

TECHNICAL MANUAL

Scanned and Prepared by Dale H. Cook

P R I C E T W E N T Y - F I V E C E N T S



GENERAL  ELECTRIC
Electronic
RADIO TUBES

METAL TYPE AND GLASS TYPE RECEIVING TUBES

Scanned and Prepared by Dale H. Cook

F O R E W O R D

The General Electric Receiving Tube Manual has been prepared especially to assist those who work or experiment with radio tubes and circuits.

The information and technical data presented in this booklet was selected after careful consideration of their usefulness and adaptations in the field of radio tube applications.

This manual will be found valuable by radio service men, radio technicians, experimenters, radio amateurs, and all others technically interested in radio tubes.

REPLACEMENT TUBE SALES SECTION
RADIO, TELEVISION AND ELECTRONICS DEPARTMENT
GENERAL ELECTRIC COMPANY
BRIDGEPORT CONNECTICUT

INFORMATION

For information regarding General Electric Radio Broadcast Receiving Equipment or Receiving Tubes, please write to the Replacement Tubes Sales Section, Radio and Television Department, General Electric Company, Bridgeport, Connecticut.

* * *

BEFORE USING THIS CHART

Please read the following notes carefully. They explain the symbols and abbreviations which are used.

A new system for describing the type of base and for referring to the base connection diagram is used in the column headed "Basing Data".

The symbol at the left of the hyphen refers to the base connection diagram.

The symbol at the right of the hyphen indicates the type of base and the number of contact pins in accordance with the following:

First Letter- M=Miniature Base
O=Octal Base
L=Locking Base
S=Standard Base

Second Letter- B=Button Base (A shell is not incorporated)
M=Medium Shell (bakelite)
S=Small Shell (bakelite)
W=Wafer Base (metal tube or bantam tube with metal shell)
GT=Intermediate (bantam) shell (bakelite)

Numeral Indicates the number of pins in base.

"B" after numeral indicates bayonet pin in base.

Examples:

4C-SS4B Diagram 4C, standard small shell with bayonet, 4 pin.
6G-SM6 Diagram 6G, standard medium shell, 6 pin.
7Q-OW7 Diagram 7Q, octal wafer base, 7 pin.

The column headed "Max Size View" shows the number of the tube outline drawing which gives dimensions. Although the letter in the symbol is arbitrarily chosen, the number refers to the bulb size. Thus 14C means that the tube has a size 14 bulb and that its outline drawing and dimensions are given in the "C" drawing for size 14 bulbs. Since the unit of bulb size is $1/8$ ", a size 14 bulb is nominally $1\ 3/4$ ", at its largest diameter.

* Indicates that capacitance is measured with standard tube shield connected to cathode. In the case of a metal type, the metal shell is connected to cathode.

"C" after figure in "Mutual Conductance" column indicates that value is for conversion transconductance. (Used for converter types only.)

"S" after figure in "Plate Volts" column indicates that value shown is anode supply voltage and that it is applied through the indicated value of G_2 resistor. (Also used only for converter types.)

Capacities shown for converter types are for the mixer section only.

Values of Plate Ma., Screen Ma., and Output Watts for push-pull operation are for two tubes and value of load resistance is from plate to plate.

Values of Grid Volts for filament type tubes are measured from the negative filament terminal.

Values of Cutoff Bias are approximate.

‡ Indicates that type is available on special order.

