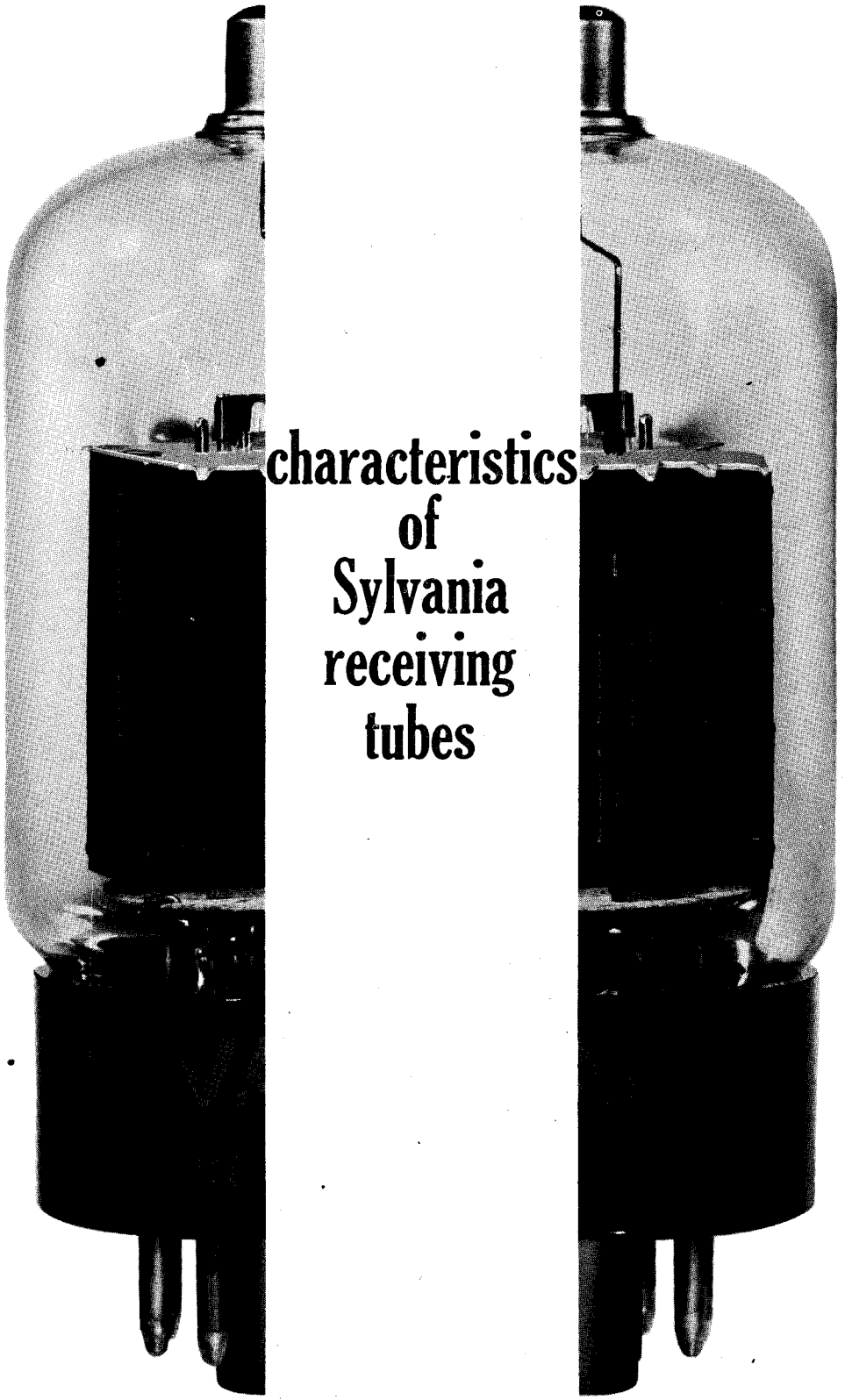
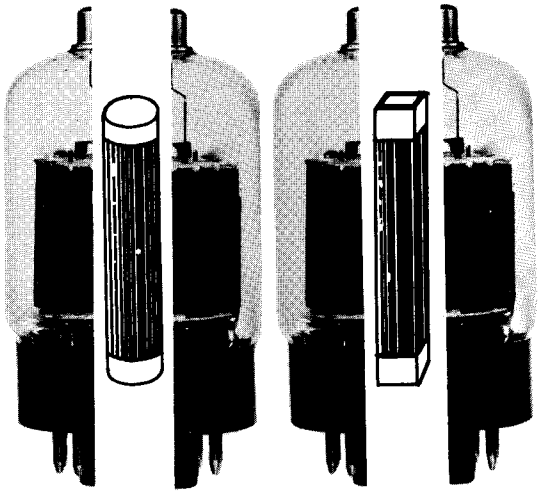


characteristics of Sylvania receiving tubes

25¢

the most important tube improvements come from Sylvania



SARONG CATHODE COATING

BIKINI CATHODE COATING

and now . . . LIFE-BOOST CATHODE

Sylvania has developed a revolutionary new way of forming the cathode material. The result is a startling improvement in tube characteristics — longer tube life, greater uniformity, improved performance. It's called Life-Boost Cathode and it's the most significant advance in electron tubes since Sylvania developed Sarong Cathode. Tubes with cathodes formed this new way, by compacting metal powder, possess many inherent advantages over conventional structures. New Sylvania powder techniques allow desirable chemical additives to be alloyed with pure nickel powder under conditions of exact process control. Absence of unfavoring impurities permits better control of cathode activation, providing greater uniformity of electrical characteristics initially and sustained characteristic levels on life. The important point is this — Sylvania Life-Boost Cathode tubes offer the service dealer greater tube reliability, longer tube life, improved tube performance. Always look to Sylvania for new tube improvements — always insist on Sylvania tubes.

SYLVANIA RECEIVING TUBE CHARACTERISTICS CHART

This booklet contains the very latest television and radio receiving tubes in addition to many industrial tubes. It is intended as a quick reference to pertinent characteristics and basing connections.

Resistance/capacitance coupled amplifier data and a listing of tube types by basing connections are also included. This valuable supplementary information is presented in the latter pages of the booklet.

Please note that all types listed may not be 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 has been compiled from various sources and while believed to be accurate, no responsibility can be assumed in case of error.

The majority of the information presented in the chart is self-explanatory, requiring only a few footnotes for clarification. The *Bulb Size or Style* column and the *Emitter* column are the only columns requiring additional comment.

BULB SIZE OR STYLE COLUMN

T-1 to T-18—Numbers 1 to 18 indicate nominal bulb diameter in eighths of an inch.

T, ST, TT—T—Straight sided bulb, ST—dome topped tapered bulb, TT—large straight sided bulb with top and bottom curved.

Metal—Octal base, T-8 metal envelope.
Lock-in—Lock-in base, T-9 glass bulb.

9-T9—Conventional 9 pin miniature base with T-9 bulb.

M-N—Metal Cased Nuvistor.

Comp.—Compactron, 12 pin base with T-9 or T-12 bulb, exhaust tip located at bottom.

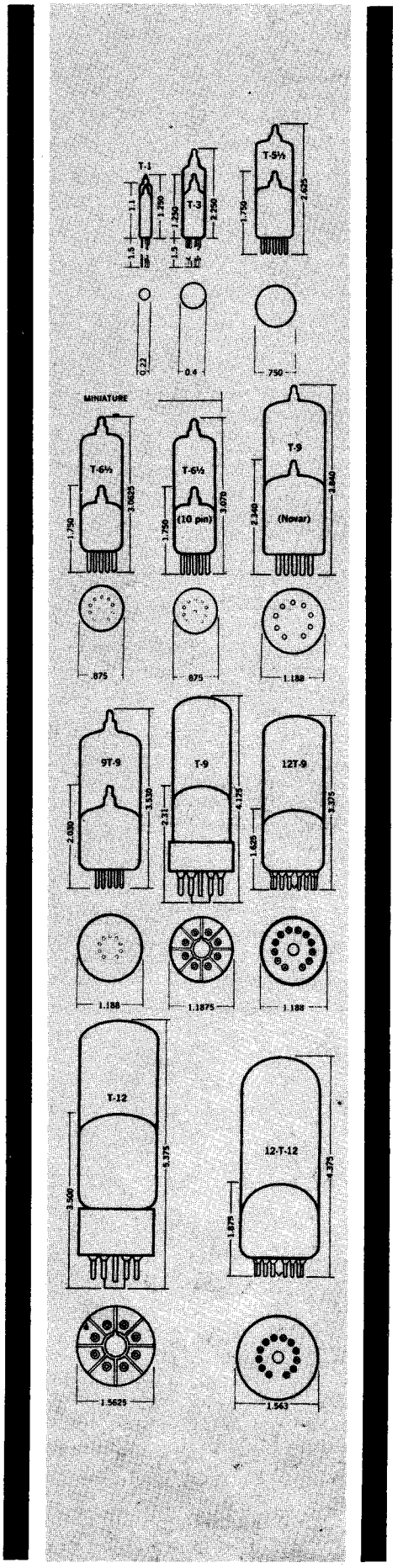
NOVAR—9 pin base (large pin circle .687″ dia. and large dia. pins .04″) with T-9 or T-12 bulb.

MAGNOVAL—9 pin base (large pin circle .687″ dia. and large dia. pins .05″) bonded to T-9 bulb, exhaust tip located at bottom.

CERAMIC and METAL—Planar Construction, ceramic and metal envelope, thimble sized, baseless.

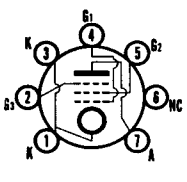
EMITTER COLUMN. When replacing tubes in series string television receivers, attention should be given to the complete type number including the suffix. Prototypes should not be substituted for series string types.

Heater voltage, heater current and heater-cathode voltage ratings of series string tubes may differ widely from those of their prototypes. All series string types have controlled heater warm-up time. In addition, heater current production tolerances for series string tubes are tighter to assure proper steady state voltage distribution. Failure to recognize these differences may result in poor set performance and premature tube failure.

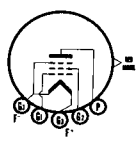


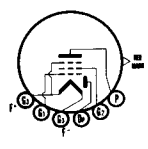
SYLVANIA TUBES

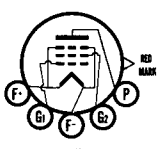
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
OA2 GB-OA2WA (3)	T-5½	Diode	5BO	....	....	Voltage Regulator with Starting Voltage at 155, Operating Voltage 150, Operating Current 5 to 30 Ma.											
OA3 OA3A	ST-12 T-9	Diode	4AJ	....	....	Voltage Regulator with Starting Voltage at 165, Operating Voltage 75, Operating Current 5 to 40 Ma.											
OA4G	ST-12	Gas Triode	4V	....	....	Relay Tube Peak Cathode Ma. = 100 D.C. Cathode Ma. = 25 Max. Starter Anode Drop = 60 V. Approx. Anode Drop = 70 V. Approx.											
OA5	T-5½	Gas Pentode	OA5	....	....	Switching	....	750	Trigger Grid Voltage = +90 Volts. Trigger Pulse Voltage = 85 Volts. Keep Alive Current = 50 μa. Trigger Grid Circuit Resistance = 0.25 Meg.								
OB2 GB-OB2WA (3)	T-5½	Diode	5BO	....	....	Voltage Regulator with Starting Voltage at 115, Operating Voltage 105, Operating Current 5 to 30 Ma.											
OB3 OB3A	ST-12 T-9	Diode	4AJ	....	....	Voltage Regulator with Starting Voltage at 125, Operating Volts 90, Operating Current 5 Ma. Min., 30 Ma. Max.											
OC2	T-5½	Diode	5BO	....	....	Voltage Regulator with Starting Voltage at 105, Operating Voltage 75, Operating Current 5 Ma. Min., 30 Ma. Max.											
OC3 OC3A	ST-12 T-9	Diode	4AJ	....	....	Voltage Regulator with Starting Voltage at 135, Operating Volts 105, Operating Current 5 Ma. Min., 40 Ma. Max.											
OD3 OD3A	ST-12 T-9	Diode	4AJ	....	....	Voltage Regulator with Starting Voltage at 180, Operating 150 Volts, Operating Current 5 Ma. Min., 40 Ma. Max.											
OY4 OY4G	Metal T-7	Gas Diode	4BU 4BU	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 μμf.									
OZ4	Metal	Gas Duodi.	4R	Ionic	....	F-W Rect.	....	300 A.C. Volts Per Plate, RMS, 90 Ma. Max., 30 Ma. Min. Output Current.									
OZ4A	Metal	Gas Duodi.	4R	Ionic	....	F-W Rect.	....	300 A.C. Volts Per Plate, RMS, 110 Ma. Max., 30 Ma. Min. Output Current.									
OZ4G	T-7	Gas Duodi.	4R	Ionic	....	F-W Rect.	....	300 A.C. Volts Per Plate, RMS, 90 Ma. Max., 30 Ma. Min. Output Current.									
1A3	T-5½	Diode	5AP	1.4	0.150	Detector	....	Half Wave Cathode Type Rectifier for H. F. Use.									
1A5GT	T-9	Power Pent.	6X	1.4♦	0.050	Power Amp.	....	85 90	4.5 4.5	85 90	3.5 4.0	0.7 0.8	300000 300000	800 850	....	25000 25000	100 115
1A7GT	T-9	Heptode	7Z	1.4♦	0.050	Converter	....	90	0.0	90	0.6	1.2	600000	250▲	(Ga = 90 V. Max. 1.2 Ma.)		
1AC5	T-3	Pentode	8CP	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	200000 170000 150000	450 600 750	....	50000 40000 25000	5 15 50
1AD2	T-9	Diode	12DQ	1.25♦	0.200	Flyback H-W Rectifier	....	Maximum Peak Inverse Plate Voltage = 26,000 Volts, Maximum Peak Plate Current = 50 Ma., Maximum Average Output Current = 0.5 Ma.									
1AD5	T-3	Pentode	8CP	1.25♦	0.040	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	700000 700000 700000	430 580 735	....	....	....
1AE4	T-5½	Pentode	6AR	1.25♦	0.100	R-F Amp.	....	90	0	90	3.5	1.2	500000	1550	....	....	....
1AF4	T-5½	Pentode	6AR	1.4♦	0.025	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 1050	....	....	....
1AF5	T-5½	Diode Pent.	6AU	1.4♦	0.025	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	....	....	....
1AG4	T-2X3	Pentode	1AG4	1.25♦	0.040	Power Amp.	....	41.4	3.6	41.4	2.4	0.6	180000	1000	....	12000	35
1AG5	T-2X3	Diode Pent.	1AG5	1.25♦	0.030	Det. Amp.	....	45	2.0	45	0.28	0.12	2.5 Meg.	250	....	....	....
1AH4	T-2X3	Pentode	1AH4	1.25♦	0.040	R-F Amp.	....	45 67.5	5 Meg.[4] 5 Meg.[4]	45 67.5	0.75 0.75	0.2 0.2	1.5 Meg. 2.0 Meg.	750 750	....	....	....
1AJ5	T-2X3	Diode Pent.	1AJ5	1.25♦	0.040	Det. Amp.	....	45	0	45	1.0	0.3	300000	425	....	....	....
1AK4	T-2X3	Pentode	1AK4	1.25♦	0.020	Class A1 Amp.	....	45 67.5	0 0	45	0.75 0.75	0.2 0.2	1500000 2000000	750 750	(Screen Supply = 67.5 Volts Thru .11 Meg. Res.)		
1AK5	T-2X3	Diode Pent.	1AK5	1.25♦	0.020	Det. Amp.	....	45	0	45	0.5	0.2	400000	280	....	....	....
1AN5	T-5½	Pentode	7ES	1.4♦	0.025	I-F Amp.	....	90	0	62	1.7	0.7	450000	940	G1 to G2 = 20	....	....
1AU3	T-12	Diode	3C	1.25♦	0.200	Flyback H-W Rect.	....	Maximum Peak Inverse Plate Voltage = 30,000 Volts. Maximum Peak Plate Current = 50 Ma. Maximum Average Plate Current = 0.5 Ma.									
1AX2	T-6½	Diode	9Y	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.									



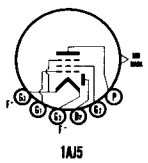
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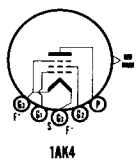

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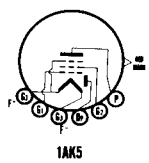

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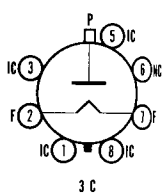


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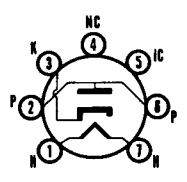

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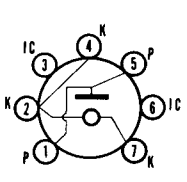

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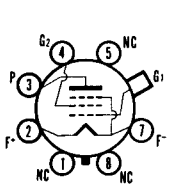
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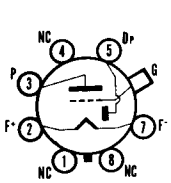
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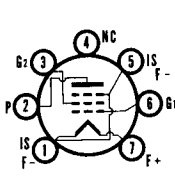
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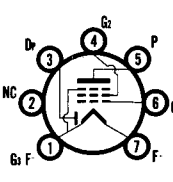
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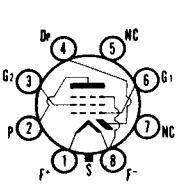
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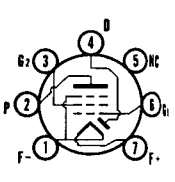
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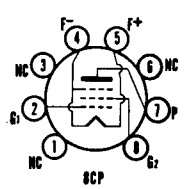
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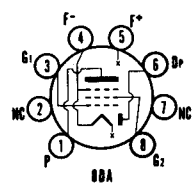
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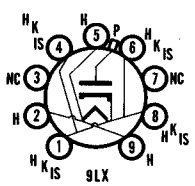
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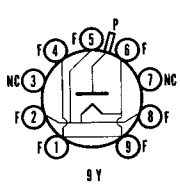
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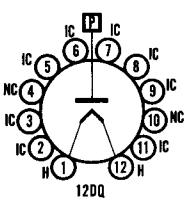
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9LX



9Y

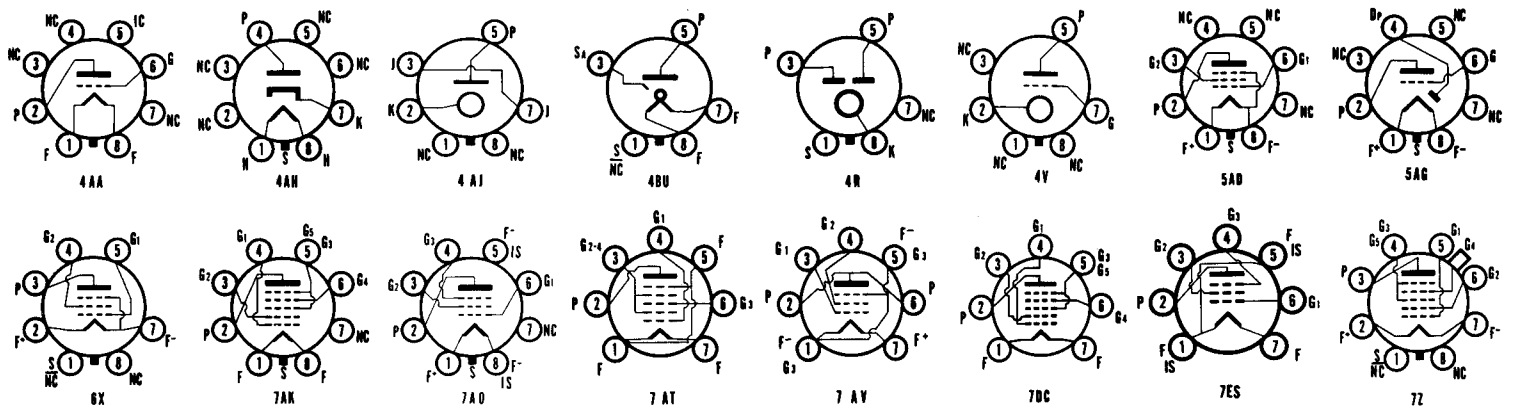


12DQ

AVERAGE CHARACTERISTICS

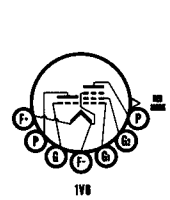
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
1B3GT	T-9	Diode	3C	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.									
1DN5	T-5½	Diode Pent.	6BW	1.4♦	0.050	Det. Amp.	....	67.5	0	67.5	2.1	0.55	.6 Meg.	630	....	....	....
1G3	T-9	Diode	3C	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.									
1H2	T-6½	Diode	9LX	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.									
1H5GT	T-9	Diode Triode	5Z	1.4♦	0.050	Det. Amp.	....	90	0.0	....	0.15	...	240000	275	65	....	....
1J3	T-9	Diode	3C	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.									
1J3A	T-9	Diode	3C	1.25♦	0.200	Flyback H-W Rect.	....	Maximum Peak Inverse Volts = 28,000 Volts. Maximum Peak Plate Current = 50 Ma. Maximum Average Plate Current = 0.5 Ma.									
1K3	T-9	Diode	3C	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.									
1L4	T-5½	Pentode	6AR	1.4♦	0.050	R-F Amp.	....	90 90	0 0	67.5 90	2.9 4.5	1.2 2.0	600000 350000	925 1025	....	....	....
1L6	T-5½	Heptode	7DC	1.4♦	0.050	Converter	....	90	0	45	0.5	0.6	650000	300▲	(Ga = 90 V., 1.2 Ma.)		
1LA4	Lock-in	Power Pent.	5AD	1.4♦	0.050	Power Amp.	....	85 90	4.5 4.5	85 90	3.5 4.0	0.7 0.8	300000 300000	800 850	....	25000 25000	100 115
1LA6	Lock-in	Heptode	7AK	1.4♦	0.050	Converter	....	90	0.0	45	0.55	0.6	750000	250▲	(Ga = 90 V. Max., 1.2 Ma.)		
1LB4	Lock-in	Power Pent.	5AD	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	400000 300000 250000	650 875 925	....	20000 16000 12000	35 100 200
1LC5	Lock-in	Pentode	7AO	1.4♦	0.050	R-F Amp.	....	45 90	0.0 0.0	45 45	1.1 1.15	0.35 0.30	700000 1.5 Meg.	750 775	....	....	....
1LC6	Lock-in	Heptode	7AK	1.4♦	0.050	Converter	....	45 90	0.0 0.0	35 35	0.7 0.75	0.75 0.7	300000 650000	250▲ 275▲	(Ga = 45 V. Max., 1.4 Ma.) (Ga = 45 V. Max., 1.4 Ma.)		
1LD5	Lock-in	Diode Pent.	6AX	1.4♦	0.050	Amplifier	....	45 90	0.0 0.0	45 45	0.55 0.6	0.12 0.1	750000 750000	550 575	....	....	....
1LE3	Lock-in	Triode	4AA	1.4♦	0.050	Amplifier	....	90 90	0.0 3.0	....	4.5 1.4	... ...	11200 19000	1300 760	14.5 14.5	....	....
1LG5	Lock-in	Pentode	7AO	1.4♦	0.050	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	350000 1000000 500000	800 800 1050	....	....	....
1LH4	Lock-in	Diode Triode	5AG	1.4♦	0.050	Det. Amp.	....	90	0.0	....	0.15	...	240000	275	65	....	....
1LN5	Lock-in	Pentode	7AO	1.4♦	0.050	R-F Amp.	....	90	0.0	90	1.6	0.35	1.1 Meg.	800	....	....	....
1N2A	T-12	Diode	3C	1.25♦	0.200	Flyback H-W Rect.	....	Maximum Peak Inverse Plate Voltage = 28,000 Volts. Max. Peak Plate Current = 50 Ma. Maximum Average Plate Current = 0.5 Ma.									
1N5GT	T-9	Pentode	5Y	1.4♦	0.050	R-F Amp.	....	90	0.0	90	1.2	0.3	1.5 Meg.	750	....	....	....
1R4	Lock-in	H. F. Diode	4AH	1.4♦	0.150	Detector	....	Half Wave Cathode Type Rectifier for High Frequency Use.									
1R5	T-5½	Heptode	7AT	1.4♦	0.050	Converter	....	45 90	0.0 0.0	45 67.5	0.7 1.5	2.1 3.5	500000 400000	210▲ 280▲	....	....	....
1S4	T-5½	Power Pent.	7AV	1.4♦	0.100	Power Amp.	....	45 90	4.5 7.0	45 67.5	3.8 7.4	0.8 1.4	100000 100000	1250 1575	....	8000 8000	65 270
1S5	T-5½	Diode Pent.	6AU	1.4♦	0.050	Det. Amp.	....	67.5	0.0	67.5	1.6	0.4	600000	625	....	....	....
1S6	T-3	Diode Pent.	8DA	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	500000 500000 400000	330 475 600	....	....	....
1T4	T-5½	Pentode	6AR	1.4♦	0.050	R-F Amp.	....	45 90	0.0 0.0	45 67.5	1.7 3.5	0.7 1.4	350000 500000	700 900	....	....	....

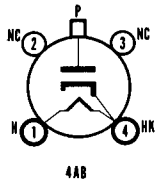
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

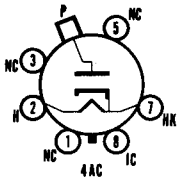


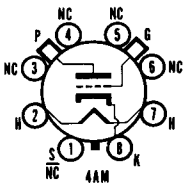
SYLVANIA TUBES

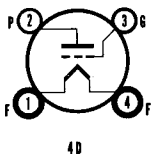
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
1U4	T-5½	Pentode	6AR	1.4♦	0.050	R-F Amp.	....	90	0	90	1.6	0.45	1.6 Meg.	900	....	....	....
1U5	T-5½	Diode Pent.	6BW	1.4♦	0.050	Det. Amp.	....	Characteristics Same as Type 1S5.									
1U6	T-5½	Heptode	7DC	1.4♦	0.025	Converter	....	67.5 90	0 0	45 45	0.5 0.6	0.7 0.6	500000 500000	260▲ 275▲	(Ga = 67.5 V., 1.0 Ma.) (Ga = 90 V., 1.1 Ma.)		
1V2	T-6½	Diode	9U	0.625♦	0.300	H-W Rect.	....	Television Service. RF or Flyback Supply. Peak Inverse Volts = 8250, Output = 0.6 Ma.									
1V6	T-2x3	Tri. Pentode	1V6	1.25♦	0.040	R-F Osc. R-F Amp.	....	45 45	1 Meg.[4] 5 Meg.[4]	 45	0.4 0.4	IG[1] = 12 μa 0.15	Conv. = 1.0 Meg.	200▲	....	....	....
1X2B	T-6½	Diode	9Y	1.25♦	0.200	H-W Rect.	....	Television Service, RF or Flyback Supply. Peak Inverse Volts = 22 KV, Output = 0.5 Ma.									
2A3	ST-16	Triode	4D	2.5♦	2.500	S.T. A1 Amp. P.P.AB1 Amp.	16.5	250 300	45.0 62.0	....	60.0 80-147†, Push Pull, Fixed Bias	....	800	5250	4.2	2500 3000¶	3500 15000
2AF4A 2AF4B	T-5½	Triode	7DK	2.35*	0.600	UHF Osc.	2.5	Characteristics Same as Type 6AF4A. Type 2AF4B has Higher-Cathode Voltage Ratings than Otherwise Identical Type 2AF4A.									
2AH2	Comp. T-9	Diode	12DG	2.5♦	0.300	Flyback H-W Rect.	....	Maximum Peak Inverse Plate Voltage = 30,000 Volts. Maximum Peak Plate Current = 80 Ma. Maximum Average Plate Current = 1.5 Ma.									
2B3	T-9	Diode	8HC	1.75♦	0.250	H-W Rect.	....	Television Service. Flyback Supplies. Peak Inverse Volts = 22 KV. Output = 0.5 Ma.									
2BN4A	T-5½	Triode	7EG	2.35*	0.600	VHF Amp.	2.42	Characteristics Same as Type 6BN4A. (2BN4A Designed for Series String Receivers.)									
2C21	ST-12	Duotriode	7BH	6.3	0.600	Amplifier Power Amp.	2.3	250 250	16.5 60.0	....	8.3 20.0	...	7600	1375	10.4	20000	 3500
2C22	T-9	Triode	4AM	6.3	0.300	Amplifier	3.3	300	10.5	....	11.0	...	6600	3000	20.0	....	....
2C50	T-9	Duotriode	8BD	12.6	0.300	Amplifier	3.85	200	11	....	18	...	3450	2900	10	....	....
2C51	T-6½	Duotriode	8CJ	6.3	0.300	Amplifier	1.65	150	240■	....	8.2	...	6500	5500	35	....	....
2C52	T-9	Duotriode	8BD	12.6	0.300	Amplifier	1.65	250	2.0	....	1.3	...	....	1900	100	....	....
2CW4	M-N	Triode	12AQ	2.1*	0.450	VHF Amp.	1.0	Characteristics Same as Type 6CW4. (2CW4 Designed for Series String Receivers.)									
2CY5	T-5½	Tetrode	7EW	2.4*	0.600	VHF Amp.	2.0	Characteristics Same as Type 6CY5. (2CY5 Designed for Series String TV Receivers.)									
2D21	T-5½	Gas Tetrode	7BN	6.3	0.600	Relay Tube	....	400	5	Average Cathode Current = 100 Max. Ma., Averaged over any 30 Sec. Interval.							
2E26	T-9	Beam Pent.	7CK	6.3	0.800	Class C Amp.	10	500	40.0	185	60.0	11.0	Driving Power = 0.12 Watts. D.C. Grid No. 1 Current = 3.0 Ma.				2000
2EA5	T-5½	Tetrode	7EW	2.4*	0.600	VHF Amp.	3.25	Characteristics Same as Type 6EA5. (2EA5 Designed for Series String Receivers.)									
2EN5	T-5½	Duodiode	7FL	2.1*	0.450	Phase-Comparator	....	Diode Current for Continuous Operation (Each Plate) = 20 Ma. Diode Characteristics with 5.0 Volts Applied. Ib = 20 Ma. (Each Plate—Test Condition Only.)									
2ER5	T-5½	Triode	7FP	2.3*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6ER5. (2ER5 Designed for Series String Receivers.)									
2ES5	T-5½	Triode	7FP	2.35*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6ES5. (2ES5 Designed for Series String Receivers.)									
2EV5	T-5½	Tetrode	7EW	2.4*	0.600	VHF Amp.	3.25	Characteristics Same as Type 6EV5. (2EV5 Designed for Series String Receivers.)									
2FH5	T-5½	Triode	7FP	2.35*	0.600	R-F Amp.	2.2	Characteristics Same as Type 6FH5. (2FH5 Designed for Series String Receivers.)									
2FQ5	T-5½	Triode	7FP	2.3*	0.600	VHF Amp.	2.5	Characteristics Same as Type 6FQ5. (2FQ5 Designed for Series String Receivers.)									
2FQ5A	T-5½	Triode	7FP	2.3*	0.600	VHF Amp.	2.5	Characteristics Same as Type 6FQ5A. (2FQ5A Designed for Series String Receivers.)									
2FS5	T-5½	Shadow Grid Beam Pent.	7GA	2.4*	0.600	VHF Amp.	3.2	Characteristics Same as 6FS5. (2FS5 Designed for Series String Receivers.)									
2FY5	T-5½	Triode	7FP	2.4*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6FY5. (2FY5 Designed for Series String Receivers.)									
2FV6	T-5½	Tetrode	7FQ	2.4*	0.600	VHF Amp.	2.0	Characteristics Same as Type 6FV6. (2FV6 Designed for Series String Receivers.)									
2GK5	T-5½	Triode	7FP	2.3*	0.600	VHF Amp.	2.5	Characteristics Same as Type 6GK5. (6GK5 Designed for Series String Receivers.)									
2T4	T-5½	Triode	7DK	2.35*	0.600	UHF Osc.	3.85	Characteristics Same as Type 6T4. (2T4 Designed for Series String TV Receivers.)									
2X2 2X2A(3)	ST-12	Diode	4AB	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 = 5500 Volts. Characteristics Same as 2X2.									
3A2	T-6½	Diode	9DT	3.15	0.220	H-W Rect.	....	TV Service. Peak Inverse Volts = 18 KV. Peak Current = 80 Ma. Average Current = 1.5 Ma.									
3A3	T-9	Diode	4AC	3.15	0.220	H-W Rect.	....	TV Service. Peak Inverse Volts = 30 KV. Peak Current = 80 Ma. Average Current = 1.5 Ma.									
3A4	T-5½	Pentode	7BB	1.4♦ 2.8	0.200 0.100	Power Amp.	2.5	135 150	7.5 8.4	90 90	14.8 13.3	2.6 2.2	90000 100000	1900 1900	....	8000 8000	600 700

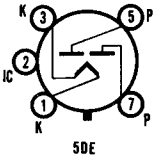


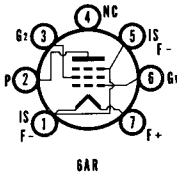


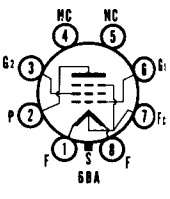


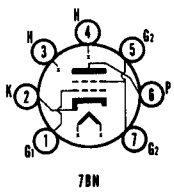


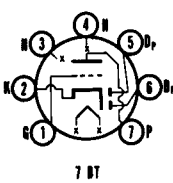


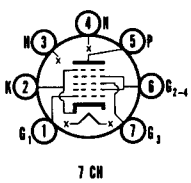


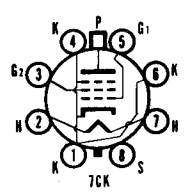


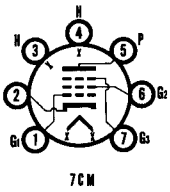


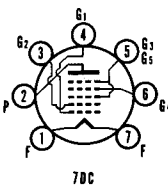


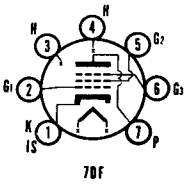


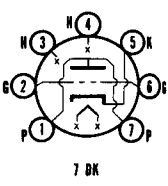


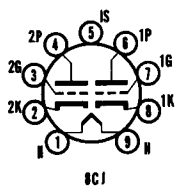


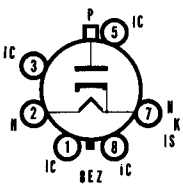


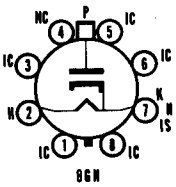


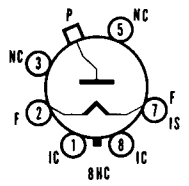


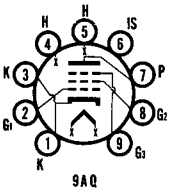


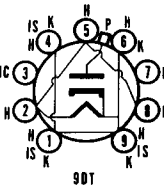


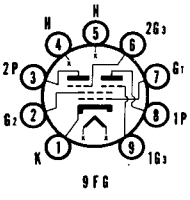


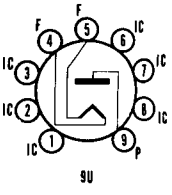








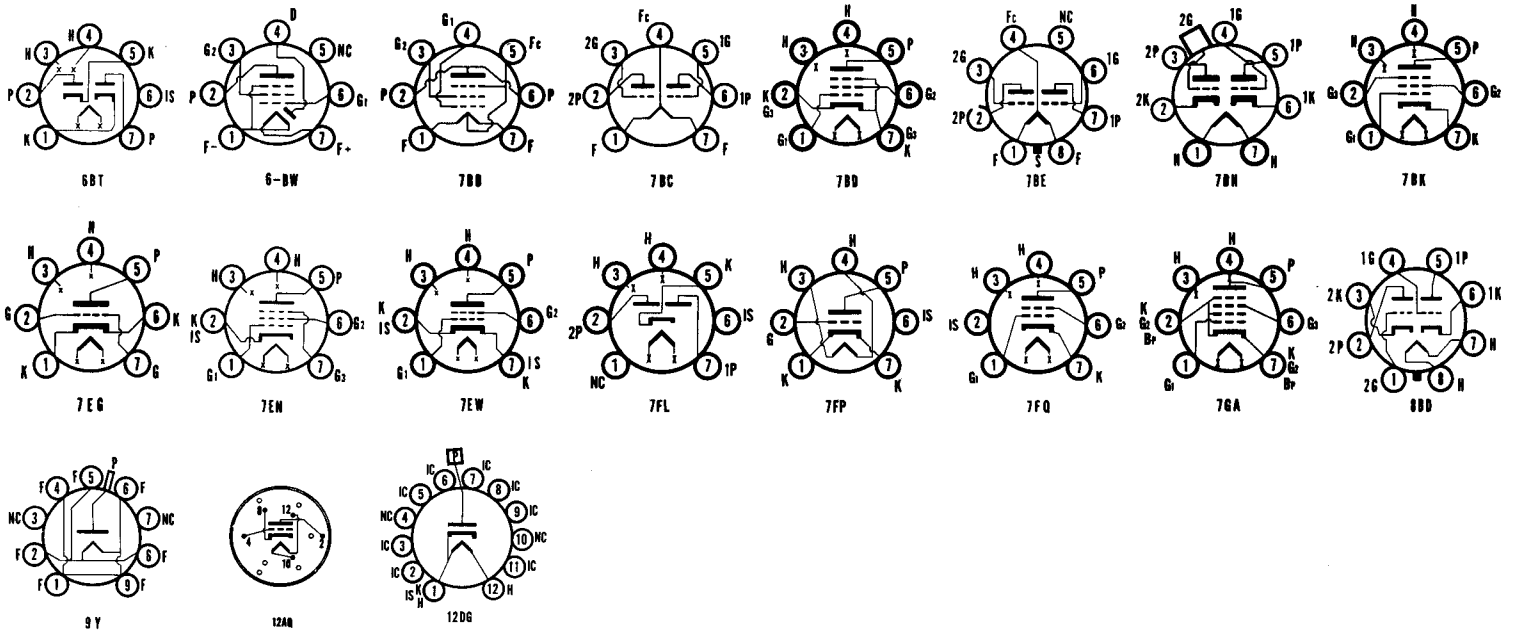




AVERAGE CHARACTERISTICS

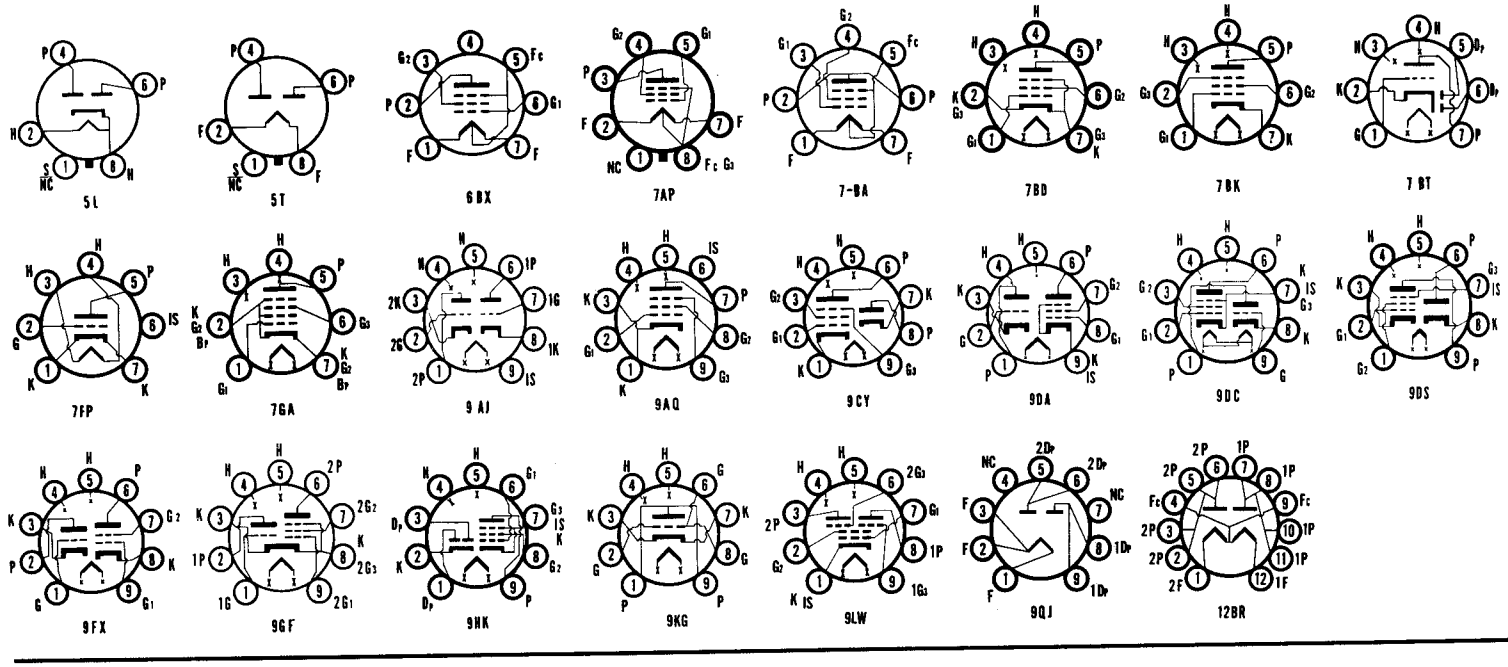
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
3A5	T-5½	Duotriode	7BC	1.4♦ 2.8	0.220 0.110	Amplifier	0.55	90 135	2.5 20.0	....	3.7 30.0	.... Push-Pull Class C R.F. Amp.	8300	1800	15	....	 2000
3AF4A	T-5½	Triode	7DK	3.2*	0.450	UHF Osc.	2.5	Characteristics Same as Type 6AF4A.									
3AF4B	T-5½	Triode	7DK	3.2*	0.450	VHF Osc.	2.7	Characteristics Same as Type 6AF4A. (3AF4B has Peak Positive and Negative Heater Cathode Voltages of 180 Volt.)									
3AL5	T-5½	Duodiode	6BT	3.15*	0.600	Detector	....	Characteristics Same as Type 6AL5. (3AL5 Designed for Series String TV Receivers.)									
3AU6	T-5½	Pentode	7BK	3.15*	0.600	R-F Amp.	3.3	Characteristics Same as Type 6AU6. (3AU6 Designed for Series String TV Receivers.)									
3AV6	T-5½	Duodiode Tri.	7BT	3.15*	0.600	Det. Amp.	0.55	Characteristics Same as Type 6AV6. (3AV6 Designed for Series String TV Receivers.)									
3AW3	T-9	Diode	8EZ	3.15♦	0.220	Flyback H-W Rect.	....	Maximum Peak Inverse Volts = 30,000 Volts. Maximum Peak Plate Current = 88 Ma. Maximum Average Plate Current = 1.7 Ma.									
3B2	T-12	Diode	8GH	3.15	0.220	H-W Rect.	....	TV Service. Pulsed Rectifier Service. Max. Peak Inverse Volts = 35 Kv, Output = 1.1 Ma.									
3B7	Lock-in	Duotriode	7BE	2.8♦ 1.4	0.110 0.220	Power Amp. Oscillator	2.97	135 180	0 0	....	22.0 25.0	(Class AB2) (Class C) R.F. Pwr. Amp. 2800 mw at 25 mc, 1400 mw at 125mc.	....	1900	20	16000	1500
3BA6	T-5½	Pentode	7BK	3.15*	0.600	I-F or R-F Amplifier	3.3	Characteristics Same as Type 6BA6. (3BA6 Designed for Series String TV Receivers.)									
3BC5	T-5½	Pentode	7BD	3.15*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6BC5. (3BC5 Designed for Series String TV Receivers.)									
3BE6	T-5½	Heptode	7CH	3.15*	0.600	Converter	1.1	Characteristics Same as Type 6BE6. (3BE6 Designed for Series String TV Receivers.)									
3BN4A	T-5½	Triode	7EG	3.0*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6BN4A. (3BN4A Designed for Series String Receivers.)									
3BN6	T-5½	Gated Beam	7DF	3.15*	0.600	Quad. Det.	....	Characteristics Same as Type 6BN6. (3BN6 Designed for Series String TV Receivers.)									
3BU8 3BU8A	T-6½	Duo Pentode	9FG	3.15*	0.600	Sync. Sep.	1.1	Characteristics Same as Type 6BU8. (3BU8 Designed for Series String TV Receivers.)									
3BX6	T-6½	Pentode	9AQ	3.4*	0.600	VHF Amp.	2.5	Characteristics Same as Type 6BX6. (3BX6 Designed for Series String Receivers.)									
3BY6	T-5½	Heptode	7CH	3.15*	0.600	Sync. Sep.	2.2	Characteristics Same as Type 6BY6. (3BY6 Designed for Series String TV Receivers.)									
3BY7	T-6½	Pentode	9AQ	3.4*	0.600	VHF Amp.	2.7	100 250	1.1 2.0	57 100	5.5 10	1.6 2.5	250000 600000	5000 6000	....	....	....
3BZ6	T-5½	Pentode	7CM	3.15*	0.600	VHF Amp.	2.3	Characteristics Same as Type 6BZ6. (3BZ6 Designed for Series String TV Receivers.)									
3CB6	T-5½	Pentode	7CM	3.15*	0.600	Amplifier	2.3	Characteristics Same as Type 6CB6. (3CB6 Designed for Series String TV Receivers.)									
3CE5	T-5½	Pentode	7BD	3.15*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6CE5. (3CE5 Designed for Series String TV Receivers.)									
3CF6	T-5½	Pentode	7CM	3.15*	0.600	VHF Amp.	2.3	Characteristics Same as Type 6CF6. (3CF6 Designed for Series String TV Receivers.)									
3CS6	T-5½	Heptode	7CH	3.15*	0.600	Sync. Sep.	1.0	Characteristics Same as Type 6CS6. (3CS6 Designed for Series String TV Receivers.)									
3CY5	T-5½	Tetrode	7EW	2.9*	0.450	VHF Amp.	2.0	Characteristics Same as Type 6CY5. (3CY5 Designed for Series String TV Receivers.)									
3D6	Lock-in	Beam Pent.	6BA	2.8♦ 1.4	0.110 0.220	Power Amp.	4.95	150 150	4.5 20.0	90 135	10.2 23.0	1.8 6.0	(Class A) (Class C)	2400 R.F. Power Amp. at 50 mc.	....	14000	600 1400
3DG4	T-12	Duodiode	5DE Directly Heated	3.3	3.800 Cathode	F-W Rect.	....	275 A.C. Volts Per Plate, RMS, 350 Ma. Output Current. Condensor Input to Filter. 300 Volts D.C. Output.									
3DK6	T-5½	Pentode	7CM	3.15*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6DK6. (3DK6 Designed for Series String TV Receivers.)									
3DT6	T-5½	Gated Beam	7EN	3.15*	0.600	Quad F. M. Det.	1.65	Characteristics Same as Type 6DT6. (3DT6 Designed for Series String TV Receivers.)									
3DT6A	T-5½	Gated Beam	7EN	3.15*	0.600	Quad. F. M. Det.	1.7	Characteristics Same as Type 6DT6A. (3DT6A Designed for Series String Receivers.)									
3EA5	T-5½	Tetrode	7EW	2.9*	0.450	VHF Amp.	3.25	Characteristics Same as Type 6EA5. (3EA5 Designed for Series String Receivers.)									
3EH7	T-6½	Pentode	9AQ	3.4*	0.600	VHF Amp.	2.7	Characteristics Same as Type 6EH7. (3EH7 Designed for Series String Receivers.)									
3EJ7	T-6½	Pentode	9AQ	3.4*	0.600	VHF Amp.	2.7	Characteristics Same as Type 6EJ7. (3EJ7 Designed for Series String Receivers.)									
3ER5	T-5½	Triode	7FP	2.8*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6ER5. (3ER5 Designed for Series String Receivers.)									
3ES5	T-5½	Triode	7FP	3.0*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6ES5. (3ES5 Designed for Series String Receivers.)									
3EV5	T-5½	Tetrode	7EW	2.9*	0.450	VHF Amp.	3.25	Characteristics Same as Type 6EV5. (3EV5 Designed for Series String Receivers.)									
3FH5	T-5½	Triode	7FP	3.0*	0.450	R-F Amp.	2.2	Characteristics Same as Type 6FH5. (3FH5 Designed for Series String Receivers.)									
3FQ5	T-5½	Triode	7FP	2.8*	0.450	VHF Amp.	2.5	Characteristics Same as Type 6FQ5. (3FQ5 Designed for Series String Receivers.)									

(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).



SYLVANIA TUBES

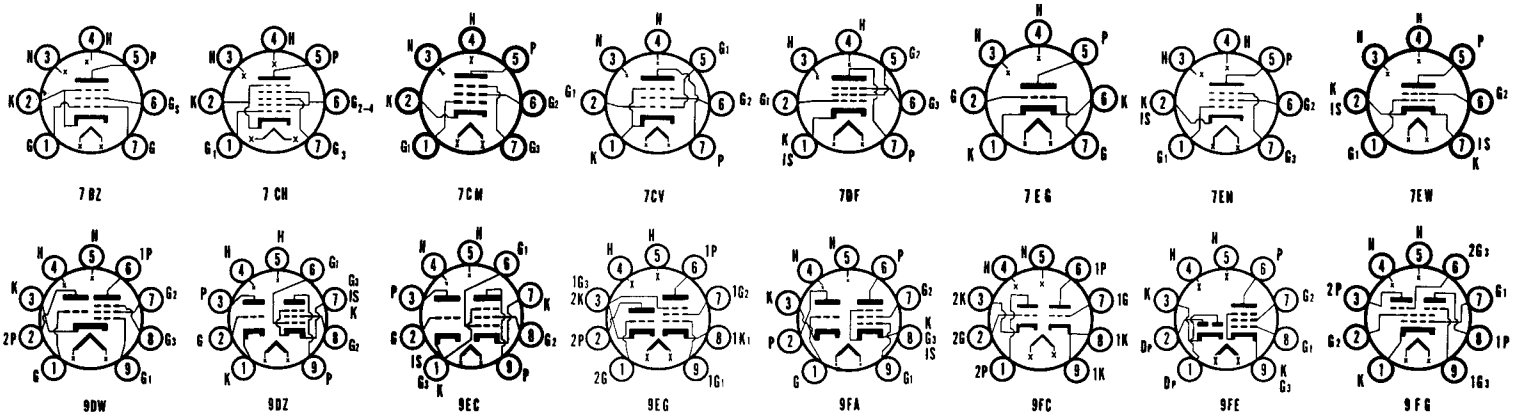
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
3FQ5A	T-5½	Triode	7FP	2.8*	0.450	VHF Amp.	2.5	Characteristics Same as Type 6FQ5A. (3FQ5A Designed for Series String Receivers.)									
3SF5	T-5½	Shadow Grid Beam Pentode	7GA	2.9*	0.450	VHF Amp.	3.2	Characteristics Same as Type 6SF5. (3SF5 Designed for Series String Operation.)									
3FY5	T-5½	Triode	7FP	3.1*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6FY5. (3FY5 Designed for Series String Receivers.)									
3GK5	T-5½	Triode	7FP	2.8*	0.450	VHF Amp.	2.5	Characteristics Same as Type 6GK5. (3GK5 Designed for Series String Receivers.)									
3GS8	T-6½	Duo Pent.	9LW	3.15*	0.600	Sync. Sep.	1.1	Characteristics Same as Type 6GS8. (3GS8 Designed for Series String Receivers.)									
3HS8	T-6½	Twin Pent.	9FG	3.15*	0.600	AGC/Sync. Amplifier	1.1	Characteristics Same as Type 6HS8. (3HS8 Designed for Series String Receivers.)									
3Q4	T-5½	Power Pent.	7BA	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	120000 100000 120000	1975 2150 2000	....	10000 10000 10000	250 270 240
3Q5GT	T-9	Beam Pent.	7AP	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	90000 80000	2200 2000	....	8000 8000	270 230
3S4	T-5½	Power Pent.	7BA	1.4♦ 2.8♦	0.100 0.050	Power Amp.	....	90 90	7.0 7.0	67.5 67.5	7.4 6.1	1.4 1.1	100000 100000	1575 1425	....	8000 8000	270 235
3V4	T-5½	Power Pent.	6BX	1.4 2.8♦	0.100 0.050	Power Amp.	....	Characteristics Same as Type 3Q4.									
3Z4	T-5½	Power Pent.	7BA	1.4♦ 2.8♦	0.050 0.025	Power Amp.	....	67.5	7.0	67.5	6.5	1.3	100000	1450	....	8000	210
4AU6	T-5½	Pentode	7BK	4.2*	0.450	R-F Amp.	3.3	Characteristics Same as Type 6AU6. (4AU6 Designed for Series String TV Receivers.)									
4AV6	T-5½	Duodiode Tri.	7BT	4.2*	0.450	Det. Amp.	.55	Characteristics Same as Type 6AV6. (4AV6 Designed for Series String Receivers.)									
4BA6	T-5½	Pentode	7BK	4.2*	0.450	R-F Amp.	3.3	Characteristics Same as Type 6BA6. (4BA6 Designed for Series String TV Receivers.)									
4BC5	T-5½	Pentode	7BD	4.2*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6BC5. (4BC5 Designed for Series String TV Receivers.)									
4BC8	T-6½	Duotriode	9AJ	4.2*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6BC8. (4BC8 Designed for Series String TV Receivers.)									
4BE6	T-5½	Heptode	7CH	4.2*	0.450	Converter	1.1	Characteristics Same as Type 6BE6. (4BE6 Designed for Series String TV Receivers.)									
4BL8	T-6½	Tri. Pentode	9DC	4.6*	0.600	VHF Osc. VHF Amp.	1.6 1.8	Characteristics Same as Type 6BL8. (4 BL8 Designed for Series String Receivers.)									
4BN4	T-5½	Triode	7EG	4.2	0.300	VHF Amp.	2.42	Characteristics Same as Type 6BN4.									
4BN6	T-5½	Gated Beam	7DF	4.2*	0.450	Quad. F. M. Det.	....	Characteristics Same as Type 6BN6. (4BN6 Designed for Series String TV Receivers.)									
4BQ7A	T-6½	Duotriode	9AJ	4.2*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6BQ7A. (4BQ7A Designed for Series String TV Receivers.)									
4BS8	T-6½	Duotriode	9AJ	4.5*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6BS8. (4BS8 Designed for Series String TV Receivers.)									
4BX8	T-6½	Duotriode	9AJ	4.5*	0.600	VHF Amp.	2.0	Characteristics Same as Type 6BX8. (4BX8 Designed for Series String TV Receivers.)									
4BZ6	T-5½	Pentode	7CM	4.2*	0.450	R-F Amp.	2.3	Characteristics Same as Type 6BZ6. (4BZ6 Designed for Series String TV Receivers.)									
4BZ7	T-6½	Duotriode	9AJ	4.2*	0.600	VHF Amp.	2.2	Characteristics Same as Type 6BZ7. (4BZ7 Designed for Series String TV Receivers.)									
4BZ8	T-6½	Duotriode	9AJ	4.2*	0.600	VHF Amp.	2.4	Characteristics Same as Type 6BZ8. (4BZ8 Designed for Series String TV Receivers.)									
4CB6	T-5½	Pentode	7CM	4.2*	0.450	VHF Amp.	2.3	Characteristics Same as Type 6CB6. (4CB6 Designed for Series String TV Receivers.)									
4CE5	T-5½	Pentode	7BD	4.2*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6CE5. (4CE5 Designed for Series String TV Receivers.)									
4CM4	T-6½	Triode	9KG	3.8	0.300	VHF Amp.	1.1	Characteristics Same as Type 6CM4. (4CM4 Designed for Series String TV Receivers.)									
4CS6	T-5½	Dual Control Heptode	7CH	4.2	0.450	Sync. Sep.	1.1	Characteristics Same as Type 6CS6. (4CS6 Designed for Series String TV Receivers.)									
4CX7	T-6½	Duotriode	9FC	4.2*	0.600	Amplifier	2.2	Characteristics Same as Type 6CX7. (4CX7 Designed for Series String TV Receivers.)									
4CY5	T-5½	Tetrode	7EW	4.5*	0.300	VHF Amp.	2.2	Characteristics Same as Type 6CY5. (4CY5 Designed for Series String TV Receivers.)									
4DE6	T-5½	Pentode	7CM	4.2*	0.450	VHF Amp.	2.3	Characteristics Same as Type 4DE6. (4DE6 Designed for Series String Receivers.)									
4DK6	T-5½	Pentode	7CM	4.2*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6DK6. (4DK6 Designed for Series String TV Receivers.)									
4DT6	T-5½	Gated Beam	7EN	4.2*	0.450	Quad F. M. Det.	1.65	Characteristics Same as Type 6DT6. (4DT6 Designed for Series String TV Receivers.)									
4DT6A	T-5½	Gated Beam	7EN	4.2*	0.450	Quad. F. M. Det.	1.7	Characteristics Same as Type 6DT6A. (4DT6A Designed for Series String Receivers.)									
4EH7	T-6½	Pentode	9AQ	4.4*	0.450	VHF Amp.	2.7	Characteristics Same as Type 6EH7. (4EH7 Designed for Series String Receivers.)									
4EJ7	T-6½	Pentode	9AQ	4.4*	0.450	VHF Amp.	2.7	Characteristics Same as Type 6EJ7. (4EJ7 Designed for Series String Receivers.)									



