 6FV6	8BP	5968	5AM8 6AM8	9CY	5633 5634	
5CC	6AB4	7AK	1LA6 1LC6	7I	6C7	8BQ	5969	6350 6463 6840 12G8	9CZ	5638	
5CF	1C3	7AL	1629	7J	6D7 6E7	8DR	5970	5AN8 6AN8 10C8 12CT8	9DA	5642	
5D	2S/4S 84/6Z4 6Z4	7AM	1N6GT	7K	12A7	8DS	68A5	7258		5646	
5E	24A 24S 35/51 35S/51S 36	7AO	1LC5 1LG5 1LN5	7Q	6AX6G 50AX6G 6H6 GT*	8DY	688 688G* 688GT 12C8		9DC	5647	
5F	15 38 39/44	7AP	3BSGT 3Q5GT 3CSGT		12H6 25X6GT 50Y6GT	8E	7212 7358		9D	5702 WA WB	
5K	1F4 33 950	7AT	1R5		25Z6 35Z6G 50Z6G 25Z	8EC	6AH4GT		9DS	5703 WA WB	
5L	5CG4 5V4G GA 5Z4	7AU	6AB6G 6N6G		6GT 117Z6GT	8EL	40A1 40B2		9DT	5704	
	5Z4GT 5CG4	7AV	1S4		6I7 6J7G* 6J7GT* 12J7GT	8ES	6CA7 EL34		9DV	5744	
5M	6F5 6F5GT 12F5GT	7AX	6AE7GT	7R	6K7 6K7G 6K7GT 12K7GT	8ET	6308		9DW	5783	
5O	5X4G 5X4GA 5Y4G GA	7AZ	6SF7 6SV7 12SF7		6S7 6S7G 6U7G 6W7G 12Z3	8EX	6352		9DX	5784	
5R	1D5GT	7B	6A6 6E6 53 5608A		5V6GT 6DG6GT 6EF6 6EY6	8EY	25A7GT			5785	
5S	1E4G 1G4GT 1H4G 2A4G	7BA	3S4 3Q4 3Z4		6F6 G 6G6G/GT 6G6G	8F	6BD4 6BD4A			5785	
	6B4G	7BB	3A4		6K6GT 6L6 G GA GB GC	8FU	3C2			5889	
5T	5AS4 A 5AW4 5AX4GT	7BC	3A5		6L6GAY 6U6 GT GTY 6U6-	8G	6C8G 6F8G		9E	6900	
	5AZ4 5R4GY GYA GYB	7BD	3BC5 3CE5 4BC5 4CE5		GT 6V6 GT 6W6GT 6Y6G	8G	6BL4		9ED	6939	
	5U4WG 5V3 5W4 5Y3GA		6AG5 6AJ5 6AK5 6AN5		GA 7EY6 9EF6 12A6 GT	8GB	6BK4 6BU4		9EF	7077	
	GT 5T4 5U4G GA GB		6BC5 6CE5 408A 5590 5591		12EF6 12EN6 12LG6 12V6-	8GC	6C85 6CL5		9EG	7189	
	5W4GT WGTA 5931 6004		5654 5654/6AK5W/6096		GT 12W6GT 17L6GT 25A6	8GD	3B2		9EJ	7236	
5U	6K5G 6K5GT		5725 5725/6AS6W 6028		GT 25B6G 25C6G 25CGA	8GH	6690		9EJ	7241	
5Y	1D5GP 1E5GP 1N5GT		6186 6186/6AG5WA 6968		25L6 GT 35L6GT 50C6G	8GO	15A8		9EN	7242	
	1P5GT		9001 9003		50C6GA 50L6GT 1614	8GS	6CM5			7242	
5Z	1H5GT	7BE	3B7		5824 5871 5881 5932 6550	8GT					

*This indicates an internal shield connected to Pin No 1

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The literature below is only a partial listing of technical data and brochures available from Sylvania. Additional information may be procured from your Sylvania Distributor, or by writing Sylvania.