TYPE	DESIGN	CATHODE HTR OR FIL			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		TYPE	VOLTS	AMPS			G-P μFDS	IN μFDS	OUT μFDS													
00A	TRIODE	FIL	5.0	.25	4D-SM4B	14B	8.5	3.2	2.0	DETECTOR	45	0		1.5		20	30000	666				00A
01A	TRIODE	FIL	5.0	.25	4D-SM4B	14D	8.1	3.1	2.2	AMP CL A	135	-9		3		8	10000	800				01A
0A4G	GAS TRI	COLD			4V-OS6	12E				RELAY TUBE	MAX PEAK CATHODE CURRENT 100ma, MAX DC CATHODE CURRENT 25ma, STARTER ANODE DROP APPROX 60v, ANODE DROP APPROX 70v										0A4G	
0Z4 0Z4G	TWIN DIODE	COLD			4R-OW6 4R-OT5	8D 7A				FULL WAVE RECTIFIER	300 RMS MAX		75 ma MAX-30 ma MIN		TUBE DROP 24v							0Z4 0Z4G
1A4P	PENTODE	FIL	2.0	.06	4M-SS4	12H	.007*	5.0*	12*	AMP CL A	180	-3	67.5	2.3	0.8		1 MEG	750			-15	1A4P
1A4-T	TETRODE	FIL	2.0	.06	4K-SS4	12H	.012*	4.6	11	AMP CL A	180	-3	67.5	2.3	0.7	720	.96MEG	750			-15	1A4-T
1A5GT/G	PENTODE	FIL	1.4	.05	6X-OGT7	9H				POWER AMP CLASS A	90 85	-4.5 -4.5	90 85	4.0 3.5	0.8 0.7		.3 MEG .3 MEG	850 800	.115 .100	25000 25000		1A5GT/G
1A6	HEPTODE	FIL	2.0	.06	6L-SS6	12H	.25*	10.5	9.0	OSC SECT MIXER	135S 180	.05MEG -3	67.5	2.3 1.3	2.4		GRID #2 RES .5 MEG	300C	.02 MEG		-22.5	1A6
1A7G 1A7GT	HEPTODE	FIL	1.4	.05	7Z-OS8 7Z-OW8	9P 9F	.30*	6.5*	11*	OSC SECT MIXER	90 90	.2 MEG 0	45	1.2 0.55	0.6		.6 MEG	250C			-3	1A7G 1A7GT
1B4/951	PENTODE	FIL	2.0	.06	4M-SS4	12H	.007*	5.0	11	AMP CL A	180 90	-3 -3	67.5 67.5	1.7 1.6	0.6 0.7	975 600	1.5MEG 1 MEG	650 600			-8 -8	1B4/951
1B5/25S	DUO-DI TRIODE	FIL	2.0	.06	6M-SS6	12B	3.6	2.0	3.0	AMPLIFIER CLASS A	135	-3		0.8		20	35000	575				1B5/25S
1B7G	HEPTODE	FIL	1.4	.1	7Z-OS8	9P	.34*	7.0*	7.5*	OSC SECT MIXER	90 90	.2 MEG 0	45	1.6 1.5	1.3		.35MEG	350C			-14.5	1B7G
1C5GT/G	PENTODE	FIL	1.4	.1	6X-OGT7	9H				POWER AMP CLASS A	90 83	-7.5 -7	90 83	7.5 7.0	1.6 1.6	180 165	.12MEG .11MEG	1550 1500	.240 .200	8000 9000		1C5GT/G
1C6 1C7G	HEPTODE	FIL	2.0	.12	6L-SS6 7Z-OS8	12H 12F	.3* .26*	10 10*	10 14*	OSC SECT MIXER	180S 180	.05MEG -3	67.5	3.3 1.5	2.0		GRID #2 RES .7 MEG	325C	.02 MEG		-14	1C6 1C7G
1D5G-P	PENTODE	FIL	2.0	.06	5Y-OS7	12F	.007*	5.0*	11*	AMPLIFIER CLASS A	180 90	-3 -3	67.5 67.5	2.3 2.2	0.8 0.9	750 425	1 MEG .6 MEG	750 720			-15 -15	1D5G-P
1D5GT	TETRODE	FIL	2.0	.06	5R-OS7	12F	.012*	4.6*	11*	AMP CL A	180	-3	67.5	2.3	0.7		.96MEG	750			-15	1D5GT
1D7G	HEPTODE	FIL	2.0	.06	7Z-OS8	12F	.30*	10*	14*	OSC SECT MIXER	180S 180	.05MEG -3	67.5	2.3 1.3	2.4		GRID #2 RES .5 MEG	300C	.02 MEG		-22.5	1D7G
1D8GT	DI-TRI PENTODE	FIL	1.4	.1	8AJ-OGT8	9J				TRI CL A PENT CL A	90 90	0 -9	90	1.1 5.0	1.0	25	43500 .2 MEG	575 925	.200	12000		1D8GT
1E4G	TRIODE	FIL	1.4	.05	5S-OS7	9N	2.4	2.4	6.0	AMPLIFIER CLASS A	90 90	-3 0		1.4 4.5		14.5 14.5	19000 11200	760 1300				1E4G
1E5G-P	PENTODE	FIL	2.0	.06	5Y-OS7	12F	.007*	5.5*	12*	AMPLIFIER CLASS A	180 90	-3 -3	67.5 67.5	1.7 1.6	0.6 0.7	975 600	1.5MEG 1 MEG	650 600			-8 -8	1E5G-P
1E7G	TWIN PENTODE	FIL	2.0	.24	8C-OS8	12E				CL A 1 SECT CL A 2 SECT	135 135	-4.5 -7.5	135 135	7.5 14	2.2 4.0		.26MEG	1425	.290 .575	16000 24000		1E7G
1F4 1F5G	PENTODE	FIL	2.0	.12	5K-SM5 6X-OM7	14D 14C				PUSH-PULL PR AMP CL A CL AB 2 TUBE	135 180	-4.5 -7.5	135 180	8.0 19	2.4 5.5		.20MEG	1700	.310 1.25	16000 20000		1F4 1F5G
1F6 1F7G-H	DUO-DI PENTODE	FIL	2.0	.06	6W-SS6 7AD-OS8	12H 12F	.007* .01*	4 3.8*	9 9.5*	AMPLIFIER CLASS A	180	-1.5	67.5	2.2	0.7		1 MEG	650			-12	1F6 1F7G-H