AVERAGE CHARACTERISTICS

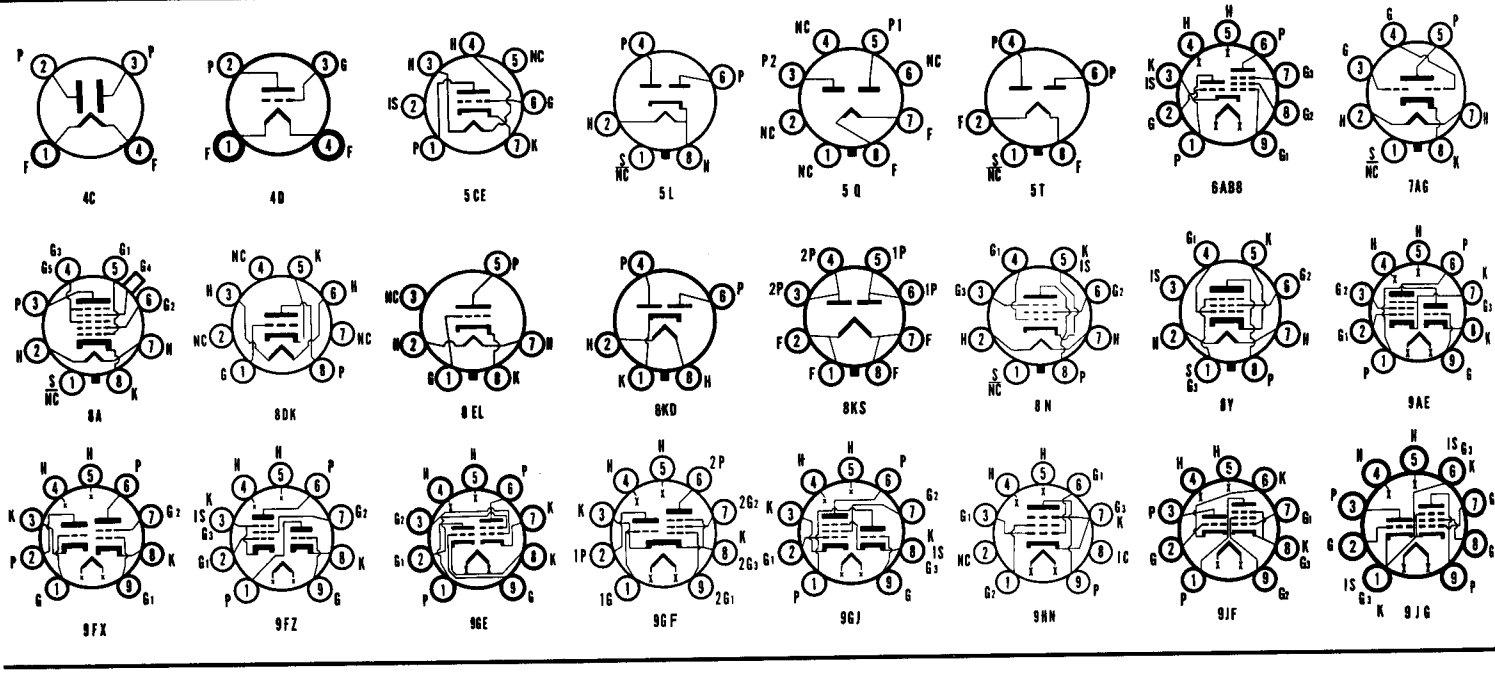
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
4ES8	T-6½	Duotriode	9AJ	4.0	0.600	VHF Amp.	1.98	Characteristics Same as Type 6ES8. (4ES8 Designed for Series String Receivers.)									
4EW6	T-5½	Pentode	7CM	4.2*	0.600	VHF Amp.	3.1	Characteristics Same as Type 6EW6. (4EW6 Designed for Series String Operation.)									
4GK5	T-5½	Triode	7FP	4.0*	0.300	VHF Amp.	2.5	Characteristics Same as Type 6GK5. (4GK5 Designed for Series String Receivers.)									
4GM6	T-5½	Pentode	7CM	4.2*	0.600	VHF Amp.	3.1	Characteristics Same as Type 6GM6. (4GM6 Designed for Series String Receivers.)									
4GS8	T-6½	Duo. Pent.	9LW	4.2*	0.450	Sync. Sep.	1.1	Characteristics Same as Type 6GS8. (4GS8 Designed for Series String Receivers.)									
4GZ5	T-5½	Beam Pent.	7CV	4.0*	0.600	S.T.A1 Amp.	4.8	250 250	270■ 270■	250 250	16 16	2.7 2.7	150000	8400	....	15000 15000	1.1 1.8
								Bypassed Cathode Resistor P.O. = 1.1 at 10% Dist. Unbypassed RK P. 0 = 1.8 at 10%.									
4HS8	T-6½	Twin Pentode	9FG	4.2*	0.450	AGC/Sync. Amplifier	1.1	Characteristics Same as Type 6HS8. (4HS8 Designed for Series String Receivers.)									
5AM8	T-6½	Diode Pent.	9CY	4.7*	0.600	Amp. Det.	3.2	Characteristics Same as Type 6AM8. (5AM8 Designed for Series String TV Receivers.)									
5AN8	T-6½	Tri. Pentode	9DA	4.7*	0.600	Tri. Amp. Pent. Amp.	2.86 2.2	Characteristics Same as Type 6AN8. 5AN8 Designed for Series String TV Receivers.)									
5AQ5	T-5½	Beam Pent.	7BZ	4.7*	0.600	Power Amp.	13.2	Characteristics Same as Type 6AQ5. (5AQ5 Designed for Series String TV Receivers.)									
5AR4	T-11	Duodiode	5L	5.0♦	1.900	F-W Rect.	....	450 A.C. Volts Per Plate, RMS, 250 Ma. Output Current. Condenser Input to Filter.									
5AS4 5AS4A	ST-16 T-12	Duodiode	5T	5.0	3.000	Full-Wave Rectifier	....	Characteristics Same as Type 5U4GB.									
5AS8	T-6½	Diode Pent.	9DS	4.7*	0.600	Det. Amp.	2.75	Characteristics Same as Type 6AS8. (5AS8 Designed for Series String TV Receivers.)									
5AT4	ST-16	Duodiode	5L	5.0♦	5.500	F-W Rect.	....	550 A.C. Volts Per Plate, RMS, 800 Ma. Output Current. Condenser Input to Filter.									
5AT8	T-6½	Tri. Pentode	9DW	4.7*	0.600	Tri. Osc. Converter	1.7 2.3	Characteristics Same as Type 6AT8. (5AT8 Designed for Series String TV Receivers.)									
5AV8	T-6½	Tri. Pentode	9DZ	4.7*	0.600	Tri. Amp. Pent. Amp.	2.75 2.2	Characteristics Same as Type 6AN8. (5AV8 Designed for Series String TV Receivers.)									
5AW4	T-12	Duodiode	5T	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.									
5AX4GT	T-9	Duodiode	5T	5.0♦	2.250	F-W Rect.	....	350 A.C. Volts Per Plate, RMS, 150 Ma. D.C. Output Current. Condenser Input to Filter. 500 A.C. Volts Per Plate, RMS, 150 Ma. D.C. Output Current. Choke Input to Filter.									
5AZ3	Comp. T-12	Duodiode	12BR	5.0♦	3.000	F-W Rect.	....	300 A.C. Volts Per Plate, RMS, 300 Ma. Output Current. Condenser Input to Filter. 450 A.C. Volts Per Plate, RMS, 275 Ma. Output Current. Condenser Input to Filter.									
5AZ4	Lock-in	Duodiode	5T	5.0♦	2.000	F-W Rect.	....	Characteristics Same as Type 5Y3GT.									
5B8	T-6½	Tri. Pentode	9EC	4.7*	0.600	Tri. Amp. Pent. Amp.	2.2 2.75	200 200	6 180■	 150	13 9.5	... 2.8	5750 300000	3300 6200	19	....	....
								(5B8 Designed for Series String TV Receivers.)									
5BC3	Novar T-12	Duodiode	9QJ	5.0♦	3.000	F-W Rect.	....	450 A.C. Volts Per Plate, RMS, 275 Ma. Output Current. Condenser Input to Filter.									
5BE8	T-6½	Tri. Pentode	9EG	4.7*	0.600	Tri. Osc. Converter	2.75 3.0	Characteristics Same as Type 6U8. (5BE8 Designed for Series String TV Receivers.)									
5BK7A	T-6½	Duotriode	9AJ	4.7*	0.600	VHF Amp.	2.97	Characteristics Same as Type 6BK7A. (5BK7A Designed for Series String TV Receivers.)									
5BQ7A	T-6½	Duotriode	9AJ	5.6*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6BQ7A. (5BQ7A Designed for Series String TV Receivers.)									
5BR8	T-6½	Triode Pentode	9FA	4.7*	0.600	Osc. Mixer	2.97 3.0	Characteristics Same as Type 6BR8. (5BR8 Designed for Series String TV Receivers.)									
5BT8	T-6½	Duodi. Pent.	9FE	4.7*	0.600	Amp. Det.	2.2	Characteristics Same as Type 6BT8. (5BT8 Designed for Series TV Receivers.)									
5BW8	T-6½	Duodi. Pent.	9HK	4.7*	0.600	R-F or I-F Amplifier	3.0	Characteristics Same as Type 6BW8. (5BW8 Designed for Series String Receivers.)									
5BZ7	T-6½	Duotriode	9AJ	5.6*	0.450	VHF Amp.	2.2	Characteristics Same as Type 6BZ7. (5BZ7 Designed for Series String TV Receivers.)									
5CG4	T-9	Duodiode	5L	5.0	2.0	F-W Rect.	....	350 A.C. Volts Per Plate, RMS, 125 Ma. Max. D.C. Output Current.									
5CG8	T-6½	Tri. Pentode	9GF	4.7*	0.600	Osc. Mixer	1.7 2.3	Characteristics Same as Type 6CG8. (5CG8 Designed for Series String TV Receivers.)									
5CL8	T-6½	Tri. Tetrode	9FX	4.7*	0.600	Osc. Mixer	2.97 3.0	Characterisitcs Same as Type 6CL8. (5CL8 Designed for Series String TV Receivers.)									

(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).



SYLVANIA TUBES

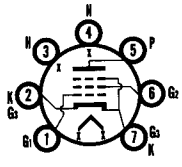
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
5CL8A	T-6½	Tri. Tetrode	9FX	4.7*	0.600	VHF Osc. VHF Amp.	2.97 3.0	Characteristics Same as Type 6CL8A. (5CL8A Designed for Series String Receivers.)									
5CM6	T-6½	Beam Pent.	9CK	4.7*	0.600	Power Amp	13.2	Characteristics Same as Type 6CM6. (5CM6 Designed for Series String TV Receivers.)									
5CM8	T-6½	Tri. Pentode	9FZ	4.7*	0.600	Class A1 Amp	1.1 2.2	Characteristics Same as Type 6CM8. (5CM8 Designed for Series String TV Receivers.)									
5CQ8	T-6½	Tri. Tetrode	9GE	4.7*	0.600	VHF Tri. Osc. VHF Pent. A.	2.79 3.0	Characteristics Same as Type 6CQ8. (5CQ8 Designed for Series String TV Receivers.)									
5CR8	T-6½	Tri. Pentode	9GJ	4.7*	0.600	Tri. Amp. Pent. Amp.	2.75 2.3	Characteristics Same as Type 6CR8. (5CR8 Designed for Series String Receivers.)									
5CU4	T-12	Duodiode	8KD	5.0♦	3.300	H-W Rect.	....	260 Volts A.C. Per Plate, RMS, 385 Ma. Output Current. Condenser Input to Filter.									
5CZ5	T-6½	Beam Pent.	9HN	4.7*	0.600	Vert. Defl. Amplifier	13.2	Characteristics Same as Type 6CZ5. (5CZ5 Designed for Series String TV Receivers.)									
5DH8	T-6½	Tri. Pentode	9EG	5.2*	0.600	Vert. Osc. Video Amp.	2.0 2.2	250 125	390■ 56■	 125	7.3 13.5	... 3.8	12000 150000	4400 8600	53	....	....
5DJ4	T-12	Duodiode	8KS	5.0♦	3.000	F-W Rect.	....	450 A.C. Volts Per Plate, RMS, 275 Ma. Output Current. Capacitor Input to Filter.									
5EA8	T-6½	Tri. Pentode	9AE	4.7*	0.600	Tri. VHF Amp. Pent VHF Amp.	3.0 3.1	Characteristics Same as Type 6EA8. (5EA8 Designed for Series String Receivers.)									
5EH8	T-6½	Tri. Pentode	9JG	4.7*	0.600	VHF Osc. VHF Amp.	2.75 3.0	Characteristics Same as Type 6EH8. (5EH8 Designed for Series String Receivers.)									
5ES8	T-6½	Duotriode	9AJ	5.6*	0.450	VHF Amp.	1.8	90	1.4	....	15	...	2500	12500	....	....	....
5EU8	T-6½	Tri. Pentode	9JF	4.7*	0.600	VHF Osc. VHF Amp.	3.1	Characteristics Same as Type 6EU8. (5EU8 Designed for Series String Receivers.)									
5EW6	T-5½	Pentode	7CM	5.6*	0.450	VHF Amp.	3.1	Characteristics Same as Type 6EW6. (5EW6 Designed for Series String Receivers.)									
5FG7	T-6½	Tri. Pentode	9GF	4.7*	0.600	VHF Osc./ Mixer	2.5 3.0	125 125	1.0 1.0	 125	13 11	... 4	5700 180000	7500 6000	43	....	....
5FV8	T-6½	Tri. Pentode	9FA	4.7*	0.600	Vert. Osc. VHF Amp.	2.0 2.3	Characteristics Same as Type 6FV8. (5FV8 Designed for Series String Receivers.)									
5GH8	T-6½	Tri. Pentode	9AE	4.7*	0.600	Tri. Gen. Pur. Pentode Horiz. Osc.	2.5 2.5	Characteristics Same as Type 6GH8. (5GH8 Designed for Series String Receivers.)									
5GM6	T-5½	Pentode	7CM	5.6*	0.450	VHF Amp.	3.1	Characteristics Same as Type 6GM6. (5GM6 Designed for Series String Receivers.)									
5GX6	T-5½	Pentode	7EN	4.7*	0.600	Dual Control	1.7	Characteristics Same as Type 6GX6. (5GX6 Designed for Series String Receivers.)									
5J6	T-5½	Duotriode	7BF	4.7*	0.600	R-F Amp. Osc. Amp.	1.65	Characteristics Same as Type 6J6. (5J6 Designed for Series String TV Receivers.)									
5R4GY 5R4GYA 5R4GYB	ST-16 T-12	Duodiode	5T	5.0♦	2.000	F-W Rect.	....	900 Volts, RMS Per Plate, 150 Ma. D.C. Output. Condenser Input to Filter. 950 Volts, RMS Per Plate, 175 Ma. D.C. Output. Choke Input to Filter.									
5T4	Metal	Duodiode	5T	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.									
5T8	T-6½	Triple Dio. Tri.	9E	4.7*	0.600	Det. Amp.	1.1	Characteristics Same as Type 6T8 (5T8 Designed for Series String TV Receivers.)									
5U4G	ST-16	Duodiode	5T	5.0♦	3.000	F-W Rect.	....	450 A.C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.									
5U4GA	T-11	Duodiode	5T	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.									
5U4GB	T-12	Duodiode	5T	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.									
5U4WG(3)	T-12	Duodiode	5T	5.0♦	3.000	F-W Rect.	....	Characteristics Same as Type 5U4G.									
5U8	T-6½	Tri. Pentode	9AE	4.7*	0.600	VHF Osc. VHF Mixer	2.5 3.0	Characteristics Same as Type 6U8. (5U8 Designed for Series String TV Receivers.)									
5V3	T-12	Duodiode	5T	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.									
5V3A	T-12	Duodiode	5T	5.0♦	3.000	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.									
5V4G	ST-14	Duodiode	5L	5.0	2.000	F-W Rect.	....	375 A.C. Volts Per Plate, RMS, 175 Ma. Output Current. Condenser Input to Filter.									

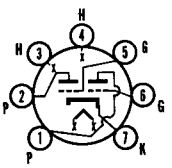


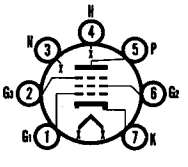
AVERAGE CHARACTERISTICS

TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
5V4GA	T-12	Duodiode	5L	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.									
5V6GT	T-9	Beam Pent.	7S	4.7*	0.600	Power Amp.	13.2	Characteristics Same as Type 6V6GT. (5V6GT Designed for Series String TV Receivers.)									
5X8	T-6½	Tri. Pentode	9AK	4.7*	0.600	Oscillator Mixer	1.7 2.3	Characteristics Same as Type 6X8. (5X8 Designed for Series String TV Receivers.)									
5Y3GT 5Y3GA GB-5Y3WGTA(3)	T-9 T-12	Duodiode	5T	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.									
5Y4GT 5Y4GA	T-9 T-12	Duodiode	5Q	5.0♦	2.000	F-W Rect.	....	Characteristics Same as Type 5Y3GT.									
5Z3	ST-16	Duodiode	4C	5.0♦	3.000	F-W Rect.	....	450 A.C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.									
5Z4 5Z4GT	Metal T-9	Duodiode	5L 5L	5.0	2.000	F-W Rect.	....	350 A.C. Volts Per Plate, RMS, 125 Ma. Output Current. Condenser Input to Filter.									
6A3	ST-16	Power Triode	4D	6.3♦	1.000	S.T. A1 Amp. P.P.AB1 Amp. P.P.AB1 Amp.	16.5	250 325 325	45.0 68.0 ...	....	60.0 80-147† (Push Pull, Fixed Bias) 80-100† (Push Pull, Self Bias Resistor 850 Ohms)	...	800	5250	4.2	2500 3000¶ 5000¶	3200 15000 10000
6A7	ST-12	Heptode	7C	6.3	0.300	Converter	1.1	Characteristics Same as Type 6A8G, Except Capacitances.									
6A8 6A8G 6A8GT	Metal ST-12 T-9	Heptode	8A	6.3	0.300	Converter	1.1	100 250	1.5 3.0	50 100	1.1 3.5	1.3 2.7	600000 360000	360▲ 550▲	(Ga = 100V.) (Ga = 250 V. thru 20 K. Ohm)		
6AB4	T-5½	Triode	5CE	6.3	0.150	R-F Amp.	2.75	250	200■	....	10	...	10900	5500	60	....	....
6AB7	Metal	Pentode	8N	6.3	0.450	Amplifier	4.12	300	3.0	200	12.5	3.2	700000	5000	3500	....	....
6AB8	T-6½	Tri. Pentode	6AB8	6.3	0.300	A-F Amp. S.T.A1 Amp.	1.0	100 170	2.3 6.3	 170	4 15	... 2.8	12500 150000	1400 3300	17	 11000	 1000
6AC7	Metal	Pentode	8N	6.3	0.450	Video Amp.	3.3	300	160■	150	10.0	2.5	1.0 Meg.	9000	6750	....	....
6AD4	T-3	Triode	8DK	6.3	0.150	Osc. Amp.	0.33	100	820■	....	1.4	...	35000	2000	70	....	....
6AD6G	T-9	Electron Ray	7AG	6.3	0.150	Indicator	....	100 (Ray Control Volts = 45 Approx. For 0° Shadow, Approx. = 23 Volts for 135° Shadow.) 150 (Ray Control Volts = 75 Approx. For 0° Shadow, Approx. = 50 Volts for 135° Shadow.)									
6AF3	T-6½	Diode	9CB	6.3	1.200	T.V. Damper	6.0	Maximum Peak Inverse Plate Voltage = 4500 Volts. Maximum D.C. Plate Current = 185 Ma.									
6AF4A 6AF4	T-5½	Triode	7DK	6.3	0.225	UHF Osc.	2.5	100	Grid Resistor = 10,000 Ohms.		17.	Plate Resistor = 220 Ohms. Grid Current = 750 μa.					
6AF6G	T-9	Twin Elec. Ray	7AG	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.)									
6AF11	Comp. T-9	Pentode Duotriode	12DP	6.3	1.050	Video Amp. AGC Keyer Sync. Sep.	5.0 1.1 2.0	250 200 200	100■ 2.0 220■	150	24 7.0 9.2	4.8	68000 12400 9400	11000 5500 4400	.... 68 41	....	....
6AG5	T-5½	Pentode	7BD	6.3	0.300	R-F Amp.	2.2 2.75	100 125 250	180■ 100■ 180■	100 125 150	4.5 7.2 6.5	1.4 2.1 2.0	600000 500000 800000	4500 5100 5000	....	....	....
6AG7	Metal	Pentode	8Y	6.3	0.650	Video Amp.	9.9	300	3	150	30.0	7.0	130000	11000	....	10000	3000
6AG11	Comp. T-9	Duodiode Duotriode	12DA	6.3	0.750	FM Multiplex Service	2.0	125	1.0	....	7.5	...	8500	7800	66	....	....
6AH4GT	T-9	Triode	8EL	6.3	0.750	Defl. Amp.	8.25	250	23	....	30	...	1780	4500	8	....	....
6AH6	T-5½	Pentode	7BK	6.3	0.450	Pent. Amp. Tri. Amp.	3.52	300 150	160■ 160■	150	10 12.5	2.5 ...	500000 3600	9000 11000	 40	....	....
6AJ4	T-6½	Triode	9BX	6.3	0.225	UHF Amp.	2.2	125	68■	....	16	...	4200	10000	42	....	....
6AJ5	T-5½	Pentode	7BD	6.3	0.175	R-F Amp.	1.87	28	1.0	28	2.7	1.0	100000	2500	....	....	....
6AK4	T-3	Triode	8DK	6.3	0.125	UHF Amp.	3.3	200	680■	....	9.5	...	5300	3800	20	....	....
6AK5	T-5½	Pentode	7BD	6.3	0.175	VHF Amp.	1.87	120 180	180■ 180■	120 120	7.5 7.7	2.5 2.4	300000 500000	5000 5100	1700 3500	....	....

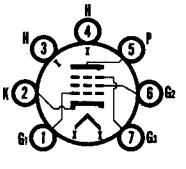
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

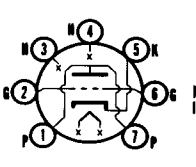

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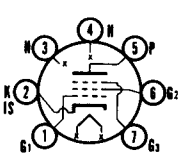

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7BK

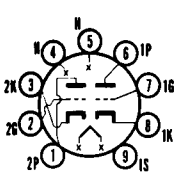

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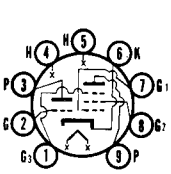

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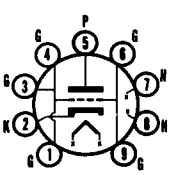

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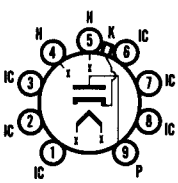

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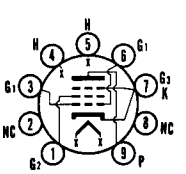

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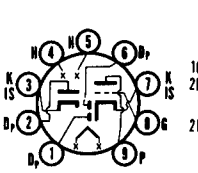

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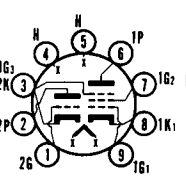

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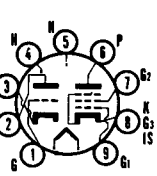

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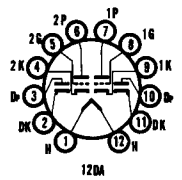

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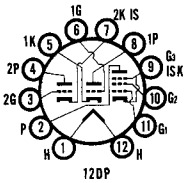

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9E


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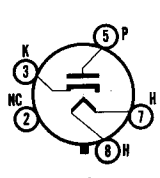

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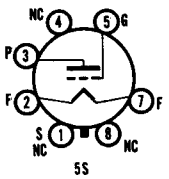

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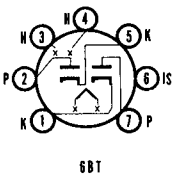

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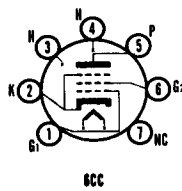
SYLVANIA TUBES

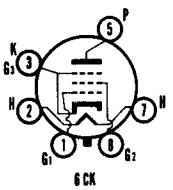
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6AK6	T-5½	Power Pent.	7BK	6.3	0.150	Power Amp.	3.0	180	9.0	180	15.0	2.5	200000	2300	....	10000	1100
6AL5	T-5½	Duodiode	6BT	6.3	0.300	Detector	....	117 A.C. Volts Per Plate, RMS, 9 Ma. Output Current. 300 Ohms Min. Effec. Plate Supply Imped.									
6AL7GT	T-9	Electron Ray	8CH	6.3	0.150	Indicator	....	315	Grid Volt. for Fluorescent C.O. = −7.0 (App.). Deflection Sens = 1.0 MM. Per Volt (App.)								
6AL11	Comp. T-9	Duo. Pentode	12BU	6.3	0.900	FM Detector	1.7	150	560■	100	1.3	2.1	150000	G1-1000 G3-400	....	....	....
						S.T.A1 Amp.	10	250	8.0	250	35	2.5	100000	6500	....	5000	4200
6AM4	T-6½	Triode	9BX	6.3	0.225	UHF Amp.	2.0	200	100■	....	10	...	8700	9800	85	....	....
6AM8	T-6½	Diode Pent.	9CY	6.3	0.450	Amplifier	3.2	125	56■	125	12.5	3.2	0.3 Meg.	7800	....	....	....
6AM8A				6.3*	0.450	Detector	Diode Plate Voltage 10 Volts for 50 Ma. Current. (Test Condition Only.)										
6AN4	T-5½	Triode	7DK	6.3	0.225	UHF Amp.	4.4	200	100■	....	13	...	7000	10000	70	....	....
6AN5	T-5½	Power Pent.	7BD	6.3	0.450	Power Amp.	4.62	120	6.0	120	35.0	12.0	12500	8000	....	2500	1300
6AN6	T-5½	Quadruple Di.	7BJ	6.3	0.200	Rectifier	....	75 Volts RMS Per Plate, 8 Ma. D-C Output Per Plate.									
6AN8	T-6½	Tri. Pentode	9DA	6.3	0.450	Tri. Amp.	2.8	200	6.0	....	13.0	...	5750	3300	19	....	....
6AN8A				6.3*	0.450	Pent. Amp.	2.3	125	56■	125	12	3.8	.017 Meg.	7800	....	....	....
6AQ5	T-5½	Beam Pent.	7BZ	6.3	0.450	Power Amp.	13.2	250	12.5	250	45.0	4.5	52000	4100	....	5000	4500
6AQ5A				6.3*	0.450			180	8.5	180	29.0	3.0	58000	3700	....	5500	2000
6AQ6	T-5½	Duodiode Tri.	7BT	6.3	0.150	Det. Amp.	....	100	1.0	....	0.8	...	61000	1150	70	....	....
								250	3.0	....	1.0	...	58000	1200	70	....	....
6AQ7GT	T-9	Duodiode Tri.	8CK	6.3	0.300	Det. Amp.	1.1	250	2.0	....	2.3	...	44000	1600	70	....	....
6AQ8	T-6½	Duotriode	9AJ	6.3	0.435	VHF Amp.	2.7	250	2.3	....	10	...	....	5900	57	....	....
6AR5	T-5½	Power Pent.	6CC	6.3	0.400	Power Amp.	9.35	250	16.5	250	34	5.7	65000	2400	....	7000	3.2
								250	18.0	250	32	5.5	68000	2300	....	7600	3.4
6AR11	Comp. T-9	Duo. Pent.	12DM	6.3	0.800	T.V. I-F Amp.	3.1	125	56■	125	11	3.5	200000	10500	....	....	....
6AS5	T-5½	Beam Pent.	7CV	6.3	0.800	S.T.A1 Amp.	6.0	150	8.5	110	35-36†	2-6.5†	....	5600	....	4500	2200
6AS6	T-5½	Pentode	7CM	6.3	0.175	R-F Amp.	1.87	120	2.0	120	5.2	3.5	110000	3200	....	....	....
6AS7G	ST-16 T-12	Duo. Pwr. Tri.	8BD	6.3	2.500		14.3	135	250■	....	112	....	280	7000	2	....	....
6AS7GYB						Passing Tube for VR Service	14	Except for having Controlled Zero-Bias Plate Current and a Low Loss Phenolic Base, Type 6AS7GYB is Identical to Type 6AS7GA.									
6AS8	T-6½	Diode Pent.	9DS	6.3*	0.450	Det. Amp.	2.75	200	180■	150	9.5	3.0	300000	6200	....	....	....
6AS11	Comp. T-9	Duotriode Pentode	12DP	6.3	1.050	A-F Amp.	5.0	200	2.0	....	7.0	...	12400	5500	68	....	....
						Sync. Sep.		200	220■	....	9.2	...	9400	4400	41	....	....
						Video Amp.		200	68■	125	24	5.2	70000	10500	....	....	....
6AT6	T-5½	Duodiode Tri.	7BT	6.3	0.300	Det. Amp.	0.55	100	1.0	....	0.8	...	54000	1300	70	....	....
								250	3.0	....	1.0	...	58000	1200	70	....	....
6AT8	T-6½	Tri. Pentode	9DW	6.3	0.450	VHF Osc.	1.7	125	1.0	....	12	...	6000	6500	40	....	....
6AT8A				6.3*	0.450	VHF Amp.	2.3	125	1.0	125	9	2.2	300000	5500	....	....	....
6AU4GTA	T-9	Diode	4CG	6.3	1.800	T.V. Damper	6.6	P.I.V. = 4500 Volts Max. D.C. Plate Current = 210 Ma. Max.									
6AU5GT	T-9	Beam Pent.	6CK	6.3	1.250	Horiz. Defl. Amp.	11	Max. Peak Positive Pulse Plate Voltage = 5500 Volts. Max. D.C. Plate Current = 110 Ma.									
6AU6	T-5½	Pentode	7BK	6.3	0.300	R-F Amp.	3.3	100	150■	100	5.0	2.1	500000	3900	....	....	....
6AU6A				6.3*	0.300			250	100■	125	7.6	3.0	1.5 Meg.	4500	....	....	....
GB-6AU6WB(3)								250	68■	150	10.6	4.3	1.0 Meg.	5200	....	....	....
6AU8	T-6½	Tri. Pentode	9DX	6.3*	0.600	Tri. Amp.	2.75	150	150■	....	9.5	...	7200	5600	40	....	....
						Pent. Video Amp.	3.3	200	82■	150	17.0	3.6	140000	8000	....	....	....
							(6AU8 Designed for Series String TV Receivers.)										
6AU8A	T-6½	Tri. Pentode	9DX	6.3*	0.600	Tri. Amp.	2.75	150	150■	....	9.5	...	8100	5300	40	....	....
						Pent. Video Amp.	3.3	200	82■	125	17	3.4	100000	8000	....	....	....
6AV5GA	T-11 or T-12	Beam Pentode	6CK	6.3	1.200	Horizontal Defl. Amp.	12	250	22.5	150	55	2.1	20000	5500	4.3	When Eb = 150	
6AV6	T-5½	Duodiode Tri.	7BT	6.3	0.300	Det. Amp.	0.55	250	2.0	....	1.2	...	62500	1600	100	....	....
								100	1.0	....	0.5	...	80000	1250	....	....	....
6AV11	Comp. T-9	Triple Triode	12BY	6.3	0.600	Gen. Purpose	6.0	100	0	....	11.8	...	6500	3100	20	....	....
								250	8.5	....	10.5	...	7700	2200	17	....	....

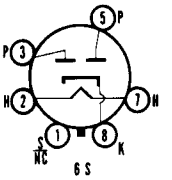


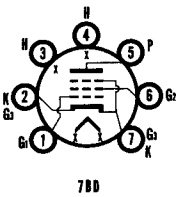


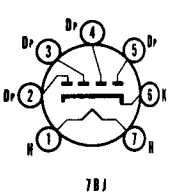


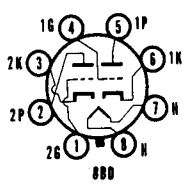


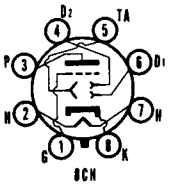


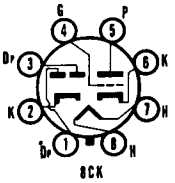


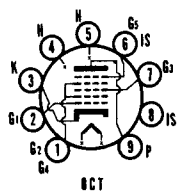


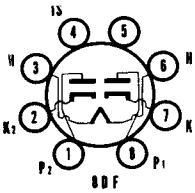


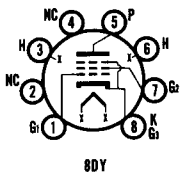


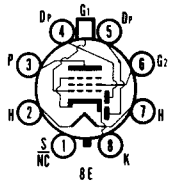


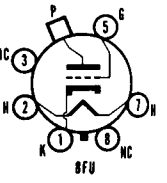


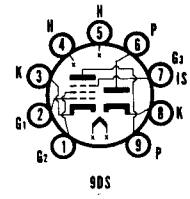


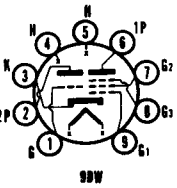


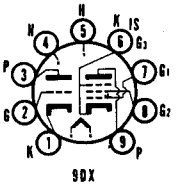


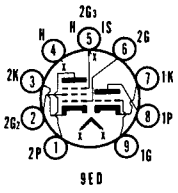


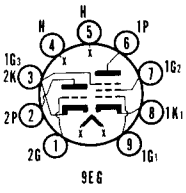


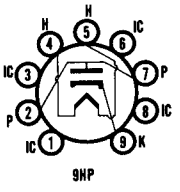


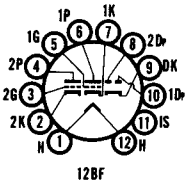


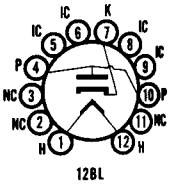








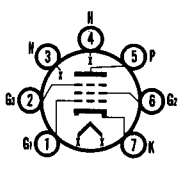


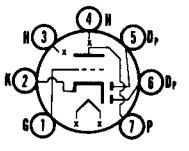


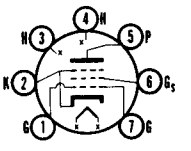
AVERAGE CHARACTERISTICS

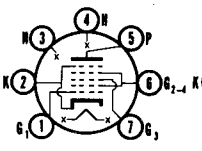
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6AW8	T-6½	Tri. Pentode	9DX	6.3*	0.600	Tri. Amp.	1.1	200	2.0	....	4.0	...	17500	4000	70	....	....
6AW8A						Pent. Video Amp.	3.57	150	150■	150	15	3.5	200000	9500	....	....	....
								6AW8 and 6AW8A are Similar Except for Plate Knee Characteristics of 6AW8A.									
6AX3	Comp. T-9	Diode	12BL	6.3	1.200	T.V. Damper	5.3	Maximum Peak Inverse Plate Voltage = 5000 Volts, Maximum D.C. Output Current = 165 Ma.									
6AX4GT	T-9	Diode	4CG	6.3	1.200	T.V. Damper	5.28	P.I.V. = 4400 Volts Max., D.C. Plate Current = 125 Ma. Max.									
6AX4GTA	T-9	Diode	4CG	6.3	1.200	T.V. Damper	5.28	P.I.V. = 4400 Volts Max., D.C. Plate Current = 165 Ma.									
6AX5GT	T-9	Duodiode	6S	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.									
6AX7	T-6½	Duotriode	9A	6.3/ 3.15*	0.300/ 0.600	A-F Amp.	1.1	Characteristics Same as Type 12AX7. (6AX7 Designed for Series String TV Receivers.)									
6AX8	T-6½	Tri. Pentode	9AE	6.3	0.450	Sync. Sep.	2.97	150	56■	....	18	...	5000	8500	40	....	....
						Video Amp.	3.0	250	120■	110	10	3.5	400000	4800	....	....	....
6AY3 6AY3A	Novar T-9	Diode	9HP	6.3	1.200	T.V. Damper	6.5	Maximum Peak Inverse Plate Voltage = 5000 Volts, Maximum D.C. Plate Current = 175 Ma.									
6AZ5	T-3	Duodiode	8DF	6.3	0.150	Rectifier	....	Plate Supply Voltage = 50 Volts, RMS, Each Plate. D.C. Output Current = 4 Ma. Each Plate. Capacitor Input to Filter.									
6AZ8	T-6½	Tri. Pentode	9ED	6.3	0.450	Sync. Sep.	2.86	200	6	....	13.0	...	5750	3300	19	....	....
						Video Amp.	2.2	200	180■	150	9.5	3.0	300000	6000	....	....	....
6B3	T-6½	Diode	9BD	6.3	1.200	T.V. Damper	....	Maximum Peak Inverse Plate Voltage = 4400 Volts. Maximum D.C. Plate Current = 150 Ma.									
6B4G	ST-16	Triode	5S	6.3♦	1.000	Power Amp.	16.5	Characteristics Same as Type 6A3.									
6B8	Metal	Duodi. Pent.	8E	6.3	0.300	Det. Amp.	3.3	Characteristics Same as Type 6B7, Except Capacitances.									
6B10	Comp. T-9	Duodiode	12BF	6.3*	0.600	Horiz. Phase Det./Osc.	3.0	250	8.0	....	10	...	7200	2500	18	....	....
6BA3	T-9	Diode	9HP	6.3	1.200	T.V. Damper	5.3	Maximum Peak Inverse Plate Voltage = 5000 Volts. Maximum D.C. Output Current = 165 Ma.									
6BA5	T-3	Pentode	8DY	6.3	0.150	A-F Amp.	0.77	100	270■	100	5.5	2.0	175000	2150	....	....	....
6BA6	T-5½	Pentode	7BK	6.3	0.300	R-F Amp.	3.3	100	68■	100	10.8	4.4	250000	4300	....	....	....
								250	68■	100	11.0	4.2	1.0 Meg.	4400	....	....	....
6BA7	T-6½	Heptode	8CT	6.3	0.300	Converter	2.2	100	1.0	100	3.6	10.2	500000	900▲	....	....	....
								250	1.0	100	3.8	10.0	1 Meg.	950▲	....	....	....
6BA8 6BA8A	T-6½	Tri. Pentode	9DX	6.3*	0.600	Tri. Amp.	2.2	200	8.0	....	8.0	...	6700	2700	18	....	....
						Pent. Video Amp.	3.57	200	180■	150	13.0	3.5	400000	9000	....	....	....
								6BA8 and 6BA8A are Similar Except for Plate Knee Characteristics of 6BA8A.									
6BC5	T-5½	Pentode	7BD	6.3	0.300	Tri. Amp.	2.75	250	820■	....	6.0	...	9000	4400	40	....	....
								180	330■	....	8.0	...	6000	6000	42	....	....
						Pent. Amp.	2.2	100	180■	100	4.7	1.4	600000	4900	....	....	....
								125	100■	125	8.0	2.4	500000	6100	....	....	....
								250	180■	150	7.5	2.1	800000	5700	....	....	....
6BC7	T-6½	Triple Diode	9AX	6.3	0.450	F. M. Det.	....	High Perveance Diode.									
6BC8	T-6½	Duotriode	9AJ	6.3	0.400	Det. Amp.	2.2	150	220■	....	10.0	...	5300	6200	35	....	....
6BD4	T-12	Beam Triode	8FU	6.3	0.600	Hi-Volt. Reg.	22	20000 Max. D.C. Plate Volts. 125 Max. D.C. Grid Volts. 1.5 Ma. Max. D.C. Plate Current.									
6BD4A	T-12	Beam Triode	8FU	6.3	0.600	Hi-Volt. Reg.	27.5	27000 Max. D.C. Plate Volts. 125 Max. D.C. Grid Volts. 1.5 Ma. Max. D.C. Plate Current.									
6BD5GT	T-9	Beam Pent.	6CK	6.3	0.900	Horiz. Defl. Amp.	11	Max. Peak Positive Pulse Plate Voltage = 4000 Volts. Max. D.C. Cathode Current = 100 Ma.									
6BD6	T-5½	Pentode	7BK	6.3	0.300	R-F Amp.	3.3	250	3.0	100	9.0	3.5	700000	2000	....	....	....
								100	1.0	100	13	5.0	120000	2350	....	....	....
6BE6	T-5½	Heptode	7CH	6.3	0.300	Converter	1.1	100	1.5	100	2.6	7.0	400000	455▲	(Osc. Grid Res.=20000 Ohms)		
								250	1.5	100	2.9	6.8	1.0 Meg.	475▲	(Osc. Grid Current 0.5 Ma.)		
6BE8 6BE8A	T-6½	Tri. Pentode	9EG	6.3	0.450	VHF Osc.	2.75	150	56■	....	18.0	...	5000	8500	40	....	....
				6.3*	0.450	VHF Amp.	3.0	250	68■	110	10.0	3.5	400000	5200	....	....	....
6BF5	T-5½	Pentode	7BZ	6.3	1.200	S.T.A1 Amp.	6.0	110	7.5	110	36	4	12000	7500	....	2500	1900
6BF6	T-5½	Duodiode Tri.	7BT	6.3	0.300	Det. Amp.	2.75	250	9.0	....	9.5	...	8500	1900	16	10000	300

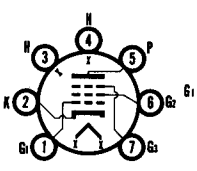
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

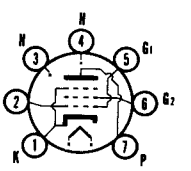

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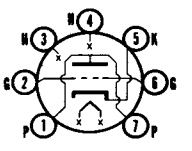

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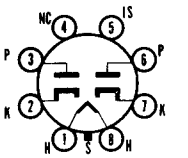

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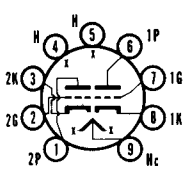

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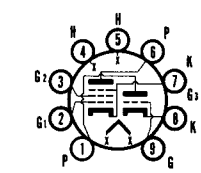

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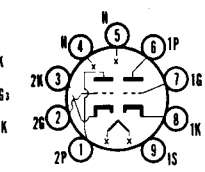

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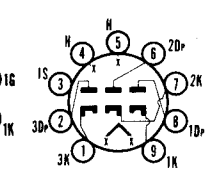

7DK

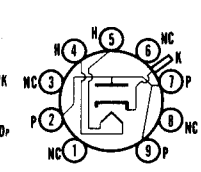

7DX

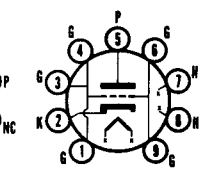

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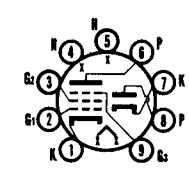

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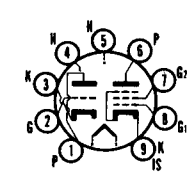

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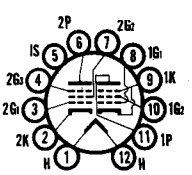

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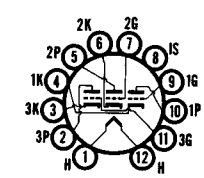

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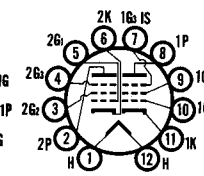

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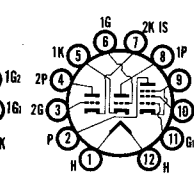

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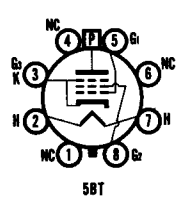

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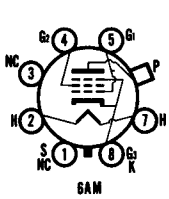

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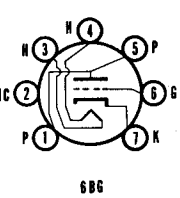

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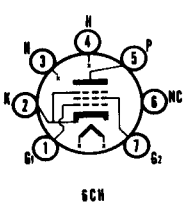
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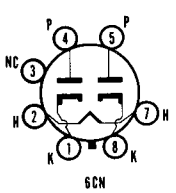
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6BF7W (3)	T-3	Duotriode	8DG	6.3	0.300	R-F Amp.	1.1	100 100	100■ 100■	....	8.0 8.0	... ...	7000 7000	4800 4800	35 35	....	....
6BF8	T-6½	Sextuple Diode	9NX	6.3	0.450	Shunt Detector	....	Maximum Peak Inverse Plate Voltage = 165 Volts. Maximum Peak Plate Current, Per Plate = 11 Ma., Maximum D.C. Output Current = 2.2 Ma.									
6BG6GA	T-12	Beam Pent.	5BT	6.3	0.900	Horiz. Defl. Amp.	22	Maximum Peak Positive Plate Voltage = 6600 Volts. Maximum D.C. Cathode Current = 110 Ma.									
6BH3	Novar T-9	Diode	9HP	6.3	1.600	T.V. Damper	6.5	Maximum Peak Inverse Plate Voltage = 5500 Volts. Maximum D.C. Plate Current = 180 Ma.									
6BH6	T-5½	Pentode	7CM	6.3	0.150	R-F Amp.	3.3	100 250	1.0 1.0	100 150	3.6 7.4	1.4 2.9	0.7 Meg. 1.4 Meg.	3400 4600	....	....	....
6BH8	T-6½	Tri. Pentode	9DX	6.3*	0.600	Tri. Amp. Pent. Amp.	2.75 3.3	150 200	5 82■	 125	9.5 15.0	... 3.4	5150 150000	3300 7000	17	....	....
6BJ5	T-5½	Pentode	6CH	6.3	0.640	Power Amp.	9.9	250	5.0	250	3.5	5.5	40000	10500	450	7000	4000
6BJ6	T-5½	Pentode	7CM	6.3	0.150	R-F Amp.	3.3	250 100	1.0 1.0	100 100	9.2 9.0	3.3 3.5	1.3 Meg. 250000	3600 3650	....	....	....
6BJ7	T-6½	Triple Diode	9AX	6.3	0.450	TV DC Rest'r	....	Each Section Similar to Each Section of a 6AL5.									
6BJ8	T-6½	Duodiode Tri.	9ER	6.3*	0.600	Det. Amp.	3.85	90 250	0 9	....	13.5 8.0	... ...	4700 7150	4700 2800	22 20	....	....
6BK4	T-12	Beam Triode	8GC	6.3	0.200	Hi-Volt. Reg.	27.5	25000 Maximum D.C. Plate Volts. 125 D.C. Grid Volts. 1.5 Ma. Maximum D.C. Plate Current.									
6BK5	T-6½	Beam Pent.	9BQ	6.3	1.200	Power Amp.	9.9	250	5.0	250	35	3.5	0.1 Meg.	8500	....	6500	3500
6BK7A 6BK7B	T-6½	Duotriode	9AJ	6.3 6.3*	0.450 0.450	VHF Amp.	2.97	150	56■	....	18.0	...	4600	9300	43	....	....
6BL4	T-12	Diode	8GB	6.3	3.000	T.V. Damper	8.8	P.I.V. = 4500 Volts Abs. Max. D.C. Plate Current = 200 Ma. Max.									
6BL7GT 6BL7GTA	T-9	Duotriode	8BD	6.3	1.500	Vert. Osc. Vert. Defl. Amp.	11 13.2	Max. Peak Positive Pulse Plate Voltage = 2000 Volts. Max. D.C. Cathode Current = 60 Ma. 250 6BL7GT and 6BL7GTA are Similar Except for Plate Knee Characteristics of 6BL7GTA.	9	....	40	... ...	2150	7000	15	....	....
6BL8	T-6½	Tri. Pentode	9DC	6.3	0.450	VHF Osc. VHF Amp.	1.65 1.87	100 170	2.0 2.0	 170	14.0 10.0	... 2.8	 400000	5000 6200	20	....	....
6BM8	T-6½	Tri. Pentode	9EX	6.3	0.780	Pent. Vert. Defl. Amp. Tri. Vert. Osc.	5.5 1.1	Max. Peak Positive Pulse Plate Voltage = 2500 Volts. Max. D.C. Cathode Current = 50 Ma. 200 100	16.0 0	200	35.0 3.5	7.0 ...	20000	6400 2500	9.5 70	....	....
6BN4A	T-5½	Triode	7EG	6.3	0.200	VHF Amp.	2.42	150	220■	....	9	...	8000	5400	43	....	....
6BN6	T-5½	Gated Beam	7DF	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.				
6BN8	T-6½	Duodiode Tri.	9ER	6.3*	0.600	Det. Amp.	1.65	100 250	1 3	....	1.5 1.6	... ...	21000 28000	3500 2500	75 70	....	....
6BQ5	T-6½	Beam Pent.	9CV	6.3	0.760	S.T. A1 Amp. P.P. AB1 Amp. P.P.AB1 Amp.	13.2	250 250 300	135■ 130■ 130■	250 250 300	48 62-75† 72-92†	5.5 7-15† 8-22†	38000	11300	....	5200 8000¶ 8000¶	5700 11000 17000
6BQ6GTA 6BQ6GTB	T-9 T-9	Beam Pent.	6AM	6.3	1.200	Horiz. Defl. Amp.	12.1	6000 Maximum Peak Positive Plate Volts. 110 Ma. Maximum Cathode Current. 250	22.5	150	57	2.1	14500	5900	....	....	....
6BQ7A	T-6½	Duotriode	9AJ	6.3	0.400	VHF Amp.	2.2	150	220■	....	9	...	5800	6000	38	....	....
6BR8A	T-6½	Triode Pentode	9FA	6.3*	0.450	Oscillator Mixer	2.97 3.0	150 250	56■ 68■	 110	18 10	... 3.5	5000 400000	8500 5200	40	....	....
6BS8	T-6½	Duotriode	9AJ	6.3	0.400	VHF Amp.	2.2	150	220■	....	10	...	5000	7200	36	....	....
6BT8	T-6½	Duodi. Pent.	9FE	6.3	0.450	Amp. Det.	2.2	200	180■	150	9.5 8.0 with 10 Volts D.C. Each Unit.	2.8	300000	6200	....	....	....
6BU4	T-12	Triode	8GC	6.3	0.450	H.V. Reg.	27.5	25000	8.4	....	1.0	...	8.2 Meg.	185	1515	....	....
6BU5	T-11	Beam Power Pentode	8FP	6.3	0.150	H.V. Reg.	20	20K 20K	3.4 2.4	70 70	0.6 1.0	... 0.5	....	....	....	....	....
6BU8 6BU8A	T-6½	Duo Pentode	9FG	6.3	0.300	Sync. Sep.	1.1	100 100	0 Grid 1 ...	67.5 67.5	.... 2.2	... ...	....	180 Gr. 3 1500 Gr. 1	Grid No. 3 Volts = −4.5 Grid No. 1 Volts = −2.3		
6BV8	T-6½	Duodiode Tri.	9FJ	6.3*	0.600	Det. Amp.	2.7	200	330■	....	11.0	...	5900	5600	33	....	....
6BW4	T-6½	Duodiode	9DJ	6.3	0.900	F-W Rect.	....	325 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.									