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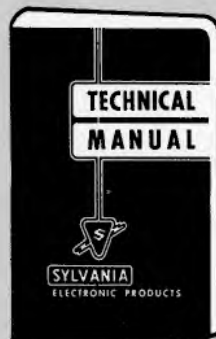
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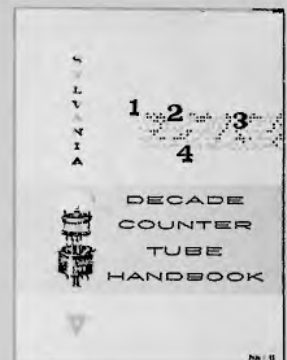
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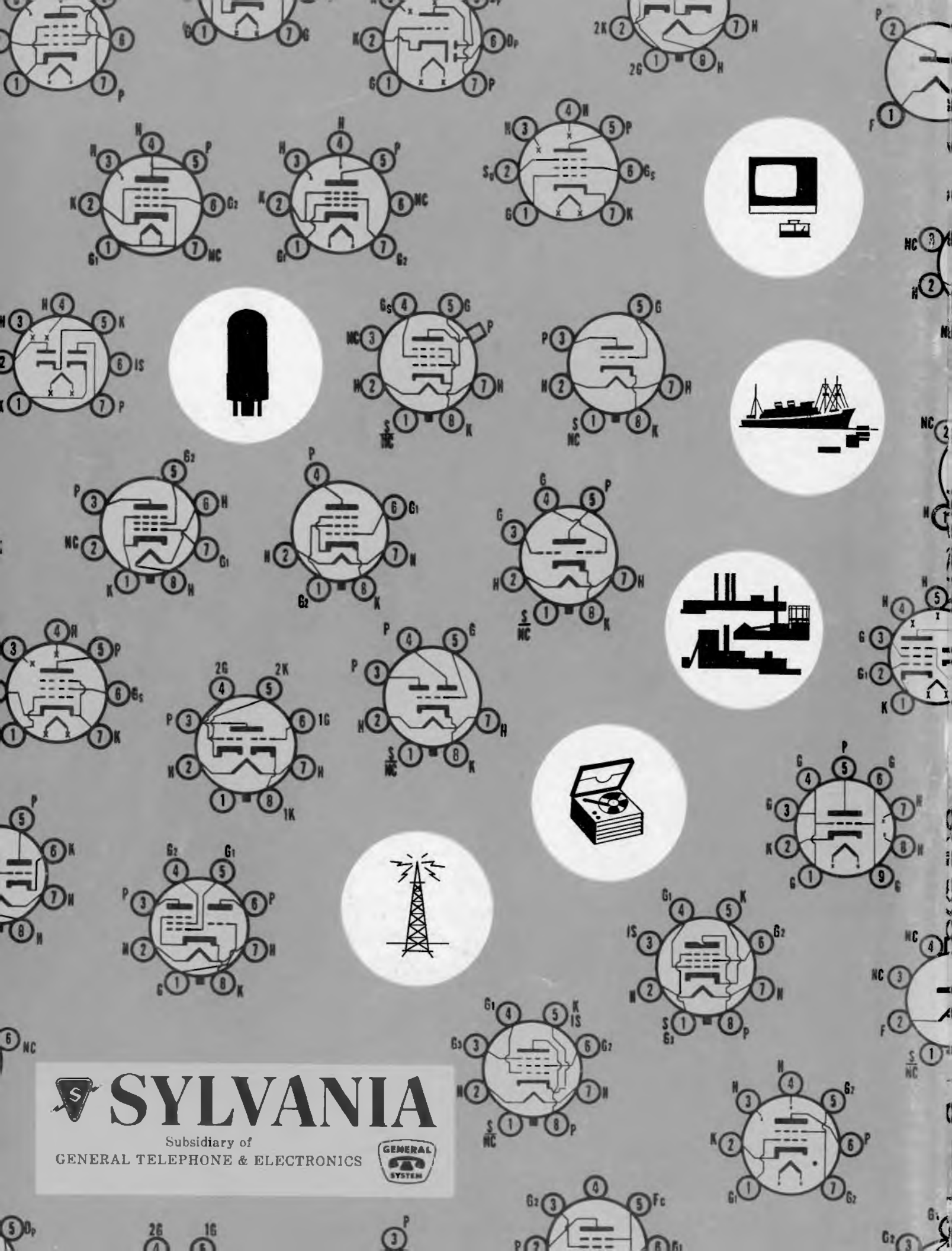
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