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		HTR OR FIL TYPE	VOLTS	FIL AMPS			G-P μFDS	IN μFDS	OUT μFDS													
† 1G4GT/G	TRIODE	FIL	1.4	.05	5S-OGT7	9H				AMP CL A	90	-6		2.3		8.8	10700	825				1G4GT/G
† 1G5G	PENTODE	FIL	2.0	.12	6X-OM7	14C				POWER AMP CLASS A	135 90	-13.5 -6	135 90	8.7 8.5	2.5 2.5		.16MEG .13MEG	1550 1500	.550 .250	9000 8500		1G5G
† 1G6GT/G	TWIN TRIODE	FIL	1.4	.1	7AB-OGT8	9H				CL A 1 SECT CL B 2 SECT	90 90	0 0		1.0 2.0	30 PL CUR-MAX	45000 SIG-14ma	675	.675	12000		1G6GT/G	
† 1H4G	TRIODE	FIL	2.0	.06	5S-OS6	12E	5.0*	3.0*	3.0*	AMP CL A CL B 2 TUBE	180 157.5	-13.5 -15		3.1 1.0		9.3	10300	900	(SEE TYPE 30 ALSO) 2.1 8000		1H4G	
† 1H5G	DIODE	FIL	1.4	.05	5Z-OS7	9P	1.1	.36	4.0	AMPLIFIER CLASS A	90	0		0.15		65	.24MEG	275			1H5G	
† 1H5GT	TRIODE	FIL	1.4	.05	5Z-OW7	9F															1H5GT	
† 1H6G	DUO-DI TRIODE	FIL	2.0	.06	7AA-OS8	12E	3.6*	2.0*	3.0*	AMPLIFIER CLASS A	135	-3		0.8		20	35000	575			1H6G	
† 1J5G	PENTODE	FIL	2.0	.12	6X-OM7	14C				PR AMP CL A	135	-16.5	135	7.0	2.0	100	.1 MEG	1000	.45	13500		1J5G
† 1J6G	TWIN TR	FIL	2.0	.24	7AB-OS8	12E				CLASS B TWO SECT	135 135	0 -6		10 0.1	NO SIG NO SIG				2.1 1.6	10000 10000		1J6G
† 1LA4	PENTODE	FIL	1.4	.05	5AD-L8	9A				PR AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 1A5G										1LA4	
† 1LA6	HEPTODE	FIL	1.4	.05	7AK-L8	9A	.40	7.7	8.0	OSC MIXER	CHARACTERISTICS SAME AS FOR TYPE 1A7G										1LA6	
† 1LB4	PENTODE	FIL	1.4	.05	5AD-L8	9A				PR AMP CL A	90 45	-9 -4.5	90 45	5.0 1.6	1.0 0.3		.2 MEG .3 MEG	925 650	.200 .035	12000 20000		1LB4
† 1LH4	DI-TRI	FIL	1.4	.05	5AG-L8	9A	1.2	2.0	2.4	AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 1H5G										1LH4	
† 1LN5	PENTODE	FIL	1.4	.05	7AO-L8	9A	.007	3.4	8.0	AMP CL A	90	0	90	1.6	0.35	880	1.1MEG	800			-4.5	1LN5
† 1N5G	PENTODE	FIL	1.4	.05	5Y-OS7	9P	.007*	3.0	10.0	AMP CL A	90	0	90	1.2	0.3	1160	1.5MEG	750			-4	1N5G
† 1N5GT		FIL	1.4	.05	5Y-OW7	9F																1N5GT
† 1N6G	DI-PENT	FIL	1.4	.05	7AM-OS8	9N				PR AMP CL A	90	-4.5	90	3.4	0.7		.3 MEG	800	.10	25000		1N6G
† 1P5GT	PENTODE	FIL	1.4	.05	5Y-OW7	9F	.007*	3.0	10.0	AMP CL A	90	0	90	2.3	0.7		.8 MEG	750			-12	1P5GT
† 1Q5GT/G	BEAM PWR AMP	FIL	1.4	.1	6AF-OGT7	9H				POWER AMP CLASS A	90 85	-4.5 -5.0	90 85	9.5 7.0	1.3 0.8			2200 1950	.27 .25	8000 9000		1Q5GT/G
† 1R5	HEPTODE	FIL	1.4	.05	7AT-MB7	5.5A	.4	7.0	7.0	OSC SECT MIXER	OSC GRID RES 90	0	-.1 MEG 67.5	1.7	3.0	OSC GRID CUR - .25 MA .5 MEG	300C			-15	1R5	
† 1S4	PENTODE	FIL	1.4	.1	7AV-MB7	5.5A				PR AMP CL A	90 45	-7 -4.5	67.5 45	7.4 3.8	1.4 0.8		.1 MEG .1 MEG	1575 1250	.270 .065	8000 8000		1S4
† 1S5	DIODE PENTODE	FIL	1.4	.05	6AU-MB7	5.5A				DETECTOR AMP CL A	67.5	0	67.5	1.6	0.4		.6 MEG	625				1S5
† 1T4	PENTODE	FIL	1.4	.05	6AR-MB7	5.5A	.01	3.6	7.5	AMP CL A	90 45	0 0	67.5 45	3.5 1.7	1.4 0.7		.5 MEG .35MEG	900 700			-16 -10	1T4
† 1T5GT	BM PWR	FIL	1.4	.05	6X-OGT7	9H				PR AMP CL A	90	-6	90	6.5	0.8			1150	.17	14000		1T5GT
† 1-V	DIODE	HTR	6.3	.3	4G-SS4	12B				H W RECT	325 RMS MAX 45 DC MAX TUBE DROP 20v AT 90ma DC										1-V	
† 2A3	TRIODE	FIL	2.5	2.5	4D-SM4	16B				PR AMP CL A PUSH-PULL CL AB 2 TUBE	250 300 300	-45 -62 SELF		60 80 80		4.2	800	5250	3.5 15 10	2500 3000 5000		2A3