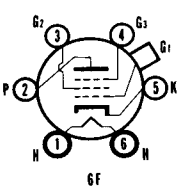

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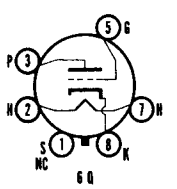

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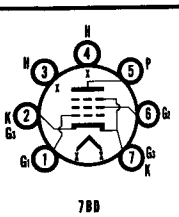

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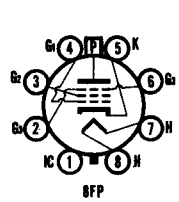

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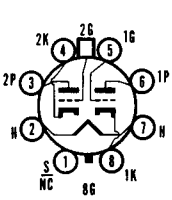

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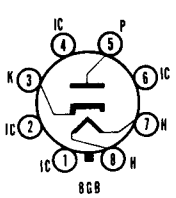

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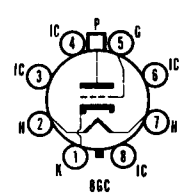

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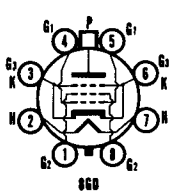

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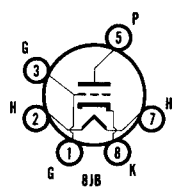

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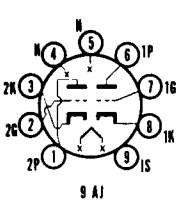

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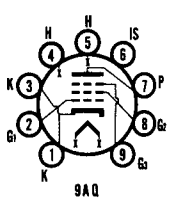

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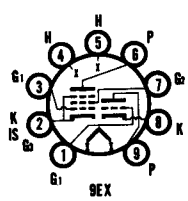

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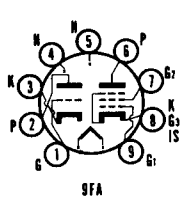

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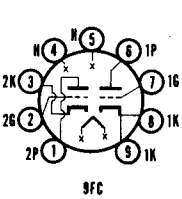

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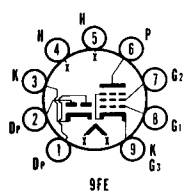

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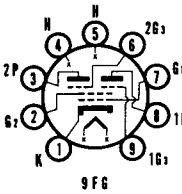

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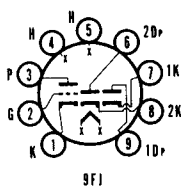

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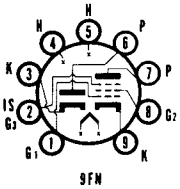

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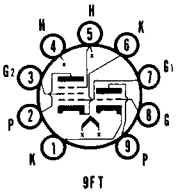

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9FG


9FJ

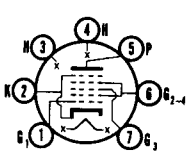

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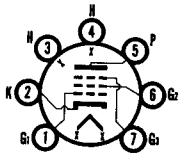

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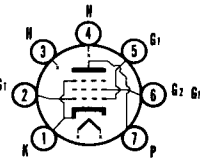
AVERAGE CHARACTERISTICS

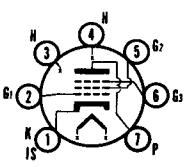
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6BW8	T-6½	Duodi. Pent.	9HK	6.3*	0.450	R-F or I-F Amplifier	3.0	250	68■	110	10.0	3.5	250000	5200	....	....	....
6BX7GT	T-9	Duotriode	8BD	6.3	1.500	Vert. Amp.	11	Max. Peak Positive Pulse Plate Volts = 2000 Volts. Max. D.C. Cathode Current = 60 Ma.									
						Vert. Osc.	13.2	250	390■	....	42	....	1300	7600	10	....	....
6BX6	T-6½	Pentode	9AQ	6.3	0.300	R-F/I-F Amp.	2.75	170	2.0	170	10	2.5	400000	7200	....	....	....
6BX8	T-6½	Duotriode	9AJ	6.3	0.400	VHF Amp.	2.0	65	1.0	....	9	....	....	6700	25	....	....
6BY5G	ST-14	Duodiode	6CN	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.									
6BY5GA	T-12	Duodiode	6CN	6.3	1.600	T.V. Damper	....	P.I.V. = 3000 Volts Abs. Max. D.C. Plate Current = 175 Ma. Max. Each Plate.									
6BY6	T-5½	Heptode	7CH	6.3	0.300	Sync. Sep.	2.2	10	G1&2=0	25	1.4	3.5	Plate Current = 50μ Amps. When Grid 3 V. = 2.5				
6BY8	T-6½	Diode Pent.	9FN	6.3*	0.600	Det. Amp.	3.3	100	150■	100	5.0	2.1	500000	3900	....	....	....
								250	68■	150	10.6	4.3	1.0 Meg.	5200	....	....	....
6BZ6	T-5½	Pentode	7CM	6.3	0.300	R-F Amp.	2.3	125	56■	125	14	3.6	260000	8000	Semi-Remote Cutoff.		
6BZ7	T-6½	Duotriode	9AJ	6.3	0.400	VHF Amp.	2.2	150	220■	....	10	....	5300	6800	36	....	....
6BZ8	T-6½	Duotriode	9AJ	6.3	0.400	VHF Amp.	2.42	125	100■	....	10	....	5600	8000	45	....	....
6C4	T-5½	Triode	6BG	6.3	0.150	R-F Osc.	5.5	300	27	....	25	....	....	....	....	Class C	5500
						R-F Amp.	3.85	250	8.5	....	10.5	....	7700	2200	17	....	....
								100	0	....	11.8	....	6250	3100	19.5	....	....
6C5 6C5GT	Metal T-9	Triode	6Q	6.3	0.300	Amplifier	2.75	250	8.0	....	8.0	....	10000	2000	20	....	....
6C6	ST-12	Pentode	6F	6.3	0.300	Amplifier	.825	100	3.0	100	2.0	0.5	1 Meg.	1185	....	....	....
								250	3.0	100	2.0	0.5	1 Meg.>	1225	....	....	....
6C8G	ST-12	Duotriode	8G	6.3	0.300	Amplifier	1.1	250	4.5	....	3.2	....	22500	1600	36	(One Section)	
						Inverter		250	3.0	Plate Load 100,000 Ohms, Self-Bias Resistor 1500 Ohms, Voltage Amplification 48. Output Volts 80, RMS for Inverter Service.							
6C9	T-6½	Duotetrode	10F	6.3	0.400	VHF Amp.	2.5	125	1.0	80	10	1.5	100000	8000	....	....	....
6C10	Comp. T-9	Triple Triode	12BQ	6.3*	0.600	A-F Amp.	1.0	Characteristics Same as Type 12AX7.									
6CA4	T-6½	Duodiode	9M	6.3	1.000	F-W Rect.	....	350 A.C. Volts Per Plate, RMS, 150 Ma. Output Current.									
6CA5	T-5½	Beam Pent.	7CV	6.3	1.200	Power Amp.	5.5	110	4.0	110	32	3.5	16000	8100	....	3500	1100
								125	4.5	125	37	4.0	15000	9200	....	4500	1500
6CA7	T-10 (SP)	Beam Pent.	8ET	6.3	1.500	Power Amp.	27.5	Characteristics Same as Type EL34.									
6CB5A	T-12	Beam Pent.	8GD	6.3	2.500	Horiz. Defl. Amp.	25	6800 Maximum Peak Positive Pulse Plate Volts.									
								175	30	175	90	6.0	5000	8800	....	....	....
6CB6A	T-5½	Pentode	7CM	6.3*	0.300	VHF Amp.	2.3	125	56■	125	13	3.7	280000	8000	....	....	....
6CD6G	ST-16	Beam Pent.	5BT	6.3	2.500	Horiz. Defl. Amp.	16.5	Maximum Peak Positive Plate Voltage = 6600 Volts. Maximum D.C. Plate Current = 200 Ma.									
6CD6GA	T-12	Beam Pent.	5BT	6.3	2.500	Horiz. Defl. Amp.	22	7000 Maximum Peak Positive Pulse Plate Volts. 200 Ma. Max. Cathode Current.									
								175	30	175	75	5.5	7200	7700	....	....	....
6CE5	T-5½	Pentode	7BD	6.3	0.300	VHF Amp.	2.2	125	1.0	125	111	3.7	1.0 Meg.	7600	....	....	....
6CF6	T-5½	Pentode	7CM	6.3	0.300	VHF Amp.	2.3	125	56■	125	12.5	3.7	0.3 Meg.	7800	....	....	....
6CG7	T-6½	Duotriode	9AJ	6.3*	0.600	Amplifier	3.85	Characteristics Same as Type 6SN7GT. (6CG7 Designed for Series String TV Receivers.)									
6CG8	T-6½	Tri. Pentode	9GF	6.3	0.450	Osc. Mixer	1.7	125	1.0	....	12	....	6000	6500	40	....	....
6CG8A				6.3*	0.450		2.3	125	1.0	125	9.	2.2	.3 Meg.	5500	....	....	....
6CH7	T-6½	Duotriode	9FC	6.3	0.400	Amplifier	2.2	150	220■	....	10	....	5300	6800	36	....	....
6CH8	T-6½	Tri. Pentode	9FT	6.3	0.450	Tri. Amp.	2.82	200	....	....	13.0	....	5750	3300	19	....	....
						Pent. Amp.	2.2	200	180■	150	9.5	2.8	300000	6200	....	....	....
6CK4	T-9	Power Triode	8JB	6.3	1.250	Vert. Defl. Amp.	12	Max. Peak Positive Pulse Plate Voltage = 2000 Volts. Max. D.C. Cathode Current = 100 Ma.									
								250	28	....	40	....	1200	5500	6.6	....	....
6CL5	T-12	Beam Pent.	8GD	6.3	2.500	Horiz. Defl.	27.5	7000 Maximum Peak Positive Pulse Plate Volts. 25 Watts Maximum Plate Dissipation. 4.0 Watts Maximum Screen Dissipation.									
6CL6	T-6½	Power Pent.	9BV	6.3	0.650	Video Amp.	8.25	250	3	150	30	7	0.15 Meg.	11000	....	....	....

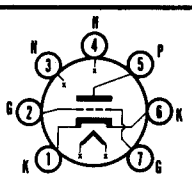
(1) See Frontal Section.
(2) Design Maximum Values.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
† Maximum Signal.
♦ Filamentary Type.
▲ Conversion Transconductance.
¶ Plate to Plate.
■ Cathode Resistor (ohms).

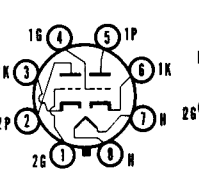

7 CN

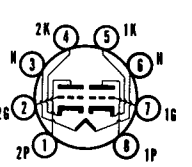

7CM

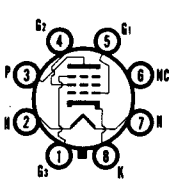

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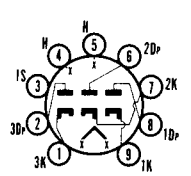

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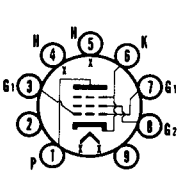

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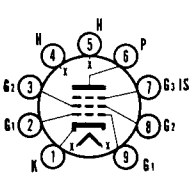

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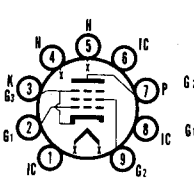

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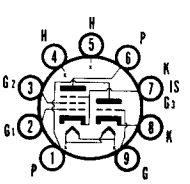

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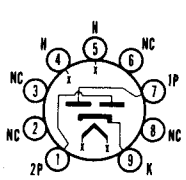

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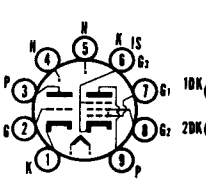

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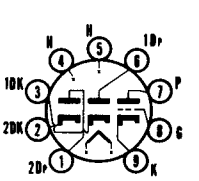

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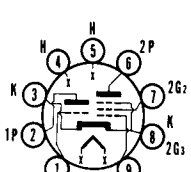

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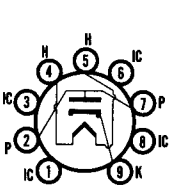

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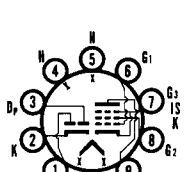

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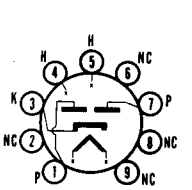

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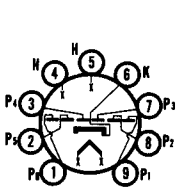

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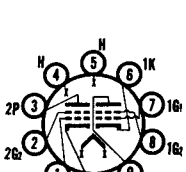

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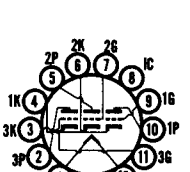

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9NK


9M

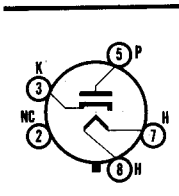

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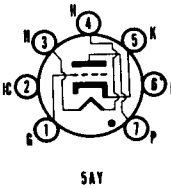

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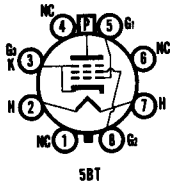

12BQ

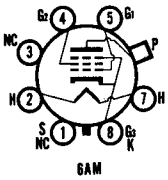
SYLVANIA TUBES

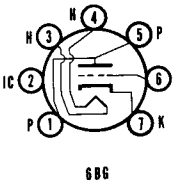
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6CL8A	T-6½	Tri. Tetrode	9FX	6.3*	0.450	VHF Osc. VHF Amp.	2.97 3.0	125 125	1.0 1.0	 125	14 12	... 4	5000 200000	8000 6500	40	....	....
6CM4	T-6½	Triode	9KG	6.3	0.170	VHF Amp.	2.2	175	1.5	....	12	...	....	14000	68	....	....
6CM5	T-9	Beam Pent.	8GT	6.3	1.250	Horiz. Defl. Amp.	11	Maximum Peak Positive Plate Voltage = 7000 Volts. Maximum D.C. Cathode Current = 200 Ma. 100	7.7	100	100	7.0	5300	14000	....	....	....
6CM6	T-6½	Beam Pent.	9CK	6.3	0.450	Vert. Defl. Amp. Power Amp.	8.8 13.2	Max. Peak Positive Pulse Plate Voltage = 2000 Volts. Max. D.C. Cathode Current = 40 Ma. 250 180 250 315	12.5 8.5 12.5 13.0	250 180 250 225	45 29.0 45.0 34.0	4.5 3.0 4.5 2.2	50000 50000 50000 80000	4100 3700 4100 3750	....	.... 5500 5000 8500	.... 2000 4500 5500
6CM7	T-6½	Duotriode	9ES	6.3*	0.600	Sect. 2 Vert. Defl. Amp. Sect. 1 Vert. Osc.	6.0 1.37	Max. Peak Positive Pulse Plate Voltage = 2200 Volts. Max. D.C. Cathode Current = 70 Ma. 250 200	8.0 7.0	....	20.0 5.0	... ...	4100 11000	4400 2000	18 20	....	....
6CM8	T-6½	Tri. Pentode	9FZ	6.3*	0.450	Class A1 Amp.	1.1 2.2	250 200	2 180■	 150	1.8 9.5	... 2.8	50000 600000	2000 6200	100	....	....
6CN7	T-6½	Duodiode Tri.	9EN	6.3	0.300	Det. Amp.	1.1	100 250	1.0 3.0	....	0.8 1.0	... ...	54000 58000	1300 1200	70 70	....	....
6CQ4	T-9	Diode	4CG	6.3	1.600	T.V. Damper	6.5	Max. Peak Inverse Plate Voltage = 5500 Volts. Max. D.C. Plate Current = 190 Ma.									
6CQ8	T-6½	Tri. Tetrode	9GE	6.3*	0.450	VHF Tri. Osc. VHF Tet. Amp	2.97 3.0	125 125	56■ 1.0	 125	15 12	... ...	5000 140000	8000 5800	40	....	....
6CR4	T-6½	Triode	9BX	6.3	0.370	UHF Amp.	....	130	1.0	....	16	...	....	15000	60	....	....
6CR6	T-5½	Diode Pent.	7EA	6.3	0.300	Det.-Audio Amplifier	2.75	250	2.0	100	9.5	3.0	200000	1950	....	....	....
6CR8	T-6½	Tri. Pentode	9GJ	6.3*	0.450	Tri. Amp. Pent. Amp.	2.75 2.3	125 125	2.0 56■	 125	12.0 13.0	... 3.0	5500 300000	4000 7700	22	....	....
6CS6	T-5½	Dual Control Heptode	7CH	6.3	0.300	Sync. Sep.	1.1	100 100	0 Grid 1 −1 Grid 1	30 30	0.8 1.0	5.5 1.3	0.7 Meg. 1.0 Meg.	1500 Gr. 3 1100 Gr. 1	Grid No. 3 Volts = −1.0 Grid No. 3 Volts = 0.		
6CS7	T-6½	Duotriode	9EF	6.3*	0.600	Sect. 2 Vert. Defl. Amp. Sect. 1 Vert. Osc.	1.37	Max. Peal Positive Pulse Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 45 Ma. 250 250	10.5 8.5	....	19.0 10.5	... ...	3450 7700	4500 2200	15.5 17	....	....
6CS8	T-6½	Tri. Pentode	9FZ	6.3*	0.450	Tri. Amp. Pent. Amp.	2.75 2.3	125 125	2.0 56■	 125	12.0 13.0	... 3.0	5500 300000	4000 7700	22	....	....
6CU5	T-5½	Pentode	7CV	6.3	1.200	Power Amp.	6.6	120	8	110	49	4	10000	7500	....	2500	2300
6CU6	T-12	Beam Pent.	6AM	6.3	1.200	Horiz. Amp.	12.1	Characteristics and Ratings Same as Type 6BQ6GTA.									
6CU8	T-6½	Tri. Pentode	9GM	6.3*	0.450	Tri. Amp. Pent. Amp.	2.82 2.2	125 125	1.0 56■	 125	17 12	... 3.8	4100 170000	5800 7800	17	....	....
6CW4	M-N	Triode	12AQ	6.3	0.135	VHF Amp.	1.0	70	47K[4]	....	8	...	12500	5440	68	....	....
6CW5	T-6½	Beam Pent.	9CV	6.3	0.760	S.T. A1 Amp. S.T. A1 Amp. P.P.AB1 Amp.	13	100 170 170	6.7 12.5 120■	100 170 170	43 70 113-115†	3 5 6-41†	23000	9000	....	2400 2400 3500¶	1900 5600 13000
6CX7	T-6½	Duotriode	9FC	6.3	0.400	Amplifier	2.2	150	220■	....	9.0	...	....	6400	39	....	....
6CX8	T-6½	Tri. Pentode	9DX	6.3	0.750	Tri. Amp. Video Amp.	2.0 5.0	150 200	150■ 68■	 125	9.2 24	... 5.2	8700 70000	4600 10000	40	....	....
6CY5	T-5½	Tetrode	7EW	6.3	0.200	VHF Amp.	2.0	125	1.0	80	10.0	1.5	100000	8000	....	....	....
6CY7	T-6½	Duotriode	9LG	6.3	0.750	Vert. Osc. Vert. Defl. A.	1.0 5.5	250 150	3 620■	....	1.2 30	... ...	52000 920	1300 5400	68 5	....	....
6CZ5	T-6½	Beam Pent.	9HN	6.3*	0.450	Vert. Defl. Amp.	11	Max. Peak Positive Plate Voltage = 2200 Volts. Max. D.C. Cathode Current = 45 Ma. 250	14	250	46.0	4.6	73000	4800	....	....	....
6D4	T-5½	Gas Triode	5AY	6.3	0.250	Relay Tube	....	350	50	Peak Cathode Current = 100 Ma. Cathode Current = 25 Ma. Approx. Volt Drop at 25 Ma. = 16 Volts.							
6D6	ST-12	Pentode	6F	6.3	0.300	Amplifier	2.47	100 250	3.0 3.0	100 100	8.0 8.2	2.2 2.0	250000 800000	1500 1600	....	....	....

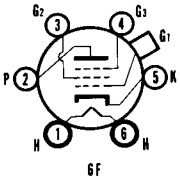

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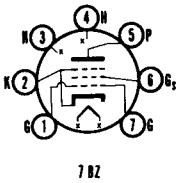

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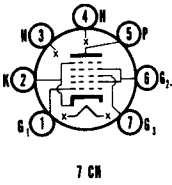

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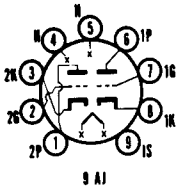

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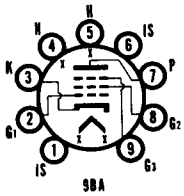

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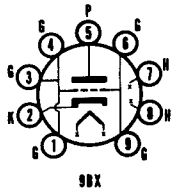

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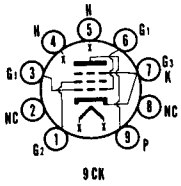

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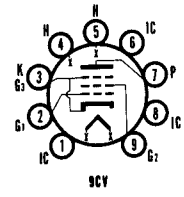

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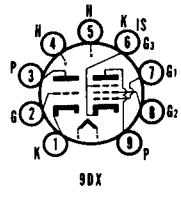

9 AJ

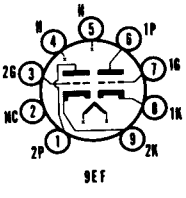

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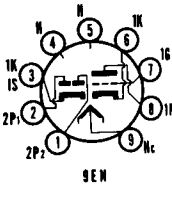

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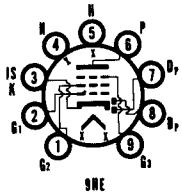

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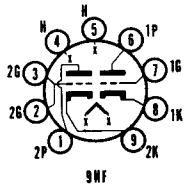

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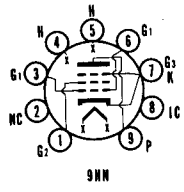

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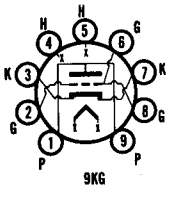

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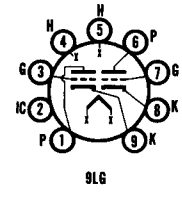

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9HE

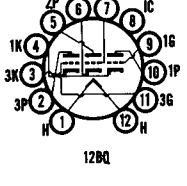

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9HN


9KG


9LG

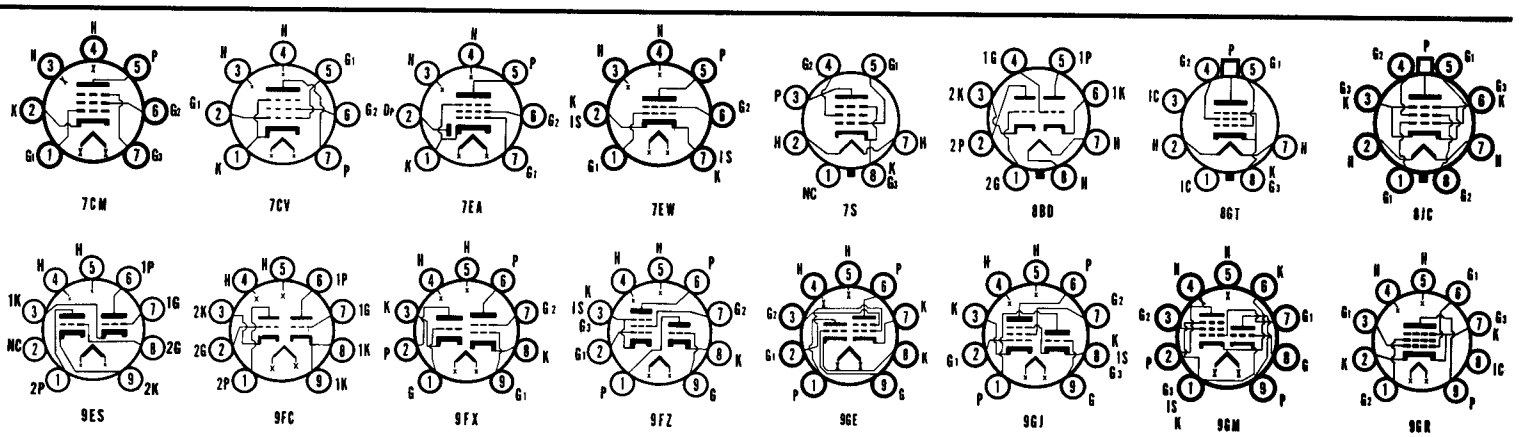

12AQ


12BQ

AVERAGE CHARACTERISTICS

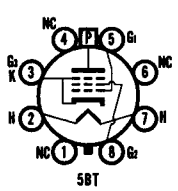
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6D10	Comp. T-9	Triple Triode	12BQ	6.3	0.450	VHF R-F/ Osc./Mixer	2.0	Characteristics Same as Type 6EZ8.									
6DA4	T-9	Diode	4CG	6.3	1.200	T.V. Damper	5.5	Max. Peak Inverse Plate Voltage = 4400 Volts. Max. D.C. Plate Current = 155 Ma.									
6DA4A	T-9	Diode	4CG	6.3	1.200	T.V. Damper	8.0	Max. Peak Inverse Plate Voltage = 5000 Volts. Max. D.C. Plate Current = 185 Ma.									
6DA7	T-6½	Duotriode	9EF	6.3	1.000	Sect. 2 Vert. Defl. Amp.	2.2	Max. Peak Positive Pulse Plate Voltage = 1800 Volts. Max. D.C. Cathode Current = 40 Ma.									
								150	17.5	....	40.0	...	1100	5700	6.3	....	....
						Sect. 1 Vert. Osc.	6.6	250	8.0	....	9.0	...	7700	2600	20	....	....
6DB5	T-6½	Beam Pent.	9GR	6.3	1.200	Vert. Defl. Amp.	11	Max. Peak Positive Pulse Plate Voltage = 2000 Volts. Max. D.C. Cathode Current = 55 Ma.									
								200	180■	125	46.0	2.2	28000	8000	....	....	....
6DB6	T-5½	Pentode	7CM	6.3	0.300	Color Demod.	3.3	150	1.0	150	5.8	6.6	50000	2050 μmhos when Eg3 = −3 Volts.			
6DC6	T-5½	Pentode	7CM	6.3	0.300	Amplifier	2.2	200	180■	150	9.0	3.0	500000	5500	Semi-Remote Cutoff.		
6DC8	T-6½	Duodi. Pent.	9HE	6.3	0.300	R-F Amp.	2.47	200	1.5	100	11	3.3	.6 Meg.	4500	....	....	....
6DE4	T-9	Diode	4CG	6.3	1.600	T.V. Damper	6.5	P.I.V. = 5500 Volts Max., D.C. Plate Current = 180 Ma. Max.									
6DE6	T-5½	Pentode	7CM	6.3	0.300	VHF Amp.	2.3	125	56■	125	15.5	4.2	250000	8000	....	....	....
6DE7	T-6½	Duotriode	9HF	6.3	0.900	Sect. 2 Vert. Defl. Amp.	7.0	Max. Peak Positive Plate Voltage = 1500 Volts. Max. Cathode Current = 50 Ma.									
								150	17.5	....	35.0	...	925	6500	6	....	....
						Sect. 1 Vert. Osc.	1.5	250	11.0	....	5.5	...	8750	2000	17.5	....	....
6DG6GT	T-9	Beam Pent.	7S	6.3	1.200	Power Amp.	11	110	7.5	110	49	4.0	13000	8000	....	2000	2100
								200	180■	125	46	2.2	28000	8000	....	4000	3800
6DG7	T-6½	Pentode	9BA	6.3	0.300	R-F or I-F Amplifier	3.3	100	68■	100	10.8	4.4	250000	4300	....	....	....
								250	68■	100	11.0	4.2	1 Meg.	4400	....	....	....
6DJ8	T-6½	Duotriode	9AJ	6.3	0.365	VHF Amp.	1.98	90	1.3	....	15	...	2700	12500	33	....	....
6DK6	T-5½	Pentode	7CM	6.3	0.300	VHF Amp.	2.2	125	56■	125	12.0	3.8	....	9800	....	....	....
6DM4	T-9	Diode	4CG	6.3	1.200	T.V. Damper	6.5	Max. Peak Inverse Plate Voltage = 5000 Volts. Max. D.C. Plate Current = 175 Ma.									
6DN6	T-12	Beam Pent.	5BT	6.3	2.500	Horiz. Defl. Amp.	16.5	Max. Peak Positive Pulse Plate Voltage = 6600 Volts. Max. D.C. Cathode Current = 200 Ma.									
								125	18	125	70	6.3	4000	9000	....	....	....
6DN7	T-9	Duotriode	8BD	6.3	0.900	Sect. 2 Vert. Defl. Amp.	10	Max. Peak Positive Pulse Plate Voltage = 2500 Volts. Max. D.C. Cathode Current = 50 Ma.									
								250	9.5	....	41	...	2000	7700	15.4	....	....
						Sect. 1 Vert. Osc.	1.0	250	8	....	8.0	...	9000	2500	22.5	....	....
6DQ4	T-9	Diode	4CG	6.3	1.200	T.V. Damper	6.0	Max. Peak Inverse Plate Voltage = 5500 Volts. Max. Peak Plate Current = 1000 Ma. Max. D.C. Output Current = 175 Ma.									
6DQ5	T-12	Beam Pent.	8JC	6.3	2.500	Horiz. Defl. Amplifier	26.4	Max. Peak Positive Pulse Plate Voltage = 7000 Volts. Max. D.C. Cathode Current = 285 Ma.									
								175	25	125	110	5	5500	10500	....	....	....
6DQ6A	T-12	Beam Pent.	6AM	6.3	1.200	Horiz. Defl. Amplifier	18	6000 Max. Peak Positive Plate Volts. 155 Ma. Max. Cathode Current.									
								250	22.5	150	55	1.5	20000	6600	....	....	....
6DQ6B	T-12	Beam Pent.	6AM	6.3	1.200	Horiz. Defl. Amplifier	18	Max. Peak Positive Pulse Plate Voltage = 6500 Volts. Max. D.C. Cathode Current = 175 Ma.									
								250	22.5	150	65	1.8	18000	7300	4.4	G1 to G2	....
6DR4	T-5½	Triode	6BG	6.3	0.150	A-F Amp.	1.2	100	1.0	....	0.5	...	80000	1250	100	....	....
								250	2.0	....	1.2	...	62500	1600	100	....	....
6DR7	T-6½	Duotriode	9HF	6.3	0.900	Sect. 2 Vert. Defl. Amp.	7.0	Max. Peak Positive Pulse Plate Voltage = 1500 Volts. Max. Cathode Current = 50 Ma.									
								150	17.5	....	35	...	925	6500	6	....	....
						Sect. 1 Vert. Osc.	1.0	250	3	....	1.4	...	40000	1600	68	....	....
6DS4	M-N	Triode	12AQ	6.3	0.135	VHF Amp.	1.0	110	130■	....	6.5	...	6900	9000	62	....	....
6DS5	T-5½	Beam Pent.	7BZ	6.3	0.800	Power Amp.	8.8	200	180■	200	34.5	3.5	28000	6000	....	6000	2800
								250	270■	200	27	3	28000	5800	....	8000	3600
6DT5	T-6½	Beam Pent.	9HN	6.3	1.200	Vert. Defl. Amp.	9.0	Max. Peak Positive Plate Voltage = 2200 Volts. Max. D.C. Cathode Current = 55 Ma.									
							9.0	250	16.5	250	44	1.5	....	6200	....	....	....

(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

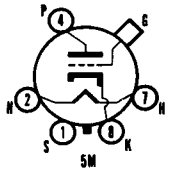


SYLVANIA TUBES

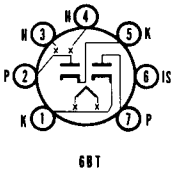
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6DT6	T-5½	Gated Beam	7EN	6.3	0.300	Quad. F. M. Det.	1.65	150	560■	100	1.1	2.1	150000	615 Gr. #1 515 Gr. #3	−4.5 Gr. #1 for 10 μa IB −3.5 Gr. #3 for 10 μa IB		
6DT6A	T-5½	Pentode	7EN	6.3	0.300	FM Det.	1.7	150	560■	100	1.55	1.8	150000	1350	....	....	....
6DT8	T-6½	Duotriode	9AJ	6.3	0.300	Amplifier	2.75	100 250	270■ 200■	....	3.7 10	... ...	15000 10900	4000 5500	60 60	....	....
6DW4	Novar T-9	Diode	9HP	6.3	1.200	T.V. Damper	6.5	Max. Peak Inverse Plate Voltage = 4500 Volts. Max. D.C. Output Current = 210 Ma.									
6DW5	T-6½	Beam Pent.	9CK	6.3	1.200	Vert. Defl. Amp.	11	Max. Peak Positive Pulse Plate Voltage = 2200 Volts. Max. D.C. Cathode Current = 65 Ma.									
								200	22.5	150	55	2.0	15000	5500	4.3	....	....
6DY5	T-6½	Beam Pent.	9CV	6.3	0.800	S.T. A1 Amp. P.P. A1 Amp.	10	200 200	13.9 135■	190 200	45 90-104†	8.5 17-38†	24000	7600	....	4000 4000¶	4200 12000
6DZ7	T-12	Double Beam Pent.	8JP	6.3	1.520	P.P. AB1 Amp. P.P. AB1 Amp.	13.2	400 300	11 120■	250 250	40-100† 66-80†	4-13† 7-15†	....	....	....	9000 9000	18000 12000
6DZ8	T-6½	Tri. Beam Pent.	9EX	6.3	0.900	A-F Triode Volt. Amp.	.825	120	1500■	....	0.8	...	71000	1400	100	....	....
						and Pent. Power Amp.	7.15	145	180■	120	45	6	2500	7500	....	2500	2000
6E5	T-9	Electron Ray	6R	6.3	0.300	Indicator	....	100 250	(Series Plate Resistor 0.5 Meg. Target Current 1.0 Ma. Grid Bias = 3.3 for 90° Shadow.) (Series Plate Resistor 1.0 Meg. Target Current 4.0 Ma. Grid Bias = 8.0 for 90° Shadow.)								
6EA5	T-5½	Tetrode	7EW	6.3	0.200	VHF Amp.	3.25	250	1.0	140	10	0.95	150000	8000	....	....	....
6EA7	T-9	Duotriode	8BD	6.3	1.050	Sect. 2 Vert. Amp.	10	Max. Peak Positive Pulse Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 50 Ma.									
								175	25	....	40	...	920	6000	5.5	....	....
						Sect. 1 Vert. Osc.	1.0	250	3	....	2.0	...	30000	2200	66	....	....
6EA8	T-6½	Tri. Pentode	9AE	6.3*	0.450	Tri. VHF Amp.	3.0	150	56■	....	18	...	5000	8500	40	....	....
						Pent. Amp.	3.1	125	1.0	125	12	4	200000	6400	....	....	....
6EB5	T-5½	Duodiode	6BT	6.3	0.300	Low Current Volt./Doubler	....	Max. Peak Inverse Plate Voltage = 550 Volts. Plate Current = 5.5 Ma.									
6EB8	T-6½	Tri. Pentode	9DX	6.3	0.750	A-F Amp.	1.0	250	2.0	....	2	...	37000	2700	....	....	....
						Video Amp.	5.0	200	68■	125	25	7	75000	12500	....	....	....
6EH5	T-5½	Beam Pent.	7CV	6.3	1.200	S.T. A1 Amp.	5.5	110	62■	115	42	11.5	11000	14600	....	3000	1400
								3 Volts Peak Driving Voltage Required for 1.4 Watts Output.									
6EH7	T-6½	Pentode	9AQ	6.3	0.300	VHF Amp.	2.7	200	2.0	90	12	4.5	500000	12500	....	....	....
6EH8	T-6½	Tri. Pentode	9JG	6.3*	0.450	VHF Osc.	2.5	125	1.0	....	13.5	...	.....	7500	40	....	....
						VHF Amp.	2.8	125	1.0	125	12	4	170000	6000	....	....	....
6EJ7	T-6½	Pentode	9AQ	6.3	0.300	VHF Amp.	2.7	200	2.5	200	10	4.1	350000	15000	....	....	....
6EL7	T-6½	Pentode	9AQ	6.3	0.300	VHF Amp.	3.0	170	150■	170	10	2.6	....	9200	....	....	....
6EM5	T-6½	Beam Pent.	9HN	6.3	0.800	Vert. Defl. Amplifier	11	Maximum Peak Positive Plate Voltage = 2200 Volts. Maximum D.C. Cathode Current = 60 Ma.									
								250	18	250	40	3	50000	5100	8.7	G1 to G2	
6EM7	T-9	Duotriode	8BD	6.3	0.925	Vert. Osc.	1.5	250	3.0	....	1.4	...	40000	1600	64	....	....
						Vert. Defl. A.	10	150	20	....	50	...	750	7200	5.4	....	....
6EQ7	T-6½	Diode Pent.	9LQ	6.3	0.300	Det. R-F Amp.	3.0	100	2.2 Meg[4]	100	9	3.5	250000	3800	....	....	....
6ER5	T-5½	Triode	7FP	6.3	0.180	VHF Amp.	2.2	200	1.2	0	10	0	8000	10500	80	....	....
6ES5	T-5½	Triode	7FP	6.3*	0.200	VHF Amp.	2.2	200	1.0	....	10	...	8000	9000	75	....	....
6ES8	T-6½	Duotriode	9AJ	6.3	0.365	VHF Amp.	1.98	90	1.2	....	15	...	....	12500	....	....	....
6ET7	T-6½	Duodi. Pent.	9LT	6.3	0.750	Video Amp.	5.0	200	100■	150	25	5.5	60000	11500	....	....	....
6EU7	T-6½	Duotriode	9LS	6.3	0.300	A-F Amp.	1.2	100 250	1.0 2.0	....	0.5 1.2	... ...	80000 62500	1250 1600	100 100	....	....
6EU8	T-6½	Tri. Pentode	9JF	6.3	0.450	VHF Osc.	3.1	150	56■	....	18	...	5000	8500	40	....	....
						VHF Amp.		125	1.0	125	12	4.0	80000	6400	....	....	....
6EV5	T-5½	Tetrode	7EW	6.3	0.200	VHF Amp.	3.25	250	1.0	80	11.5	0.9	150000	8800	....	....	....
6EV7	T-6½	Duotriode	9LP	6.3	0.600	Relay Control Tube	2.5	250	2.0	....	9.2	...	11500	5200	60	....	....
6EW6	T-5½	Pentode	7CM	6.3	0.400	VHF Amp.	3.1	125	56■	125	11	3.2	200000	14000	....	....	....



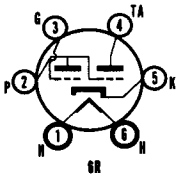
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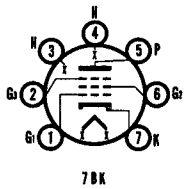
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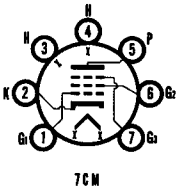
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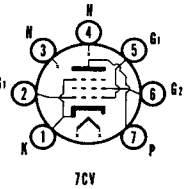
6R



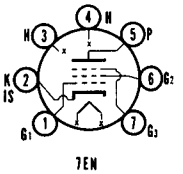
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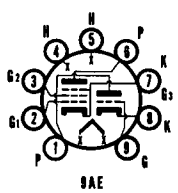
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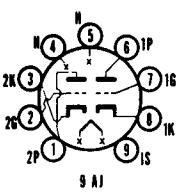
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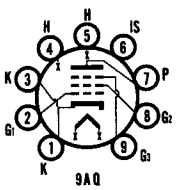
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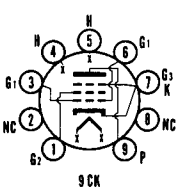
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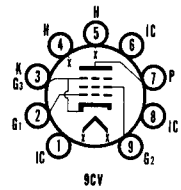
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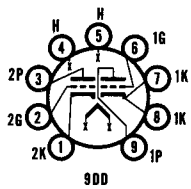
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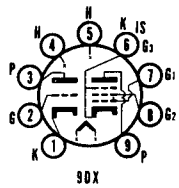
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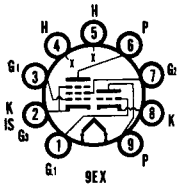
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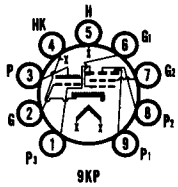
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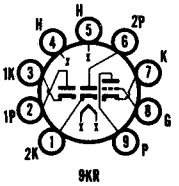
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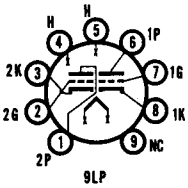
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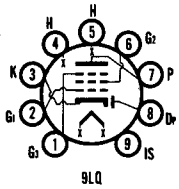
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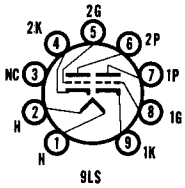
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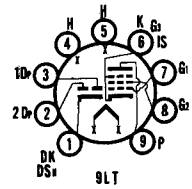
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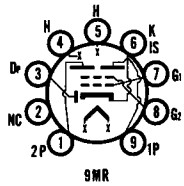
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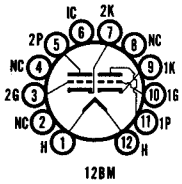
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9LT



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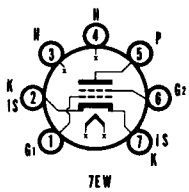


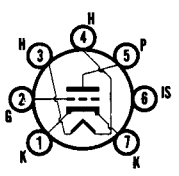
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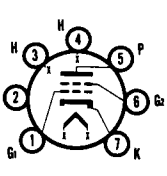
AVERAGE CHARACTERISTICS

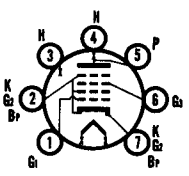
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6EW7	9-T9	Duotriode	9HF	6.3	0.900	Vert. Defl. Amp.	10	Max. Peak Positive Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 50 Ma., (Section 2.) 150	17.5	....	45	...	800	7500	6	....	....
						Vert. Osc.	1.5	250	11	....	5.5	...	8750	2000	17.5	....	....
6EX6	T-12	Beam Pent.	5BT	6.3	2.250	Horiz. Defl. Amp.	22	Max. Peak Positive Pulse Plate Voltage = 7000 Volts. Max. D.C. Cathode Current = 220 Ma. 175	30	175	67	3.3	8500	7700	....	....	....
6EY6	T-9	Beam Pent.	7S	6.3	0.680	Vert. Defl. Amp.	11	Max. Peak Positive Pulse Plate Voltage = 2500 Volts. Max. D.C. Cathode Current = 60 Ma. 250	17.5	250	44	3	60000	4400	....	....	....
6EZ5	T-9	Beam Pent.	7S	6.3	0.800	Vert. Defl. Amp.	12	Max. Peak Positive Pulse Plate Voltage = 2500 Volts. Max. D.C. Cathode Current = 75 Ma. 250	20	250	43	3.5	50000	4100	....	....	....
6EZ8	T-6½	Triple Triode	9KA	6.3	0.450	VHF Amp.	2.0	125	1.0	....	4.2	...	13600	4200	57	....	....
6F5 6F5GT	Metal T-9	Triode	5M	6.3	0.300	A-F Amp.	....	250	2.0	....	0.9	...	66000	1500	100	....	....
6F6 6F6G 6F6GT	Metal ST-14 T-9	Power Pent.	7S	6.3	0.700	Power Amp. S.T.A1 Amp. P.P.A1 Amp. P.P.AB2 Amp.	12.1	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†	80000 78000 (Current & Output, 2 Tubes) (Current & Output, 2 Tubes)	2500 2550	....	7000 7000 10000¶ 10000¶	3200 4800 11000 18000
6FA7	T-6½	Diode Duo Plate Tet.	9MR	6.3	0.300	Frequency Divider	1.5 1.5	100	2.2 Meg[4]	100	3.8	1.7	90000	3200	....	....	....
6FC7	T-6½	Duotriode	9DD	6.3	0.340	VHF Amp.	1.9	90	1.2	....	15	...	....	12000	....	....	....
6FD6	T-5½	Pentode	7BK	6.3	0.330	R-F Amp.	....	12.6	2.2 Meg[4]	12.6	1.4	0.5	500000	1450	....	....	....
6FD7	9-T9	Duotriode	9HF	6.3	0.925	Sect. 2 Vert. Defl. Amp. Sect. 1 Vert. Osc. Amp.	10 1.5	Max. Peak Positive Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 50 Ma. 150 250	17.5 3.0	....	40 1.4	... ...	800 40000	7500 1600	6 64	....	....
6FE5	T-6½	Beam Pent.	8KB	6.3	1.200	S.T.A1 Amp. P.P.AB1 Amp.	14.5	130 130	120■ 75■	130 130	82-94† 150-154†	4-15† 7.2-17†	....	....	....	1000 1600¶	3500 7000
6FG5	T-5½	Shadow Grid Pent.	7GA	6.3	0.200	VHF Amp.	2.7	250	0.2	250	9	0.42	250000	9500	....	....	....
6FG7	T-6½	Tri. Pentode	9GF	6.3	0.450	VHF Osc./ Mixer	2.5 3.0	125 125	1.0 1.0	 125	13 11	... 4	5700 180000	7500 6000	43	....	....
FH5	T-5½	Triode	7FP	6.3	0.200	R-F Amp.	2.2	135	1.0	....	11	...	5600	9000	50	....	....
6FH8	T-6½	Triode Triple Plate Tetrode	9KP	6.3	0.450	Tri. Amp. 3 Plate Tet. Plate No. 1 Plate No. 2 Plate No. 3	1.7 2.3 0.3 0.3	100 100 100	1.0 1.0	 50	7.9 1.6 .04 .04	... 0.3	7400	5400 2500 70 70	40	....	....
6FJ7	Comp. T-9	Duotriode	12BM	6.3	0.900	Sect. 2 Vert. Defl. Amp. Sect. 1 Vert. Osc. Amp.	10 1.0	Max. Peak Positive Plate Voltage = 2500 Volts. Max. D.C. Cathode Current = 50 Ma. 250 250	9.5 8.0	....	41 8	... ...	2000 9000	7700 2500	15.4 22.5	....	....
6FM8	T-6½	Duodiode Tri.	9KR	6.3	0.450	Det. Amp.	1.1	250	3	....	1.0	...	58000	1200	70	....	....
6FQ5	T-5½	Triode	7FP	6.3	0.180	VHF Amp.	2.5	135	1.2	....	11.5	...	5500	11000	60	....	....
6FQ5A	T-5½	Triode	7FP	6.3	0.180	VHF Amp.	2.5	135	1.2	....	8.9	...	6300	12000	74	....	....
6FQ7	T-6½	Duotriode	9LP	6.3*	0.600	General Purpose	4.0	90 250	0 8.0	....	10 9	... ...	6700 7700	3000 2600	20 20	....	....
6FR7	9-T9	Duotriode	9HF	6.3	0.925	Vert. Defl. Amplifier Vert. Osc.	10 1.5	Max. Peak Positive Pulse Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 50 Ma. 150 250	20 3.0	....	50 1.4	... ...	750 40000	7200 1600	5.4 68	....	....
6FS5	T-5½	Shadow Grid Beam Pent.	7GA	6.3	0.200	VHF Amp.	3.2	275	0.2	135	9	0.17	240000	10000	....	....	....
6FV6	T-5½	Tetrode	7FQ	6.3	0.200	VHF Amp.	2.0	125	1.0	80	10	1.5	100000	8000	....	....	....
6FV8	T-6½	Tri. Pentode	9FA	6.3*	0.450	Vert. Osc. VHF Amp.	2.0 2.3	125 125	1.0 1.0	 125	14 12	... 4.0	5000 200000	8000 6500	40	....	....

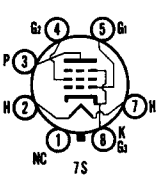
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
♦ Filamentary Type.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

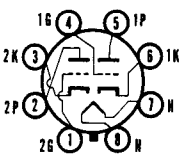


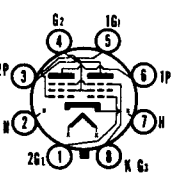


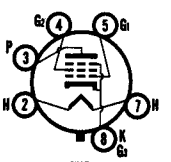


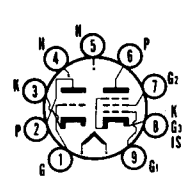


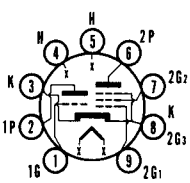


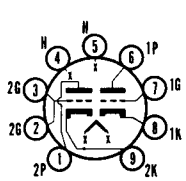


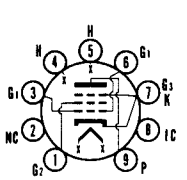


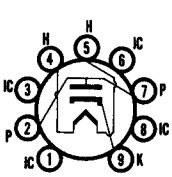


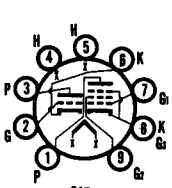


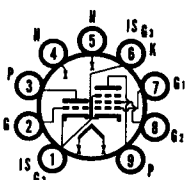


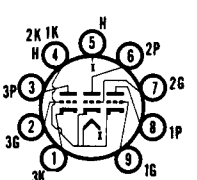






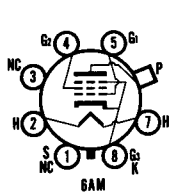


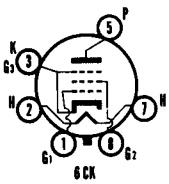


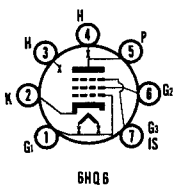


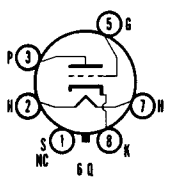
SYLVANIA TUBES

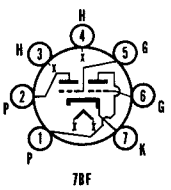
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6FV8A	T-6½	Tri. Pentode	9FA	6.3*	0.450	Vert. Osc. VHF IF Amp.	2.0 2.3	125 125	1.0 1.0	 125	12 12	... 4	5600 200000	8000 6500	45	....	....
6FW5	T-12	Beam Pent.	6CK	6.3	1.200	Horiz. Defl. Amplifier	18	Max. Peak Positive Plate Voltage = 6500 Volts. Max. D.C. Cathode Current = 175 Ma. 250	22.5	150	65	1.8	18000	7300	....	....	....
6FW8	T-6½	Duotriode	9AJ	6.3	0.400	VHF Amp.	2.2	100	1.2	....	15	...	2500	13000	33	....	....
6FY5	T-5½	Triode	7FP	6.3*	0.200	VHF Amp.	2.2	135	1.0	....	11	...	....	13000	70	....	....
6G11	Comp. T-9	Duo. Pent.	12BU	6.3	1.200	FM Det. A-F Pwr. Amp.	1.7 6.5	150 120	560■ 8.0	100 110	1.3 49	2.0 4.5	150000 10000	G1=1000▲ G3= 400▲ 7500	....	 2500	 2300
6GB5	Magnoval T-9	Beam Pent.	9HN	6.3	1.380	Horiz. Defl. Amp.	17	Max. Peak Positive Plate Voltage = 275 Volts. Max. D.C. Cathode Current = 275 Ma.									
6GC5	9-T9	Beam Pent.	9EU	6.3	1.200	S.T.A1 Amp. S.T.A1 Amp.	12	110 200	7.5 180■	110 125	49 46	4 2.2	13000 28000	8000 8000	....	2000 4000	2100 3800
6GC6	T-12	Beam Pent.	8JX	6.3	1.200	Power Amp.	17.5	250	22.5	150	75	2.4	20000	6600	....	....	....
6GE5	Comp. T-12	Beam Pent.	12BJ	6.3	1.200	Horiz. Defl. Amplifier	17.5	Max. Peak Positive Pulse Plate Voltage = 6500 Volts. Max. D.C. Cathode Current = 175 Ma. 250	22.5	150	65	1.8	18000	7300	....	....	....
6GE8	T-6½	Tri. Pentode	9LC	6.3	0.900	Passing and Control Tube For V.R. Use	7.0 1.0	150 150	21 2.0	 150	70 5.5	... 1.7	1080 340000	5000 3200	5.4	....	....
6GF5	Comp. T-9	Beam Pent.	12BJ	6.3	1.200	Horiz. Defl. Amplifier	9.0	Max. Peak Positive Plate Voltage = 5000 Volts. Max. D.C. Cathode Current = 160 Ma. 250	26.5	150	34	1.6	26000	4700	....	....	....
6GH8	T-6½	Tri. Pentode	9AE	6.3*	0.450	Tri. Gen. Pur. Pentode Horiz. Osc.	2.5 2.5	125 125	1.0 1.0	 125	13.5 12	... 4	5400 200000	8500 7500	46	....	....
6GJ5	Novar T-12	Beam Pent.	9NM	6.3	1.200	Horiz. Defl. Amplifier	17.5	Max. Peak Positive Plate Volts = 6500 Volts. Max. D.C. Cathode Current = 175 Ma. 250	22.5	150	70	2.1	15000	7100	....	....	....
6GJ8	T-6½	Tri. Pentode	9AE	6.3	0.600	Gen. Purpose Horiz. Osc.	2.5 2.5	125 125	1.0 1.0	 125	13.5 12	... 4.5	5000 150000	8500 7500	40	....	....
6GK5	T-5½	Triode	7FP	6.3	0.180	VHF Amp.	2.5	135	1.0	....	11.5	...	5400	15000	78	....	....
6GK6	T-6½	Beam Pent.	9PU	6.3	0.760	S.T.A1 Amp.	13.2	250	7.3	250	48	5.5	38000	11300	....	5200	5700
6GM5	9-T9	Beam Pent.	9MQ	6.3	0.800	A-F Pwr. Amp.	19	Characteristics and Ratings Same as Type 7591.									
6GM6	T-5½	Pentode	7CM	6.3	0.400	VHF Amp.	3.1	125	56■	125	14	3.4	200000	13000	....	....	....
6GM8	T-6½	Duotriode	9AJ	6.3	0.330	R-F Amp. Self Osc. Mixer	.66	12.6 12.6 Oscillator Volts = 1.0 Volt.	0.1 Meg[4] 0.22 Meg[4]	....	2.5 1.0	... ...	3400 8000 Plate Circuit Res. = 500 Ohms.	4600 1300▲	....	....	....
6GN6	T-5½	Pentode	7FW	6.3*	0.300	R-F Amp.	3.3	100 250	68■ 68■	100 100	10.8 11	4.4 4.2	250000 1 Meg.	4300 4400	....	....	....
6GN8	T-6½	Tri. Pentode	9DX	6.3	0.750	Tri. Amp. Video Amp.	1.0 5.0	250 200	2.0 100■	 150	2.0 25	... 2.0	37000 60000	2700 11500	100	....	....
6GT5	Novar T-12	Beam Pent.	9NZ	6.3	1.200	Horiz. Defl. Amplifier	17.5	Max. Peak Positive Pulse Plate Voltage = 6500 Volts Max. D.C. Cathode Current = 175 Ma. 250	22.5	150	70	2.1	15000	7100	....	....	....
6GS8	T-6½	Duo. Pent.	9LW	6.3	0.300	Sync. Sep.	1.1	100 100	G3=10 G3=0	67.5 67.5	... 2.0	6.0 3.6	IK = 6.1 Ma., IG[1] = 100 μa. IK = 7.7 Ma., IG[1] = 100 μa.		....	....	....
6GW6	T-12	Beam Pent.	6AM	6.3	1.200	Horiz. Defl. Amplifier	17.5	Max. Peak Positive Pulse Plate Voltage = 6500 Volts. Max. D.C. Cathode Current = 175 Ma. 250	22.5	150	70	2.1	15000	7100	G[2] to G[1]=4.4	....	....
6GW8	T-6½	Tri. Pentode	9LZ	6.3	0.700	A-F Amp. S.T.A1 Amp.	0.55 9.9	250 250	1.7 170■	 250	1.2 36	... 5.5	 45000	1600 10000	100	 7000	 4200
6GX6	T-5½	Pentode	7EN	6.3*	0.450	Dual Control	1.7	150	180■	100	3.7	3	140000	G[1] 3700 G[3] 750	....	....	....
6GY6	T-5½	Pentode	7EN	6.3*	0.450	Dual Control	1.7	150	180■	100	3.7	3	140000	G[1] 3700 G[3] 750	....	....	....
6GY8	T-6½	Triple Triode	9MP	6.3	0.450	VHF Osc./ Amp./Mixer	2.0	125	220■	....	4.5	...	14000	4500	63	....	....
6H6, 6H6GT	T-9, Metal	Duodiode	7Q	6.3	0.300	Rectifier	....	117 A.C. Volts Per Plate, RMS, 8.0 Ma. Output Current Per Plate.									

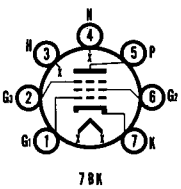


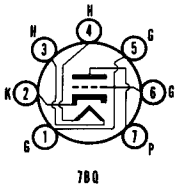


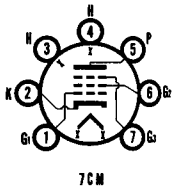


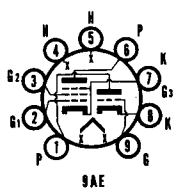


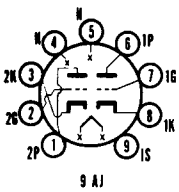


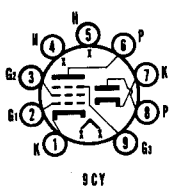


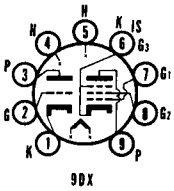


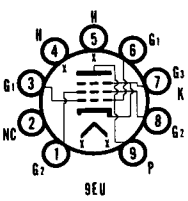


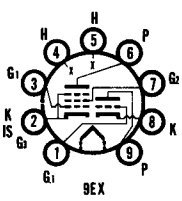


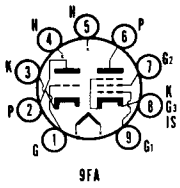


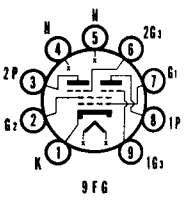


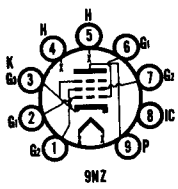


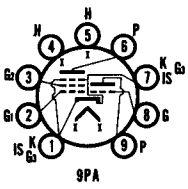


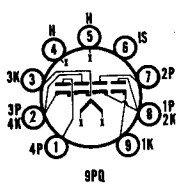


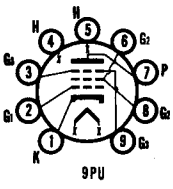


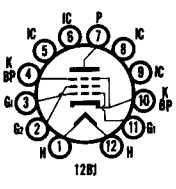


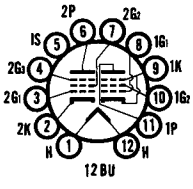


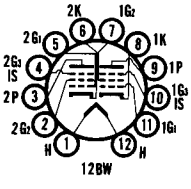


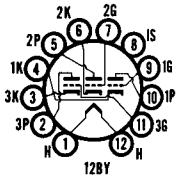








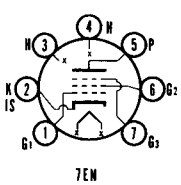


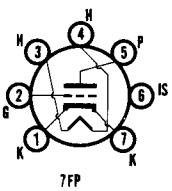


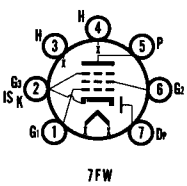
AVERAGE CHARACTERISTICS

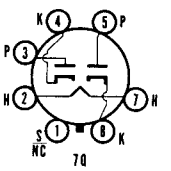
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6HB6	T-6½	Beam Pent.	9PU	6.3	0.760	Vert. Defl. Amplifier	10	Maximum Peak Positive Plate Voltage = 2500 Volts. 250	33■	125	40	4.2	28000	24000	....	....	....
6HC8	9-T9	Tri. Pentode	9EX	6.3	1.200	Vert. Defl. Amplifier Vert. Osc.	Max. Peak Positive Pulse Plate Voltage = 2200 Volts. Max. D.C. Cathode Current = 65 Ma. 1.0 11	250 250	18 3	250	38 1.4	3 ...	55000 34000	5100 2000	 68	....	....
6HF8	T-6½	Tri. Pentode	9DX	6.3	0.750	Gen. Purpose Video Amp.	1.0 5.0	200 200	2.0 68■	 125	4 25	... 7	17500 7500	4000 12500	70	....	....
6HG8	T-6½	Tri. Pentode	9MP	6.3	0.340	VHF Amp.	2.2	100 150	3.0 1.5	 150	14 10	... 3.3	 350000	6000 12000	17	....	....
6HJ8	T-6½	Diode Pent.	9CY	6.3*	0.450	Video Det. T.V. I-F Amp.	3.2	125 Diode Volts for 50 Ma.	56■	125	11.5 Diode Current = 10 Volts.	3.6	200000	9300	....	....	....
6HQ6	T-5½	Pentode	6HQ6	6.3	0.300	VHF Amp.	2.4	125	56■	125	15	3.8	220000	10500	....	....	....
6HR6	T-5½	Pentode	7BK	6.3*	0.450	FM I-F Amp.	3.0	200	68■	115	13.2	4.3	500000	8500	....	....	....
6HS8	T-6½	Twin Pentode	9FG	6.3	0.300	AGC/Sync. Amplifier	1.1	100 100	g3= 0V g3=10 V	67.5 67.5	4.4 7.0	IK = 8.5 Ma., Ig1 = 100 μa. IK = 7.1 Ma., Ig1 = 100 μa.					
6HW8	T-6½	Duo. Plate Sheet Beam	9NQ	6.3	0.300	Duo. Plate Sheet Beam	2.0	250 Defl. Switching Voltage = 40 Volts Max.	270■	250	13 Defl. Bias Volts for Min. Switching = 12 Volts.	1.4	....	4000	....	....	....
6HZ8	9-T9	Tri. Pentode	9DX	6.3	1.125	Gen. Pur. Tri. Video Amp.	1.0 8.0	200 250	2.0 100■	 170	3.5 29	... 6	 140000	4000 12600	70	....	....
6J4 GB-6J4WA (3)	T-5½	Triode	7BQ	6.3	0.400	Amplifier	2.5	150	100■	....	15.0	...	4500	12000	55	....	....
6J5 6J5GT	Metal T-9	Triode	6Q	6.3	0.300	Amplifier	2.75	250	8.0	....	9.0	....	7700	2600	20	....	....
6J6 6J6A 6J6WA (3)	T-5½	Duotriode	7BF	6.3 6.3*	0.450 0.450	VHF Osc. VHF Amp. Mixer	1.65	150 100 150	10.0 50■ 820■	....	30.0 8.5 4.8	... ...	Push-Pull Class C Operation 7100 10000	5300 1900▲	38	....	3500 ....
6J7 6J7G 6J7GT	Metal ST-12 T-9	Pentode	7R 7R 7R	6.3	0.300	A-F Amp.	1.92	250	3.0	100	2.0	0.5	1.0 Meg<	1225	....	....	....
6J11	Comp. T-9	Duo. Pent.	12BW	6.3	0.800	T.V. I-F Amp.	3.1	125	56■	125	11	3.8	200000	13000	....	....	....
6JC8	T-6½	Tri. Pentode	9PA	6.3*	0.450	VHF Osc. VHF Amp.	1.7 2.3	125 125	1.0 1.0	 125	12 9	... 2.2	6000 300000	6500 5500	40	....	....
6JE8	T-6½	Tri. Pentode	9DX	6.3	0.780	Gen. Purpose Video Amp.	1.0 4.0	200 250	2.0 82■	 170	4.5 22	... 4.0	 140000	4200 12000	70	....	....
6JK8	T-6½	Duotriode	9AJ	6.3	0.400	FM Osc. FM Amp.	1.0 2.0	100 135	1.0 1.2	....	5.3 10	... ...	8000 5400	6800 13000	55 70	....	....
6JU8	T-6½	Quadruple Diode	9PQ	6.3	0.600	Color Det., FM Multiplex Det.	....	Max. Peak Inverse Plate Voltage = 300 Volts. Max. Peak Plate Current = 54 Ma. Max. D.C. Output Current = 9 Ma.									
6K6GT	T-9	Power Pent.	7S	6.3	0.400	S.T. A1 Amp.	9.3	100 250 315	7.0 18.0 21.0	100 250 250	9.0 32.0 25.5	1.6 5.5 4.0	104000 68000 75000	1500 2300 2100	....	12000 7600 9000	350 3400 4500
6K7	Metal	Pentode	7R	6.3	0.300	R-F Amp.	3.0	100 250 250	1.0 3.0 3.0	100 100 125	9.5 7.0 10.5	2.7 1.7 2.6	150000 800000 600000	1650 1450 1650	....	....	....
6K8	Metal	Tri. Hexode	8K	6.3	0.300	Mixer Osc.	.825	250 100	3.0 Grid Res. 50,000 Plate Current 3.8 Ma., Mutual Con. 3000 (Triode Section not Oscillating)	100	2.5	6.0	600000	350▲	(Hexode Section)		
6K11	Comp. T-9	Triple Triode	12BY	6.3*	0.600	Gen. Purpose	2.7 0.3 0.3	250 250 250	8.5 2.0 2.0	....	10.5 1.2 1.2	... ...	7700 62500 62500	2200 1600 1600	17 100 100	....	....

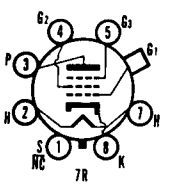
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

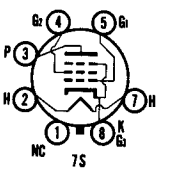

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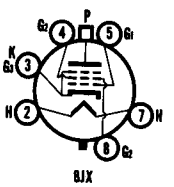

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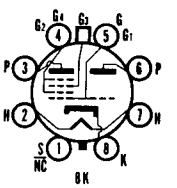

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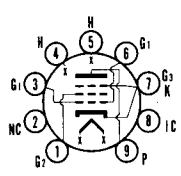

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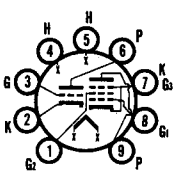

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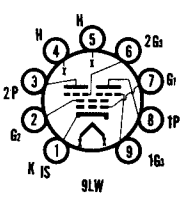

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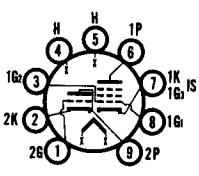

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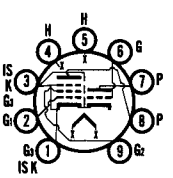

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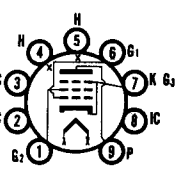

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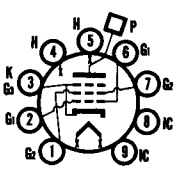

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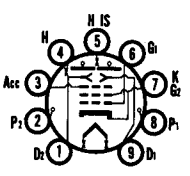

9LW


9LZ


9MP

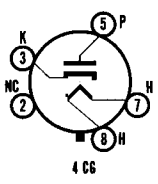

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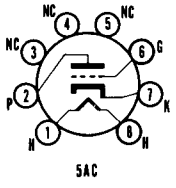

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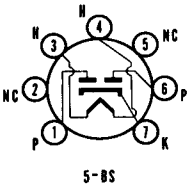

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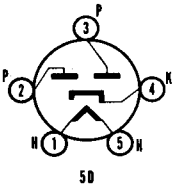
SYLVANIA TUBES

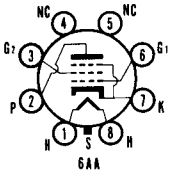
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6L6	Metal	Beam Pent.	7S	6.3	0.900	S.T. A1 Amp.	20.9	250	14.0	250	72.0	5.0	22500	6000	....	2500	6500
						S.T. A1 Amp.		350	18.0	250	54.0	2.5	33000	5200	....	4200	10800
						P.P. A1 Amp.		270	17.5	270	134-155†	11-17†	23500	5700	....	5000¶	17500
6L6GB	T-12		7S			P.P. AB1 Amp.		360	22.5	270	88-132†	5-15†	(Current & Output, 2 Tubes)			6600¶	26500
						P.P. AB2 Amp.		360	22.5	270	88-205†	5-16†	(Current & Output, 2 Tubes)			3800	47000
6L6GC	T-12	Beam Pent.	7S	6.3	0.900	P.P. AB1 Amp.	30	360	22.5	270	88-132†	5-15†	....	....	....	6600¶	26500
						P.P. AB1 Amp.		360	22.5	270	88-140†	5-11†	....	....	....	3800¶	18000
						P.P. AB1 Amp.		450	37	400	116-210†	5.6-22†	....	....	....	5600¶	55000
6L7	Metal	Heptode	7T	6.3	0.300	Mixer Amp.	1.65	250	6.0	150	3.3	9.2	1 Meg.<	350▲	G3 = Neg. 15 Volts)		
						Amplifier		250	3.0	100	5.3	6.5	600000	1100	(G3 = Neg. 3.0 Volts)		
6M11	Comp. T-9	Pentode Duotriode	12CA	6.3	0.750	Gen. Purpose	3.1	125	56■	125	11	3.4	200000	13000	....	....	....
							2.25	125	1.0	....	7.0	...	10000	7000	70	....	....
6N7GT	T-9	Duotriode	8B	6.3	0.800	Power Amp.	1.1	300	0.0	....	17.5-35†	Per Pl., Cl. B Push-Pull Oper., Zero Sig.				8000¶	10000
6N7	Metal					Driver		250	5.0	....	6.0	Sections	11300	3100	35	(Class A Driver)	
								294	6.0	....	7.0	Parallel	11000	3200	35	(Class A Driver)	
6Q7	Metal	Duodiode Tri.	7V	6.3	0.300	Det. Amp.	0.55	100	1.5	....	0.8	...	58000	1200	70	....	....
6Q7GT	T-9		7V					250	3.0	....	1.1	...	58000	1200	70	....	....
6Q11	Comp. T-9	Triple Triode	12BY	6.3*	0.600	Gen. Purpose	3.0	150	0	....	22	...	7000	2500	18	....	....
							1.2	100	1.0	....	0.5	...	80000	1250	100	....	....
							1.2	100	1.0	....	0.5	...	80000	1250	100	....	....
6R7	Metal	Duodiode Tri.	7V	6.3	0.300	Det. Amp.	2.75	250	9.0	....	9.5	...	8500	1900	16	....	....
6S4A	T-6½	Triode	9AC	6.3*	0.600	Vert. Defl. Amplifier	8.5	Characteristics Same as Type 6S4. (6S4A Designed for Series String TV Receivers.)									
6SA7	Metal	Heptode	8R	6.3	0.300	Converter	1.1	100	2.0	100	3.3	8.5	500000	425▲	....	....	....
6SA7GT	T-9		8AD					250	2.0	100	3.5	8.5	1.0 Meg.	450▲	....	....	....
6SA7GTY	T-9		8AD					Low Loss Base.									
6SB7Y	Metal	Heptode	8R	6.3	0.300	Converter	2.2	250	1.5	100	4.0	8.5	....	880▲	....	....	....
6SC7	Metal	Duotriode	8S	6.3	0.300	Amplifier	....	250	2.0	....	2.0	...	53000	1325	70	(Each Triode)	
6SF5	Metal	Triode	6AB	6.3	0.300	A-F Amp.	....	250	2.0	....	0.9	...	66000	1500	100	....	....
6SF7	Metal	Diode Pent.	7AZ	6.3	0.300	Det. Amp.	3.85	100	1.0	100	12	3.4	200000	1975	....	....	....
								250	1.0	100	12.4	3.3	700000	2050	....	....	....
6SG7	Metal	Pentode	8BK	6.3	0.300	R-F Amp.	3.3	100	1.0	100	8.2	3.2	250000	4100	....	....	....
								250	1.0	125	11.8	4.4	900000	4700	....	....	....
								250	2.5	150	9.2	3.4	1 Meg.	4000	....	....	....
6SH7	Metal	Pentode	8BK	6.3	0.300	R-F Amp.	3.3	100	1.0	100	5.3	2.1	350000	4000	....	....	....
								250	1.0	150	10.8	4.1	900000	4900	....	....	....
6SJ7	Metal	Pentode	8N	6.3	0.300	A-F Amp.	2.8	100	3.0	100	2.9	0.9	700000	1575	....	....	....
6SJ7GT	T-9		8N					250	3.0	100	3.0	0.8	1.0 Meg<	1650	....	....	....
6SJ7WGT (3)	T-9		8N					Ruggedized Version. Low Loss Base.									
GB-6SJ7WGT(3)	T-9		8N														
6SK7	Metal	Pentode	8N	6.3	0.300	R-F Amp.	4.4	100	1.0	100	13.0	4.0	120000	2350	....	....	....
6SK7GT	T-9		8N					250	3.0	100	9.2	2.6	800000	2000	....	....	....
								Low Loss Base.									
6SL7GT	T-9	Duotriode	8BD	6.3	0.300	Amplifier	1.1	250	2.0	....	2.3	...	44000	1600	70	....	....
GB-6SL7WGT(3)																	
6SN7GTB	T-9	Duotriode	8BD	6.3	0.600	Amplifier	2.75	90	0	....	10.0	...	6700	3000	20	....	....
GB-6SN7WGTA(3)								250	8.0	....	9.0	...	7700	2600	20	....	....
6SQ7	Metal	Duodiode Tri.	8Q	6.3	0.300	Det. Amp.	0.55	250	2.0	....	1.1	...	85000	1175	100	....	....
6SQ7GT	T-9		8Q														
6SR7	Metal	Duodiode Tri.	8Q	6.3	0.300	Det. Amp.	2.75	250	9.0	....	9.5	...	8500	1900	16	....	....
6SS7	Metal	Pentode	8N	6.3	0.150	R-F Amp.	2.5	100	1.0	100	12.2	3.1	120000	1950	....	....	....
								250	3.0	100	9.0	2.0	1000000	1850	....	....	....
6T4	T-5½	Triode	7DK	6.3	0.225	UHF Osc.	3.85	80	150	....	18	...	1860	7000	13	....	....
6T8A	T-6½	Triple Diode Tri.	9E	6.3	0.450	Det. Amp.	1.1	100	1.0	....	0.8	...	54000	1300	70	....	....
				6.3*	0.450			250	3.0	....	1.0	...	58000	1200	70	....	....

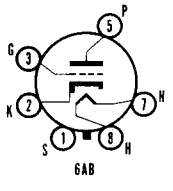


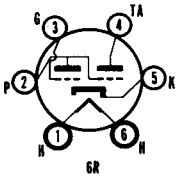


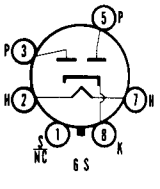


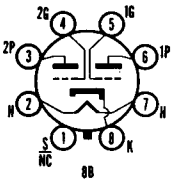


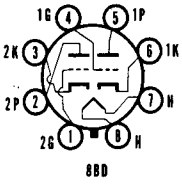


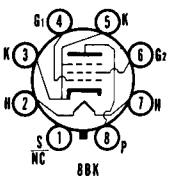


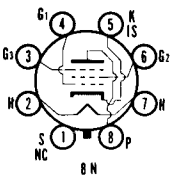


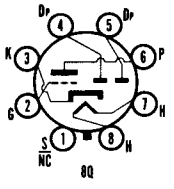


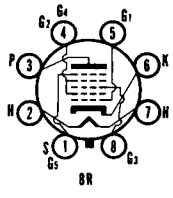


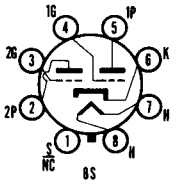


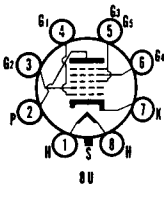


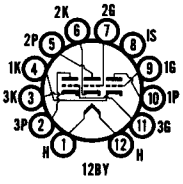


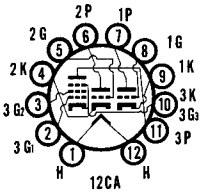








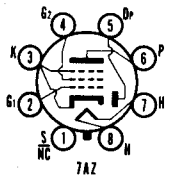


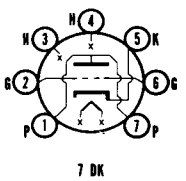


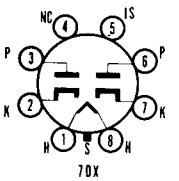
AVERAGE CHARACTERISTICS

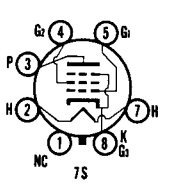
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6U5	T-9	Electron Ray	6R	6.3	0.300	Indicator	....	100 250	(Series Plate Res. 0.5 Meg., Target Current 1.0 Ma., Grid Bias—8.0 for 0° Shadow.) (Series Plate Res. 1.0 Meg., Target Current 4.0 Ma., Grid Bias—22.0 for 0° Shadow.)									
6U6GT	T-9	Beam Pent.	7S	6.3	0.750	Power Amp.	12.1	110 200	10.5 14.0	110 135	44.0 55.0	4.0 3.0	10000 20000	5600 6200	....	2000 3000	2000 5500
6U8A	T-6½	Tri. Pentode	9AE	6.3*	0.450	VHF Osc. VHF Amp.	2.5 3.0	125 125	1.0 1.0	 110	13.5 9.5	... 3.5	5000 200000	7500 5000	40	....	....
6V3A	T-6½	Diode	9BD	6.3	1.750	T.V. Damper	2.97	P.I.V. = 6000 Volts Abs. Max. D.C. Plate Current = 135 Ma. Max.									
6V6	Metal	Beam Pent.	7S	6.3	0.450	Power Amp.	13.2	180	8.5	180	29.0	3.0	50000	3700	....	5500	2000
6V6GT	T-9		7S	6.3	0.450	Class A1 Amplifier		250	12.5	250	45.0	4.5	50000	4100	....	5000	4500
								315	13.0	225	34.0	2.2	80000	3750	....	8500	5500
6V6GTA	T-9		7S	6.3*	0.450	Class AB1 Amplifier		250	15.0	250	70-79†	5-13†	(Class AB1 Two Tubes)			10000¶	10000
								285	19.0	285	70-92†	4-13.5†	(Class AB1 Two Tubes)			8000¶	14000
6V8	T-6½	Triple Diode Triode	9AH	6.3	0.450	Det. Amp.	1.1	100 250	1.0 3.0	....	0.8 1.0	... ...	54000 58000	1300 1200	70 70	....	....
6W4GT	T-9	Diode	4CG	6.3	1.200	H-W Rect.	3.85	350 A.C. Volts, RMS, 125 Ma. D.C. Output. Condenser Input to Filter.									
6W4GTA	T-9	Diode	4CG	6.3	1.200	T.V. Damper	4.0	Max. Peak Inverse Plate Voltage = 3950 Volts. Max. D.C. Plate Current = 140 Ma.									
6W6GT	T-9	Beam Pent.	7S	6.3	1.200	Power Amp.	11	110 200	7.5 180■	110 125	49 46	4.0 2.2	13000 28000	8000 8000	....	2000 4000	2100 3800
						Vert. Defl. Amplifier		Maximum Peak Positive Pulse Plate Voltage = 1200 Volts.									
6X4 GB-6X4WA (3)	T-5½	Duodiode	5BS	6.3	0.600	F-W Rect.	....	400 Volts RMS Per Plate, 55 Ma. D.C. Output Condenser Input to Filter.									
6X5GT 6X5WGT (3) GB-6X5WGT(3)	T-9 T-9	Duodiode	6S	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.									
6X8	T-6½	Triode Pentode	9AK	6.3	0.450	VHF Osc. VHF Amp.	1.7 2.3	125 125	1.0 1.0	 125	12 9	... 2.2	6000 0.3 Meg.	6500 5500	40	....	....
6Y6GA	T-12	Beam Pent.	7S	6.3	1.250	Power Amp.	13.75	135 200	13.5 14.0	135 135	58.0 61.0	3.5 2.2	9300 18300	7000 7100	....	2000 2600	3600 6000
6Z4/84	ST-12	Duodiode	5D	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.									
7A4/XXL	Lock-in	Triode	5AC	6.3	0.300	Amplifier	2.75	90 250	0.0 8.0	....	10.0 9.0	... ...	6700 7700	3000 2600	20 20	....	....
7A5	Lock-in	Beam Pent.	6AA	6.3	0.750	Power Amp.	6.0	110 125	7.5 9.0	110 125	40.0 44.0	3.0 3.3	16000 17000	5800 6000	....	2500 2700	1500 2200
7A6	Lock-in	Duodiode	7DX	6.3	0.150	Det. Rect.	....	150 A.C. Volts Per Plate, RMS, 8 Ma. Current Output Per Plate.									
7A7	Lock-in	Pentode	8V	6.3	0.300	R-F Amp.	4.4	100 250	1.0 3.0	100 100	13.0 9.2	4.0 2.6	120000 800000	2350 2000	....	....	....
7A8	Lock-in	Octode	8U	6.3	0.150	Converter	1.1	100 250	3.0 3.0	75 100	1.8 3.0	2.7 3.2	650000 700000	375▲ 550▲	(Ga = 100 V., 2.8 Ma.) (Ga = 250 V thru 20K Ohms.)		
7AF7	Lock-in	Duotriode	8AC	6.3	0.300	Amplifier (per unit)	2.75	100 100 250	0 3.0 10	....	10.8 5.0 9.0	... ...	6500 8400 7600	2600 1900 2100	17 16 16	....	....
7AG7	Lock-in	Pentode	8V	6.3	0.150	R-F Amp.	2.2	250	250■	250	6.0	2.0	1.0 Meg<	4200	....	....	....
7AK7 GB-7AK7 (3)	Lock-in	Pentode	8V	6.3	0.800	R-F Amp.	9.35	150 150 150	0 11 0	90 90 90	40 2.5 Max. 2.0 Max.	21 0.45 60 Max.	11500	6000	....	....	....
7AU7	T-6½	Duotriode	9A	7.0/ 3.5*	0.300/ 0.600	Amplifier	3.0	Characteristics Same as Type 12AU7A. (7AU7 Designed for Series String TV Receivers.)									
7B4	Lock-in	Triode	5AC	6.3	0.300	Amplifier	....	100 250	1.0 2.0	....	0.4 0.9	... ...	85000 66000	1150 1500	100 100	....	....

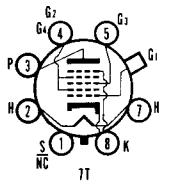
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

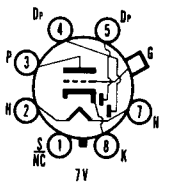


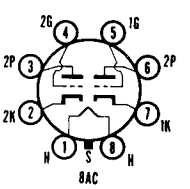


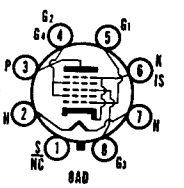


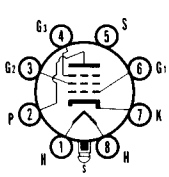


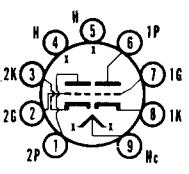


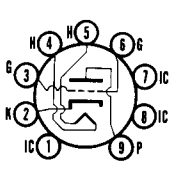


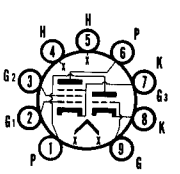


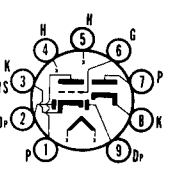


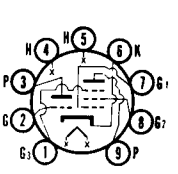


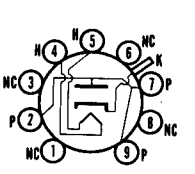


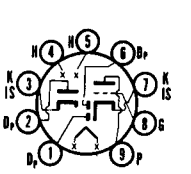






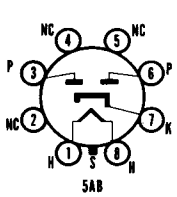




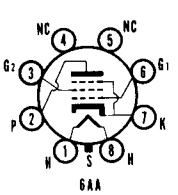


SYLVANIA TUBES

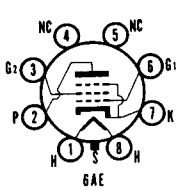
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7B5	Lock-in	Power Pent.	6AE	6.3	0.400	Power Amp.	9.35	100	7.0	100	9.0	1.6	104000	1500	....	12000	350
								250	18.0	250	32.0	5.5	68000	2300	....	7600	3400
								315	21.0	250	25.5	4.0	75000	2100	....	9000	4500
7B6	Lock-in	Duodiode Tri.	8W	6.3	0.300	Det. Amp.	0.55	100	1.0	....	0.4	...	110000	900	100	....	....
								250	2.0	....	0.9	...	91000	1100	100	....	....
7B7	Lock-in	Pentode	8V	6.3	0.150	R-F Amp.	2.47	100	3.0	100	8.2	1.8	300000	1675	....	....	....
								250	3.0	100	8.5	1.7	750000	1750	....	....	....
7B8	Lock-in	Heptode	8X	6.3	0.300	Converter	1.1	100	1.5	50	1.1	1.3	600000	350▲	(Ga = 100 V., 2.0 Ma.)		
								250	3.0	100	3.5	2.7	360000	550▲	....	....	....
7C5	Lock-in	Beam Pent.	6AA	6.3	0.450	Power Amp. Class A1	13.2	180	8.5	180	29.0	3.0	58000	3700	....	5500	2000
								250	12.5	250	45.0	4.5	52000	4100	....	5000	4500
								315	13.0	225	34.0	2.2	77000	3750	....	8500	5500
						Class AB1		250	15.0	250	70-79†	5-13†	(Class AB1 Two Tubes)			10000¶	10000
								285	19.0	285	70-92†	4-13.5†	(Class AB1 Two Tubes)			8000¶	14000
7C6	Lock-in	Duodiode Tri.	8W	6.3	0.150	Det. Amp.	0.66	100	0.0	....	1.0	...	100000	850	85	....	....
								250	1.0	....	1.3	...	100000	1000	100	....	....
7C7	Lock-in	Pentode	8V	6.3	0.150	R-F Amp.	1.1	100	3.0	100	1.8	0.4	1.2 Meg.	1225	....	....	....
								250	3.0	100	2.0	0.5	2.0 Meg.	1300	....	....	....
7DJ8	T-6½	Duotriode	9AJ	7.0	0.300	VHF Amp.	2.2	90	1.3	....	15	...	....	12500	33	....	....
7ES8	T-6½	Duotriode	9AJ	7.2	0.300	VHF Amp.	1.8	90	1.4	....	15	...	2500	12500	....	....	....
7EY6	T-9	Beam Pent.	7S	7.2*	0.600	Vert. Defl. Amplifier	11	Max. Peak Positive Pulse Plate Voltage = 2500 Volts. Max. D.C. Cathode Current = 60 Ma. Characteristics Same as Type 6EY6.									
								250	17.5	250	44	3.0	60000	4400	....	....	....
7F7	Lock-in	Duotriode	8AC	6.3	0.300	A-F Amp.	1.1	100	1.0	....	0.65	...	62000	1125	70	....	....
								250	2.0	....	2.3	...	44000	1600	70	....	....
7F8	Lock-in	Duotriode	8BW	6.3	0.300	Osc. Amp.	3.85	250	500■	....	6.0	...	....	3300	48	....	....
GB-7F8W (3)	Lock-in	Duotriode	8BW	6.3	0.300	Osc. Amp.	3.5	250	200■	....	11.0	...	....	5200	50	....	....
7FC7	T-6½	Duotriode	9DD	7.2	0.300	VHF Amp.	1.9	Characteristics Same as Type 6FC7. (7FC7 Designed for Series String Receivers.)									
7H7	Lock-in	Pentode	8V	6.3	0.300	R-F Amp.	2.75	100	1.5	100	7.5	2.6	350000	4000	....	....	....
								250	180■	150	10.0	3.2	800000	4000	....	....	....
7HG8	T-6½	Tri. Pentode	9MP	7.2	0.300	VHF Amp.	2.2	Characteristics Same as Type 6HG8. (7HG8 Designed for Series String Receivers.)									
7J7	Lock-in	Tri. Heptode	8BL	6.3	0.300	Hep. Mixer	0.55	100	3.0	100	1.5	2.6	500000	280▲	....	....	....
								250	3.0	100	1.4	2.8	1.5 Meg.	290▲	....	....	....
						Tri. Osc.	1.74	100	0.05 Meg.		3.2	(Triode Grid Current 0.3 Ma.)			....	....	....
								250	0.05 Meg.		5.0	(Triode Grid Current 0.4 Ma.)			....	....	....
7K7	Lock-in	Duodiode Tri.	8BF	6.3	0.300	Det. Amp.	1.1	250	2.0	....	2.3	...	44000	1600	70	....	....
7L7	Lock-in	Pentode	8V	6.3	0.300	R-F Amp.	4.4	100	1.0	100	5.5	2.4	100000	3000	....	....	....
								250	1.5	100	4.5	1.5	1.0 Meg.	3100	....	....	....
7N7	Lock-in	Duotriode	8AC	6.3	0.600	Amplifier	2.75	90	0.0	....	10.0	...	6700	3000	20	....	....
								250	8.0	....	9.0	...	7700	2600	20	....	....
7Q7	Lock-in	Heptode	8AL	6.3	0.300	Converter	1.1	100	2.0	100	3.3	8.5	500000	525▲	(Osc. Grid Resistor 20000)		
								250	2.0	100	3.5	8.5	1.0 Meg.	550▲	(Osc. Grid Current 0.5 Ma.)		
7R7	Lock-in	Duodi. Pent.	8AE	6.3	0.300	Det. Amp.	2.2	100	2.0	100	3.4	1.0	500000	2100	....	....	....
								100	1.0	100	5.5	2.2	350000	3000	....	....	....
								250	2.0	100	3.5	1.0	1800000	2200	....	....	....
								250	1.0	100	5.7	2.1	1000000	3200	....	....	....
7S7	Lock-in	Tri. Heptode	8BL	6.3	0.300	Hep. Mixer	0.66	100	2.0	100	1.9	3.0	500000	500▲	....	....	....
								250	2.0	100	1.8	3.0	1.25 Meg.	525▲	....	....	....
						Tri. Osc.		100	0.05 Meg.		3.0	(Triode Grid Current 0.3 Ma.)			....	....	....
								250	0.05 Meg.		5.0	(Triode Grid Current 0.4 Ma.)			....	....	....
7V7	Lock-in	Pentode	8V	6.3	0.450	R-F Amp.	4.4	300	160■	150	10.0	3.9	300000	5800	....	....	....
7W7	Lock-in	Pentode	8BJ	6.3	0.450	R-F Amp.	4.4	Characteristics Same as Type 7V7, Except Capacitances.									
7X7	Lock-in	Duodiode Tri.	8BZ	6.3	0.300	Det. Amp.	0.55	100	0	....	1.2	...	85000	1000	85	....	....
								250	1.0	....	1.9	...	67000	1500	100	....	....
7Y4	Lock-in	Duodiode	5AB	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.									



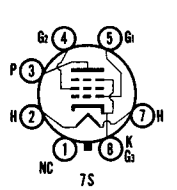
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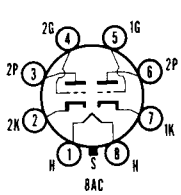
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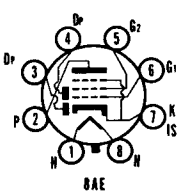
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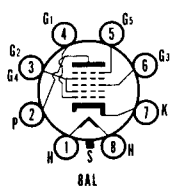
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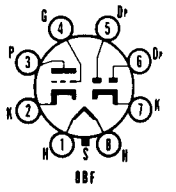
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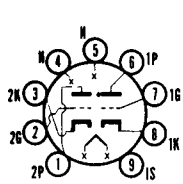
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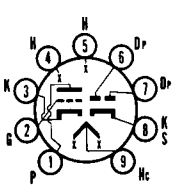
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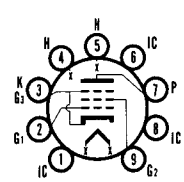
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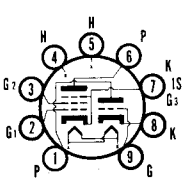
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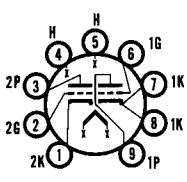
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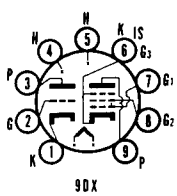
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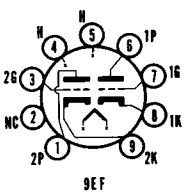
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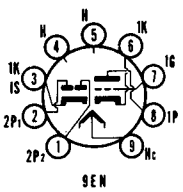
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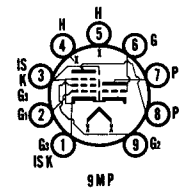
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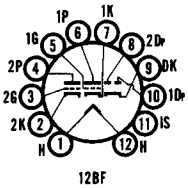
9EF



9EN



9MP

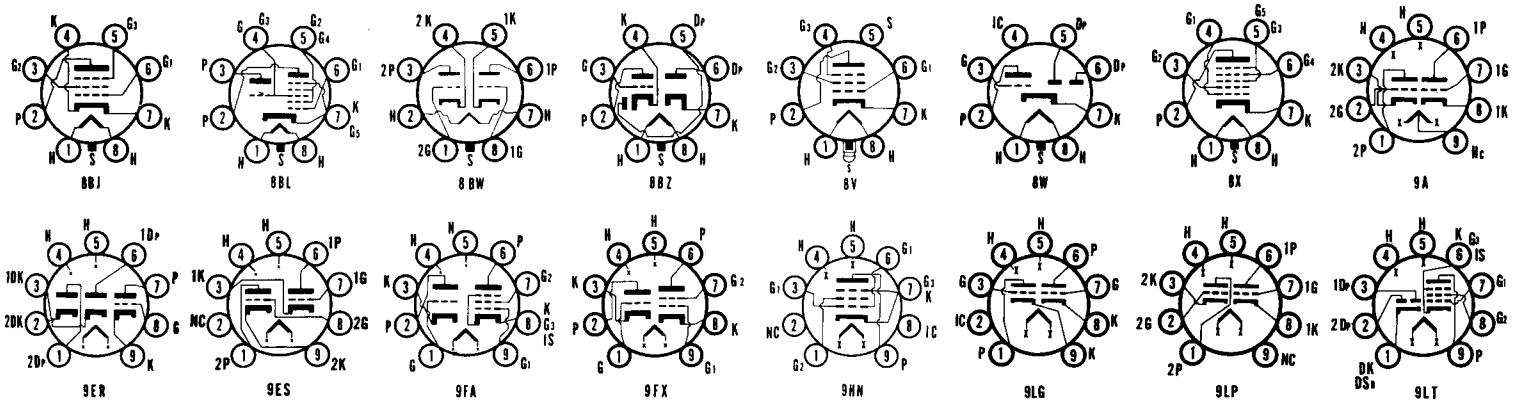


12BF

AVERAGE CHARACTERISTICS

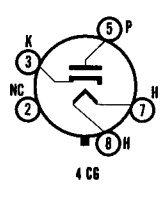
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7Z4	Lock-in	Duodiode	5AB	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.									
8AU8 8AU8A	T-6½	Tri. Pentode	9DX	8.4*	0.450	Tri. Amp. Pent. Amp.	2.75 3.3	Characteristics Same as Type 6AU8. (8AU8 and 8AU8A Designed for Series String Operation.) 8AU8A Characteristics Same as Type 6AU8A.									
8AW8A	T-6½	Tri. Pentode	9DX	8.4*	0.450	Sync. Sep. Video Amp.	1.1 3.57	Characteristics Same as Type 6AW8A. (8AW8A Designed for Series String TV Receivers.)									
8B10	Comp. T-9	Duodiode Duotriode	12BF	6.3*	0.600	Horiz. Phase Det./Osc.	3.0	Characteristics Same as Type 6B10. (8B10 Designed for Series String Receivers.)									
8BA8A	T-6½	Tri. Pentode	9DX	8.4*	0.450	Sync. Sep. Video Amp.	2.2 3.57	Characteristics Same as Type 6BA8A. (8BA8A Designed for Series String TV Receivers.)									
8BH8	T-6½	Tri. Pentode	9DX	8.4*	0.450	Tri. Amp. Pent. Amp.	2.75 3.3	Characteristics Same as Type 6BH8. (8BH8 Designed for Series String TV Receivers.)									
8BN8	T-6½	Duodiode Tri.	9ER	8.4*	0.450	Amplifier	1.65	Characteristics Same as Type 6BN8. (8BN8 Designed for Series String TV Receivers.)									
8BQ5	T-6½	Beam Pent.	9CV	8.0*	0.600	P.P.AB1 Amp.	13.2	Characteristics Same as Type 6BQ5. (8BQ5 Designed for Series String Receivers.)									
8CG7	T-6½	Duotriode	9AJ	8.4*	0.450	Amplifier	3.85	Characteristics Same as Type 6CG7. (8CG7 Designed for Series String TV Receivers.)									
8CM7	T-6½	Duotriode	9ES	8.4*	0.450	Vert. Osc. Vert. Defl. A.	1.37 5.5	Characteristics Same as Type 6CM7. (8CM7 Designed for Series String TV Receivers.)									
8CN7	T-6½	Duodiode Tri.	9EN	8.4/ 4.2*	0.225/ 0.450	Det. Amp.	1.1	Characteristics Same as Type 6CN7. (8CN7 Designed for Series String TV Receivers.)									
8CS7	T-6½	Duotriode	9EF	8.4*	0.450	Vert. Osc. Vert. Defl. A.	1.37 5.5	Characteristics Same as Type 6CS7. (8CS7 Designed for Series String TV Receivers.)									
8CW5	T-6½	Beam Pent.	9CV	8.0*	0.600	A-F Pwr. Amp.	13	Characteristics Same as Type 6CW5. (8CW5 Designed for Series String Receivers.)									
8CX8	T-6½	Tri. Pentode	9DX	8.0*	0.600	Tri. Amp. Video Amp.	2.0 5.0	Characteristics Same as Type 6CX8. (8CX8 Designed for Series String Receivers.)									
8CY7	T-6½	Duotriode	9LG	7.9*	0.600	Vert. Osc. Vert. Defl. A.	1.0 5.5	Characteristics Same as Type 6CY7. (8CY7 Designed for Series String TV Receivers.)									
8EB8	T-6½	Tri. Pentode	9DX	8.0*	0.600	A-F Amp. Video Amp.	1.0 5.0	Characteristics Same as Type 6EB8. (8EB8 Designed for Series String Receivers.)									
8ET7	T-6½	Duodiode Pentode	9LT	8.0*	0.600	Horiz. Phase Det. Video A.	5.0	Characteristics Same as Type 6ET7. (8ET7 Designed for Series String Receivers.)									
8FQ7	T-6½	Duotriode	9LP	8.4*	0.450	Gen. Purpose	4.0	Characteristics Same as Type 6FQ7. (8FQ7 Designed for Series String Receivers.)									
8GN8	T-6½	Tri. Pentode	9DX	8.0*	0.600	Triode Amp. Video Amp.	1.0 5.0	Characteristics Same as Type 6GN8. (8GN8 Designed for Series String Receivers.)									
8HG8	T-6½	Tri. Pentode	9MP	8.0*	0.300	VHF Amp.	1.6 2.2	Characteristics Same as Type 6HG8. (8HG8 Designed for Series String Receivers.)									
8JE8	T-6½	Tri. Pentode	9DX	8.2*	0.600	Gen. Purpose Video Amp.	1.0 4.0	Characteristics Same as Type 6JE8. (8JE8 Designed for Series String Receivers.)									
8JK8	T-6½	Duotriode	9AJ	8.4*	0.300	FM Osc. FM Amp.	1.0 2.0	100 130	1.0 1.2	....	5.3 10	... ...	8000 5400	1800 13000	55 70	....	....
8EM5	T-6½	Beam Pent.	9HN	8.4*	0.600	Vert. Defl. Amplifier	11	Characteristics Same as Type 6EM5. (8EM5 Designed for Series String Operation.)									
9A8	T-6½	Tri. Pentode	9DC	9.0	0.300	VHF Osc. VHF Amp.	5.5 8.25	Characteristics Same as Type 6BL8.									
9AU7	T-6½	Duotriode	9A	9.4/ 4.7*	0.225/ 0.450	Amplifier	3.0	Characteristics Same as Type 7AU7. (9AU7 Designed for Series String TV Receivers.)									
9BR7	T-6½	Duodiode Tri.	9CF	4.7* 9.4*	0.600 0.300	Det. Amp.	2.75	250 Peak Inverse Diode Voltage = 300 Volts Max., Peak Diode Current = 60 Ma. Max.	200■	....	10	...	10900	4000	60	....	....
9BR8	T-6½	Tri. Pentode	9FA	9.45	0.300	VHF Osc. VHF Amp.	2.97 3.0	150 250	56■ 68■	 110	18 10	... 3.5	5000 400000	8500 5200	40	....	....
9CL8	T-6½	Tri. Tetrode	9FX	9.5*	0.300	VHF Osc. VHF Amp.	2.97 3.0	Characteristics Same as Type 6CL8. (9CL8 Designed for Series String TV Receivers.)									

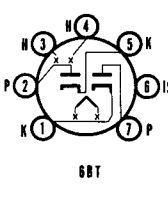
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

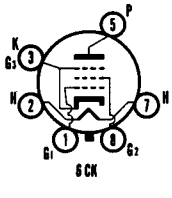


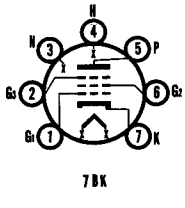
SYLVANIA TUBES

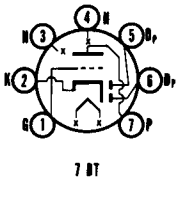
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
9DZ8	T-6½	Triode Beam Pent.	9EX	9.0	0.600	A-F Voltage Amp. and Power Amp.	.82 7.15	Characteristics Same as Type 6DZ8. (9DZ8 Designed for Series String Receivers.)									
9EF6	T-9	Beam Pent.	7S	9.4*	0.600	Vert. Defl. Amplifier	11	Characteristics Same as Type 6EF6. (9EF6 Designed for Series String TV Receivers.)									
9U8A	T-6½	Tri. Pentode	9AE	9.45*	0.300	VHF Osc. VHF Amp.	2.5 3.0	Characteristics Same as Type 6U8. (9U8A Designed for Series String TV Receivers.)									
9X8	T-6½	Tri. Pentode	9AK	9.5*	0.300	VHF Osc. VHF Amp.	1.65 2.2	Characteristics Same as Type 6X8. (9X8 Designed for Series String TV Receivers.)									
10BQ5	T-6½	Power Pent.	9CV	10.6*	0.450	A-F Pwr. Amp.	12	Characteristics Same as Type 6BQ5. (10BQ5 Designed for Series String Receivers.)									
10C8	T-6½	Tri. Pentode	9DA	10.5*	0.300	Tri. Amp. Pent. Amp.	2.0 2.2	250 135	390■ 100■	 135	7.3 11.5	... 3.2	12000 190000	4400 8000	53	....	....
10DA7	T-6½	Duotriode	9EF	10.5*	0.600	Vert. Osc. Vert. Defl. A.	2.2 6.6	Characteristics Same as Type 6DA7. (10DA7 Designed for Series String TV Receivers.)									
10DE7	T-6½	Duotriode	9HF	9.7*	0.600	Vert. Osc. Vert. Defl. A.	1.5 7.0	Characteristics Same as Type 6DE7. (10DE7 Designed for Series String TV Receivers.)									
10DR7	T-6½	Duotriode	9HF	9.7*	0.600	Vert. Amp. Vert. Osc.	7.0 1.0	Characteristics Same as Type 6DR7. (10DR7 Designed for Series String Receivers.)									
10EB8	T-6½	Tri. Pentode	9DX	10.5*	0.450	A-F Amp. Video Amp.	1.0 5.0	Characteristics Same as Type 6EB8. (10EB8 Designed for Series String Receivers.)									
10EG7	T-9	Duotriode	8BD	9.7*	0.600	Vert. Amp. Vert. Amp. Vert. Osc.	10 1.5	Max. Peak Positive Pulse Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 50 Ma. 150 250	 17.5 11.0		 45 5.5		 800 8750	 7500 2000	 6 17.5		 ....
10EM7	T-6½	Duotriode	8BD	9.7*	0.600	Vert. Defl. Amp./Osc.	1.5 10	Characteristics Same as Type 6EM7. (10EM7 Designed for Series String Receivers.)									
10EW7	9-T9	Duotriode	9HF	9.7*	0.600	Vert. Defl. Osc./Amp.	1.5 10	Characteristics Same as Type 6EW7. (10EW7 Designed for Series String Receivers.)									
10FD7	9-T9	Duotriode	9HF	9.7*	0.600	Vert. Defl. Amp./Osc.	1.5 10	Characteristics Same as Type 6FD7. (10FD7 Designed for Series String Receivers.)									
10FR7	9-T9	Duotriode	9HF	9.7*	0.600	Vert. Defl. Amp./Osc.	1.5 10	Characteristics Same as Type 6FR7. (10FR7 Designed f or Series String Receivers.)									
10HF8	T-6½	Tri. Pentode	9DX	10.5*	0.450	Gen. Purpose Video Amp.	1.0 5.0	Characteristics Same as Type 6HF8.									
11AR11	Comp. T-9	Duo. Pent.	12DM	11.2*	0.450	T.V. I-F Amp.	3.1	Characteristics Same as Type 6AR11. (11AR11 Designed for Series String Receivers.)									
11C5	T-5½	Beam Pent.	7CV	11.6*	0.450	Power Amp.	4.9	Characteristics Same as Type 35C5. (11C5 Designed for Series String TV Receivers.)									
11CY7	T-6½	Duotriode	9LG	11*	0.450	Vert. Osc. Vert. Defl. A.	1.0 5.5	Characteristics Same as Type 6CY7. (11CY7 Designed for Series String TV Receivers.)									
11JE8	T-6½	Tri. Pentode	9DX	10.9*	0.450	Gen. Purpose Video Amp.	1.0 4.0	Characteristics Same as Type 6JE8. (11JE8 Designed for Series String Receivers.)									
12A6	Metal	Beam Pent.	7S	12.6	0.150	Power Amp.	8.25	250	12.5	250	30	3.5	70000	3000	....	7500	3400
12A8GT	T-9	Heptode	8A	12.6	0.150	Converter	1.1	Characteristics Same as Type 6A8G.									
12AB5	T-6½	Beam Pent.	9EU	12.6	0.200	S.T.A1 Amp. P.P.A1 Amp.	13.2	250 250	12.5 15	250 250	45 70	4.5 5	50000	4100	....	5000 10000	4500 10000
12AC6	T-5½	Pentode	7BK	12.6	0.150	R.F. Amp.	....	12.6	0	12.6	550μa	200μa	0.5 Meg.	730	....	....	....
12AD5	T-6½	Pentode	9AZ	12.6	0.100	R-F Amp.	2.2	100	2.5	100	6.0	1.75	600000	2200	....	....	....
12AD6	T-5½	Heptode	7CH	12.6	0.150	Hep. Mixer	....	12.6	2.2 Meg[4]	12.6	350 μa.	1.5	....	320[4]	....	....	....
12AD7	T-6½	Duotriode	9A	12.6/6.3	0.225/0.450	A-F Amp.	1.1	250	2	....	1.25	...	62500	1600	100	....	....
12AE6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	....	12.6	0	....	0.75	...	15000	1000	15	....	....
12AE6A	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	....	12.6	10 Meg[4]	....	0.32	...	20000	715	14.3	....	....
12AE7	T-6½	Duotriode	9A	12.6	0.450	Dis. Triodes Voltage Amp. Pwr. Amp. Dr.	1.0 1.0	12.6 12.6	1.5 Meg[4] 1.0 Meg[4]	....	1.9 7.5	... ...	3150 985	4000 6500	13 6.4	....	....
12AF3	T-6½	Diode	9CB	12.6*	0.600	T.V. Damper	6.0	Characteristics Same as Type 6AF3. (12AF3 Designed for Series String Receivers.)									

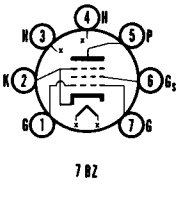


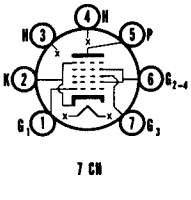


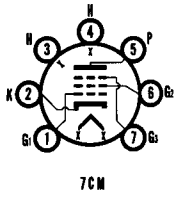


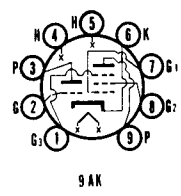


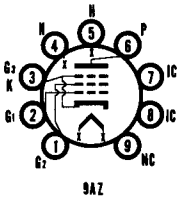


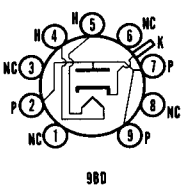


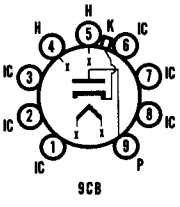


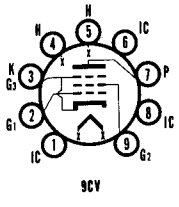


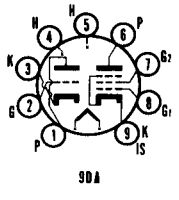


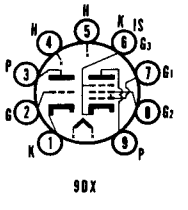


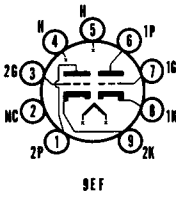


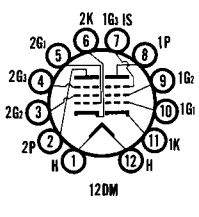








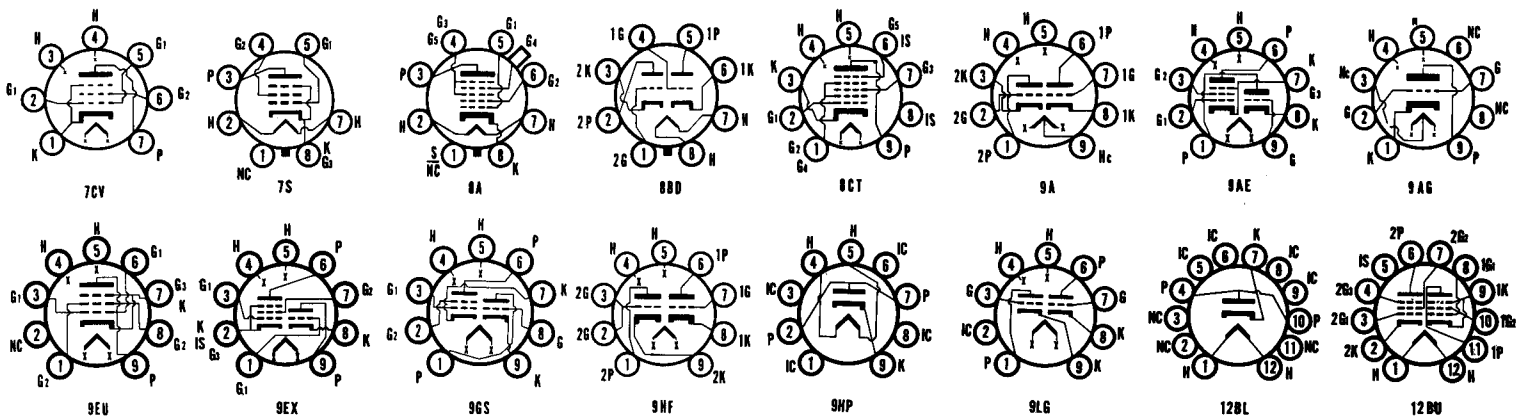




AVERAGE CHARACTERISTICS

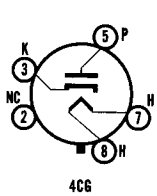
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
12AF6	T-5½	Pentode	7BK	12.6	0.150	R-F Amp.	....	12.6	0	12.6	1.1	0.45	0.35 Meg.	1500	....	....	....
12AG6	T-5½	Heptode	7CH	12.6	0.150	Converter	....	12.6	0.85	12.6	0.55	1.4	....	300▲	G1 = 20000 Ohms; G1 = 0.050 Ma.		....
12AJ6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	....	12.6	0	....	.075	...	45000	1200	55	....	....
12AL5	T-5½	Duodiode	6BT	12.6	0.150	Detector	....	Characteristics Same as Type 6AL5.									
12AL8	T-6½	Tri. Tetrode	9GS	12.6	0.550	Tri. Amp.	....	12.6	0.9[4]	....	0.5	...	13000	1000	13	....	....
						Tet. Amp.		12.6	G2=0.5[4] G1=12.6		40	75	480	15000	....	....	....
								Designed for Space-Charge Grid Operation.									
12AL11	Comp. T-9	Duo. Pent.	12BU	12.6*	0.450	FM Det. S.T. A1 Amp.	1.7 10	Characteristics Same as Type 6AL11. (12AL11 Designed for Series String Receivers.)									
12AQ5	T-5½	Beam Pent.	7BZ	12.6	0.225	Power Amp.	13.2	Characteristics Same as Type 6AQ5.									
12AS5	T-5½	Beam Pent.	7CV	12.6	0.400	S,T. A1 Amp.	6.0	Characteristics Same as Type 6AS5.									
12AT6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	0.55	Characteristics Same as Type 6AT6.									
12AT7	T-6½	Duotriode	9A	6.3	0.300	VHF Amp.	2.75	100	270■	....	3.7	...	....	4000	60	....	....
12AT7WA (3)				12.6	0.150			250	200■	....	10.0	...	....	5500	60	....	....
12AU6	T-5½	Pentode	7BK	12.6	0.150	R-F Amp.	3.3	Characteristics Same as Type 6AU6.									
12AU7	T-6½	Duotriode	9A	12.6	0.150	Amplifier	3.0	250	8.5	....	10.5	...	7700	2200	17	....	....
12AU7A				6.3	0.300			100	0	....	11.8	...	6500	3100	20	....	....
12AV5GA	T-11 or T-12	Beam Pent.	6CK	12.6*	0.600	Horizontal Defl. Amp.	12.1	Characteristics Same as Type 6AV5GA. (12AV5GA Designed for Series String TV Receivers.)									
12AV6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	0.55	Characteristics Same as Type 6AV6.									
12AV7	T-6½	Duotriode	9A	12.6	0.225	A-F Amp.	2.97	100	120■	....	9.0	...	6100	6100	37	....	....
				6.3	0.450			150	56■	....	18	...	4800	8500	41	....	....
12AW6	T-5½	Pentode	7CM	12.6	0.150	R-F Amp.	2.2	250	200■	150	7.0	2.0	0.8 Meg.	5000	....	....	....
								125	100■	125	7.2	2.1	0.5 Meg.	5100	....	....	....
								100	100■	100	5.5	1.6	0.3 Meg.	4750	....	....	....
12AX3	Comp. T-9	Diode	12BL	12.6*	0.600	T.V. Damper	5.3	Characteristics Same as Type 6AX3. (12AX3 Designed for Series String Receivers.)									
12AX4GT	T-9	Diode	4CG	12.6	0.600	T.V. Damper	5.28	P.I.V. = 4400 Volts Max., D.C. Plate Current = 125 Ma. Max.									
12AX4GTA				12.6*	0.600			(12AX4GTA Designed for Series String TV Receivers.)									
12AX4GTB	T-9	Diode	4CG	12.6*	0.600	T.V. Damper	5.28	P.I.V. = 5000 Volts Max., D.C. Plate Current = 125 Ma. Max.									
12AX7	T-6½	Duotriode	9A	12.6	0.150	Amplifier	1.1	100	1	....	0.5	...	80000	1250	100	....	....
				6.3	0.300			250	2	....	1.2	...	62500	1600	100	....	....
12AX7A	T-6½	Duotriode	9A	12.6	0.150	Audio Amp.	1.1	Low Noise and Low Microphoism Version of Identical Type 12AX7.									
				6.3	0.300												
12AY3	Novar T-9	Diode	9HP	12.6*	0.600	T.V. Damper	6.5	Characteristics and Ratings Same as Type 6AY3. (12AY3 Designed for Series String Receivers.)									
12AY7	T-6½	Duotriode	9A	12.6	0.150	Audio Amp.	1.65	250	4.0	....	3.0	...	....	1750	40	....	....
12AZ7	T-6½	Duotriode	9A	6.3	0.450*	VHF Amp.	2.75	100	270■	....	3.7	...	15000	4000	60	....	....
				12.6	0.225			250	200■	....	10.0	...	10900	5500	60	....	....
12AZ7A	T-6½	Duotriode	9A	12.6/ 6.3*	0.225 0.450	VHF Osc./ Amp.	2.5	Characteristics Same as Type 12AZ7.									
12B3	T-6½	Diode	9BD	12.6*	0.600	T.V. Damper	....	Characteristics Same as Type 6B3. (12B3 Designed for Series String TV Receivers.)									
12B4A	T-6½	Triode	9AG	6.3*/ 12.6	0.600/ 0.300	Vert. Defl. Amplifier	6.0	Max. Peak Pos. Pulse Plate Voltage = 1000 Volts Max. D.C. Cathode Current = 30 Ma. (12B4A Designed for Series String TV Receivers.)									
								150	17.5	....	35	...	....	6500	6.5	....	....
12BA6	T-5½	Pentode	7BK	12.6	0.150	R-F Amp.	3.3	Characteristics Same as Type 6BA6.									
12BA7	T-6½	Heptode	8CT	12.6	0.150	Converter	2.2	Characteristics Same as Type 6BA7.									
12BD6	T-5½	Pentode	7BK	12.6	0.150	R-F Amp.	3.3	Characteristics Same as Type 6BD6.									
12BE6	T-5½	Heptode	7CH	12.6	0.150	Converter	1.1	Characteristics Same as Type 6BE6.									
12BF6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	2.75	250	9.0	....	9.5	...	8500	1900	16	10000	300

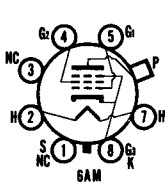
(1) See Frontal Section.
(2) Design Maximum Values.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
† Maximum Signal.
♦ Filamentary Type.
▲ Conversion Transconductance.
¶ Plate to Plate.
■ Cathode Resistor (ohms).