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		HTR OR TYPE	FIL VOLTS	FIL AMPS			G-P μFDS	IN μFDS	OUT μFDS													
2A4G	GAS TRI	FIL	2.5	2.5	5S-0S7	12E				THYRATRON	200 RMS MAX 100 DC MAX TUBE DROP 12v										-9	2A4G
2A5	PENTODE	HTR	2.5	1.75	6B-SM6	14D	TRIODE CONNECTION			PR AMP CL A CL AB 2 TUBE	250 350	-20 -38		31 48	(SEE TYPE)	6.8 6F6G	2600 ALSO)	.85 13.0	4000 6000			2A5
2A6	DUO-DI TRIODE	HTR	2.5	.8	6G-SS6	12H	1.7	2.0	3.5	AMPLIFIER CLASS A	250	-2		0.9		100	91000	1100			2A6	
2A7 2A7S	HEPTODE	HTR	2.5	.8	7C-SS7 7C-SS7	12H	.3*	8.5	9.0	OSC SECT MIXER	250S 250	.05MEG -3	100	4.0 3.5	2.7		GRID #2 RES .36MEG	1100 550C	.02 MEG		-35	2A7 2A7S
2B7 2B7S	DUO-DI PENTODE	HTR	2.5	.8	7D-SS7 7D-SS7	12H	.007*	3.5	9.5	AMPLIFIER CLASS A	250 100	-3 -3	125 100	9.0 5.8	2.3 1.7		.65MEG .30MEG	1125 950			-21 -17	2B7 2B7S
2E5	ELEC RAY	HTR	2.5	.8	6R-SS6	12B				TUNING IND	CHARACTERISTICS SAME AS FOR TYPE 6E5											2E5
2S/4S	DUO DIODE	HTR	2.5	1.35	5D-SS5					DETECTOR	40 APPROX PER PLATE AT 50v DC											2S/4S
2X2/879	DIODE	HTR	2.5	1.75	4AB-0S4	12H				H W RECT	4500 RMS MAX 7.5 DC MAX											2X2/879
3A8GT	DI-TRI PENTODE	FIL	1.4 or 2.8	.1 .05	8AS-0GT8	9L	2.0 .012	2.6* 3.0	4.2 10*	TRI CL A PENT CL A	90 90	-FIL -FIL	90	0.20 1.5	0.5		.20MEG .8 MEG	325 750				3A8GT
3Q5GT/G	BM PWR	FIL	1.4 or 2.8	.1 .05	7AP-0GT7	9H	PARALLEL FIL SERIES FIL			PR AMP CL A	90 90	-4.5 -4.5	90 90	9.5 8.0	1.3 1.0		.075MEG .08 MEG	2200 2000	.270 .230	8000 8000		3Q5GT/G
3S4	PENTODE	FIL	1.4 or 2.8	.1 .05	7BA-MB7	5.5A	PARALLEL FIL SERIES FIL			POWER AMP CLASS A	90 90	-7 -7	67.5 67.5	7.4 6.1	1.4 1.1		.1 MEG .1 MEG	1550 1425	.270 .235	8000 8000		3S4
4A6G	TWIN TRIODE	FIL	2.0 or 4.0	.12 .06	8L-0S8	12E				CL A 1 SECT CL B 2 SECT	90 90	-1.5 -1.5		1.1 1.1	20 PL CUR-MAX	26600 SIG-10.8ma	750		1.0	8000		4A6G
5T4	TWIN DIODE	FIL	5.0	2.0	5T-0W5	10C				FULL WAVE RECTIFIER	450 RMS MAX COND IN 225 DC MAX TUBE DROP 45v AT 225ma DC 550 RMS MAX CHOKE IN 225 DC MAX											5T4
5U4G	TWIN DIODE	FIL	5.0	3.0	5T-0M8	16A				FULL WAVE RECTIFIER	450 RMS MAX COND IN 225 DC MAX TUBE DROP 58v AT 225ma DC 550 RMS MAX CHOKE IN 225 DC MAX											5U4G
5V4G	TWIN DIODE	HTR	5.0	2.0	5L-0M5	14C				FULL WAVE RECTIFIER	375 RMS MAX COND IN 175 DC MAX TUBE DROP 23v AT 175ma DC 500 RMS MAX CHOKE IN 175 DC MAX											5V4G
5W4 5W4GT/G	TWIN DIODE	FIL	5.0	1.5	5T-0W5 5T-0GT5	8H 9HB				FULL WAVE RECTIFIER	350 RMS MAX COND IN 100 DC MAX TUBE DROP 45v AT 100ma DC 500 RMS MAX CHOKE IN 100 DC MAX											5W4 5W4GT/G
5X4G	TWIN DI	FIL	5.0	3.0	5Q-0M8	16A				F W RECT	CHARACTERISTICS SAME AS FOR TYPE 5U4G											5X4G
5Y3GT/G 5Y4G	TWIN DIODE	FIL	5.0	2.0	5T-0M5 5Q-0M8	9HB 14C				FULL WAVE RECTIFIER	350 RMS MAX COND IN 125 DC MAX TUBE DROP 60v AT 125ma DC 500 RMS MAX CHOKE IN 125 DC MAX											5Y3GT/G 5Y4G
5Z3	TWIN DI	FIL	5.0	3.0	4C-SM4	16B				F W RECT	CHARACTERISTICS SAME AS FOR TYPE 5U4G											5Z3
5Z4	TWIN DIODE	HTR	5.0	2.0	5L-0W5	8H				FULL WAVE RECTIFIER	350 RMS MAX COND IN 125 DC MAX TUBE DROP 20v AT 125ma DC 500 RMS MAX CHOKE IN 125 DC MAX											5Z4
6A3	TRIODE	FIL	6.3	1.0	4D-SM4	16B	16	7	5	PR AMP CL A PUSH-PULL CL AB 2 TUBE	CHARACTERISTICS SAME AS FOR TYPE 6B4G											6A3

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		TYPE	HTR OR VOLTS	FIL AMPS			G-P μFDS	IN μFDS	OUT μFDS													
6A4/LA	PENTODE	FIL	6.3	.3	5B-SM5	14D				PR AMP CL A PUSH-PULL CL AB 2 TUBE	180 250	-12 SELF	180 230	22 32	3.9 700	100 OHM BIAS RES	45500 RES	2200	1.4 4.2	8000 16000		6A4/LA
6A5G	TRIODE	HTR	6.3	1.25	6T-OM8	16A	16	7	5	PR AMP CL A PUSH-PULL CL AB 2 TUBE	250 325 325	-45 -68 SELF		60 80 80		4.2 800	5250	3.75 15 10	2500 3000 5000		6A5G	
6A6	TWIN TRIODE	HTR	6.3	.8	7B-SM7	14D	(SEE TYPE 6N7G ALSO)			AMP CL A TRI IN PAR'L	294 250	-6 -5		7 6		35 35	11000 11300	3200 3100				6A6
6A7 6A7S 6A8 6A8G 6A8GT	HEPTODE	HTR	6.3	.3	7C-SS7 7C-SS7 8A-OW8 8A-OS8 8A-OW8	12H	.3*	8.5	9.0	OSC SECT MIXER	250S 100	.05MEG .05MEG		4.0 2.0			GRID #2 RES	.02 MEG				6A7 6A7S 6A8 6A8G 6A8GT
6AB5/6N5	ELEC RAY	HTR	6.3	.15	6R-SS6	9R				TUNING IND	135 THRU .25 MEG, TARGET 135v, GRID 0v FOR 90°, -10.0v FOR 0°										6AB5/6N5	
6AB7/1853	PENTODE	HTR	6.3	.45	8N-OW8	8E	.015	8	5	HIGH FREQ AMPLIFIER	300 300	-3 -3	200 300 THRU	12.5 .03 MEG	3.2 MEG		.7 MEG	5000			-15 -22.5	6AB7/1853
6AC5G 6AC5GT	TRIODE	HTR	6.3	.4	6Q-OS6 6Q-OGT6	12E 9H	ONE 76 DRIVER TWO 76 DRIVERS			DIR C'P'D AMP PUSH PULL CL B 2 TUBE	250 250 250	SUPPLIED BY DRIVERS 0		32 64 5 NO SIGNAL		125	36700	3400	3.7 9.5 8	7000 10000 10000		6AC5G 6AC5GT
6AC7/1852	PENTODE	HTR	6.3	.45	8N-OW8	8E	.015	11	5	HIGH FREQ AMPLIFIER	300 300	SELF SELF	150 300 THRU	10 .06 MEG	2.5 MEG		1.0MEG	9000	160 OHM-BIAS RES			6AC7/1852
6AD6G	TWIN ELEC RAY	HTR	6.3	.15	7AG-OW7	9C				TUNING INDICATOR	TARGET 150v CONTROL ELECTRODE 75v AT 0°, 8v AT 90°, -50v AT 135° TARGET 100v CONTROL ELECTRODE 45v AT 0°, 0v AT 90°, -23v AT 135°										6AD6G	
6AD7G	TRIODE PENTODE	HTR	6.3	.85	8AY-OM8	14C	TRIODE SEC PENTODE SEC			AMP CL A PR AMP CL A	250 250	-25 -16.5	250	3.7 34	6.5	6	19000 80000	325 2500	3.2	7000		6AD7G
6AE5GT/G	TRIODE	HTR	6.3	.3	6Q-OGT6	9H				AMP CL A	95	-15		7		4.2	3500	1200				6AE5GT/G
6AE6G	DUO TRIODE	HTR	6.3	.15	7AH-OS7	12E				CONTROL FOR 6AD6G-6AF6G	250 250	-1.5 -1.5		6.5 4.5		25 33	1000 950	PLATE R PLATE L		-35 -9.5	6AE6G	
6AE7GT	TWIN TRIODE	HTR	6.3	.5	7AX-OGT8	9H				DRIVER 1 SEC TRIODE	250	-13.5		5		14	9300	1500				6AE7GT
6AF5G	TRIODE	HTR	6.3	.3	6Q-OS6	12E				AMP CL A	180	-18		7		7.4	4900	1500				6AF5G
6AF6G	TWIN ELEC RAY	HTR	6.3	.15	7AG-OS7	9M				TUNING INDICATOR	TARGET 135v CONTROL ELECTRODE 81v AT 0°, 0v AT 100° TARGET 100v CONTROL ELECTRODE 60v AT 0°, 0v AT 100°										6AF6G	
6AG7	PENTODE	HTR	6.3	.65	8Y-OW8	8H	.06*	13.0*	7.5*	AMP CL A	300	-10.5	300	25	6.5		.1 MEG	7700		3500		6AG7
6AL6G	BEAM PWR AMP	HTR	6.3	.9	6AM-OM7	16C				POWER AMP CLASS A	250 250	-14 SELF	250 250	72 75	5 5.4	170	22500 OHM BIAS RES	6000 RES	6.5 6.5	2500 2500		6AL6G
6B4G	TRIODE	FIL	6.3	1.0	5S-OM8	16A	16	7	5	PR AMP CL A PUSH PULL CL AB 2 TUBE	250 325 325	-45 -68 SELF		60 80 80		4.2 800	5250	3.2 15 10	2500 3000 5000		6B4G	
6B5	DUO-TRI	HTR	6.3	.8	6AS-SM6	14D	DRIVER TRIODE OUTPUT TRIODE			DIR C'P'D AMP 2 TUBES CL A	325 325	0 +		9 51				See Type 6N6G Also	13.5 10000			6B5
6B6G	DUO-DI TRIODE	HTR	6.3	.3	7V-OS7	12F	1.3	2.7	4.5	AMPLIFIER CLASS A	250	-2		0.9		100	91000	1100				6B6G