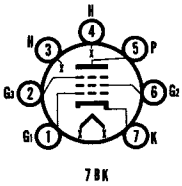


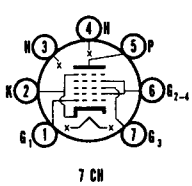
SYLVANIA TUBES

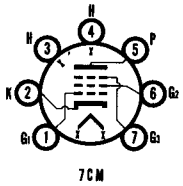
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
12BH7 12BH7A	T-6½	Duotriode	9A	6.3*/ 12.6	0.600/ 0.300	Vert. Defl. Amplifier	3.85 6.6	Max. Peak Pos. Pulse Plate Voltage = 1500 Volts Max. D.C. Cathode Current = 20 Ma. (12BH7A Designed for Series String TV Receivers.) 250	10.5	....	11.5	...	....	3100	17	....	....
12BK5	T-6½	Beam Amp.	9BQ	12.6*	0.600	Power Amp.	9.9	Characteristics Same as Type 6BK5. (12BK5 Designed for Series String TV Receivers.)									
12BL6	T-5½	Pentode	7BK	12.6	0.150	R-F Amp.	....	12.6	0.65[4]	12.6	1.35	0.5	500000	1350	....	....	....
12BN6	T-5½	Gated Beam	7DF	12.6	0.150	Quad. F.M. Detector	....	Characteristics Same as Type 6BN6.									
12BQ6GTA	T-11 T-9	Beam Pent.	6AM	12.6*	0.600	Horiz. Defl. Amplifier	12.1	Characteristics Same as Type 6BQ6GTA. (12BQ6GTA Designed for Series String TV Receivers.)									
12BQ6GTB	T-9	Beam Pent.	6AM	12.6*	0.600	Horiz. Amp.	12.1	Characteristics Same as Type 6BQ6GTB. (12BQ6GTB Designed for Series String TV Receivers.)									
12BR7	T-6½	Duodiode Tri.	9CF	12.6/ 6.3	0.225/ 0.450	Det. Amp.	2.75	100 250	270■ 200■	....	3.7 10.0	... ...	15000 10900	4000 5500	60 60	....	....
12BV7	T-6½	Pentode	9BF	12.6/ 6.3	0.300/ 0.600	Video Amp.	6.87	250	68■	150	27	6.0	85000	13000	1000	....	....
12BW4	T-6½	Duodiode	9DJ	12.6	0.450	F-W Rect.	....	Characteristics Same as Type 6BW4									
12BX6	T-6½	Pentode	9AQ	12.6	0.150	VHF Amp.	2.5	Characteristics Same as Type 6BX6. (12BX6 Designed for Series String Receivers.)									
12BY7	T-6½	Pentode	9BF	6.3 12.6	0.600 0.300	Video Amp.	7.1	250	100■	180	26	5.75	93000	11000	1035	....	....
12BZ6	T-5½	Pentode	7CM	12.6	0.150	R-F Amp.	2.3	Characteristics Same as Type 6BZ6.									
12BZ7	T-6½	Duotriode	9A	6.3/ 12.6	0.600/ 0.300	Sync. Sep. or Amplifier	1.65	250	2	....	2.5	...	31800	3200	100	Cout Sec. 1 = 0.7 μf.	
12C5	T-5½	Beam Pent.	7CV	12.6*	0.600	Power Amp.	6.6	120 (12C5 Designed for Series String TV Receivers.)	8	110	49	4.0	10000	7500	....	2500	2300
12C8	Metal	Duodi. Pent.	8E	12.6	0.150	Det. Amp.	2.47	Characteristics Same as Type 6B8.									
12CA5	T-5½	Beam Pent.	7CV	12.6*	0.600	Power Amp.	5.5	Characteristics Same as Type 6CA5. (12CA5 Designed for Series String TV Receivers.)									
12CM6	T-6½	Beam Pent.	9CK	12.6	0.225	Power Amp.	13.2	Characteristics Same as Type 6CM6.									
12CN5	T-5½	Pentode	7CV	12.6	0.450	I-F Amp.	....	12.6	2.2 Meg[4]	12.6	4.5	0.35	40000	3800	....	....	....
12CR6	T-5½	Diode Pent.	7EA	12.6	0.150	Audio Amp.	2.75	250	2	100	9.6	2.6	800000	2200	....	....	....
12CS6	T-5½	Dual Control Heptode	7CH	12.6	0.150	Sync. Sep.	11	100 100	0.0 Gr. 1 1.0 Gr. 1	30 30	0.8 0.75	4.0 1.1	700000 1.0 Meg.	950 Gr. 1 1250 Gr. 3	Grid 3 Volts = 0 Grid 3 Volts = 1.0		
12CT8	T-6½	Tri. Pentode	9DA	12.6*	0.300	Sync. Amp. Video Amp.	2.5 2.75	150 200	150■ 82■	 125	9.0 15.0	... 3.4	8200 150000	4900 7000	40	....	....
12CU5	T-5½	Beam Pent.	7CV	12.6*	0.600	Power Amp.	6.6	Characteristics Same as Type 6CU5. (12CU5 Designed for Series String TV Receivers.)									
12CU6	T-12	Beam Pent.	6AM	12.6*	0.600	Horiz. Defl. Amplifier	12.1	Characteristics Same as Type 6BQ6G, Except Max. D.C. Plate Supply = 550 Volts. (12CU6 Designed for Series String TV Receivers.)									
12CX6	T-5½	Pentode	7BK	12.6	0.150	R-F Amp.	....	12.6	2.2 Meg[4]	12.6	3.0	1.4	40000	3100	....	....	....
12CY6	T-5½	Pentode	7BK	12.6	0.200	R-F Amp.	....	12.6	2.2 Meg[4]	12.6	1.6	0.4	140000	3250	....	....	....
12D4	T-9	Diode	4CG	12.6*	0.600	T.V. Damper	5.5	Max. Inverse Peak Plate Voltage = 4400 Volts. Max. D.C. Plate Current = 155 Ma.									
12D4A	T-9	Diode	4CG	12.6*	0.600	T.V. Damper	8.0	Max. Peak Inverse Plate Voltage = 5000 Volts. Max. D.C. Plate Current = 185 Ma. Characteristics Same as Type 6DA4A.									
12DB5	T-6½	Beam Pent.	9GR	12.6*	0.600	Vert. Defl. Amplifier	11	Characteristics Same as Type 6DB5. (12DB5 Designed for Series String TV Receivers.)									
12DE8	T-6½	Diode Pent.	12DE8	12.6	0.200	R-F or I-F Amplifier	....	12.6	0.8[4]	12.6	1.3	0.5	300000	1500	....	....	....
12DF5	T-6½	Duodiode	9BS	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.									
12DF7	T-6½	Duotriode	9A	12.6 6.3	0.150 0.300	Audio Amp.	1.1	Characteristics Same as Type 12AX7. (Special Low Noise.)									
12DJ8	T-6½	Duotriode	9AJ	12.6	0.180	VHF Amp.	2.0	Characteristics Same as Type 6DJ8.									
12DK5	T-6½	Pentode	9GT	12.6	0.300	R-F Amp.	....	12.6	2.2 Meg[4]	12.6	2.0	0.65	100000	3300	....	....	....
12DK7	T-6½	Duodiode Tetrode	9HZ	12.6	0.500	Det. Power Amp. Driver	0.55	12.6	2.2 Meg[4]	12.6	6.0	1.0	4000	5000	....	3500	10

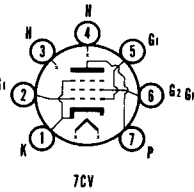


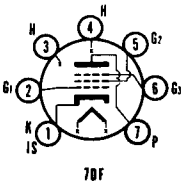


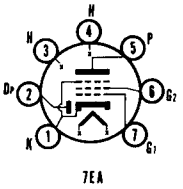


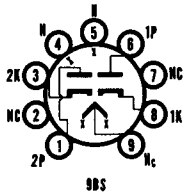


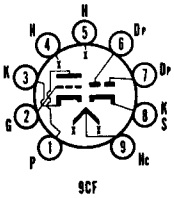


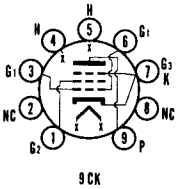


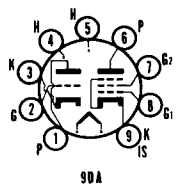


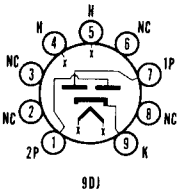


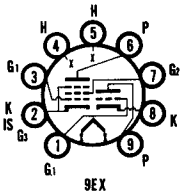


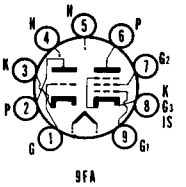


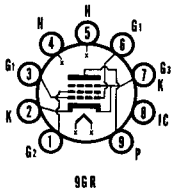


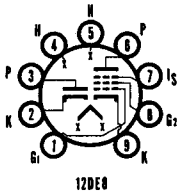








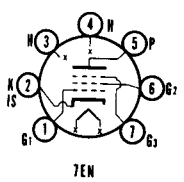


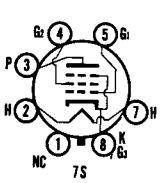


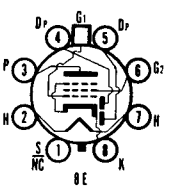
AVERAGE CHARACTERISTICS

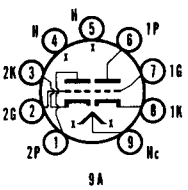
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
12DL8	T-6½	Duodiode Tetrode	9HR	12.6	0.550	Det. Power Amp. Driver	....	12.6 (Space-Charge Grid Operation.)	G2 = 2	G1=12.6	8	75	480	15000	....	800	40
12DM4	T-9	Diode	4CG	12.6*	0.600	T.V. Damper	6.5	Characteristics Same as Type 6DM4. (12DM4 Designed for Series String Receivers.)									
12DM5	T-5½	Beam Pent.	7CV	12.6*	0.450	Power Amp.	6.0	110	7.5	110	49.0	4.0	14000	7500	....	2500	1900
12DM7	T-6½	Duotriode	9A	6.3 12.6	0.260 0.130	A-F Amp.	1.1	Low Noise and Low Microphonism Version of Type 12AX7.									
12DQ4	T-9	Diode	4CG	12.6*	0.600	T.V. Damper	6.0	Characteristics Same as Type 6DQ4. (12DQ4 Designed for Series String Receivers.)									
12DQ6A	T-12	Beam Pent.	6AM	12.6*	0.600	Horiz. Defl. Amplifier	16.5	Characteristics Same as Type 6DQ6A. (12DQ6A Designed for Series String TV Receivers.)									
12DQ6B	T-12	Beam Pent.	6AM	12.6*	0.600	Horiz. Defl. Amplifier	17	Characteristics Same as Type 6DQ6B. (12DQ6B Designed for Series String Receivers.)									
12DQ7	T-6½	Pentode	9BF	12.6/ 6.3*	0.300 0.600	Video Amp.	6.5	200	68■	125	26	5.6	53000	10500	....	....	....
12DS7	T-6½	Duodiode Tetrode	9JU	12.6	0.400	Det. Power Driver	....	12.6	2.2 Meg[4]	G1=12.6	35-15†	80	....	....	....	700	35
12DS7A								12.6	2.2 Meg[4]	G1=12.6	35-11†	80	....	....	....	700	45
12DT5	T-6½	Beam Pent.	9HN	12.6*	0.600	Vert. Defl. Amplifier	9.0	Characteristics and Ratings Same as Type 6DT5. (12DT5 Designed for Series String Receivers.)									
12DT6	T-5½	Gated Beam	7EN	12.6	0.150	Quad FM Det.	1.7	Characteristics Same as Type 6DT6.									
12DT7	T-6½	Duotriode	9A	6.3 12.6	0.300 0.150	A-F Amp.	1.1	Characteristics Same as Type 12AX7. Controlled for Hum and Noise.									
12DT8	T-6½	Duotriode	9AJ	12.6	0.150	A-F Amp.	2.75	100	270■	....	3.7	...	15000	4000	60	....	....
								250	200■	....	10	...	10900	5500	60	....	....
12DU7	T-6½	Duodiode Tetrode	9JX	12.6	0.250	Det. Power Amp. Driver	....	12.6	2.2 Meg[4]	12.6	12	1.5	6000	6200	....	2700	25
12DV7	T-6½	Duodiode Tri.	9JY	12.6	0.150	Det. Amp.	....	12.6	2.2 Meg[4]	....	0.4	...	19000	750	14	....	....
12DV8	T-6½	Duodiode Tetrode	9HR	12.6	0.375	Detector, Pwr. Amp. Dr.	....	12.6 and 4.7 Meg[4]	18 Ohm■	G1=12.6	6.8 (Space Charge Grid Operation.)	54	900	8500	7.6	1250	5
12DW5	T-6½	Beam Pent.	9CK	12.6*	0.600	Vert. Defl. Amplifier	11	Max. Peak Positive Plate Voltage = 2200 Volts. Max. D.C. Cathode Current = 65 Ma.									
								200	22.5	150	55	2.0	15000	5500	....	....	....
12DW7	T-6½	Duotriode	9A	6.3 12.6	0.300 0.150	Sect. 1 A-F Voltage Amp.	1.2	100 250	1.0 2.0	....	0.5 1.2	...	80000 62500	1250 1600	100 100	....	....
						Sect. 2 A-F Phase Inverter	3.3	100 250	0 8.5	....	11.8 10.5	...	6500 7700	3100 2200	20 17	....	....
12DW8	T-6½	Diode-Duo-Triode	9JC	12.6	0.450	Dissimilar Tri's Voltage Amp.	0.5	12.6	1.5 Meg[4]	....	1.9	...	3520	2700	9.5	....	....
						Pwr. Amp. Dr.	0.5	12.6	1.0 Meg[4]	...	7.5	...	970	6500	6.4	....	....
12DZ6	T-5½	Pentode	7BK	12.6	0.190	R-F Amp.	....	-12.6	G1=10 Meg[4]	12.6	4.5	2.2	25000	3800	....	....	....
								G3 = 0									
12DZ8	T-6½	Tri. Beam Pentode	9EX	12	0.450	A-F Voltage Amp. and Power Amp.	.825 7.15	Characteristics Same as Type 6DZ8. (12DZ8 Designed for Series String Receivers.)									
12EA6	T-5½	Pentode	7BK	12.6	0.190	I-F Amp.	....	12.6	G1=10 Meg	12.6	3.2	1.4	32000	3800	....	....	....
								G3 = 0									
12EC8	T-6½	Tri. Pentode	9FA	12.6	0.225	FM Osc.	....	12.6	0	....	2.4	...	6000	4700	25	....	....
						FM Amp.		12.6	0	12.6	0.66	0.28	750000	2000	....	....	....
12ED5	T-5½	Pentode	7CV	12.6	0.450	S.T. A1 Amp.	6.25	110 125	4.0 4.5	110 125	32 37	4 7	14000 14000	8100 8500	....	4500 4500	1100 1500
12EF6	T-9	Beam Pent.	7S	12.6*	0.450	Vert. Defl. Amplifier	11	Characteristics Same as Type 6EF6. (12EF6 Designed for Series String TV Receivers.)									
12EG6	T-5½	Heptode	7CH	12.6	0.150	Mixer Oscillator	....	12.6 Volts Grid No. 4 and 2.2 Megohms Grid No. 1 (Osc. Grid).	12.6	0.8[4]	12.6	.04	2.47	150000	800	....	....

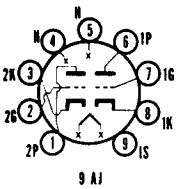
(1) See Frontal Section.
(2) Design Maximum Values.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
† Maximum Signal.
♦ Filamentary Type.
▲ Conversion Transconductance.
¶ Plate to Plate.
■ Cathode Resistor (ohms).

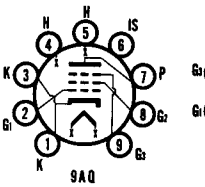

7EN

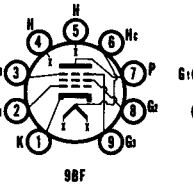

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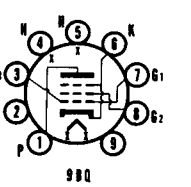

8E

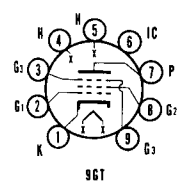

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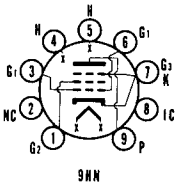

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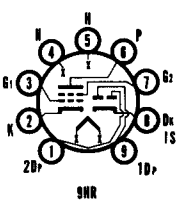

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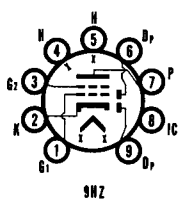

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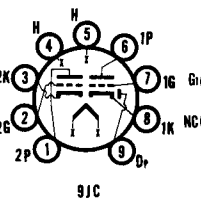

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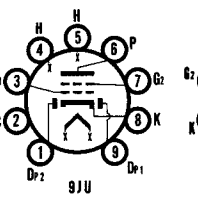

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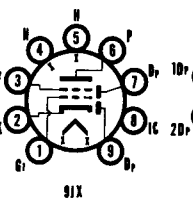

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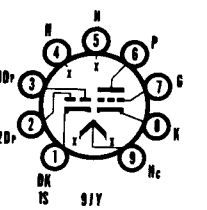

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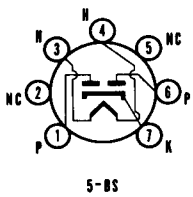

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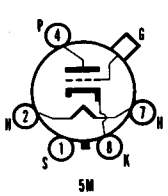

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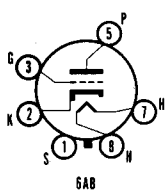

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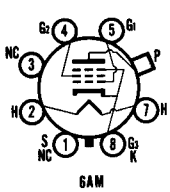
SYLVANIA TUBES

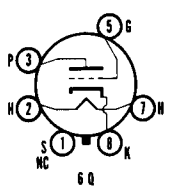
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
12EH5	T-5½	Beam Pent.	7CV	12.6*	0.600	S.T. A1 Amp.	5.5	Characteristics Same as Type 6EH5. (12EH5 Designed for Series String Receivers.)									
12EK6	T-5½	Pentode	7BK	12.6	0.190	FM Amp.	....	12.6	2.2[4]	12.6	4.0	1.7	50000	4200	....	....	....
12EL6	T-5½	Duodiode Tri.	7FB	12.6	0.150	Det. Amp.	....	12.6	1.0 Meg[4]	....	.75	...	45000	1200	55	....	....
12EM6	T-6½	Diode Tetrode	9HV	12.6	0.500	Det. Power Amplifier	0.55	12.6	15 Meg[4]	12.6	6.0	1.0	4000	5000	....	3500	10
12EN6	T-9	Beam Pent.	7S	12.6*	0.600	Vert. Defl. Amplifier	7.0	Max. Peak Positive Pulse Plate Voltage = 1200 Volts. Max. D.C. Cathode Currents = 50 Ma. 200	9.5	110	50	2.2	28000	8000	....	....	....
12EQ7	T-6½	Diode Pent.	9LP	12.6	0.150	Det. R-F Amp.	3.0	Characteristics Same as Type 6EQ7.									
12EZ6	T-5½	Pentode	7BK	12.6	0.175	R-F or I-F Amplifier	....	12.6	0.7 2.2 Meg[4]	12.6	1.9	0.7	400000	2700	....	....	....
12F5GT	T-9	Triode	5M	12.6	0.150	Amplifier	....	Characteristics Same as Type 6F5GT.									
12F8	T-6½	Duodi. Pent.	9FH	12.6	0.150	Amplifier	....	12.6	0	12.6	1.0	0.38	0.33 Meg.	1000	....	....	....
12FA6	T-5½	Heptode	7CH	12.6	0.150	Converter	....	12.6	0.5 2.2 Meg.[4] Osc. Grid Values = 2.5 Volts RMS across 33000 Ohm Res.	12.6	.45	1.0	800000	320▲	....	....	....
12FB5	T-6½	Beam Pent.	9CV	12.6	0.300	S.T. A1 Amp.	6.6	170	10.3	180	31	7.3	....	....	....	5000	2250
12FK6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	....	12.6	2.2 Meg[4]	....	1.3	...	6200	1200	74	....	....
12FM6	T-5½	Duodiode Tri.	7BT	12.6	0.150	Det. Amp.	....	12.6	2.2 Meg[4]	....	1.0	...	7700	1300	10	....	....
12FQ8	T-6½	Twin, Double-Plate Triode	9KT	12.6	0.150	Sect. 1 Double Plate Triode	0.5	250	1.5	....	1.5	...	76000	1250	95	....	....
						Sect. 2 Double Plate Triode	0.5	250	1.5	....	1.5	...	76000	1250	95	....	....
12FR8	T-6½	Tri. Pentode Diode	9KU	12.6	0.320	Det. Amp.	....	12.6	2.2 Meg[4]	....	1.0	...	.....	1200	10	....	....
						R-F Amp.		12.6	2.2 Meg[4]	12.6	1.9	0.8	400000	2700	....	....	....
12FT6	T-5½	Duodiode Triode	7BT	12.6	0.150	Det. Power Amp. Driver	....	12.6	2.2 Meg[4]	....	0.6	...	13000	1000	14	....	....
12FV7	T-6½	Duotriode	9A	6.3/ 12.6	0.900/ 0.450	Relay Control Tube	2.5	100	2.0	....	16	...	2250	9600	....	....	....
12FX8	T-6½	Tri. Heptode	9KV	12.6	0.270	Tri. R-F Amp.	....	12.6	2.2 Meg[4]	....	1.3	...	.....	1400	10	....	....
						Heptode Conv.		12.6	Rg3 2.2Meg[4]	12.6	0.29	1.25	500000	300▲	Self Osc. with 33 K Rg1		
12FX8A	T-6½	Tri. Heptode	9KV	12.6	0.270	R-F Amp.	....	12.6	2.2 Meg[4]	....	1.3	...	....	1400	10	....	....
						Converter		12.6	G3=2.2M[4]	12.6	0.29	1.25	....	300▲	EC1 = 1.6 V (RMS) Rg1 = 33 K Ohms		
12G8	T-6½	Duotriode	9CZ	12.6	0.400	Amplifier	....	12.6	0	Input Tri.	3.0	...	....	....	....	....	....
								12.6	...	Output Tri.	7.2	...	8500	2600	22	2000	25
12GA6	T-5½	Heptode	7CH	12.6	0.150	Converter	....	12.6 G3=2.2 M[4] 12.6 0.3 0.8 1.0 Meg. 140 EC1 = 1.6 Volts (RMS), Rg1 = 33000 Ohms, IC1 = .06 Ma.							....	....	....
12GC6	T-12	Beam Pent.	8JX	12.6*	0.600	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GC6. (12GC6 Designed for Series String Receivers.)									
12GE5	Comp. T-12	Beam Pent.	12BJ	12.6*	0.600	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GE5. (12GE5 Designed for Series String Receivers.)									
12GN6	T-5½	Pentode	7FW	12.6	0.150	R-F Amp.	3.3	Characteristics Same as Type 6GN6.									
12GJ5	Novar T-12	Beam Pent.	9NM	12.6*	0.600	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GJ5. (12GJ5 Designed for Series String Receivers.)									
12GT5	Novar T-12	Beam Pent.	9NZ	12.6*	0.600	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GT5. (12GT5 Designed for Series String Receivers.)									
12GW6	T-12	Beam Pent.	6AM	12.6*	0.600	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GW6. (12GW6 Designed for Series String Operation.)									
12H6	Metal	Duodiode	7Q	12.6	0.150	Rectifier	....	Characteristics Same as Type 6H6.									
12J5GT	T-9	Triode	6Q	12.6	0.150	Amplifier	2.75	Characteristics Same as Type 6J5GT.									
12J7GT	T-9	Pentode	7R	12.6	0.150	R-F Amp.	.825	Characteristics Same as Type 6J7G.									
12J8	T-6½	Duo. Tetrode	9GC	12.6	0.300	Det. Amp.	....	12.6	2.2 Meg[4]	12.6	12	1.5	6000	5500	....	2700	20

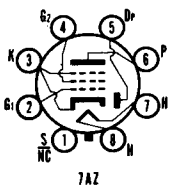


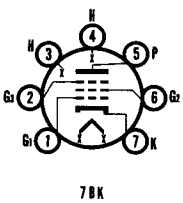


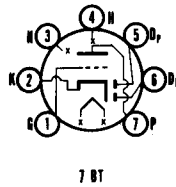


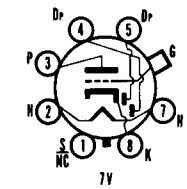


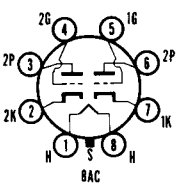


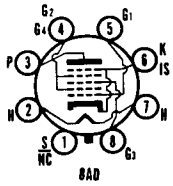


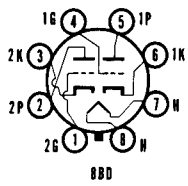


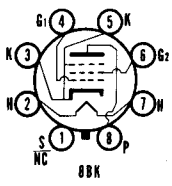


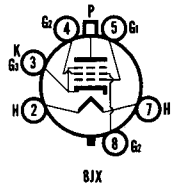


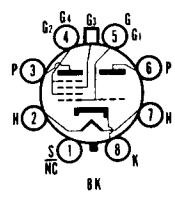


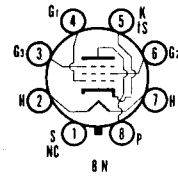


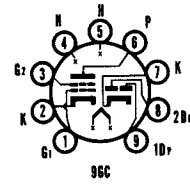


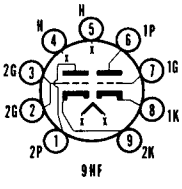


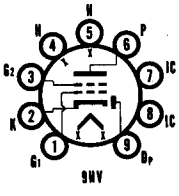


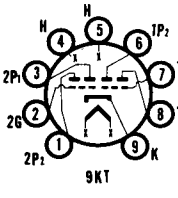


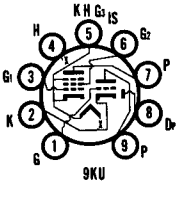


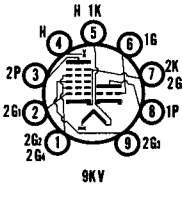


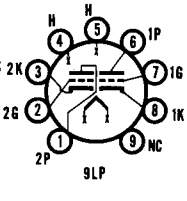


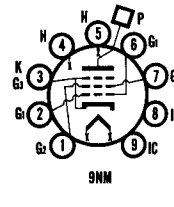








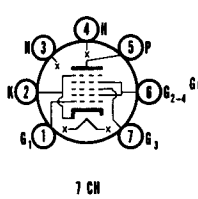


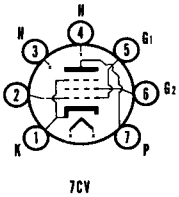


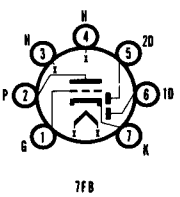
AVERAGE CHARACTERISTICS

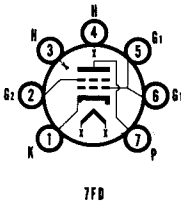
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
12K5	T-5½	Tetrode	7FD	12.6	0.400	Power Amp. Driver	....	12.6 (Designed for Space-Charge Grid Operation.)	G2=2	G1=12.6	8	75	480	15000	7.2	800	40
12K7GT	T-9	Pentode	7R	12.6	0.150	R-F Amp.	3.0	Characteristics Same as Type 6K7G.									
12K8	Metal	Tri. Hexode	8K	12.6	0.150	Mixer Osc. Converter	3.0	Characteristics Same as Type 6K8GT.									
12L6GT	T-9	Beam Pent.	7S	12.6*	0.600	Power Amp.	11	Characteristics Same as Type 25L6GT. (12L6GT Designed for Series String TV Receivers.)									
12Q7GT	T-9	Duodiode Tri.	7V	12.6	0.150	Det. Amp.	0.55	Characteristics Same as Type 6Q7GT.									
12R5	T-5½	Beam Pent.	7CV	12.6*	0.600	Vert. Defl. Amplifier	4.95	Max. Peak Positive Pulse Plate Voltage = 1500 Volts. Max. D.C. Cathode Current = 45 Ma.									
								110	8.5	110	40.0	3.3	13000	7000	....	....	....
12SA7 12SA7GT	Metal T-9	Heptode	8R 8AD	12.6	0.150	Converter	1.1	Characteristics Same as Type 6SA7.									
12SC7	Metal	Duotriode	8S	12.6	0.150	A-F Amp.	3.85	Characteristics Same as Type 6SC7.									
12SF5 12SF5GT	Metal T-9	Triode	6AB	12.6	0.150	A-F Amp.	....	Characteristics Same as Type 6SF5.									
12SF7	Metal	Diode Pent.	7AZ	12.6	0.150	Det. Amp.	3.85	Characteristics Same as Type 6SF7.									
12SG7	Metal	Pentode	8BK	12.6	0.150	R-F Amp.	3.3	Characteristics Same as Type 6SG7.									
12SH7	Metal	Pentode	8BK	12.6	0.150	R-F Amp.	3.3	Characteristics Same as Type 6SH7.									
12SJ7 12SJ7GT	Metal T-9	Pentode	8N 8N	12.6	0.150	A-F Amp.	2.75	Characteristics Same as Type 6SJ7.									
12SK7 12SK7GT	Metal T-9	Pentode	8N 8N	12.6	0.150	R-F Amp.	4.4	Characteristics Same as Type 6SK7.									
12SL7GT	T-9	Duotriode	8BD	12.6	0.150	Amplifier	1.1	Characteristics Same as Type 6SL7GT.									
12SN7GTA	T-9	Duotriode	8BD	12.6	0.300	Vertical Osc. Amp.	3.85	Characteristics Same as Type 6SN7GTA.									
12SQ7 12SQ7GT	Metal T-9	Duodiode Tri.	8Q	12.6	0.150	Det. Amp.	0.55	Characteristics Same as Type 6SQ7.									
12SR7	Metal	Duodiode Tri.	8Q	12.6	0.150	Det. Amp.	2.75	Characteristics Same as Type 6SR7.									
12U7	T-6½	Duotriode	9A	12.6	0.150	Class A1 Amp.	....	12.6	0	....	1.0	...	12500	1600	20	....	....
12V6GT	T-9	Beam Pent.	7S	12.6	0.225	Power Amp.	13.2	180 250	8.5 12.5	180 250	29 45	3 4.5	50000 50000	3700 4100	....	5500 5000	2000 4500
12W6GT	T-9	Beam Pent.	7S	12.6*	0.600	Power Amp. Vert. Defl. Amplifier	11	Characteristics Same as Type 6W6GT. (12W6GT Designed for Series String TV Receivers.)									
12X4	T-5½	Duodiode	5BS	12.6	0.300	F-W Rect.	....	Characteristics Same as Type 6X4.									
13DE7	T-6½	Duotriode	9HF	13.0*	0.450	Vert. Osc. Vert. Defl. Amplifier	1.5 7.0	Characteristics Same as Type 16DE7. (13DE7 Designed for Series String TV Receivers.)									
13DR7	T-6½	Duotriode	9HF	13*	0.450	S. 2 Ver. Amp. S. 1 Ver. Osc.	1.0 7.0	Characteristics Same as Type 6DR7. (13DR7 Designed for Series String Receivers.)									
13EM7	T-9	Duotriode	8BD	13*	0.450	Vert. Defl. Amp./Osc.	1.5 10	Characteristics Same as Type 6EM7. (13EM7 Designed for Series String Receivers.)									
13FD7	9-T9	Duotriode	9HF	13.0*	0.450	Vert. Defl. Amp./Osc.	1.5 10	Characteristics Same as Type 6FD7. (13FD7 Designed for Series String Receivers.)									
13FR7	9-T9	Duotriode	9HF	13.0*	0.450	Vert. Defl. Amp./Osc.	1.5 10	Characteristics Same as Type 6FR7. (13FR7 Designed for Series String Receivers.)									
14A7	Lock-in	Pentode	8V	12.6	0.150	R-F Amp.	4.4	Characteristics Same as Type 7A7.									
14AF7/XXD	Lock-in	Duotriode	8AC	12.6	0.150	Amplifier	2.75	Characteristics Same as Type 7AF7.									

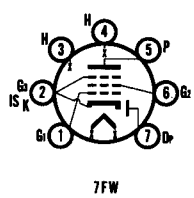
(1) See Frontal Section.
(2) Design Maximum Values.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
† Maximum Signal.
♦ Filamentary Type.
▲ Conversion Transconductance.
¶ Plate to Plate.
■ Cathode Resistor (ohms).

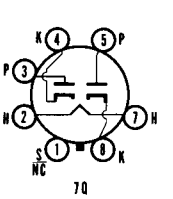

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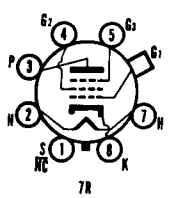

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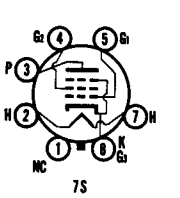

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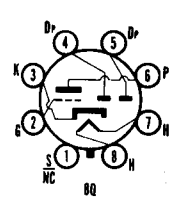

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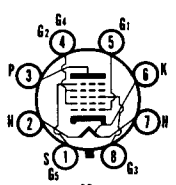

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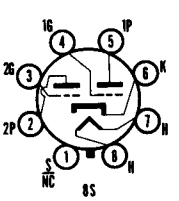

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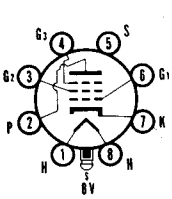

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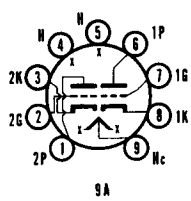

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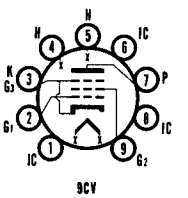

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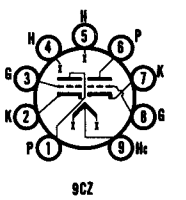

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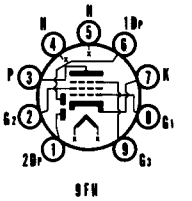

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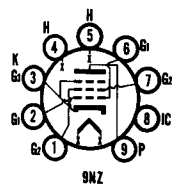

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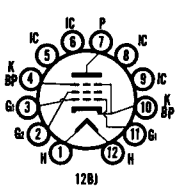

9A


9CV


9CZ

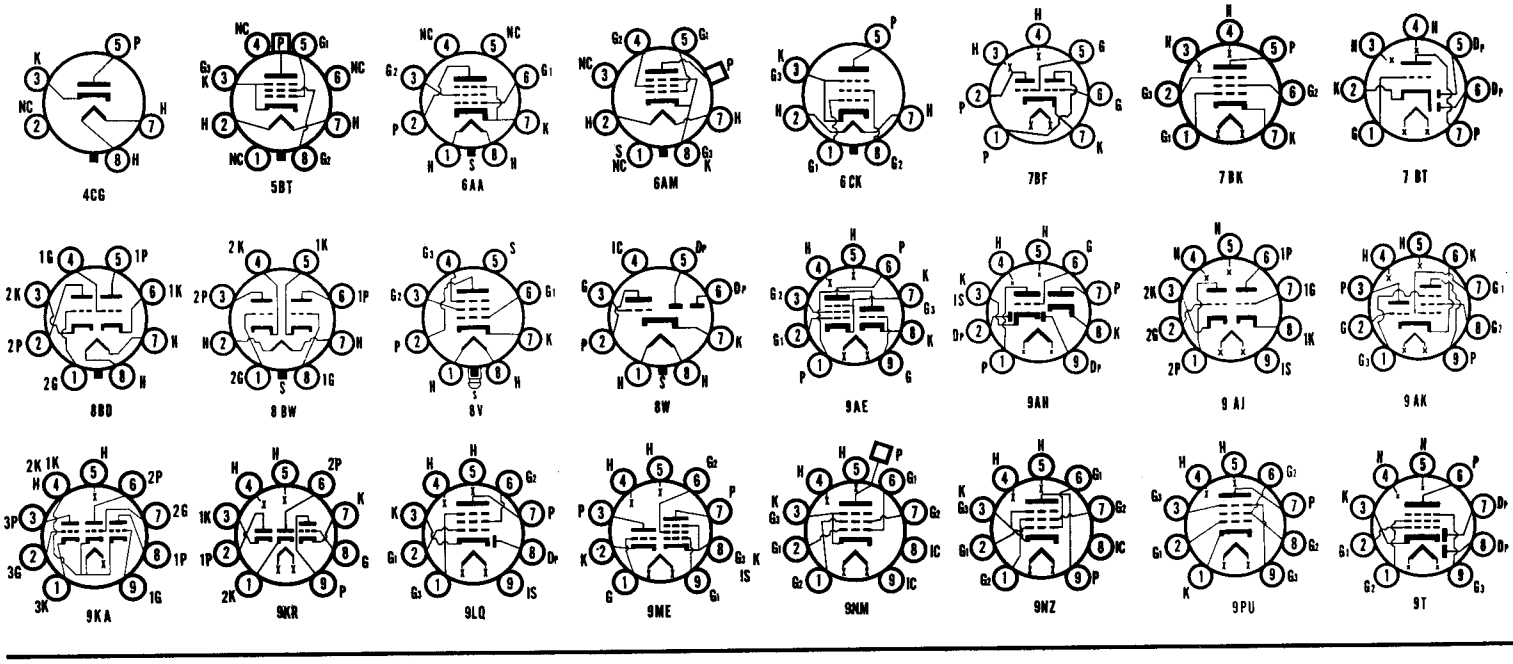

9FH


9NZ


12BJ

SYLVANIA TUBES

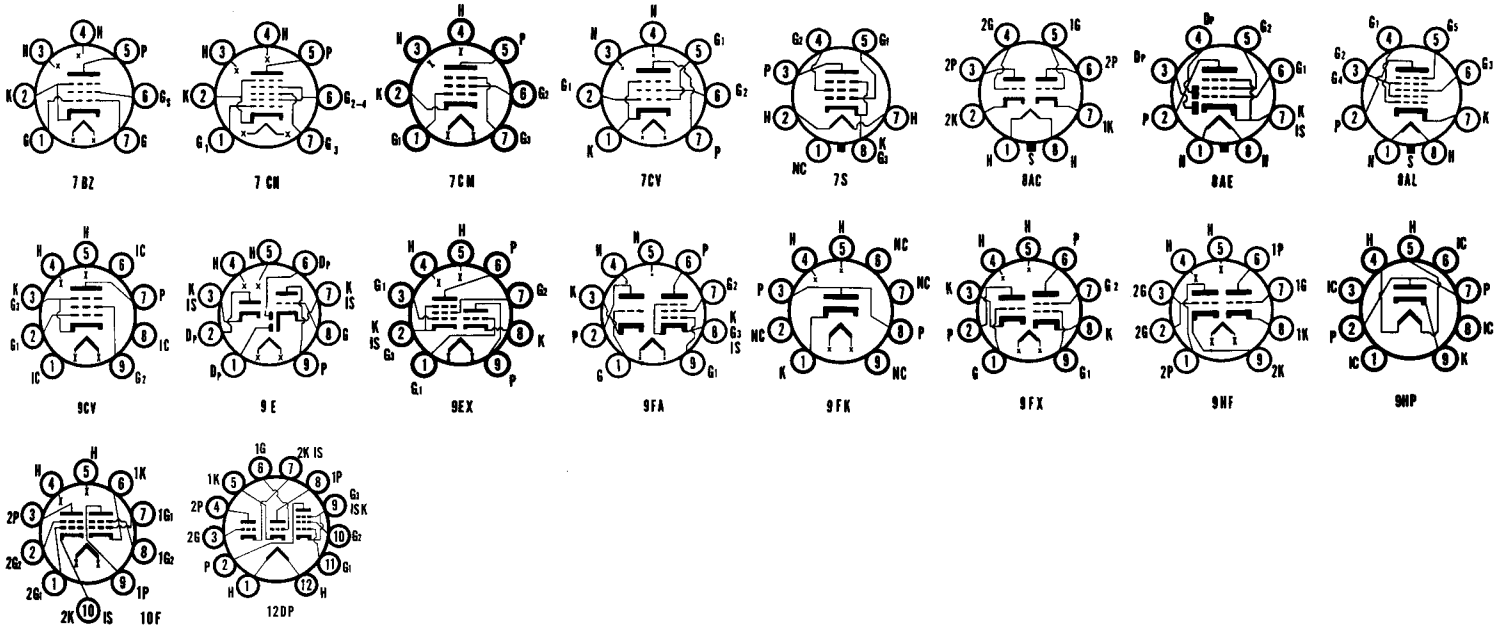
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
14B6	Lock-in	Duodiode Tri.	8W	12.6	0.150	Det. Amp.	0.55	Characteristics Same as Type 7B6.									
14C5	Lock-in	Beam Pent.	6AA	12.6	0.225	Power Amp.	13.2	Characteristics Same as Type 7C5.									
14C7	Lock-in	Pentode	8V	12.6	0.150	R-F Amp.	1.1	100 250	1.0 3.0	100 100	5.7 2.2	1.8 0.7	400000 1.0 Meg.	2275 1575	....	....	....
14F7	Lock-in	Duotriode	8AC	12.6	0.150	A-F Amp.	1.1	Characteristics Same as Type 7F7.									
14F8	Lock-in	Duotriode	8BW	12.6	0.150	Osc. Amp.	3.85	Characteristics Same as Type 7F8.									
14GT8	T-6½	Duodiode Triode	9KR	14	0.150	FM Det. Audio Amp.	1.1	250	3.0	....	0.7	...	72000	1000	72	....	....
14JG8	T-6½	Duodiode Triode	9KR	14	0.150	FM Det./ A-F Amp.	1.1	250	2.0	....	2	...	41000	2200	90	....	....
14Q7	Lock-in	Heptode	8AL	12.6	0.150	Converter	1.1	Characteristics Same as Type 7Q7.									
14R7	Lock-in	Duodi. Pent.	8AE	12.6	0.150	Det. Amp.	2.2	Characteristics Same as Type 7R7.									
15AF11	Comp. T-9	Pentode Duotriode	12DP	14.7*	0.450	Video Amp. AGC Keyer Sync. Sep.	....	Characteristics Same as Type 6AF11. (15AF11 Designed for Series String Receivers.)									
15CW5	T-6½	Beam Pent.	9CV	15	0.300	A-F Pwr. Amp.	13	Characteristics Same as Type 6CW5. (15CW5 Designed for Series String Receivers.)									
15EA7	T-9	Duotriode	8BD	14.8*	0.450	Vert. Defl. Amp./Osc.	1.0 10	Characteristics Same as Type 6EA7. (15EA7 Designed for Series String Receivers.)									
15EW6	T-5½	Pentode	7CM	15.	0.150	VHF Amp.	3.1	125	56■	125	11	3.2	200000	14000	....	....	....
16GK6	T-6½	Beam Pent.	9PU	16*	0.300	Power Amp.	13.2	Characteristics Same as Type 6GK6. (16GK6 Designed for Series String Receivers.)									
17AV5GA	T-11 or T-12	Beam Pent.	6CK	16.8*	0.450	Horiz. Defl. Amplifier	12.1	Characteristics Same as Type 6AV5GA. (17AV5GA Designed for Series String TV Receivers.)									
17AX4GT	T-9	Diode	4CG	16.8	0.450	T.V. Damper	5.28	Characteristics Same as Type 6AX4GT. (17AX4GT Designed for Series String TV Receivers.)									
17AX4GTA	T-9	Diode	4CG	16.8*	0.450	T.V. Damper	5.3	Maximum Peak Inverse Plate Voltage = 5000 Volts. Maximum D.C. Plate Current = 125 Ma.									
17AY3	Novar T-9	Diode	9HP	16.8*	0.450	T.V. Damper	6.5	Characteristics and Ratings Same as Type 6AY3. (17AY3 Designed for Series String Receivers.)									
17BH3	Novar T-9	Diode	9HP	17*	0.600	T.V. Damper	6.5	Characteristics and Ratings Same as Type 6BH3.									
17BQ6GTB	T-12	Beam Pent.	6AM	16.8*	0.450	Horiz. Defl. Amplifier	12.1	Characteristics Same as Type 6BQ6GTB. (17BQ6GTB Designed for Series String TV Receivers.)									
17C5	T-5½	Beam Pent.	7CV	16.8*	0.450	Power Amp.	6.6	Characteristics Same as Type 12C5. (17C5 Designed for Series String TV Receivers.)									
17C8	T-6½	Duodi. Pent.	9T	17	0.100	Det. R-F Amp.	1.65	200	295■	60	5	1.75	1 Meg.	2200	....	....	....
17C9A	T-6½	Duotetrode	10F	16.8*	0.150	VHF Amp.	2.5	Characteristics Same as Type 6C9. (17C9A Designed for Series String Receivers.)									
17CA5	T-5½	Beam Pent.	7CV	16.8*	0.450	Power Amp.	5.5	Characteristics Same as Type 12CA5. (17CA5 Designed for Series String TV Receivers.)									
17D4 17D4A	T-9	Diode	4CG	16.8*	0.450	T.V. Damper	5.5 8.0	Maximum Peak Inverse Plate Voltage = 4400 Volts. Maximum D.C. Plate Current = 155 Ma. Characteristics Same as Type 12D4. (17D4 Designed for Series String Receivers.)									
17DE4	T-9	Diode	4CG	17.0*	0.600	T.V. Damper	6.5	Characteristics and Ratings Same as 6DE4. (17DE4 Designed for Series String Receivers.)									
17DM4	T-9	Diode	4CG	16.8*	0.450	T.V. Damper	6.5	Characteristics Same as Type 6DM4. (17DM4 Designed for Series String Receivers.)									
17DQ4	T-9	Diode	4CG	16.8*	0.450	T.V. Damper	6.0	Characteristics Same as Type 6DQ4. (17DQ4 Designed for Series String Receivers.)									
17DQ6 17DQ6A	T-12	Beam Pent.	6AM	16.8*	0.450	Horiz. Defl. Amplifier	16.5 18	Characteristics Same as Type 6DQ6. (17DQ6 and 17DQ6A Designed for Series String TV Receivers.) Characteristics Same as Type 6DQ6A.									
17DQ6B	T-12	Beam Pent.	6AM	16.8*	0.450	Horiz. Defl. Amplifier	18	Characteristics Same as Type 6DQ6B. (17DQ6B Designed for Series String Receivers.)									
17GJ5	Novar T-12	Beam Pent.	9NM	16.8*	0.450	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GJ5. (17GJ5 Designed for Series String Receivers.)									
17GT5	Novar T-12	Beam Pent.	9NZ	16.8*	0.450	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GT5. (17GT5 Designed for Series String Receivers.)									
17GW6	T-12	Beam Pent.	6AM	16.8*	0.450	Horiz. Defl. Amplifier	17.5	Characteristics Same as Type 6GW6. (17GW6 Designed for Series String Operation.)									
17H3	T-6½	Diode	9FK	17.5*	0.300	T.V. Damper	3.0	Maximum Peak Inverse Plate Voltage = 2000 Volts. Maximum D.C. Output Current = 75 Ma.									



AVERAGE CHARACTERISTICS

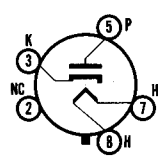
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
17HC8	9-T9	Tri. Pentode	9EX	16.8*	0.450	Vert. Defl. Osc./Amp.	1.0 11	Characteristics Same as Type 6HC8. (17HC8 Designed for Series String Receivers.)									
17JK8	T-6½	Duotriode	9AJ	16.8*	0.150	FM Osc. FM Amp.	1.0 2.0	100 135	1.0 1.2	....	5.3 10	... ...	8000 5400	6800 13000	55 70	....	....
17L6GT	T-9	Beam Pent.	7S	16.8*	0.450	Power Amp.	11	Characteristics Same as Type 25L6GT. (17L6GT Designed for Series String TV Receivers.)									
17R5	T-5½	Beam Pent.	7CV	16.8*	0.450	Vert. Defl. Amplifier	4.95	Characteristics Same as Type 12R5. (17R5 Designed for Series String TV Receivers.)									
17W6GT	T-9	Beam Pent.	7S	16.8*	0.450	A-F Pwr. Amp.	12	Characteristics Same as Type 6W6GT. (6W6GT Designed for Series String Receivers.)									
18A5	T-9	Beam Pent.	6CK	18.5*	0.300	Horiz. Defl. Amplifier	9.0	Max. Peak Positive Pulse Plate Voltage = 3000 Volts. Max. D.C. Cathode Current = 90 Ma.									
18DZ8	T-6½	Tri. Beam Pentode	9EX	18.0	0.300	A-F Voltage Amp. and Power Amp.	200 .825 7.15	17.0 Characteristics Same as Type 6DZ8. (18DZ8 Designed for Series String Receivers.)	125	40.0	1.1	27000	4800	....	....	....
18FW6	T-5½	Pentode	7BK	18.0	0.100	R-F or I-F Amplifier	2.5	100	68■	100	11	4.4	250000	4400	....	....	....
18FX6	T-5½	Heptode	7CH	18.0	0.100	Converter	1.0	100	1.5	100	2.3	6.2	400000	480	Osc. Grid Res. = 20000 Ohms Osc. Grid Current = 0.5 Ma.		
18FY6	T-5½	Duodiode Tri.	7BT	18.0	0.100	A-F Amp.	0.5	100	1.0	....	0.6	...	77000	1300	100	....	....
18GD6	T-5½	Pentode	7BK	18.0	0.100	R-F Amp.	2.5	100	150■	100	5.0	2.0	500000	4300	....	....	....
18GE6	T-5½	Duodiode Tri.	7BT	18.0	0.100	Det. Amp.	0.5	100	1.0	....	1.0	...	40000	1700	70	....	....
18HB8	T-6½	Triode Beam Pentode	9ME	18	0.300	Voltage Amp. S.T. A1 Amp.	.75 6.5	115 115	410■ 150■	 115	2.5 33	... 7.5	....	3900 6250	74	 3500	 1000
19AQ5	T-5½	Beam Pent.	7BZ	18.9	0.150	Power Amp.	13.2	Same as 6AQ5.									
19AU4	T-9	Diode	4CG	18.9*	0.600	T.V. Damper	6.6	Characteristics Same as Type 6AU4GT. (19AU4 Designed for Series String TV Receivers.)									
19AU4GTA	T-9	Diode	4CG	18.9*	0.600	T.V. Damper	6.6	Characteristics Same as Type 6AU4GTA. (19AU4GTA Designed for Series String TV Receivers.)									
19BG6G 19BG6GA	ST-16 T-12	Beam Pent.	5BT	18.9	0.300	Horiz. Defl. Amplifier	22	Characteristics Same as Type 6BG6G.									
19C8	T-6½	Triple Dio. Tri.	9E	18.9	0.150	Det. Amp.	1.1	100	1.0	....	0.5	...	80000	1250	100	....	....
19CL8A	T-6½	Tri. Tetrode	9FX	18.9	0.150	VHF Osc. VHF Amp.	2.97 3.0	Characteristics Same as Type 6CL8A.									
19DE7	T-6½	Duotriode	9HF	19.4*	0.300	Vert. Defl. Amp. and Osc.	7.0 1.5	Characteristics Same as Type 6DE7. (19DE7 Designed for Series String Receivers.)									
19EA8	T-6½	Tri. Pentode	9AE	18.9	0.150	Tri. VHF Amp. Pent. Amp.	3.0 3.1	Characteristics Same as Type 6EA8.									
19EZ8	T-6½	Triple Triode	9KA	18.9	0.150	VHF Amp.	2.0	125	1.0	....	4.2	...	13600	4200	57	....	....
19HR6	T-5½	Pentode	7BK	18.9*	0.150	FM I-F Amp.	3.0	Characteristics Same as Type 6HR6. (19HR6 Designed for Series String Receivers.)									
19HV8	T-6½	Tri. Pentode	9FA	18.9	0.150	A-F Amp. I-F Amp.	0.5 3.0	100 125	1.0 1.0	 125	0.8 12	... 4	54000 200000	1300 6500	70	....	....
19J6	T-5½	Duotriode	7BF	18.9	0.150	VHF Osc. Amplifier	1.65	Characteristics Same as Type 6J6.									
19T8	T-6½	Triple Diode Triode	9E	18.9	0.150	Det. Amp.	1.1	Characteristics Same as Type 6T8.									
19V8	T-6½	Triple Diode Triode	9AH	18.9	0.150	Det. Amp.	1.1	100 250	1.0 3.0	....	0.8 1.0	....	54000 58000	1300 1200	70 70	....	....
19X8	T-6½	Tri. Pentode	9AK	18.9	0.150	VHF Osc. Amplifier	1.65 2.2	Characteristics Same as Type 6X8.									
20EQ7	T-6½	Diode Pent.	9LQ	20	0.100	Det. R-F Amp.	3.0	Characteristics Same as Type 6EQ7.									

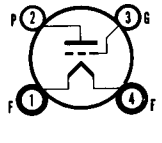
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

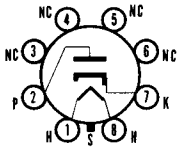


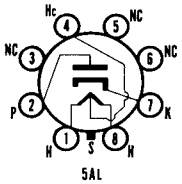
SYLVANIA TUBES

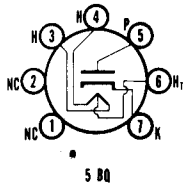
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transcon-ductance Micros.	Ampli-fication Factor	Ohms Load for Stated Power Output	Power Output Milli-watts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
20EZ7	T-6½	Duotriode	9PG	20*	0.100	A-F Amp.	1.2	100 250	1.0 2.0	....	0.5 1.2	... ...	80000 62500	1250 1600	100 100	....	....
21EX6	T-12	Beam Pent.	5BT	21.5*	0.600	Horiz. Defl. Amplifier	22	Characteristics Same as Type 6EX6. (21EX6 Designed for Series String Receivers.)									
22BH3	Novar T-9	Diode	9HP	22.4*	0.450	T.V. Damper	6.5	Characteristics and Ratings Same as Type 6BH3.									
22DE4	T-9	Diode	4CG	22*	0.450	T.V. Damper	6.5	Characteristics and Ratings Same as Type 6DE4. (22DE4 Designed for Series String Receivers.)									
25AV5GA	T-11 or T-12	Beam Pent.	6CK	25.0	0.300	Horiz. Defl. Amplifier	12.1	Characteristics Same as Type 6AV5GA.									
25AX4GT	T-9	Diode	4CG	25.0	0.300	T.V. Damper	5.28	P.I.V. = 4000 Volts Max. D.C. Plate Current = 125 Ma. Max.									
25BK5	T-6½	Beam Pent.	9BQ	25.0	0.300	Power Amp.	9.9	Characteristics Same as Type 6BK5.									
25BQ6GA	T-11	Beam Pent.	6AM	25.0	0.300	Horiz. Defl. Amplifier	12.1	Characteristics and Ratings Same as Type 6BQ6G.									
25BQ6GT	T-9							Characteristics Same as Type 6BQ6GT.									
25BQ6GTB	T-9	Beam Pent.	6AM	25.0	0.300	Horiz. Amp.	12.1	Characteristics Same as Type 6BQ6GTB.									
25C5	T-5½	Beam Pent.	7CV	25.0	0.300	Power Amp.	6.6	120	8	110	49	4.0	10000	7500	....	2500	2300
25CA5	T-5½	Beam Pent.	7CV	25.0	0.300	Power Amp.	5.5	Characteristics Same as Type 6CA5.									
25CD6GB	T-12	Beam Pent.	5BT	25.0*	0.600	Horiz. Defl. Amplifier	22	Characteristics Same as Type 6CD6GA. (25CD6GB Designed for Series String TV Receivers.)									
25DK4	T-5½	Diode	5BQ	25	0.150	H-W Rect.	....	117 A.C. Volts, RMS, 90 Ma. D.C. Output. (Condenser Input to Filter.)									
25DN6	T-12	Beam Pent.	5BT	25.0*	0.600	Horiz. Defl. Amplifier	16.5	Peak Positive Pulse Plate Voltage = 6600 Volts Max. D.C. Cathode Current = 200 Ma. (25DN6 Designed for Series String TV Receivers.)									
25DQ6A	T-12	Beam Pent.	6AM	25*	0.300	Horiz. Defl. Amplifier	16.5	Characteristics Same as Type 6DQ6A. (25DQ6A Designed for Series String Receivers.)									
25DT5	T-6½	Beam Pent.	9HN	25*	0.300	Vert. Defl. Amplifier	9.0	Characteristics Same as Type 6DT5. (25DT5 Designed for Series String Operation.)									
25EH5	T-5½	Beam Pent.	7CV	25	0.300	S.T. A1 Amp.	5.5	Characteristics Same as Type 6EH5.									
25L6GT	T-9	Beam Pent.	7S	25.0	0.300	Power Amp. P-PA[1] Amp.	11	110 200	7.5 180■	110 125	49.0 46	4.0 2.2	13000 28000	8000 8000	....	2000 4000	2100 3800
25W4GT	T-9	Diode	4CG	25.0	0.300	H-W Rect.	3.85	350 A.C. Volts RMS, 125 Ma. D.C. Output. Condenser Input to Filter.									
25W6GT	T-9	Beam Pent.	7S	25.0	0.300	Power Amp.	11	110 225	7.5 30	110	50 22	4.0 Tri. Conn.	13000 1600	8000 3800	.... 6.2	2000	2100 ....
25Z5	ST-12	Duodiode	6E	25.0	0.300	Doubler	....	Characteristics Same as Type 25Z6GT.									
25Z6GT	T-9	Duodiode	7Q	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.									
27GB5	Magnoval T-9	Beam Pent.	9HN	27	0.300	Horiz. Defl. Amplifier	17	Characteristics and Ratings Same as Type 6GB5. (27GB5 Designed for Series String Receivers.)									
28D7	Lock-in	Duo. Beam Pentode	8BS	28.0	0.400	Amplifier (per section)	3.0	28	390■	28	9.0	0.7	....			4000	80
28D7W (3)						P.P. A2 Total		28	3.5	28	12.5	1.0	4200	3400	....	4000	100
GB-28D7W (3)								28	0	28	64.0	4.0	....	....	....	1500¶	600
28GB5	Magnoval T-9	Beam Pent.	9HN	28	0.300	Horiz. Defl. Amplifier	17	Characteristics and Ratings Same as Type 6GB5.									
32ET5	T-5½	Beam Pent.	7CV	32	0.100	Power Amp.	5.4	110	7.5	110	30	2.8	21500	5500	....	2800	1200
EL34/6CA7	T-10 (SP)	Beam Pent.	8ET	6.3	1.500	S.T. A1 Amp. P.P.AB1 Amp.	27.5	250 430	13.5 235■	250 425	100 126-140†	15 10-15†	15000 Ultra-Linear Circuit	11000	....	2000 6600	11000 37000
GZ34	T-11	Duodiode	5L	5.0♦	1.900	F-W Rect.	....	Characteristics and Ratings Same as Type 5AR4.									
34GD5	T-5½	Beam Pent.	7CV	34	0.100	S.T. A1 Amp.	5.0	110	7.5	110	35	3	13000	5700	....	2500	1300
35A5	Lock-in	Beam Pent.	6AA	35.0	0.150	Power Amp.	9.35	110 200	7.5 180■	110 110	40.0 43.0	3.0 2.0	14000 34000	5800 6100	....	2500 5000	1500 3000
35B5	T-5½	Beam Pent.	7BZ	35.0	0.150	Power Amp.	4.95	110	7.5	110	40.0	3.0	....	5800	....	2500	1500
35C5	T-5½	Beam Pent.	7CV	35.0	0.150	Power Amp.	4.95	110	7.5	110	40	3.0	....	5800	....	2500	1500
35CD6GA	T-12	Beam Pent.	5BT	35.0*	0.450	Horiz. Defl. Amplifier	22	Characteristics Same as Type 6CD6GA. (35CD6GA Designed for Series String TV Receivers.)									

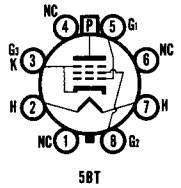


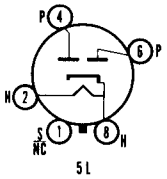


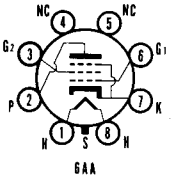


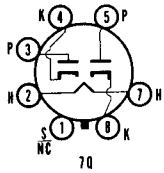


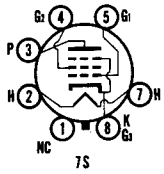


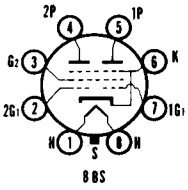


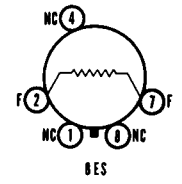


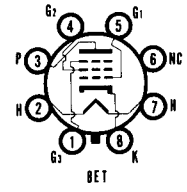


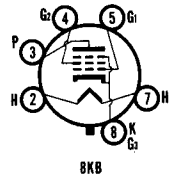


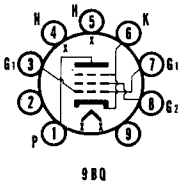


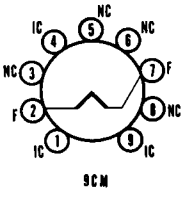








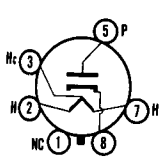


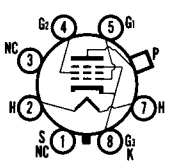


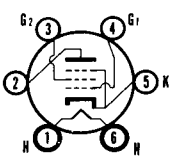
AVERAGE CHARACTERISTICS

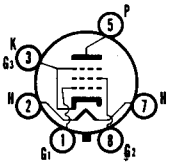
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
35DZ8	T-6½	Tri. Beam Pentode	9EX	35	0.150	A-F Voltage Amp. and Power Amp.	.825 7.15	Characteristics Same as Type 6DZ8. (35DZ8 Designed for Series String Receivers.)									
35EH5	T-5½	Beam Pent.	7CV	35	0.150	A-F Pwr. Amp.	5.5	Characteristics Same as Type 6EH5.									
35GL6	T-5½	Beam Pent.	7FZ	35	0.150	S.T. A1 Amp.	5.5	110	7.5	110	45-47†	3-9†	12000	7500	....	2500	1800
35HB8	T-6½	Triode Beam Pent.	9ME	35	0.150	Voltage Amp. S.T. A1 Amp.	.75 6.5	Characteristics Same as Type 18HB8.									
35L6GT	T-9	Beam Pent.	7S	35.0	0.150	Power Amp.	9.35	110 200	7.5 8.0	110 110	40.0 43.0	3.0 2.0	14000 34000	5800 6100	....	2500 5000	1500 3000
35W4	T-5½	Diode	5BQ	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.									
35Y4	Lock-in	Diode	5AL	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.									
35Z3	Lock-in	Diode	4Z	35.0	0.150	H-W Rect.	....	235 Max. A.C. Volts Per Plate, RMS, 100 Ma. Output Current. Condenser Input to Filter.									
35Z5GT	T-9	Diode	6AD	35.0	0.150	H-W Rect.	....	Characteristics Same as Type 35Y4.									
36AM3	T-5½	Diode	5BQ	36	0.100	H-W Rect.	....	117 A.C. Volts, RMS, 75 Ma. Capacitor Input to Filter.									
36AM3A	T-5½	Diode	5BQ	36	0.100	H-W Rect.	....	120 A.C. Volts Per Plate, RMS, 75 Ma. Condenser Input to Filter.									
EL37	Curved Bulb	Beam Pent.	7S	6.3	1.400	S.T. A1 Amp. P.P.AB1 Amp.	....	250 400	13.5 36	250 400	100 100-276†	13.5 12-72†	13500	11000	....	2500 3250¶	11500 69000
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.									
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.									
40FR5	T-5½	Power Pent.	7CV	40	0.100	A-F Power Amplifier	5.2	110 115	7.5 180■	110 115	32 34	3 7	20000	6000	....	2800 3200	1500 1300
41	ST-12	Power Pent.	6B	6.3	0.400	Power Amp.	9.35	Characteristics Same as Type 6K6GT.									
42	ST-14	Power Pent.	6B	6.3	0.700	Power Amp.	12.1	Characteristics Same as Type 6F6G.									
43	ST-14	Power Pent.	6B	25.0	0.300	Power Amp.	5.83	Characteristics Same as Type 25A6GT.									
45	ST-14	Triode	4D	2.5♦	1.500	Power Amp.	11	180 250 275	31.5 50.0 56.0	....	31.0 34.0 36.0	... ...	1650 1610 1700	2125 2175 2050	3.5 3.5 3.5	2700 3900 4600	830 1600 2000
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.									
50A5	Lock-in	Beam Pent.	6AA	50.0	0.150	Power Amp.	11	110 200	7.5 8.0	110 110	49.0 50.0	4.0 1.5	13000 28000	8000 8000	....	2000 4000	2100 3800
50AX6G	ST-14	Duodiode	7Q	50.0	0.300	F-W Rect.	....	Characteristics Same as Type 6AX6G.									
50B5	T-5½	Beam Pent.	7BZ	50.0	0.150	Power Amp.	6.6	120	8	110	49	4.0	10000	7500	....	2500	2300
50BK5	T-6½	Beam Pent.	9BQ	50.0	0.150	Power Amp.	9.9	250	5.0	250	35	3.5	0.1 Meg.	8500	....	6500	3500
50BM8	T-6½	Tri. Pentode	9EX	50	0.100	A-F Tri. Amp. Power Amp.	1.1 7.7	100 100 200	0 6 16	.... 100 200	3.5 26 35	... 5 7	28000 15000 20000	2500 6800 6400	70	.... 3900 5600	.... 1050 3500
50C5	T-5½	Beam Pent.	7CV	50.0	0.150	Power Amp.	6.6	120	8	110	49.	4.0	10000	7500	....	2500	2300
50CA5	T-5½	Beam Pent.	7CV	50	0.150	Power Amp.	5.5	Characteristics Same as Type 6CA5.									
50DC4	T-5½	Diode	5BQ	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.									
50EH5	T-5½	Beam Pent.	7CV	50	0.150	S.T. A1 Amp.	5.5	Characteristics Same as Type 6EH5.									
50FA5	T-5½	Beam Pent.	7CV	50	0.150	S.T. A1 Amp.	5.2	110	7.5	110	40	3	13000	5800	....	2500	1500
50FE5	T-6½	Beam Pent.	8KB	50	0.150	S.T. A1 Amp. P.P. AB1 Amp.	14.5	Characteristics Same as Type 6FE5.									
50FK5	T-5½	Power Pent.	7CV	50	0.100	S.T. A1 Amp.	5.0	110	62■	110	32	8.5	14000	12800	....	3000	1200

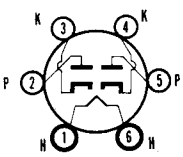
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

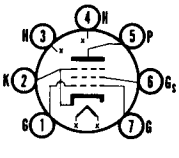


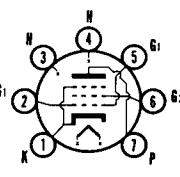


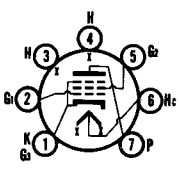


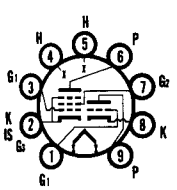


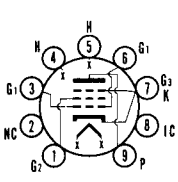


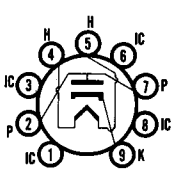


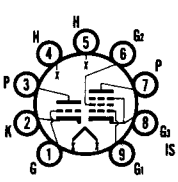


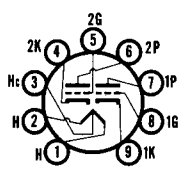






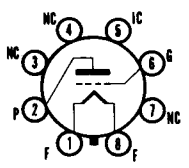


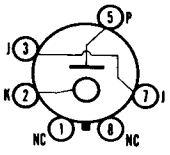


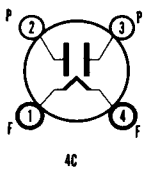


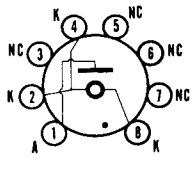
SYLVANIA TUBES

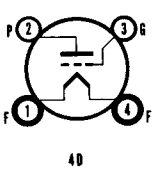
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transcon-ductance Micros.	Ampli-fication Factor	Ohms Load for Stated Power Output	Power Output Milli-watts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
50FY8	T-6½	Tri. Beam Pentode	9EX	50	0.150	Tri. Volt. Amp.	1.0	125	1.5	....	2.5	....	17000	2700	46	....	....
						Pent. S.T.A1 A.	1.0	125	120■	125	70-66†	10-19†	5000	7500	....	2000	3000
						Pent. P.P.A1 A.		125	62■	125	Output Obtained in Simplex Circuit.					4000¶	6000
50HC6	T-5½	Pentode	7FZ	50	0.150	S.T. A1 Amp.	5.5	110	62■	115	42	11.5	11000	14600	....	3000	1.4
50L6GT	T-9	Beam Pent.	7S	50.0	0.150	Power Amp.	11	Characteristics Same as Type 25L6GT.									
50X6	Lock-in	Duodiode	7DX	50.0	0.150	H-W Rect.	....	235 Volts RMS Per Plate, 75 Ma. D.C. Output Per Plate.									
						Doubler		117 Volts RMS Per Plate, 75 Ma. D.C. Output.									
50Y6GT	T-9	Duodiode	7Q	50.0	0.150	F-W Rect.	....	Characteristics Same as Type 25Z6GT.									
50Y7GT	T-9	Duodiode	8AN	46.0	0.150	Doubler	....	117 A.C. Volts, RMS, 65 Ma. Output with Panel Lamp.									
						H-W Rect.		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.									
60E3	T-5½	Diode	60E3	60	0.150	H-W Rect.	....	117 Volts, RMS, 110 Ma. D.C. Output. Condenser Input.									
60FX5	T-5½	Pentode	7CV	60	0.100	S.T. A1 Pwr. Amplifier	5.5	110	62■	115	36-35	10-12	17500	13500	....	3000	1300
KT66	Curved Bulb	Beam Pent.	7S	6.3	1.270	S.T.A1 Amp.	....	250	15	250	85	6.3	22500	6300	....	2200	7250
						P.P.AB1 Amp.		450	250■	415	105-125†	5-18†	....	....	....	8000¶	30000
75	ST-12	Duodiode Tri.	6G	6.3	0.300	Det. Amp.	....	250	2.0	....	0.9	...	91000	1100	100	....	....
78	ST-12	Pentode	6F	6.3	0.300	R-F Amp.	3.0	90	3.0	90.0	5.4	1.3	300000	1275	....	....	....
								180	3.0	75.0	4.0	1.0	1 Meg.	1100	....	....	.....
								250	3.0	100	7.0	1.7	800000	1450	....	....	....
80	ST-14	Duodiode	4C	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.									
83	ST-16	Duodiode	4C	5.0	3.00	F-W Rect.	....	450 A.C. Volts Per Plate, RMS, 225 Ma. Output Current. Condenser Input to Filter.									
84/6Z4	ST-12	Duodiode	5D	6.3	0.500	F-W Rect.	....	325 A.C. Volts Per Plate, RMS, 60 Ma. Output Current. Condenser Input to Filter.									
EL84/6BQ5	T-6½	Beam Pent.	9CV	6.3	0.760	Power Amp.	13.2	Characteristics Same as Type 6BQ5.									
EL86	T-6½	Beam Pent.	9CV	6.3	0.760	A-F Pwr. Amp.	13	Characteristics Same as Type 6CW5.									
EF86/6267	T-6½	Pentode	9CQ	6.3	0.200	A-F Amp.	1.1	250	2.0	140	3.0	0.6	2.5 Meg.	1800	....	....	....
KT88	ST-16	Beam Pent.	7S	6.3	1.800	P.P.AB1 Amp.	....	450	65	450	100-240†	(Plate and Grid No. 2 Current.) Ultra-Linear Circuit				3800¶	65000
VR-90-105-150								Now Listed as OB3, OC3 and OD3.									
117L7/M7GT	T-9	Diode Beam Pentode	8AO	117	0.090	H-W Rect.	6.6	117 A.C. Volts, RMS, 75 Ma. Output Current. Condenser Input to Filter.									
						Power Amp.		105	5.2	105	43	4.0	17000	5300	....	4000	850
117Z6GT	T-9	Duodiode	7Q	117	0.075	Voltage Dblr.	....	117 A.C. Volts Per Plate, RMS, 60 Ma. Output Current.									
407A GB-407A (3)	T-6½	Duotriode	407A	40	0.050	Amplifier	1.35	150	240■	....	8.2	...	6370	5500	....	....	....
				20	0.100												
408A GB-408A (3)	T-5½	Pentode	7BD	20	0.050	Amplifier	1.7	120	200■	120	7.0	2.2	340000	5000	....	....	....
417A	T-6½	Triode	9V	6.3	0.300	UHF R-F Amp.	4.0	Characteristics Same as Type 5842.									
807	ST-16	Beam Pent.	5AW	6.3	0.900	P.P.AB1 Amp.	25	400	45	....	60-140†	...	(Current, Output for 2 Tubes)			3000	15000
807W (3)	T-12					P.P.AB2 Amp.		400	25	300	90-240†	2.15†	(Current, Output for 2 Tubes)			3200	55000
						P.P.AB2 Amp.		600	30	300	60-200†	0.7-16†	(Current, Output for 2 Tubes)			6400	80000
884	ST-12	Gas Triode	6Q	6.3	0.600	Relay Tube	....	300	30	....	75	For Relay Operation Limit Time to 30 Secs. 300 Ma. Pe Current. 16 Volt Tube Drop.					
FM1000	Lock-in	Heptode	FM 1000	6.3	0.300	F-M Det.	....	....	....	....	....	....	....	....	....	....	....
1216 (3) GB-1216 (3)	T-5½	Duotriode	7BF	6.3	0.300	Computer	0.55	100	470■	....	4.8	...	7950	3400	27	....	....
								150	0	....	4.8 Min.	Plate Res. = 20K Ohms.	Grid Res. = 47K Ohms.				
								150	10	....	0.1 Max.	Plate Res. = 20K Ohms.	Grid Res. = 47K Ohms.				
1217 (3) GB-1217 (3)	T-5½	Heptode	7CH	6.3	0.300	Dual-Control Computer	1.0	67.5	0	67.5	Grid No. 3 = 0 Volts		2400	....	....	....	....
								67.5	4	67.5	Grid No. 3 = 0 Volts		1700	....	....	....	....
								150	0	75	5.8	9	Rb=20K, RG[3]=47K, RG[1]=47K, RG[2-4]=470 Ohms				
1221	ST-12	Pentode	6F	6.3	0.300	Amplifier	.825	Special Non-Microphonic Tube, Characteristics Same as Type 6C6.									

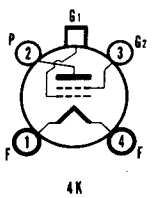


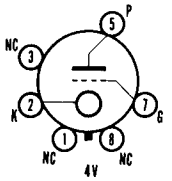


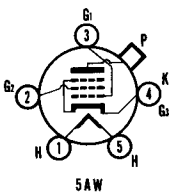


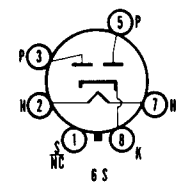


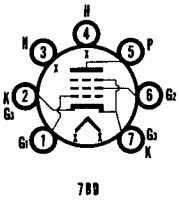


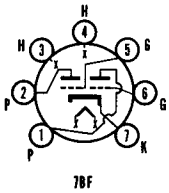


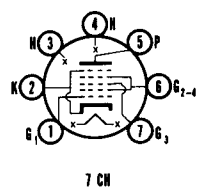


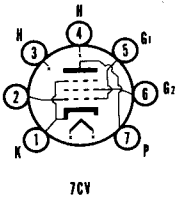


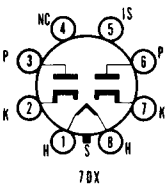


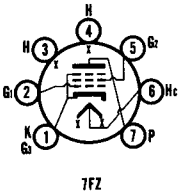


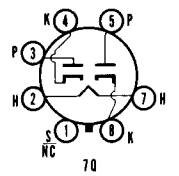


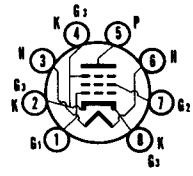


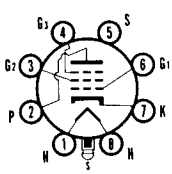


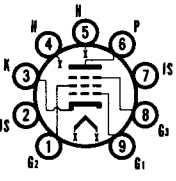


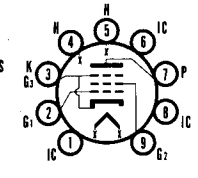


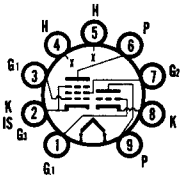


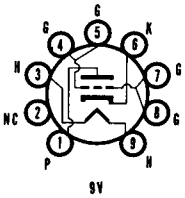


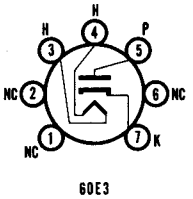


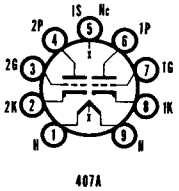








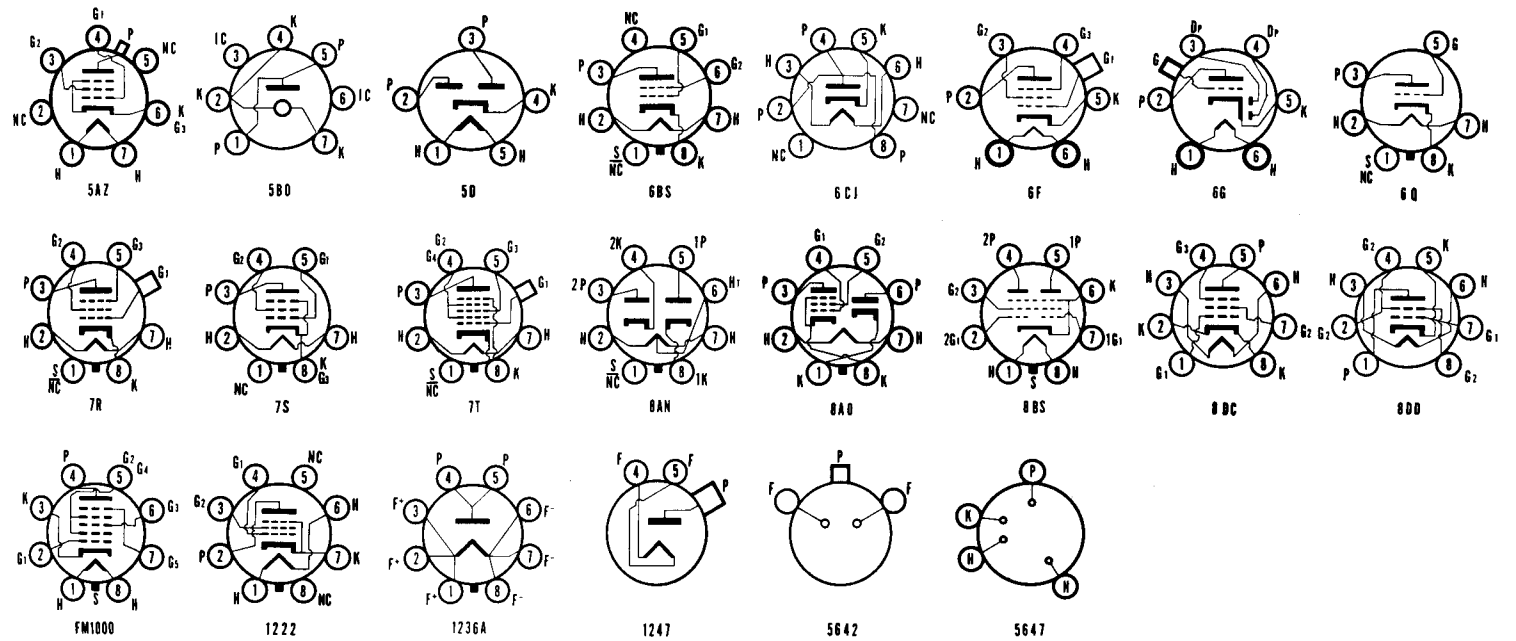




AVERAGE CHARACTERISTICS

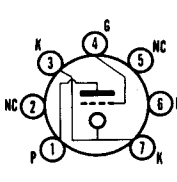
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
1222A	ST-14	Beam Pent.	1222	6.3	0.900	Power Amp.	20.9	Characteristics Similar to Type 6L6GA.									
1223	ST-12	Pentode	7R	6.3	0.300	Amplifier	.825	"G" Equivalent of Type 1221 Above.									
1229	ST-12	Tetrode	4K	2.0♦	0.060		....	Special Type 32. Made for Low Grid Current Application.									
1230	T-9	Triode	4D	2.0♦	0.060		....	Special Type 30. Made for Low Grid Current Applications.									
1231	Lock-in	Pentode	8V	6.3	0.450	R-F Amp.	....	300	200■	150	10.0	2.5	700000	5500	3850	....	....
						Tet. Amp.		300	200■	150	12.0	0.5	540000	6500	3500	....	....
1232	Now Known as Type 7G7.																
1236A	T-9	Diode	1236A	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.									
1238	Lock-in	Duo. Beam Amplifier	8BS	28.0	0.400	Amplifier	3.3	Characteristics Similar to 28D7.									
1247	T-3	Diode	1247	0.7♦	0.065	R-F Probe	....	300 A.C. Volts RMS, 0.4 Ma. D.C. Plate Current.									
1265	ST-12	Diode	4AJ	....	....	Voltage Reg.	....	Starting Voltage = 135, Operating Voltage = 90, Operating Current = 5 to 30 Ma.									
1266	T-9	Diode	4AJ No Jumper	....	....	Regulator	....	Voltage Regulator Similar to Type OB3/VR-90-30, Except Regulating at 70 Volts.									
1267	T-9	Gas Triode	4V	....	....	Relay Tube	....	Similar to Type OA4G.									
1273	Lock-in	Pentode	8V	6.3	0.300	Amplifier	1.1	Characteristics Same as Type 7C7 (Special Non-Microphonic Tube).									
1274	T-9	Duodiode	6S	6.3	0.600	F-W Rect.	....	Characteristics Same as Type 7Y4.									
1275	ST-16	Duodiode	4C	5.0♦	1.750	F-W Rect.	....	Similar to Type 5Z3.									
1276	ST-16	Triode	4D	4.5♦	1.140	Power Amp.	16.5	Similar to Type 6A3.									
1280	Lock-in	Pentode	8V	12.6	0.150	Amplifier	1.1	Characteristics Same as Type 14C7 (Special Non-Microphonic Tube).									
1284	Lock-in	Pentode	8V	12.6	0.150	R-F Amp.	....	250	3	100	9.0	2.5	800000	200	....	....	....
1291	Now Known as Type 3B7.																
1293	Lock-in	Triode	4AA	1.4♦	0.110	Oscillator	....	90	0	....	5.2	....	....	1500	15	....	....
								90	20	....	13.25	120 Mc. Oscillator Rg = 10000 Ohms.					
1294	Now Known as Type 1R4																
1299	Now Known as Type 3D6.																
1612	Metal	Heptode	7T	6.3	0.300	Mixer Amp.	1.65	Characteristics Same as Type 6L7.									
1614	T-10 Sp.	Beam Pent.	7S	6.3	0.900	P.P.AB1 Amp.	21	360	22.5	270	88-132†	15†	....	....	....	6600	26500
								530	36	340	60-160†	20†	....	....	....	7200	50000
1625	ST-16	Beam Pent.	5AZ	12.6	0.450	P.P.AB1 Amp. P.P.AB2 Amp.	25	Characteristics Same as Type 807.									
2050 2050A	ST-12	Gas Tetrode	6BS	6.3	0.600	Relay Tube	....	400	5.0	0	100	For Relay Operation Limit Time to 30 Seconds.					
								220	4.0	0	75	1 Amp. Peak Current, 8 Volts Tube Drop.					
5636 (3)	T-3	Pentode	8DC	6.3	0.150	Mixer	1.1	100	150■	100	3.6	5.3	320000	1280▲	....	....	....
5639 (3)	T-3	Beam Pent.	8DL	6.3	0.450	Power Amp.	4.0	150	100■	100	21	4	50000	9000	....	....	1000
5641 (3)	T-3	Diode	6CJ	6.3	0.450	H-W Rect.	....	117 A.C. Volts Per Plate, RMS, 48 Ma. D.C. Output. Condenser Input to Filter. 235 A.C. Volts Per Plate, RMS, 45 Ma. D.C. Output. Condenser Input to Filter.									
5642	T-3	Diode	5642	1.25♦	0.200	H-W Rect.	....	Pulse Type Rectifier for Television Service, 10000 Volts Peak Inverse.									
5643 (3)	T-3	Gas Tetrode	8DD	6.3	0.150	Relay Tube	....	150	5 A.C.	0	16	(Grid Bias Voltage 180°, Out of Phase with Anode Voltage.)					
5644 (3)	T-3	Gas Diode	4CN	....	....	Voltage Reg.	....	Starting Voltage at 130, Operating Voltage 95, Operating Current 5 to 25 Ma.									
5647 (3)	T-1	Diode	5647	6.3	0.150	Detector	....	117 Volts, RMS Plate, 9 Ma. D.C. Output.									
5651 5651WA (3)	T-5½	Gas Diode	5BO	....	....	Volt. Ref.	....	Starting Voltage = 115 Volts Max. Operating Voltage = 92 Volts Max. Operating Current = 3.5 Ma. Max.									
5654/6AK5W(3) 5654/6AK5W/6096 GB-5654(3)	T-5½	Pentode	7BD	6.3	0.175	VHF Amp.	1.65	120	200■	120	7.5	2.5	340000	5000	....	....	....

(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

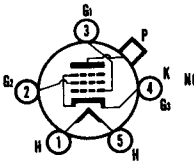


SYLVANIA TUBES

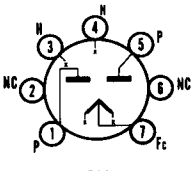
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
5670(3) GB-5670(3) 5670WA(3)	T-6½	Duotriode	8CJ	6.3	0.350	VHF Amp.	1.35	150	240■	....	8.2	...	6370	5500	35	....	....
5686	T-6½	Beam Pent.	9G	6.3	0.350	Power Amp.	8.25	250	12.5	250	27	5.0	....	3100	....	9000	2700
5687 (3) GB-5687 (3)	T-6½	Duotriode	9H	6.3 12.6	0.900 0.450	Amplifier	4.2	250 180	12.5 7.0	....	12 23	...	3000 2000	5400 8500	16 17	....	....
5691	T-9	Duotriode	8BD	6.3	0.600	A-F Amp.	1.0	250	2	....	2.3	...	44000	1600	70	....	....
5692	T-9	Duotriode	8BD	6.3	0.600	A-F Amp.	1.75	250	9	....	6.5	...	9100	2200	20	....	....
5693	Metal	Pentode	8N	6.3	0.300	A-F Amp.	2.0	250	3	100	3.0	0.85	....	1650	....	....	....
5702 5702WA (3) 5702WB (3)	T-3	Pentode	5702	6.3	0.200	VHF Amp.	....	120	200■	120	7.5	2.5	340000	5000	....	....	....
5703 5703WA (3) 5703WB (3)	T-3	Triode	5703	6.3	0.200	VHF Osc.	3.3	120	220■	....	9.0	...	....	5000	25	....	....
5704 (3)	T-2	Diode	5704	6.3	0.150	VHF Det.	3.3	150 Volts, RMS Plate, 9 Ma. D.C. Output Current.									
5718 (3)	T-3	Triode	8DK	6.3	0.150	UHF Amp.	3.3	100 150	150■ 180■	....	8.5 13.0	... ...	4650 4150	5800 6500	27 27	....	....
5719 (3)	T-3	Triode	8DK	6.3	0.150	UHF Amp.	.55	150	680■	....	1.85	...	30500	2300	70	....	....
5722 (3)	T-5½	Diode	5CB	4.9♦	1.600	Noise Diode	....	200	For Noise Generator Service Ib 35 Ma. Max.								
5725 (3) GB-5725 (3) 5725/6AS6W(3)	T-5½	Pentode	7CM	6.3	0.175	Mixer	1.65	120	2	120	5.2	3.5	3200	....	....	....	....
5726/6AL5W(3) GB-5726 (3) 5726/6AL5W/6097(3)	T-5½	Duodiode	6BT	6.3	0.300	Rectifier	....	117 Volts, RMS Plate, 9 Ma. D.C. Output Current Per Plate.									
5744	T-3	Triode	5744	6.3	0.200	A-F Amp.	....	250	500■	....	4	...	....	4000	70	....	....
5749/6BA6W(3) GB-5749	T-5½	Pentode	7BK	6.3	0.300	R-F Amp.	3.3	100 250	68■ 68■	100 100	10.8 11.0	4.4 4.2	250000 1.0 Meg.	4300 4400	....	....	....
5750 (3) 5750/6BE6W(3) GB-5750 (3)	T-5½	Heptode	7CH	6.3	0.300	Converter	1.1	Characteristics Same as Type 6BE6.									
5751WA (3) 5751 (3) GB-5751 (3)	T-6½	Duotriode	9A	6.3 12.6	0.350 0.175	A-F Amp.	0.8	Characteristics Same as Type 12AX7.									
5783	T-3	Gas Diode	5783	....	....	Voltage Reg.	....	Starting Voltage at 115 Volts. Operating Voltage 85. Operating Current 1.5 to 3.5 Ma.									
5784	T-3	Pentode	5784	6.3	0.200	Amplifier	1.87	120	2	120	5.2	3.5	....	3200	....	....	....
5785	T2x3	Diode	5785	1.25♦	0.015	H-W Rect.	....	1235 Volts, RMS Plate, 100 μa D.C. Output Current.									
5787	T-3	Gas Diode	5783	....	....	Voltage Reg.	....	Starting Voltage at 135 Volts. Operating Voltage 100. Operating Current 5 to 25 Ma.									
5814 (3) GB-5814A (3) 5814WA (3)	T-6½	Duotriode	9A	6.3/ 12.6	0.350/ 0.175	Class A Amplifier	3.0	100 250	0 8.5	....	11.8 10.5	... ...	6250 7700	3100 2200	19.5 17.0	....	....
5823	T-5½	Gas Triode	4CK	....	....	Relay Tube	....	Peak Cathode Ma. = 100 Max. D.C. Cathode Ma. = 25 Max. Starter Anode Volt Drop = 61 Volts. Anode Drop = 62 Volts.									
5824 (3)	ST-14	Beam Pent.	7S	25.0	0.300	Power Amp.	13.7	135	22	135	61	2.5	15000	5000	....	1700	4300
5840 (3)	T-3	Pentode	8DL	6.3	0.150	R-F Amp.	1.1	100	150■	100	7.5	2.4	260000	5000	....	....	....
5842 (3)	T-6½	Triode	9V	6.3	0.300	UHF R-F Amplifier	4.0	150	62■	....	26	...	1800	24000	43	....	....
5844 (3) GB-5844 (3)	T-5½	Duotriode	7BF	6.3	0.300	Computer	1.0	100	470■	....	4.8	...	7550	3700	28	....	....
5845	T-5½	Duodiode	5CA	5.0♦	0.435	Control Diode	....	300max.	...	....	2.0max.	...	....	....	....	....	....



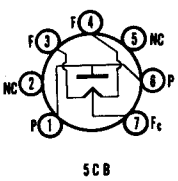
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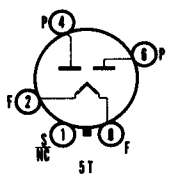
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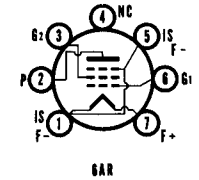
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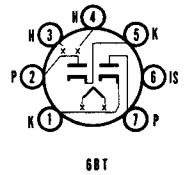
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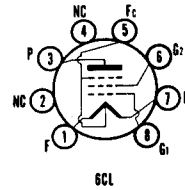
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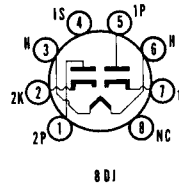
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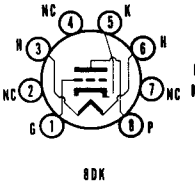
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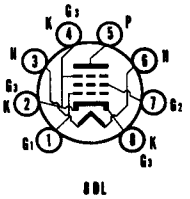
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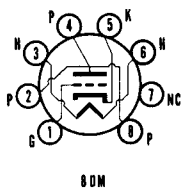
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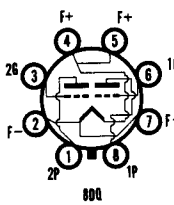
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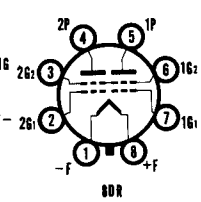
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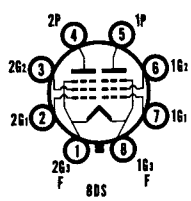
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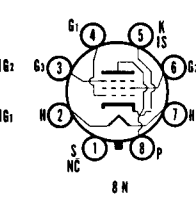
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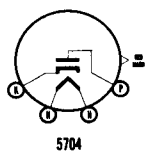
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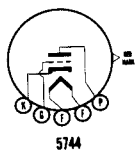


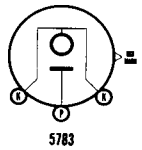
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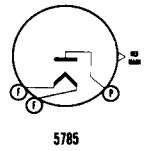


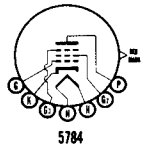
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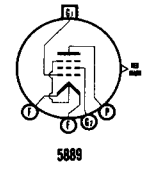

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5744


5783


5785


5784

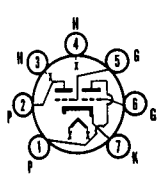


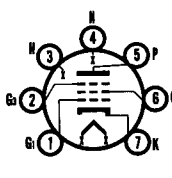
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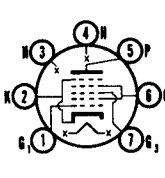
AVERAGE CHARACTERISTICS

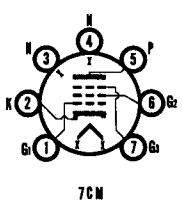
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
5847 (3)	T-6½	Pentode	9X	6.3	0.300	R-F Amp.	3.3	150	110■	150	13	4.5	....	12500	....	....	....
5851	T-3	Pentode	6CL	1.25♦ 2.50♦	0.110 0.055	R-F Amp.	1.65	125 180	7.5 7.0	125 135	5.5 ...	0.9 ...	175000	1600	....	....	650
5871	T-9	Beam Pent.	7S	6.3	0.450	Power Amp.	13.2	Characteristics Same as Type 6V6GT.									
5879	T-6½	Pentode	9AD	6.3	0.150	A-F Amp.	1.37	250 250	3 8	100	1.8 Triode Connected	0.4	2000000 13700	1000 1530	 21	....	....
5881	T-11	Beam Pent.	7S	6.3	0.900	Power Amp.	25.3	Characteristics Same as Type 6L6G.									
5889	T-3	Pentode	5889	1.25♦	7.5 Ma	Amplifier	....	12	2.0	....	.005	.005	1.8 Meg.	(For Low Grid Current Applications.)			
5896 (3)	T-3	Duodiode	8DJ	6.3	0.300	F-W Rect.	....	150 Volts, RMS Per Plate, 18 Ma. D.C. Output Current.									
5899 (3)	T-3	Pentode	8DL	6.3	0.150	R-F Amp.	1.1	100	120■	100	7.2	2.2	260000	4500	....	....	1000
5902 (3)	T-3	Pentode	8DL	6.3	0.450	Power Amp.	4.0	110	270■	110	30	2.2	15000	4200	....	....	
5903 (3)	T-3	Duodiode	8DJ	26.5	0.075	UHF Det.	....	PIV = 460 Volts, PKIb = 60 Ma., Ib = 10 Ma. and EHK = 360 Volts.									
5904 (3)	T-3	Triode	8DK	26.5	0.045	UHF Osc./ Amp.	....	26.5	2.2 Meg[4]	....	3.0	...	4000	5000	20	....	....
5905 (3)	T-3	Pentode	8DL	26.5	0.045	UHF Amp.	....	26.5	2.2 Meg[4]	26.5	2.1	0.75	150000	2850	....	....	....
5906 (3)	T-3	Pentode	8DL	26.5	0.045	UHF Amp.	1.1	100	150■	100	7.5	2.4	260000	5000	....	....	....
5907 (3)	T-3	Pentode	8DL	26.5	0.045	UHF Amp.	....	26.5	2.2 Meg[4]	26.5	2.7	1.1	100000	3000	....	....	....
5908 (3)	T-3	Pentode	8DC	26.5	0.045	UHF Amp.	....	26.5	2.2 Meg[4]	26.5	3.3	2.0	31000	2200	....	....	....
5910 (3)	T-5½	Pentode	6AR	1.4♦	0.050	R-F Amp.	....	90	0	90	1.6	0.45	1500000	900	....	....	....
5915 (3) 5915A (3) GB-5915A (3)	T-5½	Dual Control Heptode	7CH	6.3	0.300	Computer	1.0	150 150 150	0 10.0 0	75 75 75	5.8 0 0	9.0 0 14.0	Grid No. 3 Voltage = 0 Rb = 20K Ohms Grid No. 3 Voltage = 0 Grid No. 3 Voltage = −10				
5916 (3)	T-3	Pentode	8DC	26.5	0.045	Dual-Control Mixer	1.1	100	150■	100	5.3	3.6	110000	3200	....	....	....
5931 (3) GB-5931 (3)	T-12	Duodiode	5T	5.0♦	3.000	F-W Rect.	....	Characteristics Same as Type 5U4G.									
5932 (3) GB-5932 (3)	T-12	Beam Pent.	7S	6.3	0.900	Power Amp.	2.2	Characteristics Same as Type 6L6G.									
5933 (3) 5933WA (3) GB-5933 (3)	T-12	Beam Pent.	5AW	6.3	0.900	Power Amp.	25	Characteristics Same as Type 807W.									
5963 (3) GB-5963 (3)	T-6½	Duotriode	9A	6.3 12.6	0.300 0.150	Computers	2.5	67.5 150	0 0	....	8.5 5.4	... ...	6600 (Rb = 20000 Ohms)	3200	21	....	....
5964 (3) GB-5964 (3)	T-5½	Duotriode	7BF	6.3	0.450	Computers	1.5	100 150	50■ 0	....	9.5 5.0	... ...	6500 (Rb = 20000 Ohms)	6000	39	....	....
5965A GB-5965 (3)	T-6½	Duotriode	9A	6.3/ 12.6	0.450/ 0.225	Computer	2.4	150	220■	....	8.5	...	7000	6700	47	....	....
5968	T-3	Duotriode	8DQ	1.25♦	0.120	VHF Mixer	....	45	0	....	0.7	...	....	1300	50	....	....
5969	T-3	Duotetrode	8DR	1.25♦	0.200	VHF Amp. or VHF Osc.	0.96	135 Class A Ratings	3.0	45	6.0	0.6	....	1700	....	....	....
5970	T-3	Duo. Pentode	8DS	1.25♦	0.160	VHF Amp.	....	45	5 Meg.[4]	45	3.0	0.9	170000	1850	....	....	....
5977 (3)	T-3	Triode	8DK	6.3	0.150	Amplifier	3.3	100	270■	....	10.0	...	3650	4500	16	....	....
5987 (3)	T-3	Triode	8DM	6.3	0.450	Amplifier	4.0	100	18	....	9.0	...	....	1850	4.1	....	....
5998A	T-12	Duotriode	8BD	6.3	2.400	Passing Tube for V.R. Serv.	15	110	105■	....	100	...	350	15500	5.4	....	....

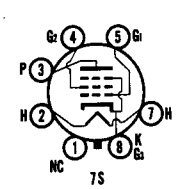
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

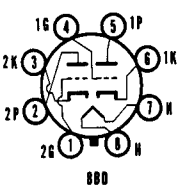

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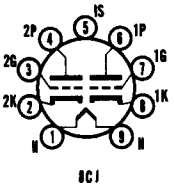

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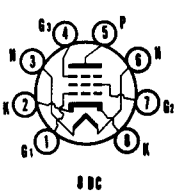

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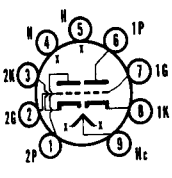

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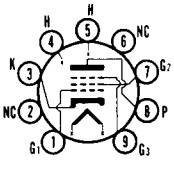

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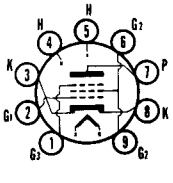

8BD

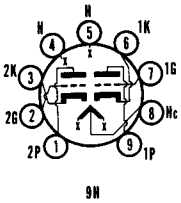

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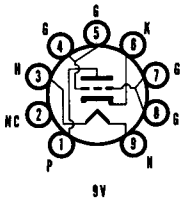

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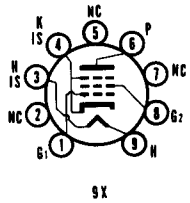

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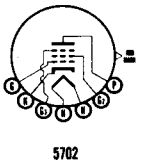

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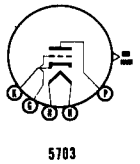

9G


9H


9V

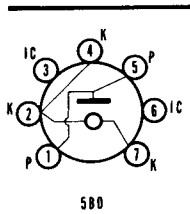

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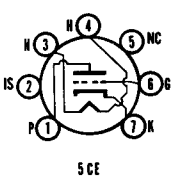

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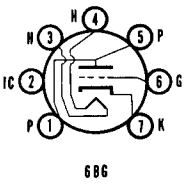

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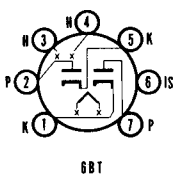
SYLVANIA TUBES

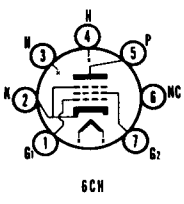
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6000	T-11	Beam Pent.	6CK	26.5	0.280	Class "C" Amp./Osc.	25	400 600	60 60	200 225	125 100	16 18	RG = 12000 Ohms, PK R-F = 75 V, IG1 = 5 Ma, Driving Power = 0.4 Watt, RG = 20K Ohms, PK. R-F = 75 V, IG1 = 3 Ma., Driving Pwr. = 0.23 Watts				28
6005 (3) GB-6005 (3) 6005/6AQ5W/6095(3) 6005/6AQ5W (3)	T-5½	Beam Pent.	7BZ	6.3	0.450	S.T. Class A1 S.T. Class A1 P.P. Class AB1	11	180 250 250	8.5 12.5 15	180 250 250	29. 45. 70-79†	3.0 4.5 5-13†	58000 52000 Current, Output for 2 Tubes	3700 4100	....	5500 5000 10000¶	2000 4500 10000
6021 (3)	T-3	Duotriode	8DG	6.3	0.300	UHF Amp.	1.1	100	150■	....	6.5	...	6480	5400	35		
6028	T-5½	Pentode	7BD	20	0.050	Amplifier	1.87	120	180■	120	7.5	2.5	300000	5000	....	....	....
GB-6080 6080	T-12	Duotriode	8BD	6.3	2.500	Passing Tube for V.R. Service	13	135	250■	....	200	...	280	7000	2	....	....
6082A	T-12	Duo Power Triode	8BD	26.5	0.600	Power Amp.	13	135	250■	....	125	...	280	7000	2	....	....
6097	T-5½	Duodiode	6BT	6.3	0.300	F-W Rect.	....	Characteristics Same as Type 5726/6AL5W.									
6101 (3) GB-6101	T-5½	Duotriode	7BF	6.3	0.450	VHF Osc./ Amp.	1.6	Characteristics Same as Type 6J6.									
6110 (3)	T-3	Duodiode	8DJ	6.3	0.150	UHF Det.	....	Peak Inverse Voltage = 460 Volts. Peak Anode Current = 26.4 Ma. Per Plate.									
6111 (3)	T-3	Duotriode	8DG	6.3	0.300	Med. Mu Amplifier	1.1	100	220■	....	8.5	...	4200	4750	20	....	....
6112 (3)	T-3	Duotriode	8DG	6.3	0.300	High Mu Amplifier	.55	100 150	1500■ 820■	....	0.8 1.75	... ...	38900 28000	1800 2500	70 70	....	....
6118 (3)	Metal	Duodiode Tri.	7V	6.3	0.300	Det. Amp.	....	100 250	1.0 3.0	....	0.8 1.0	... ...	58000 58000	1200 1200	70 70	....	....
6135 (3) GB-6135 (3)	T-5½	Triode	6BG	6.3	0.170	VHF Osc./ Amp.	3.8	Characteristics Same as Type 6C4.									
6145 GB-6145 (3)	Lock-in	Pentode	8V	6.3	0.600	Computer	11	150	0	100	34	8.0	0.1 Meg.	9700	....	....	....
6146	T-12	Beam Pent.	7CK	6.3	1.250	P.P.AB1 Amp. P.P.AB1 Amp. P.P.AB2 Amp.	20	600 500 600	45 44 44	180 175 165	26-200† 27-242† 22-207†	1-23† 0.7-18† 0.6-17†	(Current, Output for 2 Tubes) (Current, Output for 2 Tubes) (Current, Output for 2 Tubes)			7000¶ 4600¶ 6800¶	82000 83000 90000
6147	T-3	Power Pent.	6CL	1.25♦	0.125	VHF Power Amplifier	1.5	125	7.5	125	5.5	0.9	175000	1600	....	....	....
6186 6186 (3) 6186/6AG5WA(3) GB-6186 (3)	T-5½	Pentode	7BD	6.3	0.300	VHF Amp.	2.5	250	200■	150	7	2	....	5000	....	....	....
6187	T-5½	Pentode	6187	6.3	0.175	VHF Amp.	1.6	120	2.0	120	5.2	3.5	....	3200	....	....	....
6188	T-9	Duotriode	8BD	6.3	0.300	D.C. Amp.	1.1	250	2.0	....	2.3	...	44000	1600	70	....	....
6189 (3) 6189/12AU7WA(3) GB-6189 (3)	T-6½	Duotriode	9A	6.3 12.6	0.300 0.150	Osc./Amp.	3.0	Characteristics Same as Type 12AU7.									
6201 (3) GB-6201 (3)	T-6½	Duotriode	9A	6.3 12.6	0.300 0.150	VHF Amp.	2.5	Characteristics Same as Type 12AT7.									
6205 (3)	T-3	Pentode	8DC	6.3	0.150	UHF Amp.	1.1	100	150■	100	7.5	2.4	0.26 Meg.	5000	....	....	....
6206 (3)	T-3	Pentode	8DC	6.3	0.150	UHF Amp.	1.1	100	120■	100	7.5	2.0	0.26 Meg.	4500			
6211A	T-6½	Duotriode	9A	12.6/ 6.3	0.150/ 0.300	Computer	1.3	100	2.0	....	6.6	...	6500	4700	31	....	....
6308 (3)	T-3	Gas Diode	8EX	....	....	Voltage Reg.	....	Starting Voltage at 115 Volts. Operating Voltage at 87 Volts and Current at 3.5 Ma. Max.									
6336A	TT-16	Duo Power Triode	8BD	6.3	5.000	Passing Tube for V.R. Serv.	30	190	200■	....	182	...	300	13500	2.7	....	....
								RK = 200 Ohm Per Section, RG = 500 Ohm Per Section.									