TYPE	DESIGN	CATHODE HTR OR TYPE	FIL VOLTS	AMP AMPS	BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE	
							G-P μFDS	IN μFDS	OUT μFDS														
6B7 6B7S	DUO-DI PENTODE	HTR	6.3	.3	7D-SS7 7D-SS7	12H	.007*	3.5	9.5	AMPLIFIER CLASS A	250 100	-3 -3	125 100	9.0 5.8	2.3 1.7	.6 MEG .3 MEG	1125 950			-21 -17	6B7 6B7S		
6B8 6B8G	DUO-DI PENTODE	HTR	6.3	.3	8E-OW8 8E-OS8	8F 12F	.005 .01*	6 3.6*	9 9.5*	AMPLIFIER CLASS A	250	-3	125	10	2.3	.6 MEG	1325			-21	6B8 6B8G		
6C5 6C5G 6C5GT	TRIODE	HTR	6.3	.3	6Q-OW6 6Q-OS6 6Q-OW6	8D 12E 9E	2.0 2.2* 2.2*	3.0 4.4* 4.4*	11 12* 12*	AMPLIFIER CLASS A	250	-8		8		20	10000	2000			6C5 6C5G 6C5GT		
6C6	PENTODE	HTR	6.3	.3	6F-SS6	12J	.007*	5.0	6.5	AMPLIFIER CLASS A	250 100	-3 -3	100 100	2.0 2.0	.5 .5	1.5MEG 1 MEG	1226 1185			-7 -7	6C6		
6C8G	TWIN TR	HTR	6.3	.3	8G-OS8	12F				CL A 1 SECT	250	-4.5		3.2		36	22500	1600			6C8G		
6D6	PENTODE	HTR	6.3	.3	6F-SS6	12J	.007*	4.7	6.5	AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6U7G										6D6		
6D8G	HEPTODE	HTR	6.3	.15	8A-OS8	12F	.2*	8.0*	11*	OSC SECT MIXER	250S 250	.05MEG -3	100	4.3 3.5	2.6		GRID #2 RES .4 MEG	.02 MEG 550C			-35	6D8G	
6E5	ELEC RAY	HTR	6.3	.3	6R-SS6	9R				TUNING IND	250 THRU 1 MEG, TARGET 250v, GRID 0v FOR 90°, -8v FOR 0°										6E5		
6E6	TWIN TR	HTR	6.3	.6	7B-SM7	14D				CL A 1 SECT CL A 2 SECT	250 250	-27.5 -27.5		18 36	6	3500	1700	1.6	14000		6E6		
6E7	PENTODE	HTR	6.3	.3	7H-SS7					AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6U7G										6E7		
6F5 6F5G 6F5GT	TRIODE	HTR	6.3	.3	5M-OW5 5M-OS5 5M-OW5	8F 12F 9J	2.0 2.0	6.0 2.5	12 3.5	AMPLIFIER CLASS A	250 100	-2 -1		0.9 0.4		100 100	66000 85000	1500 1150			6F5 6F5G 6F5GT		
6F6 6F6G	PENTODE	HTR	6.3	.7	7S-OW7 7S-OM7	8H 14C				PENTODE CONNECTION	285 250 375 315	-20 -16.5 -26 -24	285 250 250 285	38 34 34 62	7 6.5 5 12	78000 80000	2550 2500	4.8 3.2 18.5 11	7000 7000 10000 10000		6F6 6F6G		
6F7 6F7S	TRIODE PENTODE	HTR	6.3	.3	7E-SS7 7E-SS7	12H	2.0 .008*	2.5 3.2	3.0 12.5	TRI CL A PENT CL A	100 250	-3 -3	100	3.5 6.5	1.5	8 900	16000 .85MEG	500 1100	(SEE 6P7G ALSO)		-35	6F7 6F7S	
6F8G	TWIN TR	HTR	6.3	.6	8G-OS8	12F	4.0L 3.6R	3.2L 3.0R	3.2L 3.8R	AMP CL A ONE SECT	250 90	-8 0		9.0 10.0		20 20	7700 6700	2600 3000			6F8G		
6G6G	PENTODE	HTR	6.3	.15	7S-OS7	12E				POWER AMP CLASS A	180 135	-9 -6	180 135	15 11.5	2.5 2.0	400 360	.18MEG .17MEG	2300 2100	1.1 0.6	10000 12000		6G6G	
6H4GT	DIODE	HTR	6.3	.15	5AF-OGT5	9H				DETECTOR	100 MAX		4 MAX		1000 AT .25ma						6H4GT		
6H6 6H6G 6H6GT/G	TWIN DIODE	HTR	6.3	.3	7Q-OW7 7Q-OS7 7Q-OW7	8C 12E 9E	.1PP .1PP .1PP			DETECTOR	150 MAX		4 MAX EACH DIODE										6H6 6H6G 6H6GT/G
6J5 6J5GT/G	TRIODE	HTR	6.3	.3	6Q-OW6 6Q-OW6	8E 9E	3.4 3.8*	3.4 4.2*	3.6 5.0*	AMPLIFIER CLASS A	250 90	-8 0		9.0 10.0		20 20	7700 6700	2600 3000			6J5 6J5GT/G		
6J7 6J7G 6J7GT	PENTODE	HTR	6.3	.3	7R-OW7 7R-OS7 7R-OW7	8F 12F 9F	.005 .005*	7 4.6*	12* 12*	AMP CL A PENT CONN TRI CONN	250 100 250	-3 -3 -8	100 100	2.0 2.0 6.5	0.5 0.5	1.5MEG 1.0MEG 10500	1225 1185 1900			-7 -7	6J7 6J7G 6J7GT		

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		HTR OR	FIL				G-P μFDS	IN μFDS	OUT μFDS													
† 6J8G	TRIODE HEPTODE	HTR	6.3	.3	8H-0S8	12F	.01*	4.6*	10.5*	OSC-TRIODE MIXER HEPT	250S 250	.05MEG -3	100	5.0 1.2	2.9	TRIODE PLATE RESISTOR .02 MEG 4 MEG 290C				-20	6J8G	
† 6K9G	TRIODE	HTR	6.3	.3	5U-0S7	12F	2.0	2.4	3.6	AMP CL A	250	-3		1.1		70	50000	1400				6K9G
† 6K8GT/G	PENTODE	HTR	6.3	.4	7S-0GT7	9H				POWER AMP CLASS A	315 250	-21 -18	250 250	25.5 32	4.0 5.5		75000 68000	2100 2300	4.5 3.4	9000 7600		6K8GT/G
† 6K7 6K7G 6K7GT	PENTODE	HTR	6.3	.3	7R-0W7 7R-0S7 7R-0W7	8F 12F 9F	.005 .007* .005*	7 5* 4.6*	12 12* 12*	AMPLIFIER CLASS A	250 250 100	-3 -3 -1	125 100 100	10.5 7.0 9.5	2.6 1.7 2.7		.6 MEG .8 MEG .15MEG	1650 1450 1650			-52.5 -42.5 -38.5	6K7 6K7G 6K7GT
† 6K8 6K8G 6K8GT	TRIODE HEXODE	HTR	6.3	.3	8K-0W8 8K-0S8 8K-0W8	8GA 12F 9GA	.03 .08* .08*	6.6 4.6* 4.6*	3.5 4.8* 4.8*	OSC-TRIODE MIXER HEX	100 250 100	.05MEG -3 -3		3.8 2.5 2.3			3000 350C 325C	(TRIODE GRID Ov)			6K8 6K8G 6K8GT	
† 6L5G	TRIODE	HTR	6.3	.15	6Q-0S6	12E	.2.7*	3*	5*	AMP CL A	250	-9		8		17	8900	1900			-20	6L5G
† 6L6 6L6G	BEAM PWR AMP	HTR	6.3	.9	7AC-0W7 7AC-0M8	10C 16A				POWER AMP CLASS A PP CL A PP CL AB PP CL AB 2	350 250 270 360 360	-18 -14 -17.5 -22.5 -22.5	250 250 270 270 270	54 72 134 88 88	2.5 5.0 1.1 5 5		33000 22500 23500	5200 6000 5700	10.8 6.5 17.5 26.5 47	4200 2500 5000 6600 3800		6L6 6L6G
† 6L7 6L7G	HEPTODE	HTR	6.3	.3	7T-0W7 7T-0S7	8F 12F	.001 .005*	7.5 6*	11 10*	AMP CL A MIXER	250 250	-3 -6	100 150	5.3 3.3	6.5 9.2	670	.6 MEG 1 MEG	1100 350C	G3 AT -3v G3 AT -15v	-15 -45	6L7 6L7G	
† 6N6G	DUO TRI	HTR	6.3	.8	7AU-0M7	14C				DRIVER TRIODE OUTPUT TRIODE	300 300	0 +		8 45			See Type 6B5 Also 24000 2400 4 7000				6N6G	
† 6N7 6N7G	TWIN TRIODE	HTR	6.3	.8	8B-0W8 8B-0M8	8H 14C				(SEE TYPE 6A6 ALSO) POWER AMP CL B 2 SECT	300	0		35		PL CUR-MAX SIG - 70ma	10	8000			6N7 6N7G	