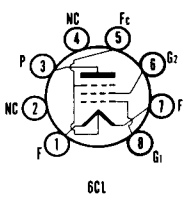


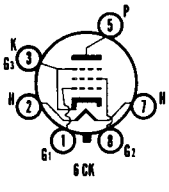


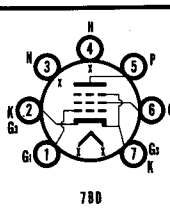


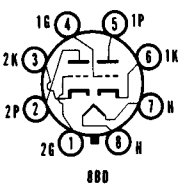


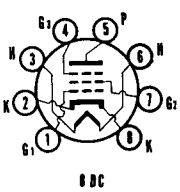


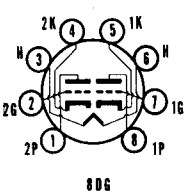


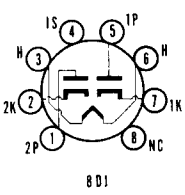


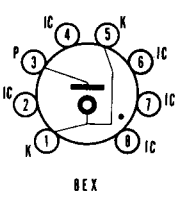


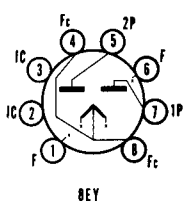


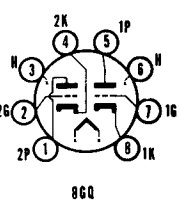


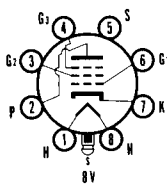








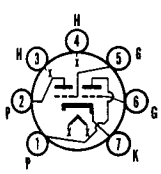


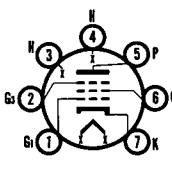


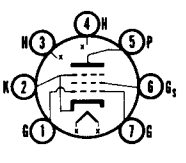
AVERAGE CHARACTERISTICS

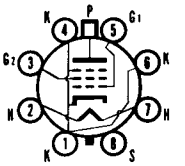
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6350 (3) GB-6350 (3)	T-6½	Duotriode	9CZ	6.3 12.6	0.600 0.300	Computer	3.85	150	5.0	....	11.0	...	3900	4600	18	....	....
6352 (3)	T-3	Duodiode	8EY	3.0♦ Series	0.360 Series	Regulator	....	Temperature Limited Diode. Max. Ef. = 4.0. Max. Eb. = 275. Max. Ib. = 1.1 Ma.									
6354	T-5½	Diode	7DU	....	....	Voltage Reg.	....	Starting Voltage at 180. Operating Volts 150. Operating Current 5 Ma. Min., 30 Ma. Max.									
6394A	TT-16	Duo Power Triode	8BD	26.5	1.300	Passing Tube for V.R. Serv.	30	Characteristics Same as Type 6336A.									
6463	T-6½	Duotriode	9CZ	6.3 12.6	0.600 0.300	Computer	4.4	200 250	11.0 620■	....	1.0 14.5	... ...	 3850	 5200	 20	....	....
6486A	T-6½	Pentode	9DV	6.3	0.250	Dual Control Pentode	2.0	120	2	120	3.5	3.3	....	3250	....	....	....
6516	T-5½	Beam Pent.	6CH	6.3	0.200	VHF/AF Power Amp.	5.2	250	13.5	250	16.0	2.25	150000	2550	....	16000	1400
6520	T-16	Duo Power Triode	8BD	6.3	2.500	Passing Tube for V.R. Serv.	15.4	Characteristics Same as Type 6AS7G.									
6528	ST-16	Duo Power Triode	8BD	6.3	5.000	Passing Tube for V.R. Serv.	30	100	4	....	185	...	245	37000	9	....	....
6550	ST-16	Beam Pent.	7S	6.3	1.600	S.T. A1 Amp. P.P.AB1 Amp.	38.5	400 600	16.5 33	225 300	87.0 100-280†	4.0 3-33†	27000 (Current, Output for 2 Tubes)	9000	....	3000 5000¶	20000 100000
6582A	T-6½	Pentode	9EJ	6.3	0.250	R-F Pent.	2.0	120	180■	120	7.5	2.5	.5 Meg.	4500	....	....	....
6611	T-2x3	Pentode	6611	1.25♦	0.020	VHF Amp.	0.1	30 45	5 Meg.[4] 5 Meg.[4]	30 45	1.0 1.0	0.35 0.35	400000 400000	1000 1000	....	....	....
6612	T-2x3	Pentode	6612	1.25♦	0.080	VHF Amp.	0.2	30 45	2 Meg.[4] 2 Meg.[4]	30 45	3.0 3.0	1.0 1.0	180000 180000	3000 3000	....	....	....
6626	T-5½	Gas Diode	5BO	....	....	Voltage Reg.	....	Starting Voltage = 165. Operating Voltage = 148. Operating Current = 5 to 30 Ma.									
6627	T-5½	Gas Diode	5BO	....	....	Voltage Reg.	....	Starting Voltage = 130. Operating Voltage = 108. Operating Current = 5 to 30 Ma.									
6660/6BA6	T-5½	Pentode	7BK	6.3	0.300	R-F/I-F Amp.	3.3	100 250	68■ 68■	100 100	10.8 11	4.4 4.2	250000 1 Meg.	4300 4200	....	....	....
6661/6BH6	T-5½	Pentode	7CM	6.3	0.150	R-F/I-F Amp.	3.3	100 250	200■ 95■	100 100	3.6 7.4	1.4 2.9	700000 1.4 Meg.	3400 4600	....	....	....
6662/6BJ6	T-5½	Pentode	7CM	6.3	0.150	R-F/I-F Amp.	3.3	100 250	80■ 80■	100 100	9 9.2	3.5 3.3	250000 1.3 Meg.	3650 3600	....	....	....
6663/6AL5	T-5½	Duodiode	6BT	6.3	0.300	Detector	....	A.C. Voltage Per Plate = 117 Volts. D.C. Output Current = 9.0 Ma.									
6664	T-5½	Triode	5CE	6.3	0.150	VHF Amp./ Osc.	2.9	Characteristics Same as Type 6AB4.									
6669/6AQ5	T-5½	Beam Pent.	7BZ	6.3	0.450	A-F Pwr. Amp.	12	250	12.5	250	45	4.5	52000	4100	....	5000	4500
6676	T-5½	Pentode	7CM	6.3	0.300	VHF Amp.	2.3	Characteristics Same as Type 6CB6.									
6677/6CL6	T-6½	Beam Pent.	9BV	6.3	0.650	R-F Osc./ Amp.	8.5	250	3.0	150	30	7	150000	11000	....	7500	2800
6678/6U8	T-6½	Tri. Pentode	9AE	6.3	0.450	VHF Osc./ Amp.	3.0 3.0	150 250	56■ 68■	 110	18 10	... 3.5	5000 400000	8500 5200	40	....	....
6679/12AT7	T-6½	Duotriode	9A	6.3/ 12.6	0.300/ 0.150	VHF Osc./ Amp.	2.8	100 250	270■ 270■	....	3.7 10	... ...	15000 10900	4000 5500	60 60	....	....
6680/12AU7	T-6½	Duotriode	9A	6.3/ 12.6	0.300/ 0.150	Gen. Purpose	3.0	100 250	0 8.5	....	11.8 10.5	... ...	6500 7700	3100 2200	20 17	....	....
6681/12AX7	T-6½	Duotriode	9A	6.3/ 12.6	0.300/ 0.150	A-F Amp.	1.1	100 250	1.0 2.0	....	0.5 1.2	... ...	80000 62500	1250 1600	100 100	....	....
6690 (3)	T-3	Duotriode	8GQ	6.3	0.300	Video Amp.	1.1	100	100■	....	8.0	...	....	4800	35	....	....

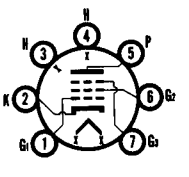
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

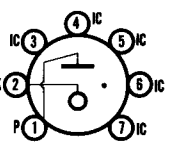


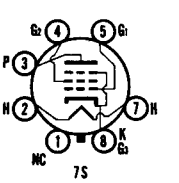


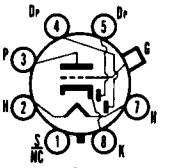


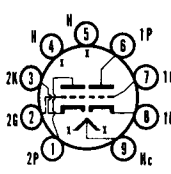


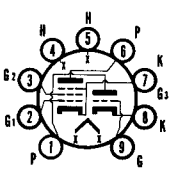


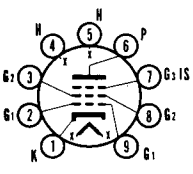


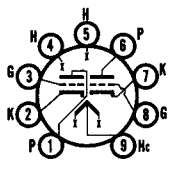


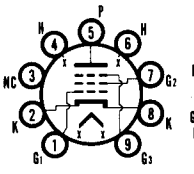


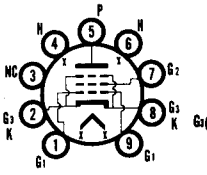


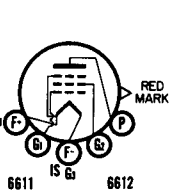


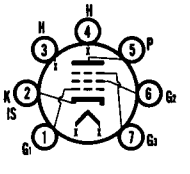






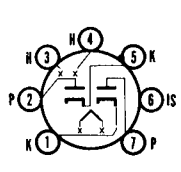


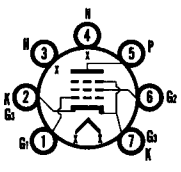


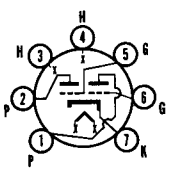


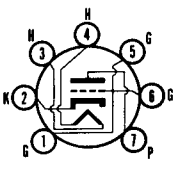
SYLVANIA TUBES

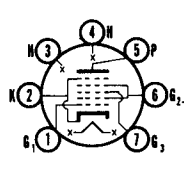
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transcon-ductance Micros.	Ampli-fication Factor	Ohms Load for Stated Power Output	Power Output Milli-watts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
6788 (3)	T-3	Pentode	8DL	6.3	0.175	Audio Amp.	0.5	100	1500■	100	0.7	0.1	1.2 Meg.	1100	....	....	....
GB-6814 (3)	T-3	Triode	8DK	6.3	0.150	Computer	2.2	100	0	....	10	...	4800	6000	29	....	....
6832	T-3	Duotriode	8DG	6.3	0.400	D.C. Amp.	0.1	100	3000■	....	0.8	...	....	1050	....	....	....
6840	T-6½	Duotriode	9CZ	12.6 6.3	0.400 0.800	Computer	4.0	250	620■	....	14	...	3400	7100	20	....	....
6851	T-6½	Duotriode	9A	6.3	0.250	Amplifier	1.0	250	3100■	....	1.0	...	60000	1200	70	....	....
6854	T-6½	Duotriode	9FV	6.3	0.500	Amplifier	1.65	150	240■	....	8.2	...	6500	5225	35	....	....
6870	T-6½	Beam Pent.	9BF	6.3 12.6	0.600 0.300	VHF Power Amplifier	6.9	250	120■	250	25.0	3.5	230	8500	....	....	....
6872	T-3	Pentode	6872	6.3	0.200	VHF Amp.	1.1	120	200■	120	7.75	2.7	340000	....	....	4100	....
6877	T-6½	Power Triode	9GB	6.3	0.800	Power Amp.	....	150	12	....	75	...	2000	6500	3.75	....	12000
6883 6883 (3)	T-12	Beam Pent.	7CK	12.6	0.625	Power Amp.	20	Characteristics Same as Type 6146.									
6893	T-9	Beam Pent.	7CK	12.6	0.400	Power Amp.	10	Characteristics Same as Type 2E26.									
6900	T-6½	Duotriode	9H	6.3	1.000	Pulse Amp.	4.25	120	2	....	36	...	1700	11500	18.5	....	....
6919	T-5½	Duodiode	6BT	6.3	0.200	F-W Rect. Computer	....	Maximum Inverse Peak Plate Voltage = 300 Volts. Maximum Peak Plate Current = 30 Ma. Maximum D.C. Output Current = 10 Ma. (Design Max. Values.)									
6922	T-6½	Duotriode	9AJ	6.3	0.300	VHF Amp.	1.65	90	120■	....	12	...	2800	11500	33	....	....
6939	T-6½	Duotetrode	9HL	6.3 12.6	0.600 0.300	P.P.A1 Amp. P.P.A1 Amp.	3.0	150 200	3.5 3.5	150 150	27-31.6 28-31.6	3.6-12.2 6-15.4	....	7000 7500	....	10560 17400	1750 2660
6943 (3)	T-3	Pentode	8DC	6.3	0.175	R-F Amp.	1.0	100	150■	100	8	2.3	300000	3600	....	....	....
6944 (3)	T-3	Pentode	8DC	6.3	0.175	R-F Amp.	1.0	100	150■	100	7	2.1	280000	3200	....	....	....
6945 (3)	T-3	Beam Pent.	8DL	6.3	0.350	Power Amp.	3.0	100	270■	100	25	1.5	20000	3500	....	3000	800
6946 (3)	T-3	Triode	8DK	6.3	0.175	Amplifier	1.5	100	270■	....	9.0	...	....	3800	16.5	....	....
6947 (3)	T-3	Duotriode	8DG	6.3	0.350	Amplifier	0.75	150	270■	....	6.5	...	....	4000	35	....	....
6948 (3)	T-3	Duotriode	8DG	6.3	0.350	Amplifier	0.50	100	1500■	....	0.8	...	....	1650	70	....	....
6954	T-5½	Pentode	7CM	6.3	0.300	Dual-Control Computer	3.3	150	1.0	150	5.8	6.6	50000	2050	Grid No. 3 = −3.0 Volts.		
6955	T-6½	Duotriode	9A	6.3 12.6	0.350 0.175	Amplifier	3.0	100 250	0 8.5	....	13.0 11.5	... ...	5800 7000	3500 2350	21.3 16.5	....	....
6968	T-5½	Pentode	7BD	6.3	0.175	VHF Amp.	1.81	Characteristics Same as Type 6AK5.									
6973	T-6½	Beam Pent.	9EU	6.3*	0.450	S.T. A1 Amp. P.P.AB1 Amp. P.P.AB1 Amp.	13.2	250 300 350	15 230■ 22	250 300 280	46 80-96† 58-106†	3.5 6-14† 3.5-14†	73000	4800	....	.... 5500 7500	.... 15000¶ 20000¶
7001	T-5½	Beam Tetrode	7EJ	6.3	0.450	Power Amp.	5.5	120	250■	120	35	4	....	4800	....	....	....
7025 7025A	T-6½	Duotriode	9A	12.6 6.3	0.150 0.300	Audio Amp.	1.1	Characteristics Same as Type 12AX7, except Controlled for Noise and Hum.									
7027 7027A	T-12	Beam Pent.	8HY	6.3	0.900	P.P.AB1 Amp.	27.5	330 400 450 400 380 410	24 25 30 200■ 180■ 220■	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.	....	....	4500¶ 6600¶ 6000¶ 6600¶ 4500¶ 8000¶	31500 34000 50000 32000 36000 24000
7032	T-5½	Heptode	7CH	6.3	0.300	Computer	1.1	150 150 150 150	G1+3=0 G1+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	G3+1=470K G3+1=470K G3+1=470K G3+1=470K	1400 650	G1 = Control Grid G3 = Control Grid G3 = 0 Volts G3 = −6 Volts		
7036	T-5½	Heptode	7CH	6.3	0.300	Dual Control Computer	0.9	Characteristics Same as Type 5915A.									

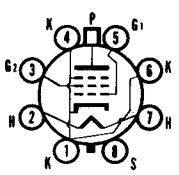


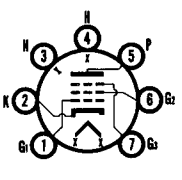


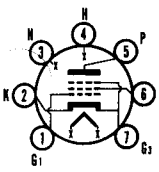


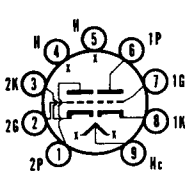


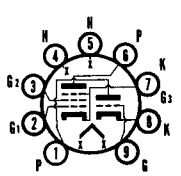


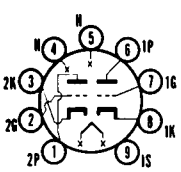


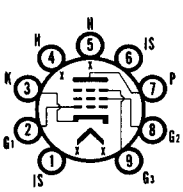


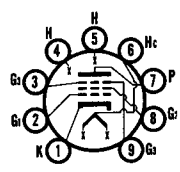


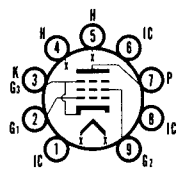


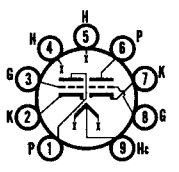


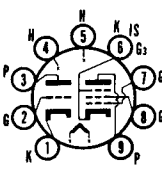


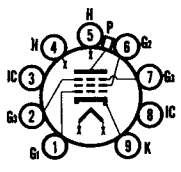


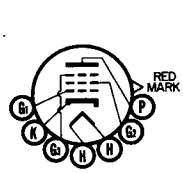


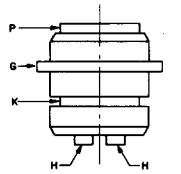


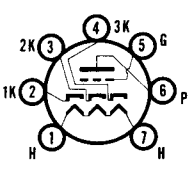








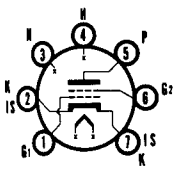


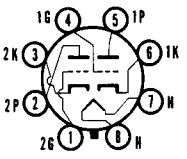


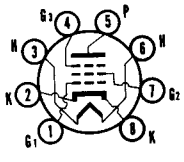
AVERAGE CHARACTERISTICS

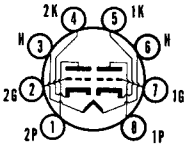
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7044 GB-7044 (3)	T-6½	Duotriode	9H	6.3 12.6	0.900 0.450	Computer	4.5	120	2.0	....	36	...	1750	12000	21	....	....
7054	T-6½	Power Pent.	9BF	13.5	0.275	S.T.A1 Amp. Class "C" Amplifier	5.0	250 300	120■ 12	150 175	19 26	3.5 5.5	100000 Peak R-F (Ec1)=16 Volts, IC2=1 Ma. Driving Power = 15 MW.	11500	....	....	4000
7055	T-5½	Duodiode	6BT	13.5	0.155	Detector	....	117 A.C. Volts Per Plate, RMS, 9 Ma. Output Current. 300 Ohms Min. Effective Plate Supply Imp.									
7056	T-5½	Pentode	7CM	13.5	0.150	VHF Amp.	2.0	200	180■	150	9.5	2.8	600000	6200	....	....	....
7057	T-6½	Duotriode	9AJ	13.5	0.180	VHF Amp.	2.2	150	220■	....	10	....	5300	6800	36	....	....
7058	T-6½	Duotriode	9A	13.5	0.155	A-F Amp.	1.0	250	2	....	1.25	...	61000	1650	100	....	....
7059	T-6½	Tri. Pentode	9AE	13.5	0.195	VHF Osc. VHF Amp.	2.5 2.8	150 250	56■ 68■	 110	18 10	... 3.5	4700 400000	8500 5200	40	....	....
7060	T-6½	Tri. Pentode	9DX	13.5	0.280	VHF Osc. VHF Amp.	2.5 3.0	150 200	150■ 82■	 125	9 15	... 3.4	8200 150000	4900 7000	40	....	....
7061	T-6½	Beam Pent.	9EU	13.5	0.210	S.T.A1 Amp.	9.0	200	10	200	35.5	9	60000	4200	....	5000	3000
7077	Ceramic and Metal	Triode	7077	6.3	0.240	UHF R-F Amplifier	1.0	250 EB = 250 Volts Through 18000 Ohm Resistor.	82■	....	6.4	...	8900	9000	80	....	....
7105	T-12	Duo Power Triode	8BD	12.6	1.250	Passing Tube for V.R. Serv.	13.2	Characteristics Same as Type 6080WA.									
7119	T-6½	Duotriode	9H	6.3 12.6	0.640 0.320	Computer	4.5	120 150	2.0 14	....	36 0.2	... ...	....	15000	24	....	....
7137 GB-7137 (3)	T-5½	Triode	7BQ	6.3	0.225	VHF Amp.	2.25	150	100■	....	13.5	...	....	8500	40	....	....
7150	Spec. Base T-9	Tetrode	9JH	6.3	0.450	VHF Amp.	4.0	135	G1=+8V RK=260 Ohms	135	27.5	8.5	30000	35800	....	....	....
7167	T-5½	Tetrode	7EW	13.5	0.090	VHF Amp.	2.0	250 Similar to Type 6CY5, Except Designed for Mobile Applications.	1.0	80	10	1.4	125000	8000	....	....	....
7189	T-6½	Beam Pent.	9CV	6.3	0.760	S.T.A1 Amp. P.P.AB1 Amp. P.P.AB1 Amp.	13.2	250 400 375	7.3 15 220■	250 300 375	48 15-105† 1.6-25† 75-81†	5.5 (Cathode Current)	40000	11300	19.5	(G1 to G2)	 24000 16500
7199	T-6½	Tri. Pentode	9JT	6.3	0.450	A-F Tri. Amp. A-F Pent. Amplifier	2.4 3.0	215 100 220	8.5 1000■ 62■	.... 50 130	9 1.1 12.5	... 0.35 3.5	8100 1 Meg. 0.4 Meg.	2100 1500 7000	17	....	....
7212	T-12	Beam Pent.	8EC	6.3	1.250	P.P.AB1 Amp. P.P.AB1 Amp. P.P.AB2 Amp.	20	600 500 600	45 40 44	180 185 165	26-200† 57-215† 22-207†	1-23† 2-25† 0.6-17†	....	....	....	7000 5500 6800	82000 70000 90000
7227	T-6½	Pentode	9BA	27.5	0.175	Power Amp.	2.2	27.5	2.5	27.5	11	1.1	8000	5500	4	....	70
7233	T-6½	Triode	9FR	6.3	1.250	Passing Tube for V.R. Serv.	7.5	50	22■	....	120	...	230	17500	4	....	....
7236	T-12	Duotriode	8BD	6.3	2.400	Passing Tube for V.R. Serv.	15	120	14	....	100	...	....	12500	4.8	....	....
7239	T-6½	Beam Pent.	9KH	6.3	0.300	Pulse Amp. and Shunt Reg.	4.0	300 100	5.0 ...	100 100	10.5 43	2.6 13.5	300000 Grid No. 1 = 400 μa. (Applied for Short Intervals—2 Sec. Max.)	4200	....	....	....
7241	TT-18	Triode	7241	6.3	7.500	Passing Tube for V.R. Serv.	100	190 RG=500 Ohms	200■	....	550	....	67	40000	2.7	....	....
7242	TT-18	Triode	7241	6.3	7.500	Passing Tube for V.R. Serv.	100	100 RG=500 Ohms	4	....	555	...	82	111000	9.0	....	....
7244 7244A	T-5½	Duotriode	7BF	6.3	0.450	Amplifier	1.1	100	50■	....	9.0	...	6300	6000	38	....	....
7245	T-5½	Triode	7BQ	6.3	0.400	VHF Amp.	2.25	150	100■	....	13.5	...	4500	11000	50	....	....

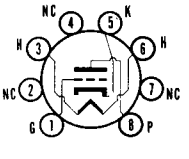
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

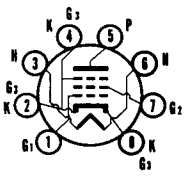


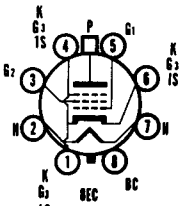


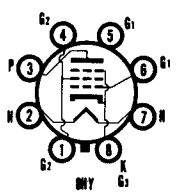


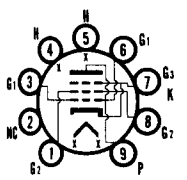


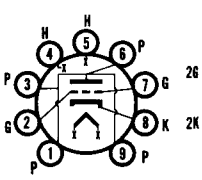


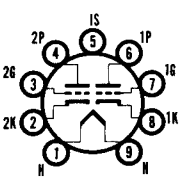


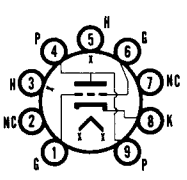


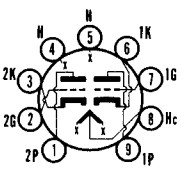


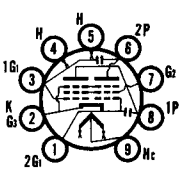


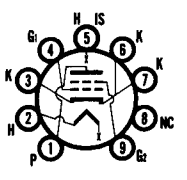


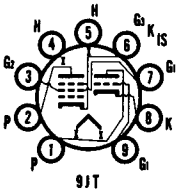






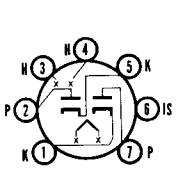


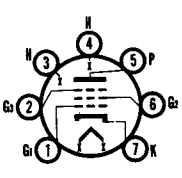


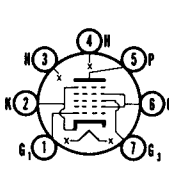


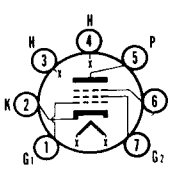
SYLVANIA TUBES

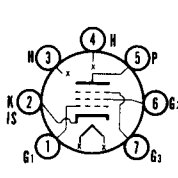
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7246	T-2x3	Triode	7246	1.25♦	0.150	VHF Amp./ Osc./Det.	0.7	105	2.5	....	4.5	...	....	2700	22	....	....
7258	T-6½	Tri. Pentode	9DA	13.5	0.210	Gen. Amp. VHF Amp.	2.8 2.3	150 125	3 56■	 125	15 12	... 3.8	4700 170000	4500 7800	21	....	....
							(Designed for Mobile Operation.)										
7316	T-6½	Duotriode	9A	6.3 12.6	0.300 0.150	Computer	2.7	250 100	8.5 0	....	10.5 11.8	... ...	7700 6250	2200 3100	17 19.5	....	....
7318	T-6½	Duotriode	9A	6.3 12.6	0.350 0.175	Pulse Amp.	1.35	100 250	0 8.5	....	13 11.5	... ...	5800 7000	3500 2350	21.3 16.5	....	....
7320	T-6½	Beam Pent.	9CV	6.3	0.760	Power Amp.	12	Characteristics Same as Type 6BQ5.									
7327 (3)	T-3	Duotriode	8DG	6.3	0.300	Pulse Amp. Blocking Osc.	0.95	150	25	Pulse Applied to Grid = 40 Volts at Tp = 10 μsec., Prr. = 1000 Pps., Tr. = 0.2 μsec. Max., Tf. = 0.2 μsec. Max.,—PEAK Plate Current = 400 Ma. Min.							
7355	T-9	Beam Pent.	8KN	6.3	0.800	S.T.A1 Amp. P.P.AB1 Amp. P.P.AB1 Amp.	18	250 300 400	15 21 34	225 250 300	62-74† 100-185† 56-175†	3.2-16.5† 5.5-24† 3.5-24†	42000	7600	....	2500 4000¶ 5000¶	9000 28500 40000
7358	T-12	Pentode	8EC	6.3	1.250	Pulse Mod.	10	200 3000	... 175	200 300	100 15	... 4	.... IC1 = 2.5 Ma., RL = 100 Watts. 1500 Ohm-Non Ind. Res.	7000	4.2 (G2 to G1)		
7360	T-6½	Beam Defl. Tube	9KS	6.3	0.350	Balanced Mod. Dble. Sideband	1.5	150	1200■	175	1.5	0.75	....	....	....	5000¶	....
							1.5	25 Volts = Defl. Electrode Voltage, PK to PK A-F Defl. Electrode Volts = 2.8 Volts. PK to PK R-F Grid No. 1 Volts = 10 Volts, Push-Pull Double Sideband Output Voltage = 4 Volts.							
						Balanced Mixer Single Sideband		150	1200■	175	1.5	0.75	....	....	....	10000¶	....
							25 Volts = Defl. Electrode Voltage, PK to PK Single Sideband Defl. Electrode Volts = 8 Volts. PK to PK R-F Grid No. 1 Volts = 10 Volts, Push-Pull PK to PK Single Sideband Output Voltage = 40 Volts.							
7370	T-6½	Duotriode	9H	20/ 40	0.260/ 0.130	Computer	4.75	120 250	2.0 12.5	....	36 12	... ...	1560 3000	11500 5400	18 16	....	....
7382	T-5½	Triode	7382	6.3	0.300	A-F Amp.	0.55	Characteristics Same as Type 12AX7, except Controlled for Noise and Hum.									
7408	T-9	Beam Pent.	7S	6.3	0.450	A-F Pwr. Amp.	14	Characteristics Same as Type 6V6GT.									
7430	Special	Pentode	7430	6.3	0.200	R-F Amp.	1.87	120 180	2.0 2.0	120 120	7.5 7.7	2.5 2.4	300000 500000	5000 5100	....	....	....
7489	T-6½	Duotriode	9A	6.3/ 12.6	0.300/ 0.150	A-F Amp.	3.0	250	8.5	....	10.5	...	7700	2200	17	....	....
7490	T-6½	Duotriode	9A	6.3/ 12.6	0.600/ 0.300	A-F/D.C. Amp.	5.0	250	4.6	....	6.0	...	....	2350	32	....	....
7492	T-6½	Duotriode	9DA	6.3/ 12.6	0.300/ 0.150	R-F Amp. and Computer	2.8	250	200■	....	10	...	....	5500	60	....	....
7494	T-6½	Duotriode	9A	12.6/ 6.3	0.150/ 0.300	A-F Amp.	1.1	250	2	....	1.25	...	59000	1600	95	....	....
7495	T-6½	Beam Tetrode	9K	6.0	0.750	VHF Power Amplifier	12	250	7.5	250	45	7 Max.	....	7000	G1 to G2=16.		....
7496	T-5½	Pentode	7BK	6.3	0.300	R-F Amp.	3.3	250	68■	100	11	4.2	1 Meg.	4400	....	....	....
7498	T-5½	Pentode	7DB	6.3	0.300	R-F Amp.	3.0	250	160■	250	9.85	2.6	....	7620	75	....	....
7499	T-6½	Pentode	9BA	6.3	0.750	Video Amp.	12	250	4.5	250	40	6.0	....	11000	26	....	....
7500	T-6½	Beam Tetrode	9AH	6.3	0.450	A-F Power Amplifier	13	250	12.5	250	45	5.5	50000	4100	....	....	....
7502	T-5½	Heptode	7CH	6.3	0.300	Converter	1.1	250	1.5	100	3.0	7.5	1.0 Meg.	7250	....	....	....
7543	T-5½	Pentode	7BK	6.3	0.300	A-F Amp.	3.3	Characteristics Same as Type 6AU6. Type 7543 has a Folded Coil Heater for Low Noise Operation.									
GB-7550 7550 (3)	T-3	Duotriode	8DG	6.3	0.525	Pulse Amp.	2.0	300	30	....	1400	...	....	....	....	....	....
							Pulse Applied to Grid = +40 V at tp=10μ sec., prr=1000 pps, tr=0.8μ sec. max., tf=1.0μ sec. max.								
7561	T-9	Beam Pent.	7561	25	0.300	S.T.A1 Amp. S.T.A1 Amp. S.T.AB1 Amp.	13	115 250 250	8.0 15 18	115 150 150	55 48-51† 50-110†	2.5 1-7† .8-14†	8000	10000	....	.... 5000 3000	.... 6000 17000

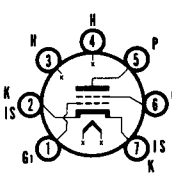


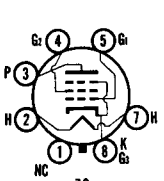


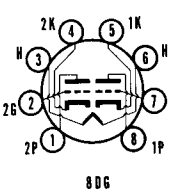


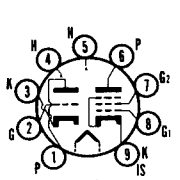


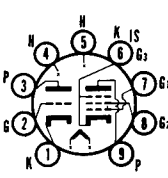


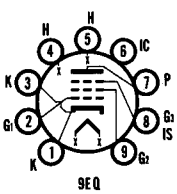


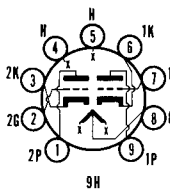


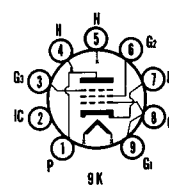


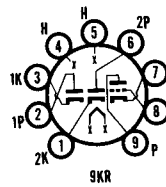


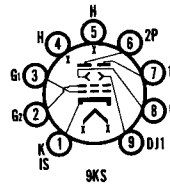


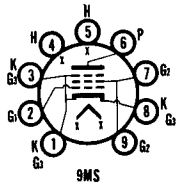


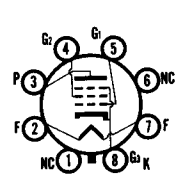


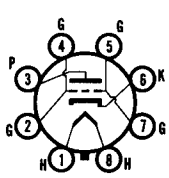


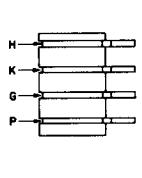








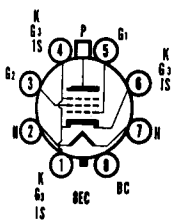


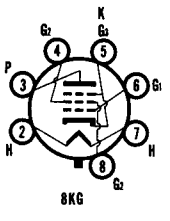


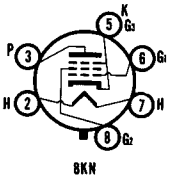
AVERAGE CHARACTERISTICS

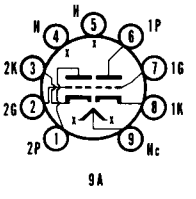
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7576	T-3	Triode	7576	6.3	0.450	VHF Amp.	4.1	200	0	....	15.5	...	....	10700	46	....	....
								Designed to be Used as a Grounded Grid Amplifier.									
7581	T-12	Pentode	7S	6.3	0.900	P.P.AB1 Amp.	35	360	22.5	270	88-132†	5-15†	....	....	....	6600¶	26.5
								360	22.5	270	88-140†	5-11†	....	....	....	3800¶	18
								450	37	400	116-210†	5.6-22†	....	....	....	5600¶	55
7581A	T-12	Beam Pent.	7S	6.3*	0.900	S.T.A1 Amp.	35	250	14	250	72	5	22500	6000	....	2500	6500
						P.P.AB1 Amp.		360	22.5	270	88-132†	5-15†	....	....	....	6600¶	26500
						P.P.AB1 Amp.		450	37	400	116-210†	5.6-22†	....	....	....	5600¶	55000
7586	M-N	Triode	12AQ	6.3*	0.140	VHF Amp.	1.0	75	130■	....	10.5	...	2900	11500	33	....	....
7587	M-N	Tetrode	12AS	6.3	0.150	VHF Amp.	2.2	125	68■	50	10	2.7	200000	10600	....	....	....
7591	T-9	Beam Pent.	8KG	6.3	0.800	S.T.A1 Amp.	19	300	10	300	55-65†	7-16†	29000	10200	....	4000	11000
						P.P.AB1 Amp.		300	12.5	300	86-116†	12-26†	....	....	....	6600¶	23000
						P.P.AB1 Amp.		350	15.5	350	92-130†	13-29†	....	....	....	6600¶	30000
						P.P.AB1 Amp.		400	16	350	85-143†	11-27†	....	....	....	6600¶	37000
						P.P.AB1 Amp.		450	16.5	350	77-153†	10-27†	....	....	....	6600¶	43000
						P.P.AB1 Amp.		450	21	400	66-144†	9.4-30†	....	....	....	6600¶	45000
						P.P.AB1 Amp.		450	200■	400	82-94†	11.5-22†	....	....	....	9000¶	28000
						P.P.AB1 Amp.		400	20.5	....	80-138†	11.5-26†	Ultra-Linear Conn. 40%			6600¶	32000
						P.P.AB1 Amp.		425	185■	....	88-104†	13-17.5†	Ultra-Linear Conn. 40%			6600¶	26000
7631	T-5½	Duodiode	6BT	6.3	0.300	Detector	....	Max. Peak Inverse Plate Voltage = 360 Volts. Max. Peak Plate Current = 10 Ma. Max. Surge Plate Current = 350 Ma.									
7643	T-6½	Tri. Pent.	9AE	6.3	0.330	VHF Amp./	1.7	100	120■	....	14	...	....	5000	18	....	....
						Osc.	2.1	170	155■	170	10	2.8	400000	6200	40	....	....
7687	T-6½	Tri. Pentode	9AE	6.3	0.500	A-F Amp.	2.4	215	8.5	....	7.5	...	7200	2500	18	....	....
							3.0	220	62■	130	10	3.4	500000	5800	....	....	....
7688	Special Base T-7½	Triple Triode	12BA	6.3	0.450	A-F Amp.	3.0	Characteristics Same as Type 12AU7.									
7689	Special Base T-7½	Triple Triode	12BA	6.3	0.450	A-F Amp.	1.1	Characteristics Same as Type 12AX7.									
7690	Special Base T-7½	Triple Triode	12BA	6.3	0.450	A-F Amp.	2.8	Characteristics Same as Type 12AT7.									
7693	T-5½	Pentode	7EN	6.3	0.150	R-F Amp.	2.6	250	100■	150	7.4	2.9	1.3 Meg.	4600	G1 to G2=48		....
7694	T-5½	Pentode	7EN	6.3	0.150	R-F Amp.	3.3	250	80■	100	9.2	3.3	1.0 Meg.	3800	G1 to G3=25		....
7695	9-T9	Pentode	9PX	50	0.150	S.T.A1 Amp.	16	130	11	130	100	5-14†	7000	11000	....	1100	4500
						P.P.AB1 Amp.		140	50■	140	210-220†	9-20†	....	....	....	1500¶	10000
7701	T-6½	Beam Pent.	9MS	13.6	0.160	VHF Class C Amplifier	9.0	250	12.5	250	28	3.1	31000	3600	....	....	....
7716	T-6½	Tri. Pentode	9DX	13.6	0.350	High Mu	1.0	125	1.0	....	1.5	...	35000	2900	102	....	....
						High GM	5.0	200	68■	125	24	5.2	70000	10000	....	....	....
7717	T-5½	Tetrode	7EW	6.3	0.200	VHF Amp.	2.0	125	1.0	80	10	1.4	125000	8000	....	....	....
7719	T-6½	Triode	9MX	12.6/ 6.3	0.225/ 0.450	Computer	6.0	300	10.5	....	4	...	7100	3500	25	....	....
7720	Ceramic and Metal	Triode	7720	6.3	0.240	VHF Amp.	1.0	150	82■	....	7.5	...	....	10500	90	....	....
7721	T-6½	Pentode	9EQ	6.3	0.320	VHF Amp.	4.0	190	400■	160	22	6.0	120000	35000	....	....	....
7722	T-6½	Pentode	9EQ	6.3	0.320	VHF Amp.	4.0	190	370■ G1=+8 Volts.	160	20	6.0	100000	26000	....	....	....
7724	T-6½	Duodiode Tri.	9KR	14	0.150	A-F Amp.	....	250	3.0	....	0.7	...	72000	1000	72	....	....

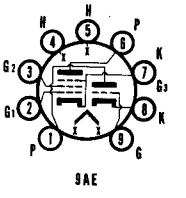
(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).

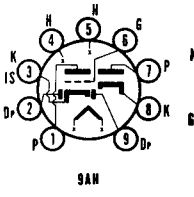


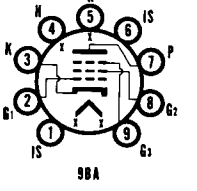


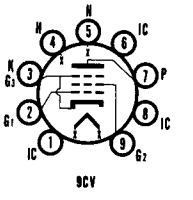


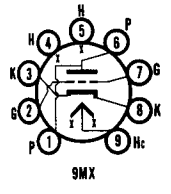


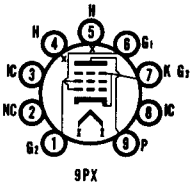




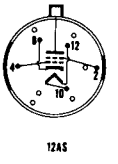


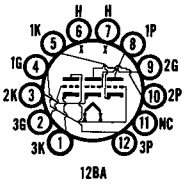


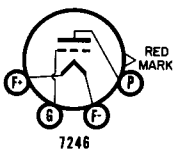


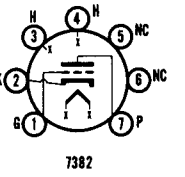


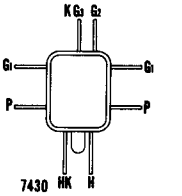






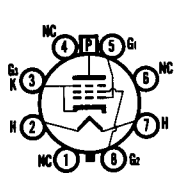




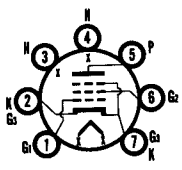


SYLVANIA TUBES

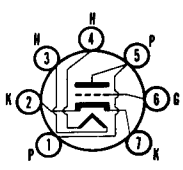
TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7728	T-6½	Duotriode	9A	6.3/12.6	0.300/0.150	VHF Amp.	2.8	Characteristics Same as Type 12AT7.									
7729	T-6½	Duotriode	9A	6.3/12.6	0.300/0.150	A-F Amp.	1.1	Characteristics Same as Type 12AX7.									
7730	T-6½	Duotriode	9A	6.3/12.6	0.300/0.150	Gen. Purpose	3.0	Characteristics Same as Type 12AU7.									
7731	T-6½	Tri. Pent.	9AE	6.3	0.450	VHF Osc. VHF Amp.	3.0 3.0	Characteristics Same as Type 6U8.									
7732	T-5½	Pentode	7CM	6.3	0.300	VHF Amp.	2.3	Characteristics Same as Type 6CB6.									
7733	T-6½	Pentode	9BF	6.3/12.6	0.600 0.300	Video Amp.	6.5	Characteristics Same as Type 12BY7A.									
7734	T-6½	Tri. Pentode	9LC	6.3	0.900	V.R. Voltage Control Tube	7.0 1.0	150 150	21 2.0	 150	35 5.5	... 1.7	1080 340000	5000 3200	5.4	....	....
7738	T-5½	Triode	7DK	6.3	0.225	VHF Class C Amplifier	5.0	200	100■	....	12	...	....	9500	80	....	....
7751	T-9	Beam Pent.	7S	6.3	1.200	Pulse Amp.	10	100	8.2	100	100	7	5000	14000	G1 to G2=5.6		....
7754	9-T9	Beam Pent.	9PX	6.3	1.200	A-F Power Amplifier	16	Characteristics Same as Type 7695.									
7759	T-3	Duotriode	8DG	26.5	0.090	VHF Amp./Osc.	1.1	100	150■	....	6.5	...	....	5400	35	....	....
7760	T-3	Duotriode	8DG	26.5	0.090	VHF Amp./Osc.	....	26.5	2.2 Meg[4]	....	3	...	....	5000	20	....	....
7761	T-3	Pentode	8DL	26.5	0.110	Video Amp.	4.0	150	100■	100	21	4	50000	9000	....	....	....
7762	T-3	Beam Pent.	8DL	26.5	0.110	S.T. A1 Amp.	4.0	110	270■	110	30	2.2	15000	4200	....	3000	1000
7768	Ceramic and Metal	Triode	7768	6.3	0.400	VHF Amp.	5.5	200	270■ G1=+6 Volts	....	24	...	4500	50000	225	....	....
7803	T-6½	Duotriode	9AJ	6.3	0.365	VHF Osc. Doubler	3.5	90 160	1.3 70	....	15 26	...	....	12500	33	....	....
								Rg1 = 33K Ohms (Class "C" Doubler to 175 Mc) Ig1 = 2.5 Ma. PK R-F Grid Volts=77								1000
7841	Ceramic and Metal	Diode	7841	6.3	0.215	Detector	....	Max. Peak Inverse Plate Voltage = 350 Volts. Max. D.C. Output Current = 5.0 Ma.									
7861	T-6½	Duotriode	8CJ	12.6	0.175	Gen. Purpose	1.3	150	240■	....	8.2	...	6400	5500	35	....	....
7867	T-12	Beam Pent.	5BT	6.3	2.500	S.T. A1 Amp. P.P.AB1 Amp. P.P.AB1 Amp.	24	250 250 250	120■ 200■ 35	90 150 150	80 114-128† 58-210†	1.0 2-17† 1.4-26†	12000	10000	....	3000 6000¶ 5000¶	7500 28000 65000



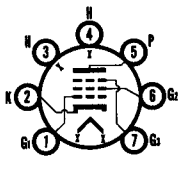
5BT



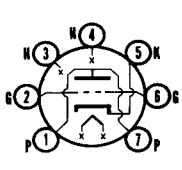
7BD



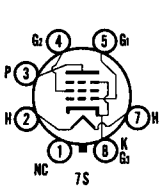
7BS



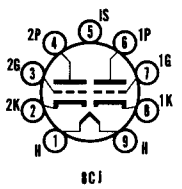
7CM



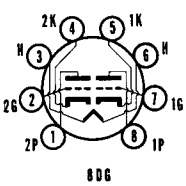
7DK



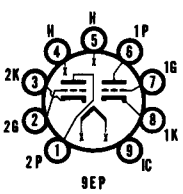
7S



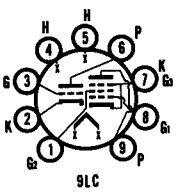
8CJ



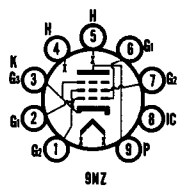
8DG



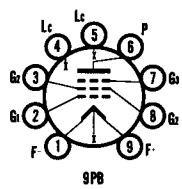
9EP



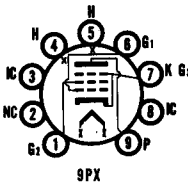
9LC



9NZ

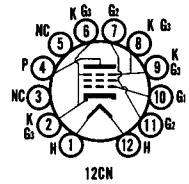


9PB

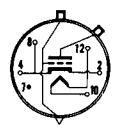


9PX


12AQ



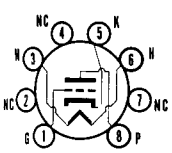
12CN


12CT

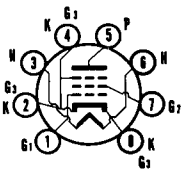
AVERAGE CHARACTERISTICS

TYPE	CONSTRUCTION			EMITTER		USE	Plate Diss. Watts[2]	Plate Volts	Negative Grid Volts	Screen Volts	Plate Current Ma.	Screen Current Ma.	Plate Resis. Ohms	Transconductance Micros.	Amplification Factor	Ohms Load for Stated Power Output	Power Output Milliwatts
	Bulb Size or Style[1]	Class	Basing Diag.	Volts	Amps.												
7868	Novar T-9	Beam Pent.	9NZ	6.3	0.800	S.T. A1 Amp. P.P.AB1 Amp. P.P. AB1 Amp.	19	300 300 400	10 12.5 16	300 300 350	60 74-116† 64-135†	8 10-28† 8-28†	29000	10200	....	3000 6600¶ 6600¶	11000 24000 34000
7887	T-3	Duotriode	8DG	26.5	0.090	Osc./Amp.	1.1	100	220■	....	8.5	...	....	5000	20	....	....
7888	T-3	Triode	8DK	26.5	0.045	UHF Osc.	1.0	100 150	150■ 180■	....	8.5 13	... ...	....	5800 6000	27 27	....	....
7889	T-3	Duotriode	8DG	26.5	0.090	A-F Amp.	0.55	100 150	1500■ 820■	....	0.8 1.75	... ...	....	1800 2500	70 70	....	....
7898	T-6½	Duotriode	9EP	13.5	0.150	VHF Osc./ Amp.	2.75	250	200■	....	10	...	10900	5500	60	....	....
7905	T-6½	Beam Pent.	9PB	6.3	0.650	VHF Class "C" Power Amp.	10	200 300	6 39	185 185	36 60	2.5 4	....	6700 RG1 = 18 K Ohms, Driving Pwr. = 1 Watt Pk R-F Grid Volts = 43 Volts	....	....	 7000
7984	T-12	Beam Pent.	12CN	13.5	0.580	Class "C" Amp. 175 Mc.	35	200 750	20 150	125 250	125 180	4.5 12	....	7300 Driving Pwr. = 2 Watts at 2.5 Ma.	....	....	 46000
8056	M-N	Triode	12AQ	6.3	0.135	VHF Amp.	0.45	24	100■	....	8.5	...	1650	7000	11.5	....	....
8058	M-N	Triode	12CT	6.3	0.135	UHF Amp.	1.5	110	47■	....	10	...	5600	12400	70	....	....
8064	T-3	Beam Pent.	8DL	26.5*	0.045	VHF Amp.	1.1	100	120■	100	7.2	2	275000	4500	....	....	....
8068	T-12	Beam Pent.	8LC	6.3	0.900	Series Reg.	35	3500 600	30 7.5	100 125	1.0 36	... 1.0	 54500	 5200	....	....	....
8070	T-3	Triode	8LD	6.3	0.125	UHF Amp.	1.0	110	130■	....	7.5	...	....	11000	58	....	....
8136	T-5½	Pentode	7CM	6.3	0.300	VHF Amp.	2.2	125	56■	125	10.8	2.9	....	9800	....	....	....
9001	T-5½	Pentode	7BD	6.3	0.150	VHF Amp.	0.55	250	3.0	100	2.0	0.7	1 Meg.>	1400	....	....	....
9002	T-5½	Triode	7BS	6.3	0.150	Amplifier	1.76	250	7.0	....	6.3	...	11400	2200	25	....	....
9003	T-5½	Pentode	7BD	6.3	0.150	VHF Amp.	1.87	250	3.0	100	6.7	2.7	700000	1800	....	....	....
XXD	Now Listed as 14AF7/XXD																
XXFM	Now Known as Type 7X7																
XXL	Now Known as Type 7A4																

(1) See Frontal Section.
(2) Design Maximum Values.
† Maximum Signal.
(3) Has Special Mechanical and/or Life Characteristics.
(4) Average Contact Potential Bias Developed Across Specified Grid Resistor.
♦ Filamentary Type.
▲ Conversion Transconductance.
* Controlled Heater Warm-up Time (applies to parallel connections of types having a tapped heater.)
¶ Plate to Plate.
■ Cathode Resistor (ohms).



8DK



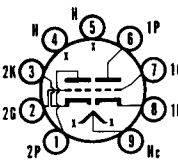
8DL



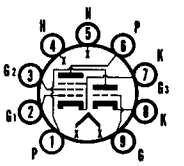
8LC



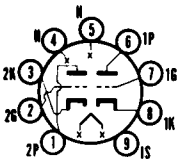
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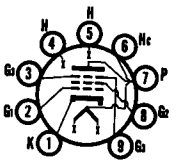
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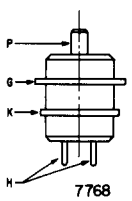
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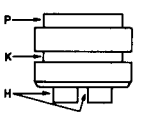
9AJ



9BF



7768



7841

RESISTANCE COUPLED AMPLIFIER DATA

TYPE	TABLE
5AV8	B,C
5B8	B,C
6AB4	A
6AN8, 6AN8A, 5AN8	B,C
6AQ6	D
6AS8, 5AS8	C
6AT6, 12AT6	D
6AU6, 6AU6A, 3AU6, 4AU6, 12AU6	E
6AV6, 3AV6, 12AV6, 4AV6	G
6AV11	L
6AX8	H,I
6B10	L
6BE8, 5BE8	H,I
6BF6, 12BF6	J
6BJ8	K
6BR8, 6BR8A, 5BR8	H,I
6BT8, 5BT8	C
6BY8	E
6C4	L
6C10	G
6CG7, 8CG7	K
6CH8	B,C
6CN7, 8CN7	D
6CR6	X
6CU8	B,C
6DR4	G
6EU7	G
6F5, 6F5GT, 12F5GT	F
6FM8	Y
6FQ7, 8FQ7	K
6J5, 6J5GT, 12J5, 12J5GT	K
6J7, 6J7GT, 12J7GT, 12J7	M
6K11	L,G
6Q7, 6Q7GT, 12Q7GT	D
6Q11	L,G
6R7	J
6SC7, 12SC7	N
6SF5, 6SF5GT, 12SF5, 12SF5GT	F
6SH7, 12SH7	E
6SJ7, 6SJ7GT, 12SJ7, 12SJ7GT	O
6SL7GT, 12SL7GT	N
6SN7GTB, 8SN7GTB, 12SN7GTA	K
6SQ7, 6SQ7GT, 12SQ7, 12SQ7GT	P
6SR7, 12SR7	J
6ST7	J
6T8A, 5T8, 19T8	D
6U8, 6U8A, 5U8, 9U8A	H,I
7A4, 14A4	K
7B4	F
7B6, 14B6	P
7C7, 14C7	M
7E6, 14E6	J
7F7, 14F7	N
7K7	N
7N7, 14N7	K
12AT7	A
12AU7, 12AU7A, 9AU7, 7AU7	L
12AV7	Q
12AX7, 6AX7	G
12AY7	R
12AZ7A	A
12DM7	G
12DT7	G
12DT8	A
12DW7	G,L

TYPE	TABLE
13D2	K
18FY6	G
19HV8	D
20EZ7	G
1273	M
1280	M
1620	M
5687	W
5691	N
5692	K
5693	O
5751	G
5879	V
6072	R
6113	N
6118	D
6135	L
6136	E
6180	K
6201	A
6267	U
6320	N
6321	K
6678	H,I
6679	A
6680	L
6681	G
7025, 7025A	G
7058	G
7059	H,I
7199	S,T
7258	B,C
7316	L
7382	G
7543	E
7687	S,T
7688	L
7689	G
7690	A
7728	A
7729	G
7730	L
7731	H,I
7889	D
B36	K
B65	K
B152	A
B309	A
B329	L
B339	G
DH77	D
EABC80	D
EBC90	D
EBC91	G
EC90	L
EC92	A
ECC81	A
ECC82	L
ECC83	G
ECF82	H,I
EF86	U
EF94	E
H63	F
HBC90	D
HBC91	G
HF94	E
L63	K
L77	L
PCF82	H,I
Z63	M

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 Ec1	Negative Grid 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

$$Cc = \frac{1.6 \times 10^6}{f_1\ Rcf} \text{ mfd.}$$

$$Ck = \frac{1.6 \times 10^6}{f_1\ Rk} \text{ mfd.}$$

$$Cc2 = \frac{1.6 \times 10^6}{f_1\ Rc2} \text{ mfd.}$$

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

	Ebb = 100 Volts							Ebb = 250 Volts						
Rb	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	1500	1800	3900	3900	4700	5600	6800	680	680	1800	1800	2200	3300	3900
Ib	0.54	0.51	0.23	0.23	0.22	0.150	0.141	1.62	1.62	0.69	0.69	0.65	0.41	0.40
Ec_1	−0.81	−0.92	−0.90	−0.90	−1.04	−0.840	−0.960	−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	62.3	62.3	75.6	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(1)	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	6.6	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

	Ebb = 100 Volts						Ebb = 250 Volts					
Rb	.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	560	1000	1200	3900	3900
Ib	1.33	1.33	0.70	0.64	.275	.260	3.84	3.84	1.98	1.95	0.76	0.76
Ec_1	−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	36	36	29	34	24	28	66	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(1)	0.60	0.63	.60	.98	.88	1.07	1.17	1.17	1.02	1.28	1.65	1.65
Eout	7.4	8.0	6.8	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	4.6	4.9	4.7	4.3	5.2	5.0	5.0	4.6	4.8	4.2

Note (1) For Self Bias Operation This is Taken at the Grid Current Point With Less Than ½ μa. Grid Current.

RESISTANCE COUPLED AMPLIFIER DATA

Table C — Pentode Section

	Ebb = 100 Volts							Ebb = 250 Volts						
Rb	0.1		0.27			0.47		0.1		0.27			0.47	
Rc_2	.33		1.0			1.8		.33		1.0			1.8	
Rcf	.27	.47	.27	.47	1.0	.47	1.0	.27	.47	.27	.47	1.0	.47	1.0
Rk	1000	1000	2700	2700	2700	4700	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
Ic_2	.205	.205	.076	.076	.076	.043	.043	.60	.61	.23	.23	.23	.124	.124
Ec_1	−.86	−.86	−.89	−.89	−.89	−.91	−.91	−.97	−.85	−.96	−.96	−.96	−1.0	−1.0
Ec_2	33.8	33.8	24.0	24.0	24.0	22.5	22.5	52.0	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	136	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)	.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	115	138	166	130	169	208	238	226	268	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	5.0	4.7

Table D

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	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	.29
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	.2	.25
Esig. (1)	.23	.24	.19	.2	.25	.19	.25	.79	.89	.63	.77	.91	.71	.86
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	4.95

Table E

	Ebb = 100 Volts							Ebb = 250 Volts						
Rb	.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	−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	46	52	34	40
Eb	46	46	34	34	34	33	33	76	76	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	6.9	8.3	6.4	8.5	19.0	20.0	20.5	25.0	29.8	25.1	31.0
Gain	116	120	112	138	166	128	170	190	200	205	250	298	251	310
% Dist.	3.6	3.7	3.9	3.3	2.4	4.7	3.5	2.7	2.5	3.4	1.1	0.8	2.2	0.7
Esig(1)	.07	.07	.06	.09	.11	.05	.07	.32	.32	.26	.22	.29	.14	.22
Eout	8.0	8.3	6.6	12.0	16.5	6.4	11.5	54.0	56.0	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

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	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 (1)	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	27.5	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

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	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	−1.49	−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.	139.	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	6.1	6.6	6.9	6.6	7.1
Gain	36.0	38.0	42.0	43.5	50.0	47.0	52.0	54.0	57.0	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	0.4	0.2
Esig. (1)	.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	52.0	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 — Triode Section

	Ebb = 100 Volts						Ebb = 250 Volts					
Rb	.047		0.1		0.27		.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	1000	1200	1800	2700	4700	5600	470	470	820	1200	2700	3300
Ib	1.2	1.1	0.64	0.56	0.26	0.25	3.5	3.5	1.56	1.73	0.72	0.68
Ec	−1.2	−1.3	−1.2	−1.5	−1.2	−1.4	−1.6	−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(1)	.37	.49	.35	.62	.40	.53	.78	.78	.66	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	28.0
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 — Pentode Section

	Ebb = 100 Volts							Ebb = 250 Volts						
Rb	0.1		0.27			0.47		0.1		0.27			0.47	
Rc_2	.27		.68			1.2		.33		.82			1.2	
Rcf	.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	46	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	15.3	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(1)	.18	.18	.14	.14	.23	.12	.17	.27	.38	.18	.27	.35	.30	.35
Eour	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

	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
Rb	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)	1.02	1.24	0.87	1.23	0.97	1.10	2.80	3.25	2.23	3.27	2.40	3.32
Eout	10.6	13.2	9.5	14.2	11.0	12.8	31.2	38.0	26.0	40.4	28.5	40.6
Gain	10.4	10.6	10.9	11.5	11.3	11.6	11.1	11.7	11.7	12.3	12.1	12.2
% Distortion	4.5	4.9	4.7	4.8	4.9	4.3	4.5	4.6	4.4	4.5	4.5	4.9

Note (1) For Self Bias Operation This is Taken at the Grid Current Point With Less than $\frac{1}{8}\mu a$. Grid Current.

RESISTANCE COUPLED AMPLIFIER DATA

Table K

	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
Rb	0.047		0.10		0.27		0.047		0.10		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	3300	1700	8200	10,000	1500	2200	2700	3900	6800	8200
Ib	1.05	0.97	0.57	0.50	0.24	0.22	2.79	2.4	1.49	1.31	0.61	0.58
Ec	-1.89	2.13	-1.90	-2.35	-1.93	2.19	-4.18	-5.28	-4.03	-5.11	-4.15	4.74
Eb	50.6	54.4	43.0	50.0	36.5	40.9	119	137	101	119	85	94
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	6.6	7.1	6.8	7.4	7.3	7.4	14.8	15.0	15.2	16.2	15.9	16.2
Gain	13.2	14.2	13.6	14.8	14.6	14.8	14.8	15.0	15.2	16.2	15.9	16.2
% Distortion	1.9	1.8	2.4	2.0	2.0	1.7	1.4	1.4	1.8	1.3	1.6	1.3
Esig (1)	0.95	1.13	0.95	1.3	0.95	1.20	2.70	3.50	2.55	3.30	2.64	3.05
Eout	12.5	15.5	12.9	19.2	13.7	17.7	39.9	52.5	38.4	53.0	42.0	49.4
Gain	13.1	13.9	13.6	14.7	14.4	14.7	14.7	15.0	15.0	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 L

	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
Rb	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	1200	1200	2200	2700	6800	8200	1000	1000	1500	1800	4700	6800
Ib	1.22	1.22	.66	.628	.259	.246	3.2	3.2	1.78	1.72	.684	.63
Ec	1.465	1.465	1.45	1.695	1.76	2.02	3.2	3.2	2.67	3.10	3.21	4.28
Eb	42.7	42.7	34	37.2	30	33.6	150.5	150.5	72	78	65	80
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	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
Esig (1)	0.65	0.65	0.57	0.77	0.71	0.98	1.70	1.70	1.34	1.70	1.80	2.52
Eout	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 M

	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
Rb	0.1		0.27		0.47		0.1		0.27		0.47	
Rc1	0.47		1.2		1.8		0.47		1.2		2.2	
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	1000	1000	2200	2200	2200	3900	3900	470	470	1000	1000	1000	1500	1500
Ib	0.62	0.62	0.27	0.27	0.27	0.168	0.168	1.76	1.76	0.75	0.75	0.75	0.44	0.44
Ic1	0.145	0.145	0.064	0.064	0.064	0.465	0.465	0.41	0.41	0.177	0.177	0.177	0.10	0.10
Ec1	-0.765	-0.765	-0.735	-0.735	-0.735	-0.622	-0.622	-1.02	-1.02	-0.927	-0.927	-0.927	-0.81	-0.81
Ec2	31.9	31.9	23.3	23.3	23.3	16.3	16.3	57.2	57.2	37.5	37.5	37.5	30	30
Eb	38	38	27.2	27.2	27.2	21	21	74	74	47.5	47.5	47.5	43.5	43.5
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	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
Esig (1)	0.18	0.18	0.14	0.14	0.14	0.14	0.14	0.4	0.4	0.27	0.27	0.27	0.18	0.18
Eout	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	5.9	4.3	4.9

Table N

	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
Rb	0.1		0.27		0.47		0.1		0.27		0.47	
Rc1	0.39		1.2		1.8		0.39		1.2		2.2	
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	1200	1200	2700	2700	2700	4700	4700	560	560	1200	1200	1200	1800	1800
Ib	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
Ic1	0.18	0.18	0.068	0.068	0.068	0.045	0.045	0.50	0.50	0.183	0.183	0.183	0.102	0.102
Ec1	-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
Ec2	29.8	29.8	18.5	18.5	18.5	19.0	19.0	55	55	30.5	30.5	30.5	25.5	25.5
Eb	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
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	6.85	7.8	8.2	10.2	12.5	10.2	13.1	10.2	11.5	13.6	17.9	21.6	19.5	25.6
Gain	68.5	78.0	82	102	125	102	131	102	115	136	179	216	195	256
% Distortion	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
Esig(1)	0.2	0.2	0.14	0.14	0.14	0.13	0.13	0.5	0.5	0.25	0.25	0.25	0.15	0.15
Eout	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	167.5	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 O

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	0.10		0.27		0.47			0.10		0.27		0.47		
Rcf	0.27	0.47	0.27	0.47	1.0	4.7	1.0	0.27	0.47	0.27	0.47	1.0	0.47	1.0
Rk	3300	3300	5600	5600	6800	6800	8200	1800	2200	3300	3900	3900	4700	5600
Ib	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
Ec	-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
Eb	70	70	54.3	54.3	59.9	41.7	47.3	158.3	167	122	131	131	103	113.5
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	3.2	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
Esig (1)	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
Eout	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 P

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	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	6800	6800	8200	10,000	1800	1800	2700	3300	3900	3900	4700
Ib	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
Ec	-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
Eb	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
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	3.3	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
Esig (1)	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
Eout	5.15	5.5	4.1	7.3	8.2	5.75	9.7	23.0	26.0	21.8	31.2	37.0	25.0	36.0
Gain	32.2	34.4	41.0	43.0	48.1	48.0	51.0	43.5	47.4	54.5	59.0	60.6	62.4	67.5
% Dist.	4.5	4.0	3.2	5.0	4.5	4.0	5.0	4.5	4.0	3.3	4.0	4.5	3.3	3.8

Table Q

	Ebb = 100 Volts							Ebb = 250 Volts						
Rb	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	2200	2700	5600	5600	6800	10000	12000	1000	1200	2700	3300	3900	5600	6800
Ib	0.61	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
Ec1	-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
Eb	38	43	31	31	35	28	33	69	76	59	64	72	55	63
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	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
Esig (1)	0.42	0.61	0.54	0.55	0.71	0.62	0.76	0.93	1.13	1.01	1.26	1.48	1.28	1.52
Eout	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

	Ebb = 100 Volts							Ebb = 250 Volts						
Rb	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	1800	2200	3900	3900	4700	6800	8200	1200	1200	2200	2700	3300	3900	4700
Ib	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
Ec1	-.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
Eb	51	54	37	37	40	33	33	109	109	76	83	91	60	65
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	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
Esig (1)	0.35	0.45	0.32	0.32	0.43	0.36	0.46	1.02	1.02	0.79	0.95	1.16	0.83	0.99
Eout	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	4.6	4.5

Note (1) For Self Bias Operation This is Taken at the Grid Current Point With Less Than 1/8 μa. Grid Current.

RESISTANCE COUPLED AMPLIFIER DATA

Table S — Triode Section

	Ebb = 100 VOLTS						Ebb = 250 VOLTS					
Rb	.047		0.10		0.27		.047		0.10		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	1500	1500	2700	3300	8200	8200	560	680	1200	1500	3300	3900
Ib	1.24	1.24	0.69	0.64	0.26	0.26	3.79	3.69	1.95	1.86	0.74	0.73
Ec1	−1.86	−1.86	−1.86	−2.11	−2.13	−2.22	−2.12	−2.51	−2.34	−2.79	−2.44	−2.85
Eb	39.8	39.8	29.1	33.9	27.7	24.9	69.9	74.0	52.7	61.2	47.6	50.2
Esig	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Eout	5.4	5.7	5.2	5.4	4.8	5.0	6.8	6.8	6.2	6.4	5.7	5.7
Gain	10.8	11.4	10.4	10.8	9.6	10.0	13.6	13.6	12.4	12.7	11.4	11.4
% Dist.	3.6	3.2	3.7	2.4	2.8	2.4	2.2	1.8	2.1	1.6	1.7	1.4
Esig(1)	0.73	0.71	0.67	0.87	0.9	0.9	1.03	1.33	1.14	1.52	1.27	1.56
Eout	7.8	8.1	6.9	9.5	8.6	9.0	14.2	18.3	14.4	19.5	14.5	17.7
Gain	10.7	11.4	10.3	10.9	9.6	10.0	13.8	13.8	12.6	12.8	11.4	11.3
% Dist.	5.0	4.6	4.7	4.7	5.0	4.4	4.8	5.0	5.0	5.0	4.6	4.7

Table T — Pentode Section

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	0.1		0.27			0.47		0.1		0.27			0.47	
Rc2	0.33		0.82			1.5		0.33		1.0			1.8	
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	1500	1500	3300	3300	3300	5600	5600	470	470	1200	1200	1200	2200	2200
Ib	.612	.612	.273	.273	.273	.159	.159	1.84	1.84	.69	.69	.69	.404	.404
Ic2	.209	.209	.095	.095	.095	.054	.054	.610	.610	.21	.21	.21	.123	.123
Ec1	−1.23	−1.23	−1.21	−1.21	−1.21	−1.19	−1.19	−1.15	−1.15	−1.08	−1.08	−1.08	−1.16	−1.16
Ec2	29.8	29.8	20.9	20.9	20.9	17.8	17.8	50.9	50.9	38.9	38.9	38.9	27.5	27.5
Eb	37.6	37.6	25.1	25.1	25.1	24.1	24.1	64.9	64.9	62.4	62.4	62.4	58.8	58.8
Esig	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Eout	5.0	5.8	5.2	6.3	7.2	5.85	7.1	10.0	11.0	10.2	12.5	14.4	11.8	14.2
Gain	100	116	104	126	144	107	142	200	220	204	250	288	236	284
% Dist.	2.8	2.6	2.0	1.5	1.5	2.9	2.7	2.2	1.7	2.3	2.2	2.2	2.3	2.1
Esig(1)	.09	.11	.09	.09	.09	.07	.07	.14	.19	.09	.08	.09	.11	.15
Eout	9.1	12.2	9.1	11.5	13.2	8.15	10.2	26.5	39.5	17.8	19.5	25.4	25.0	41.0
Gain	101	111	101	128	147	107	146	189	208	198	244	282	227	273
% Dist.	4.6	4.9	5.0	5.0	4.6	5.0	5.0	5.0	4.5	4.1	3.4	3.4	5.0	4.9

Table U

	Ebb = 100 VOLTS							Ebb = 250 VOLTS						
Rb	0.1		0.27			0.47		0.1		0.27			0.47	
Rc2	0.56		1.5			2.7		0.56		1.5			2.7	
Rcf	0.27	0.47	0.27	0.47	1.0	0.27	0.47	0.27	0.47	0.27	0.47	1.0	0.47	1.0
Rk	1500	1800	3300	3300	3300	5600	5600	820	820	1200	1500	1500	1800	2200
Ib	0.51	0.48	0.23	0.23	0.23	0.13	0.13	1.47	1.47	0.68	0.65	0.65	0.41	0.39
Ic2	0.10	0.10	0.05	0.05	0.05	0.03	0.03	0.29	0.29	0.13	0.13	0.13	0.08	0.07
Ec1	−0.92	−1.10	−0.91	−0.91	−0.91	−0.91	−0.91	−1.44	−1.44	−0.97	−1.17	−1.17	−0.88	−1.0
Ec2	43	43	24	24	24	18	18	87	87	54	54	54	33	60
Eb	48	51	37	37	37	38	38	102	102	66	74	74	56	66
Esig	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Eout	4.15	4.45	4.95	6.0	7.15	5.9	7.45	11.2	12.5	15.7	18.6	22.0	21.8	25.3
Gain	83.0	89.0	99.0	120	143	118	149	112	125	157	186	220	218	253
% Dist.	1.2	1.5	3.1	2.8	2.1	4.0	3.0	0.6	0.5	0.8	0.6	0.8	1.9	1.3
Esig(1)	0.12	0.16	0.08	0.09	0.1	0.06	0.08	0.51	0.49	0.21	0.29	0.28	0.13	0.19
Eout	9.65	13.5	7.6	10.5	13.5	6.95	11.6	51.0	54.5	32.0	48.0	54.5	26.2	45.0
Gain	80.3	84.4	95.0	116	135	116	145	100	111	152	165	194	201	237
% Dist.	3.4	5.0	5.0	4.6	4.2	4.7	5.0	4.2	3.1	2.7	5.0	3.3	2.9	4.5

Table V

	Ebb = 180 VOLTS							Ebb = 300 VOLTS						
Rb	0.1		0.22			0.47		0.1		0.22			0.47	
Rc2	0.33		0.82			1.8		0.33		0.82			1.2	
Rcf	0.22	0.47	0.22	0.47	1.0	0.47	1.0	0.22	0.47	0.22	0.47	1.0	0.47	1.0
Rk	680	680	1200	1200	1200	2500	2500	330	330	580	580	580	1200	1200
Esig	.5	.5	.37	.36	.33	.27	.26	.45	.42	.34	.34	.33	.28	.27
Eout	28	33	24	31	34	27	32	32	35	28	37	41	35	42
Gain	56	65	65	87	101	98	122	68	83	81	109	123	125	152

Table W

	Ebb = 300 VOLTS							Ebb = 400 VOLTS						
Rb	.022		.047			.10		.022		.047			.10	
Rcf	0.1	0.27	0.1	0.27	0.1	0.27	0.47	0.1	0.27	0.1	0.27	0.1	0.27	0.47
Rk	820	820	1500	1800	2700	3900	4700	820	820	1500	1800	2700	3900	4700
Ib	7.22	7.22	3.8	3.54	1.94	1.74	1.63	9.75	9.75	5.09	4.8	2.64	2.34	2.2
Ec1	−5.92	−5.92	−5.7	−6.38	−5.24	−6.88	−7.66	−8.0	−8.0	−7.64	−8.64	−7.13	−9.3	10.34
Eb	135.3	135.3	115.7	127.0	100.8	119.1	129.3	177.5	177.5	155.9	165.7	128.9	156.9	169.7
Esig	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	1.0
Eout	13.5	13.8	13.4	13.6	13.0	13.0	13.0	13.5	13.8	13.5	13.7	13.3	13.4	13.3
Gain	13.5	13.8	13.4	13.6	13.0	13.0	13.0	13.5	13.8	13.5	13.7	13.3	13.4	13.3
% Dist.	1.1	0.9	1.1	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.7	0.9	0.7	0.7
Esig	4.19	4.19	4.03	4.51	3.7	4.86	5.42	5.66	5.66	5.4	6.12	5.04	6.44	7.31
Eout	56.5	58.0	54.0	61.5	48.0	63.0	69.8	76.2	78.2	73.0	83.8	66.5	85.5	97.5
Gain	13.5	13.8	13.4	13.6	13.0	13.0	12.9	13.5	13.8	13.5	13.7	13.2	13.3	13.3
% Dist.	4.8	4.4	4.6	4.4	4.8	4.6	4.8	4.9	4.4	4.8	4.5	5.0	4.7	5.0

Table X

	Ebb = 90 VOLTS			Ebb = 180 VOLTS			Ebb = 300 VOLTS		
Rb	0.1	0.27	0.47	0.1	0.27	0.47	0.1	0.27	0.47
Rc2	0.47	1.5	2.7	0.39	1.2	3.3	0.47	1.5	3.3
Rcf	0.27	0.47	1.0	0.27	0.47	1.0	0.27	0.47	1.0
Rk	1200	2200	4700	1200	1200	2700	390	1000	1000
Esig	.33	.23	.22	.61	.32	.27	.51	.43	.40
Eout	15	15	17	27	28	30	40	45	52
Gain	45	65	77	44	87	110	78	105	134
% Distortion	5	5	5	5	5	5	5	5	5

Table Y

	Ebb = 180 VOLTS						Ebb = 300 VOLTS					
Rb	0.10		0.24		0.51		0.1		0.24		0.51	
Rcf	0.10	0.24	0.24	0.51	0.51	1.0	0.10	0.24	0.24	0.51	0.51	1.0
Rk	2400	2700	4300	4700	7500	8200	1800	2000	3000	3300	5600	6200
Esig	.62	.70	.60	.70	.60	.70	1.0	1.1	1.0	1.0	1.0	1.1
Eout	18	23	24	31	28	35	35	42	43	52	50	60
Gain	29	34	40	45	47	50	33	38	44	49	51	55
% Dist.	5	5	5	5	5	5	5	5	5	5	5	5

Note (1) For Self Bias Operation This is Taken at the Grid Current Point With Less than $\frac{1}{8}\mu$a. Grid Current.

TUBE TYPE BASING ARRANGEMENTS

BASE	TYPE
OA5	OA5
1AG4	1AG4
1AG5	1AG5
1AJ5	1AJ5
1AK4	1AK4
1AK5	1AK5
1V6	1V6
3C	1AU3, 1B3GT, 1G3, 1J3, 1J3A, 1K3, 1N2A
4AA	1LE3, 1293
4AB	2X2, 2X2A
4AC	3A3
4AH	1R4
4AJ	OA3, OB3, OC3, OD3, 1265, 1266
4AM	2C22
4BU	OY4, OY4G
4C	5Z3, 80, 83, 1275
4CG	6AU4GTA, 6AX4GT, A, 6CQ4, 6DA4, A, 6DE4, 6DM4, 6DQ4, 6W4GT, A, 12AX4GTA, B, 12D4, A, 12DM4, 12DQ4, 17AX4GT, A, 17D4, A, 17DE4, 17DM4, 17DQ4, 19AU4, GTA, 22DE4, 25AX4GT, 25W4GT
4CK	5823
4CN	5644
4D	2A3, 6A3, 45, 1230, 1276
4K	1229
4R	OZ4, OZ4A, OZ4G
4V	OA4G, 1267
4Z	35Z3
5AB	7Y4, 7Z4
5AC	7A4/XXL, 7B4
5AD	1LA4, 1LB4
5AG	1LH4
5AL	35Y4
5AP	1A3
5AW	807, W, 5933, WA
5AY	6D4
5AZ	1625
5BO	OA2, WA, OB2, WA, OC2, 5651, WA, 6626, 6627
5BQ	25DK4, 35W4, 36AM3, A, 50DC4
5BS	6X4, WA, 12X4
5BT	6BG6G, 6CD6G, A, 6DN6, 6EX6, 19BG6GA, 21EX6, GA, GB, 25CD6-GB, 25DN6, 35CD6GA, 7867
5CA	5845
5CB	5722
5CE	6AB4, 6664
5D	6Z4/84, 84/6Z4
5DE	3DG4
5L	5AR4, 5AT4, 5CG4, 5V4G, GA, 5Z4, GT, 6Z34
5M	6F5, GT, 12F5GT
5Q	5X4GA, 5Y4GA, GT
5S	6B4G
5T	5AS4, A, 5AW4, 5AX4GT, 5AZ4, 5R4GY, GYA, GYB, 5T4, 5U4G, GA, GB, 5U4WG, WGTA, 5Y3GT, A, 5931
5Y	1N5GT
5Z	1H5GT
6AA	7A5, 7C5, 14C5, 35A5, 50A5
6AB	6SF5, 12SF5, 12SF5GT
6AB8	6AB8
6AD	35Z5GT
6AE	7B5
6AM	6AL6, 6BQ6GTA, GTB, 6BW5, 6CU6, 6DJ6, 6DQ6A, B, 6GW6, 12BQ6GTA, GTB, 12CU6, 12DQ6A, B, 12GW6, 17BQ6GTB, 17DQ6, A, B, 17GW6, 25BQ6GA, GT, GTB, 25DQ6A
6AR	1AE4, 1AF4, 1L4, 1T4, 1U4, 5910
6AU	1AF5, 1S5
6AX	1LD5
6B	41, 42, 43
6BA	3D6
6BG	6C4, 6135
6BS	2050
6BT	3AL5, 6AL5, 6EB5, 12AL5, 5726, 5726/6AL5W/6097, 6097, 6663, 6919 7055, 7631
6BW	1DN5, 1U5
6BX	3V4
6CC	6AR5
6CH	6AM5, 6BJ5, 6516
6CJ	5641
6CK	6AU5GT, 6AV5GA, 6BD5GT, 12AV-5GA, 17AV5GA, 18A5, 25AV5GA
6CL	5851, 6000, 6147
6CN	6BY5G, GA
6E	25Z5
6F	6C6, 6D6, 78, 1221
6G	75
6Q	6AC5GT, 6C5, GT, 6J5, GT, 12J5GT, 884
6R	6E5, 6U5
6S	6AX5GT, 6X5GT, WGT, 1274
6X	1A5GT
7AG	6AD6G, 6AF6G
7AK	1LA6, 1LC6
7AO	1LC5, 1LG5, 1LN5
7AP	3Q5GT
7AT	1R5
7AV	1S4
7AZ	6SF7, 12SF7
7BA	3S4, 3Q4, 3Z4
7BB	3A4
7BC	3A5
7BD	3CE5, 3BC5, 4BC5, 4CE5, 6AG5, 6AJ5, 6AK5, 6AN5, 6BC5, 6CE5, 35C5, 408A, 5654, 5654/6AK5W/ 6096, 6028, 6186, 6186/6AG5WA, 6968, 9001, 9003
7BE	3B7
7BF	5J6, 6J6, A, WA, 19J6, 1216, 5844, 5964, 6045, 6101, 7244, A
7BH	2C21
7BJ	6AN6
7BK	3AU6, 3BA6, 4AU6, 4BA6, 6AH6, 6AK6, 6AU6, A, WB, 6BA6, W, 6BD6, 6FD6, 6HR6, 12AC6, 12AF6, 12AU6, 12BA6, 12BD6, 12BL6, 12CX6, 12CY6, 12DZ6, 12EA6, 12EK6, 12EZ6, 18FW6, 18GD6, 19HR6, 5749, 6660, 7496, 7543
7BN	2D21, 2D21W
7BQ	6J4, WA, 7137, 7245
7BS	9002
7BT	3AV6, 4AY6, 6AT6, 6AQ6, 6AV6, 6BF6, 12AE6, A, 12AJ6, 12AT6, 12AV6, 12BF6, 12BK6, 12FK6, 12FM6, 12FT6, 18FY6, 18GE6
7BZ	5AQ5, 6AQ5, A, 6BF5, 6DS5, 12AQ5, 19AQ5, 35B5, 50B5, 6005, 6005/ 6AQ5W
7C	6A7, 6669
7CH	3BE6, 3BY6, 3CS6, 4BE6, 4CS6, 6BE6, 6BY6, 6CS6, 12AB6, 12AD6, 12AG6, 12BE6, 12CS6, 12EG6, 12FA6, 18FX6, 1217, 5750/6BE6W, 5750, 5915, A, 7032, 7036, 7502
7CK	2E26, 6146, 6883, 6888, 6893
7CM	3BZ6, 3CB6, 3CF6, 3DK6, 4BZ6, 4CB6, 4DE6, 4DK6, 4EW6, 4GM6, 5EW6, 5GM6, 6AS6, 6BH6, 6BJ6, 6BZ6, 6CB6A, 6CF6, 6DB6, 6DC6, 6DE6, 6DK6, 6EW6, 6GM6, 12AW6, 12BZ6, 15EW6, 5725, 5725/6AS6W, 6661, 6662, 6676, 6954, 7056, 7732, 8136
7CV	4GZ5, 6AS5, 6CA5, 6CU5, 6EH5, 11C5, 12AS5, 12C5, 12CA5, 12CN5, 12CU5, 12DM5, 12ED5, 12EH5, 12R5, 17C5, 17CA5, 17R5, 25C5, 25CA5, 25EH5, 32ET5, A, 34GD5, A, 35C5, 35EH5, 40FR5, 50C5, 50CA5, 50EH5, 50FA5, 50FK5, 60FX5
7DB	6AM6, 7498
7DC	1L6, 1U6
7DF	3BN6, 4BN6, 6BN6, 12BN6
7DK	2AF4, A, B, 2T4, 3AF4A, B, 6AF4, A, 6AN4, 6T4, 7738
7DU	6354
7DX	7A6, 50X6
7EA	6CR6, 12CR6
7EG	2BN4, A, 3BN4A, 4BN4, 6BN4A
7EJ	7001
7EN	3DT6, A, 4DT6, A, 5GX6, 6DT6, A, 6GX6, 6GY6, 12DT6, 7693, 7694
7ES	1AN5
7EW	2CY5, 2EA5, 2EV5, 3CY5, 3EA5, 3EV5, 4CY5, 6CY5, 6EA5, 6EV5, 7167, 7717
7FB	12EL6
7FD	12K5
7FL	2EN5
7FP	2ER5, 2ES5, 2FH5, 2FQ5, A, 2FY5, 2GK5, 3ER5, 3ES5, 3FH5, 3FQ5, A, 3FY5, 3GK5, 6ER5, 6ES5, 6FH5, 6FQ5, A, 6FY5, 6GK5, 6ER5
7FQ	2FV6, 6FV6
7FW	6GN6, 12GN6
7FZ	35GL6, 50HC6
7GA	2FS5, 3FS5, 6FG5, 6FS5
7Q	6H6, GT, 12H6, 25Z6GT, 50AX6G, 50Y6GT, 117Z6GT
7R	6J7, G, GT, 6K7, 12J7GT, 12K7GT, 1223
7S	5V6GT, 6DG6GT, 6EY6, 6EZ5, 6EZ6, 6F6, G, GT, 6G6G, GT, 6K6GT, 6L6, GB, GC, 6U6, GT, GTY, 6V6, GT, GTA, 6W6GT, 6Y6GA, 7EY6, 9EF6, 12A6, 12EF6, 12EN6, 12L6GT, 12V6GT, 12W6GT, 17L6GT, 25L6GT, 25W6GT, 35L6-GT, 50L6GT, 50L6GT, 1614, 5824, 5871, 5881, 5932, 6550, 7408, EL-37, KT-66, KT-88, 7581, A, 7751
7T	6L7, 6P7G, 1612
7V	6Q7, GT, 6R7, 12Q7GT, 6118
7Z	1A7GT
8A	6A8, G, GT, 12A8GT
8AC	7AF7, 7F7, 7N7, 14AF7/XXD, 14F7
8AD	6SA7GT, GTY, 12SA7GT
8AE	7R7, 14R7
8AL	7Q7, 14Q7
8AN	50Y7GT
8AO	117L7/M7GT
8B	6N7, GT
8BD	2C50, 2C52, 6AS7, G, GYB, 6BL7GT, GTA, 6BX7GT, 6DN7, 6EA7, 6SL7-GT, WGT, 6SN7GTB, WGTA, 6W4GTA, 10EG7, 10EM7, 12SL7-GT, 12SN7GTA, 13EM7, 15EA7, 5691, 5692, 5998A, 6080, 6082A, 6188, 6336A, 6394A, 6520, 6528, 7105, 7236
8BF	7K7
8BJ	7W7
8BK	6SG7, GT, 6SH7, 12SG7, 12SH7
8BL	7J7, 7S7
8BS	28D7, W, 1238
8BW	7F8, W, 14F8
8BZ	7X7
8CH	6AL7GT
8CJ	2C51, 5670, WA, 7861
8CK	6AQ7GT
8CP	1AC5, 1AD5
8CT	6BA7, 12BA7
8DA	1S6
8DC	5636, 5908, 5916, 6205, 6206, 6943, 6944
8DD	5643
8DF	6AZ5
8DG	6BF7, 6021, 6111, 6112, 6832, 6947, 6948, 7327, GB, 7550, 7759, 7760, 7787, 7789
8DJ	5896, 5903, 6052, 6053, 6110
8DK	6AD4, 6AK4, 5718, 5719, 5904, 5977, 6055, 6814, 6946, 7888
8DL	5639, 5840, 5899, 5902, 5905, 5906, 5907, 6049, 6056, 6788, 6945, 7761, 7762, 8064
8DM	5987
8DQ	5968
8DR	5969
8DS	5970
8DY	6BA5
8E	6B8, 12C8
8EC	7212, 7358
8EL	6AH4GT
8ES	40A1, 40B2
8ET	6CA7, EL34
8EX	6308
8EY	6352
8EZ	3AW3
8FP	6BU5
8FU	6BD4, A
8G	6C8G, 6F8G
8GB	6BL4
8GC	6BK4, 6BU4
8GD	6CB5A, 6CL5, 6FN5
8GH	3B2
8GQ	6690
8GT	6CM5
8GV	6M3
8HC	2B3
8HY	7027, A
8JB	6CK4
8JC	6DQ5
8JP	6DZ7
8JX	6GC6, 12GC6
8K	6K8, 12K8
8KB	6FE5, 50FE5
8KD	5CU4

TUBE TYPE BASING ARRANGEMENTS

BASE	TYPE
8KG	7591
8KN	7355
8KS	5DJ4
8N	6AB7, 6AC7, 6SJ7, GT, WGT, 6SK7, GT, 6SS7, 12SJ7, GT, 12SK7, GT, 5693
8Q	6SQ7, GT, 6SR7, 12SQ7, GT, 12SR7
8R	6SA7, 6SB7Y, 12SA7
8S	6SC7, 12SC7
8U	7A8
8V	7A7, 7AG7, 7AK7, 7B7, 7C7, 7H7, 7L7, 7V7, 14A7, 14C7, 1231, 1273, 1280, 1284, 6145
8W	7B6, 7C6, 14B6
8X	7B8
8Y	6AG7
9A	6AX7, 7AU7, 9AU7, 12AD7, 12AE7, 12AT7, WA, 12AU7, A, 12AV7, 12AX7, A, 12AY7, 12AZ7A, 12BH7, A, 12BZ7, 12DF7, 12DM7, 12DT7, 12DW7, 12FV7, 12U7, 5751, WA, 5814, A, WA, 5963, 5965, 6189, 6189/12AU7WA, 6201, 6211A, 6679, 6680, 6681, 6851, 6955, 7025, 7058, 7062, 7318, 7489, 7490, 7492, 7494, 7728, 7729, 7730
9AC	6S4A
9AD	5879
9AE	5EA8, 5GH8, 5U8, 6AX8, 6EA8, 6GH8, 6GJ8, 6U8A, 9U8A, 19EA8, 6678, 7059, 7643, 7687, 7731
9AG	12B4A
9AH	6V8, 19V8, 7500
9AJ	4BC8, 4BQ7A, 4BS8, 4BX8, 4BZ7, 4BZ8, 4ES8, 5BK7A, 5BQ7A, 5BZ7, 5ES8, 6AQ8, 6BC8, 6BK7A, B, 6BQ7A, 6BS8, 6BX8, 6BZ7, 6BZ8, 6CG7, 6GM8, 6DJ8, 6DT8, 6ES8, 6FW8, 7DJ8, 7ES8, 8CG7, 12DJ8, 12DT8, 6922, 7057, 7803
9AK	5X8, 6X8, 9X8, 19X8
9AQ	3BX6, 3BY7, 3EH7, 3EJ7, 4EH7, 4EJ7, 6BX6, 6EH7, 6EJ7, 6EL7, 12BX6, 13EC7
9AX	6BC7, 6BJ7
9AZ	12AD5
9BA	7227, 7499, 6DG7
9BD	6B3, 6V3A, 12B3
9BF	12BV7, 12BY7, 12DQ7, 6870, 7054, 7733
9BQ	6BK5, 12BK5, 25BK5, 50BK5
9BS	12DF5
9BV	6CL6, 6677
9BX	6AJ4, 6AM4, 6CR4
9CB	6AF3, 12AF3
9CF	9BR7, 12BR7
9CK	5CM6, 6CM6, 6DW5, 12CM6, 12DW5
9CM	50A1
9CQ	Ef86/6267
9CV	6BQ5, 6CW5, 6DY5, 8BQ5, 8CW5, 10BQ5, 12FB5, 15CW5, EL84/6BQ5, EL86, 7189, 7320
9CY	5AM8, 6AM8, A
9CZ	12G8, 6350, 6463, 6840
9DA	5AN8, 6AN8, A, 10C8, 12CT8, 7258
9DC	4BL8, 6BL8, 9A8
9DD	6FC7, 7FC7
9DJ	6BW4, 12BW4
9DS	5AS8, 6AS8
9DT	3A2
9DV	6486A
9DW	5AT8, 6AT8, A
9DX	6AU8, A , 6AW8, A, 6BA8, 6BH8, 6CX8, 6EB8, 6GN8, A, 6HF8, 6HZ8, 6JE8, 8AU8, A, 8AW8A, 8BA8A, 8BH8, 8CX8, 8EB8, 8GN8, 8JE8, 10EB8, 10HF8, 11JE8, 7060, 7716
9DZ	5AV8
9E	5T8, 6T8A, 19C8, 19T8
9EC	5B8
9ED	6AZ8
9EF	6CS7, 8CS7, 6DA7, 10DA7
9EG	5BE8, 5DH8, 6BE8, A
9EJ	6582A, 7001
9EN	6CN7, 8CN7
9EP	7898
9EQ	7721, 7722
9ER	6BJ8, 6BN8, 8BN8
9ES	6CM7, 8CM7
9EU	6GC5, 12AB5, 6973, 7061
9EX	6A8, 6BM8, 6DZ8, 8DZ8, 9DZ8, 12DZ8, 17HC8, 18DZ8, 50BM8, 35DZ8, 50FY8
9FA	5BR8, 5FV8, 6BR8A, 6FV8, A, 9BR8, 12EC8, 19HV8
9FC	4CX7, 6CH7, 6CX7
9FE	5BT8, 6BT8
9FG	3BU8, 3BU8A, 6BU8
9FH	12F8
9FJ	6BV8
9FK	17H3
9FN	6BY8
9FR	7233
9FT	6CH8
9FV	6854
9FX	5CL8, A, 6CL8A, 9CL8, 19CL8A
9FZ	5CM8, 6CM8, 6CS8
9G	5686
9GB	6877
9GC	12J8
9GE	5CQ8, 6CQ8
9GF	5CG8, 5FG7, 6CG8, A, 6FG7
9GJ	5CR8, 6CR8
9GM	6CU8
9GR	6DB5, 12DB5
9GS	12AL8
9GT	12DK8
9H	5687, 6900, 7044, 7119, 7370
9HE	6DC8
9HF	6DE7, 6DR7, 6EW7, 6FD7, 6FR7, 10DE7, 10DR7, 10EW7, 10FD7, 10FR7, 13DE7, 13DR7, 13FD7, 13FR7, 19DE7
9HK	5BW8, 6BW8
9HL	6939
9HN	5CZ5, 6CZ5, 6DT5, 6EM5, 6GB5, 8EM5, 12DT5, 25DT5, 27GB5, 28GB5
9HP	6AY3, 6BA3, 6BH3, 6DW4, 12AY3, 17AY3, 17BH3, 22BH3
9HR	12DL8, 12DV8
9HV	12EM6
9HZ	12DK7
9JC	12DW8
9JF	5EU8, 6EU8
9JG	5EH8, 6EH8
9JH	7150
9JT	7199
9JU	12DS7, A
9JX	12DU7
9JY	12DV7
9K	7495
9KA	6EZ8, 19EZ8
9KG	4CM4, 6CM4
9KH	7239
9KP	6FH8
9KR	6FM8, 14GT8, 14JG8, 7724
9KS	7360
9KT	12FQ8
9KU	12FR8
9KV	12FX8, A
9LC	6GE8, 7734
9LG	6CY7, 8CY7, 11CY7
9LP	6EV7, 6FQ7, 8FQ7
9LQ	6EQ7
9LS	6EU7
9LT	6ET7, 8ET7
9LW	3GS8, 3H58, 4GS8, 6GS8, 6HS8
9LX	1H2
9LZ	6GW8
9M	6CA4
9ME	35HB8
9MP	6HG8, 7HG8, 8HG8
9MQ	6GM5
9MR	6FA7
9MS	7701
9MX	7719
9NM	6GJ5, 12GJ5, 17GJ5
9NQ	6HW8
9NX	6BF8
9NZ	7868
9PA	6JC8
9PB	7905
9PG	20EZ7
9PQ	6JU8
9PX	7695, 7754
9PU	6HB6, 6GK6, 16GK6
9QJ	5BC3
9T	17C8
9U	1V2
9V	417A, 5842
9X	5847
9Y	1AX2, 1X2B
10F	6C9, 17C9A
12AQ	2CW4, 6CW4, 7586, 8056
12AS	7587
12BA	7688, 7689, 7690
12BF	6B10, 8B10
12BJ	6GF5, 12GE5
12BL	6AX3, 12AX3
12BM	6FJ7
12BQ	6C10, 6D10
12BR	5AZ3
12BU	6G11, 6AL11, 12AL11
12BW	6J11
12BY	6K11, 6Q11, 6AV11
12CA	6M11
12CN	7984
12CT	8058
12DA	6AG11
12DE8	12DE8
12DG	2AH2
12DM	6AR11, 11AR11
12DP	6AS11, 6AF11, 15AF11
12DQ	1AD2
60E3	60E3
407A	407A
FM1000	FM1000
1222	1222
1236A	1236A
1247	1247
5642	5642
5647	5647
5702	5702, WA, WB
5703	5703, WA, WB
5704	5704
5744	5744
5783	5783, 5787
5784	5784
5785	5785
5889	5889
6187	6187
6611	6611
6612	6612
6872	6872
7077	7077
7241	7241, 7242
7246	7246
7382	7382
7430	7430
7561	7561
7576	7575
7720	7720
7768	7768
7841	7841

EUROPEAN--AMERICAN RECEIVING TUBE REPLACEMENT CHART

AMERICAN SUBSTITUTIONS FOR EUROPEAN TUBES

European Type	American Type	Code*
1C1	1R5	ER
1D13	1A3	ER
1F2	1L4	ER
1F3	1T4	ER
1FD9	1S5	ER
1P10	3S4	ER
1P11	3V4	ER
6D2	6AL5	ER
6L12	6AQ8	ER
6P15	6BQ5	ER
8D4	6W7	NR♦‡
9BR8	9U8A	NR■
13D2	6SN7GTB	ER
B36	12SN7GTA	ER
B65	6SN7GTB	ER
B162	12AT7	ER
B309	12AT7	ER
B329	12AU7	ER
B339	12AX7, 7025	ER
B719	6AQ8	NR♦‡
BPMO4	6AQ5	ER
D2M9	6AL5	ER
D63	6H6	NR‡
D77	6AL5	ER
D152	6AL5	ER
DA90	1A3	ER
DAC32	1H5GT	ER
DAF91	1S5	ER
DAF92	1U5	ER
DCC90	3A5	ER
DD6	6AL5	NR‡
DF33	1N5GT	ER
DF62	1AD4	ER
DF91	1T4	ER
DF92	1L4	ER
DF904	1U4	ER
DH63 (M)	6Q7/G/GT	ER
DH76	12Q7/GT	NR♦‡
DH77	6AT6	ER
DH81	7B6	NR‡
DH149	7C6	ER
DH719	6T8A	ER
DK32	1A7GT	ER
DK91	1R5	ER
DL29	3D6	ER
DL33	3Q5GT	ER
DL35	1C5GT	ER
DL36	1Q5GT	ER
DL91	1S4	ER
DL92	3S4	ER
DL93	3A4	ER
DL94	3V4	ER
DL95	3Q4	ER
DL98	3B4	ER
DP61	6AK5	ER
DY30	1B3GT	NR‡
DY80	1X2B	NR‡
DY86	1H2	NR‡
DY87	1H2	NR‡
E90F	6BH6	ER
E91H	6BY6	NR♦‡
EAA91	6AL5	ER
EABC80	6T8	ER
EB34	6H6	NR♦‡
EB91	6AL5	ER
EBC33	6R7	NR♦‡
EBC90	6AT6	ER
EBC91	6AV6	ER
EBF32	6B8	NR♦‡
EC84	6AJ4	ER
EC90	6C4	ER
EC92	6AB4	ER
EC94	6AF4, 6AF4A	ER
EC95	6ER5	ER
EC97	6FQ5A	NR‡
ECC35	6SL7GT	NR♦‡
ECC40	6N7/GT	NR■‡♦
ECC81	12AT7	ER
ECC82	12AU7	ER
ECC83	12AX7, 7025	ER
ECC84	6BQ7A	NR■‡
ECC85	6AQ8	ER
ECC88	6DJ8	ER
ECC91	6J6	ER
ECC180	6BQ7A	ER
ECC189	6ES8	ER
ECF82	6U8	ER
ED2	6AL5	ER
EF37, EF37A	6J7/GT	NR♦‡
EF39	6K7/G/GT	NR♦‡
EF93	6BA6	ER
EF94	6AU6	ER
EF95	6AK5	ER
EF96	6AG5	ER
EF183	6EH7	ER
EF184	6EJ7	ER
EH90	6CS6	ER
EK32	6A8/G/GT	NR♦‡
EK90	6BE6	ER
EL37	6L6GC	NR♦‡
EL84	6BQ5	ER
EL86	6CW5	ER
EL90	6AQ5	ER
EL91	6AM5	ER
EL180	12BY7A	ER
EZ35	6X5GT	ER
EZ81	6CA4	ER
EZ90	6X4	ER
GZ30	5Z4	ER
GZ32	5V4GA	ER
GZ33	5U4GB	NR♦‡
GZ34	5U4GB	NR♦‡
H63	6F5/GT	ER
HAA91	12AL5	ER
HABC80	19T8	ER
HBC90	12AT6	ER
HBC91	12AV6	ER
HD14	1H5GT	ER
HD30	3B4	ER
HF93	12BA6	ER
HF94	12AU6	ER
HK90	12BE6	ER
HL90	19AQ5	ER
HL92	50C5	ER
HMO4	6BE6	ER
HY90	35W4	ER
KT32	25L6GT	NR‡
KT63	6F6G	ER
KT66	6L6GC, 5881, 807■	NR♦‡
KT71	50L6GT	NR♦‡
KTW61	6S7	NR♦‡
KTW63	6K7/G/GT	NR■‡
KTZ63	6J7/GT	NR‡
L63	6J5/GT	ER
L77	6C4	ER
N14	1C5GT	ER
N16	3Q5GT	ER
N17	3S4	ER
N18	3Q4	ER
N19	3V4	ER
N77	6AL5	NR‡
N709	6BQ5	ER
N727	6AQ5	ER
PCF82	9U8A	ER
PMO4	6BA6	ER
PMO5	6AK5	NR■
QEO6/50	807	NR‡
QVO5/25	807	NR‡
R19	1X2B	NR‡
R52	5Z4	ER
T2MO5	6J6	ER
U41	1B3GT	NR‡
U50	5Y3GT	ER
U52	5U4GB	ER
U70	6X5GT	NR♦‡
U78	6X4	ER
U147	6X5GT	ER
U149	7Y4	ER
U709	6CA4	NR‡
V2M70	6X4	ER
W17	1T4	ER
W63	6K7/G/GT	NR‡
W76	12K7/GT	NR♦‡
W149	7B7	ER
W727	6BA6	ER
X14	1A7GT	ER
X17	1R5	ER
X63 (M)	6A8/G/GT	NR‡
X81	7S7	NR■‡
X148	7S7	ER
X727	6BE6	ER
XC95	2ER5	ER
XCC189	4ES8	ER
XL84	8BQ5	ER
XF183	3EH7	ER
XF184	3EJ7	ER
YF183	4EH7	ER
YF184	4EJ7	ER
Z14	1N5GT	ER
Z63	6J7/GT	ER
ZD17	1S5	ER

EUROPEAN/AMERICAN EXACT REPLACEMENTS FOR EUROPEAN TUBES

European Type	**European/ American	European Type	**European/ American	European Type	**European/ American
1C2	1AC6	EC97	6FY5	N359	21A6
1FD1	1AH5	ECC84	6CW7	PABC80	9AK8
1P1	3C4	ECC86	6GM8	PC86	4CM4
6F12	6AM6	ECC88	6DJ8	PCC84	7AN7
		ECC89	6FC7	PCC85	9AQ8
6F18	6EC7	ECC189	6ES8	PCC88	7DJ8
6L34	6AQ4	ECF80	6BL8	PCC89	7FC7
6LD3	6CV7	ECF86	6HG8	PCF80	9A8
6P9	6BM5	ECH42	6C9	PCF86	7HG8
7D9	6AM5	ECH80	6AN7	PCL82	16A8
7D10	6CH6	ECH81	6AJ8	PCL84	15DQ8
8D3	6AM6	ECH83	6DS8	PL36	25E5
8D5	6BR7	ECL80	6AB8	PL81	21A6
8D7	6BS7	ECL82	6BM8	PL82	16A5
9D6	6CQ6	ECL84	6DX8	PL83	15A6
9P9	9BM5	EF41	6CJ5	PL84	15CW5
17N8	17C8	EF80	6BX6	PMO7	6AM6
19D8	19AJ8	EF81	6BH5	PY80	19X3
19U3	19X3	EF85	6BY7	PY81	17Z3
30C1	8A8	EF86	6CF8	PY82	19Y3
30F5	7ED7	EF86	6267	R16	1T2
30L1	7AN7	EF89	6DA6	SP6	6AM6
30P4	25GF6	EF89F	6DG7	U37	1T2
30P12	12FB5	EF91	6AM6	U43	6X2
62DDT	6CV7	EF92	6CQ6	U145	31A3
62VP	6CJ5	EL34	6CA7	U150	6BT4
63T1	6AB8	EL36	6CM5	U151	6X2
64SPT	6BX6	EL38	6CN6	U153	17Z3
65ME	6BR5	EL41	6CK5	U154	19Y3
66KU	6BT4	EL80	6M5	U191	19CS4
67PT	6CK5	EL81	6CJ6	UABC80	28AK8
141TH	14K7	EL83	6CK6	UAF42	12S7
171DDP	17N8	EL85	6BN5	UBC41	14L7
311SU	31A3	EL86	6CW5	UBF80	17N8, 17C8
451PT	45A5	EL91	6AM5	UC92	9AB4
B319	7AN7	EL95	6DL5	UCC85	26AQ8
BF61	6CK5	EL821	6CH6	UCH42	14K7
DAF96	1AH5	EQ80	6BE7	UCH81	19AJ8, 19D8
DC80	1E3	EY51	6X2	UCL82	50BM8
DF96	1AJ4	EY80	6U3	UF41	12AC5
DF97	1AN5	EY81	6R3	UF89	12DA6
DH150	6CV7	EY82	6N3	UL41	45A5
DH719	6AK8	EY86	6S2	UL84	45B5
DK92	1AC6	EY87	6S2A	UQ80	12BE7
DK96	1AB6	EY88	6AL3	UY41	31A3
DL96	3C4	EZ40	6BT4	UY85	38A3
EABC80	6AK8	EZ80	6V4	V61	6BT4
EAF42	6CT7	EZ91	6AV4	VP6	6CQ6
EBC41	6CV7	GZ34	5AR4	WD142	12S7
EBC80	6BD7	HCH81	12AJ8	WD709	6N8
EBC81	6BD7A	HL94	30A5	X18	1AC6
EBF80	6N8	LN152	6AB8	X20	1AC6
EBF81	6AD8	N78	6BJ5	X79	6AE8
EBF83	6DR8	N142	45A5	X719	6AJ8
EBF89	6DC8	N144	6AM5	Z77	6AM6
EC80	6Q4	N150	6CK5	Z152	6BX6
EC81	6R4	N152	21A6	Z719	6BX6
EC86	6CM4	N153	15A6	Z729	EF86
EC91	6AQ4	N309	15A6	ZD152	6N8
EC93	6BS4	N329	16A5		

■—Basing Differs. ♦—Heater Characteristics Differ. ‡—Electrical Characteristics Differ.

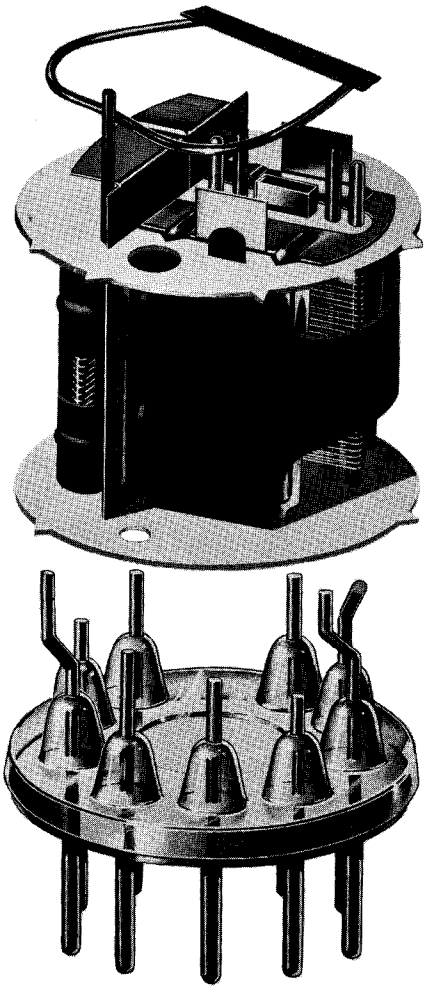
**—The suggested replacements are principally European manufactured tubes imported for sale in this country.

*— ER-Exact Replacement.
NR-Near Replacement.

Types coded NR may require changes in circuit wiring due to differences in basing and electrical characteristics as indicated by the accompanying qualifying notes. Suggested replacements coded ER compare identically with listed European types with respect to electrical characteristics, the type bases used and basing connections. The maximum ratings of suggested replacements compare with those of the European tubes; however, the differences between some types may be of significance in certain applications. Some types may also be especially controlled for particular characteristics.

The data shown is believed to be accurate. However, Sylvania does not assume responsibility in case of error.

Please note that all types listed may not be available from Sylvania. Consult your current price list.

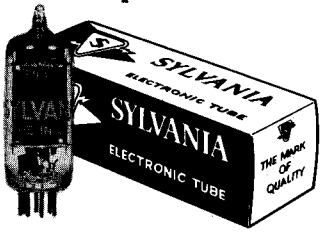


SYLVANIA RECEIVING TUBE QUALITY

BUILT IN

FROM BEGINNING TO END

From beginning (SYLVANIA tubes are assembled from SYLVANIA made components, permitting tight initial control of quality) to end (all finished SYLVANIA tubes receive a final quality check), SYLVANIA puts all its tubes through a demanding quality control program, assuring the highest degree of reliability, the least incidence of callbacks. Product quality is the end consideration in the manufacture of SYLVANIA receiving tubes. New developments and techniques of tube design, material and manufacturing methods are originated, researched and rapidly incorporated into actual production, creating the most modern, most advanced tubes possible. Always insist on SYLVANIA.

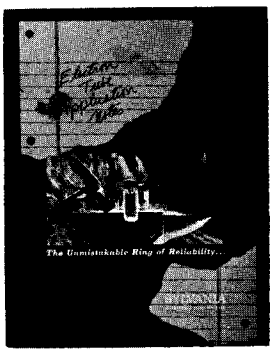


COMPLETE TECHNICAL INFORMATION & LITERATURE

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.

SYLVANIA NEWS (ET 1012) Largest and most widely read publication of its kind in the electronics industry. Features stories on advertising, merchandising and servicing. In addition, each issue contains a 4-page technical section. SUBSCRIPTION—FREE

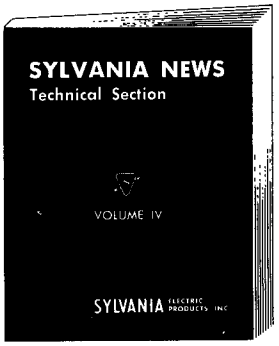


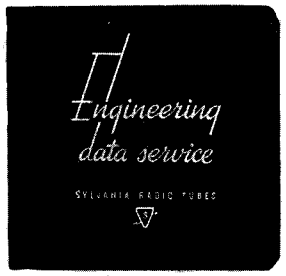


ELECTRON TUBE APPLICATION NOTES (ET3959) A 56-page brochure detailing the important parameters and considerations on electronic receiving tubes. This is the most comprehensive text on the subject available.

SYLVANIA NEWS TECHNICAL SECTION BINDERS One of the most complete reference libraries you can have are the technical sections of the SYLVANIA NEWS, sturdily bound in volume form.

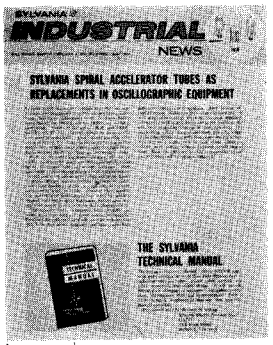
TECHNICAL SECTION BINDERS
No. 1341 Vol. 1 '35 to '40 incl. . .$1
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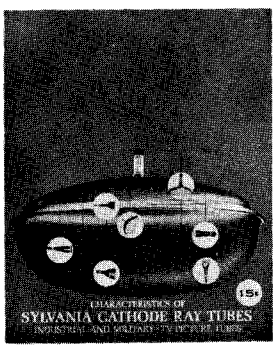




SYLVANIA ENGINEERING DATA SERVICE The most complete and comprehensive engineering data service available with full information on nearly 2,000 types of receiving tubes, cathode ray tubes, micro-wave devices, counter tubes, and electroluminescent display devices. Initial subscription $28 including 5 binders. Subsequent yearly maintenance fee $5 (approximately 7 supplemental inserts per year).

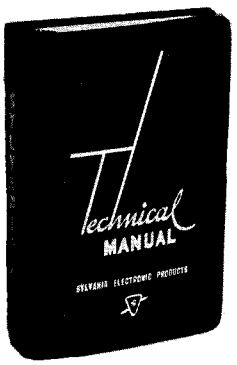
SYLVANIA INDUSTRIAL NEWS (ET 2004) Published six times a year, Sylvania Industrial News keeps you up-to-date on the latest Sylvania industrial products and manufacturing techniques. Any service dealer with industrial accounts should be on the mailing list for Sylvania Industrial news. SUBSCRIPTION—FREE

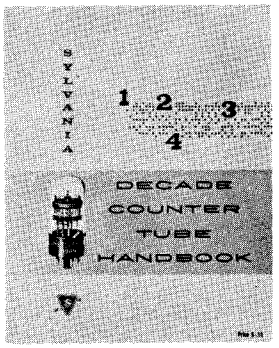




CHARACTERISTICS OF SYLVANIA CATHODE RAY TUBES (ET1351) Provides detailed characteristics data for hundreds of CRT types — industrial and military, and TV picture tubes. Includes basing diagrams and phosphor chart. An invaluable reference for dealers and technicians. PRICE—15¢

SYLVANIA TECHNICAL MANUAL (ET 1901) Abbreviated engineering data on over 1,800 types of receiving tubes, cathode ray tubes. A handy desk reference. Price $3.00 including supplemental mailings.





COUNTER TUBE HANDBOOK (ET3989) Complete technical data on Sylvania counter tubes and application information including typical circuits.

All material may be obtained by writing: *SYLVANIA ELECTRIC PRODUCTS INC.*
1100 MAIN STREET, BUFFALO 9, NEW YORK Or, contact your regular Sylvania Distributor.