† 6P5G 6P5GT	TRIODE	HTR	6.3	.3	6Q-0S6 6Q-0GT6	12E 9H	2.6* 3.4*	3.4* 5.5*	5.5* 12*	AMPLIFIER CLASS A	250 100	-13.5 -5		5 2.5		13.8 13.8	9500 12000	1450 1150				6P5G 6P5GT
† 6P7G	TRIODE-PENTODE	HTR	6.3	.3	7U-0S8	12F	2.0* .008*	3.5* 3.5*	3.0* 12*	OSC-TRIODE MIXER PENT	100 250	-3	100	2.4 2.8	0.6		2 MEG	300C	(SEE TYPE 6F7 ALSO)			6P7G
† 6Q7 6Q7G 6Q7GT	DUO-DIODE TRIODE	HTR	6.3	.3	7V-0W7 7V-0S7 7V-0W7	8F 12F 9F	1.5 1.3	5.5 2.7	5.0 4.5	AMPLIFIER CLASS A	250 100	-3 -1.0		1.0 0.8		70 70	58000 58000	1200 1200				6Q7 6Q7G 6Q7GT
† 6R7 6R7G 6R7GT	DUO DI TRIODE	HTR	6.3	.3	7V-0W7 7V-0S7 7V-0GT7	8F 12F 9J	2.5 3.5	5.5 2.5	4.0 4.5	AMPLIFIER CLASS A	250	-9		9.5		16	8500	1900	.28	10000		6R7 6R7G 6R7GT
† 6S7 6S7G	PENTODE	HTR	6.3	.15	7R-0W7 7R-0S7	8GA 12F	.005 .008*	6.5 4.4*	10.5 8.0*	AMPLIFIER CLASS A	250 135	-3 -3	100 67.5	8.5 3.7	2.0 0.9		1 MEG 1 MEG	1750 1250			-38.5 -25	6S7 6S7G
† 6SA7 6SA7GT/G	HEPTODE	HTR	6.3	.3	8R-0W8 8AD-0W8	8E 9E	.13 .20	9.5 11.0	12 12	OSC SECT MIXER	OSC GRID RES 250	-	.02 MEG 100	3.5	8.5		OSC GRID CUR - .5ma 1.0MEG 450C				-35	6SA7 6SA7GT/G
† 6SC7	TWIN TR	HTR	6.3	.3	8S-0W8	8E				CL A 1 SECT	250	-2		2		70	53000	1325				6SC7
† 6SD7GT	PENTODE	HTR	6.3	.3	8N-0W8	9E	.0035	9.0	7.5	AMP CL A	250 100	-2 -2	100 100	6.0 5.7	1.9 2.0		1.0MEG .25MEG	3600 3350			-11 -11	6SD7GT
† 6SF5 6SF5GT	TRIODE	HTR	6.3	.3	8P-0W6 6AB-0GT6	8E 9H	2.6	4.2	3.8	AMPLIFIER CLASS A	250 100	-2 -1		0.9 0.4		100 100	66000 85000	1500 1150				6SF5 6SF5GT
† 6SF7	DIODE PENTODE	HTR	6.3	.3	7AZ-0W8	8E				AMP CL A	250 100	-1 -1	100 100	12.4 12.0	3.3 3.4		.7 MEG .2 MEG	2050 1975			-35 -35	6SF7

TYPE	DESIGN	CATHODE TYPE	HTR OR VOLTS	FIL AMPS	BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
							G-P μFDS	IN μFDS	OUT μFDS													
6SG7	PENTODE	HTR	6.3	.3	8BK-0W8	8E				AMP CL A	250 100	-1 -1	125 100	11.8 8.2	4.4 3.2		.9 MEG .25 MEG	4700 4100			-14 -11.5	6SG7
6SH7	PENTODE	HTR	6.3	.3	8BK-0W8	8E	.003	8.5	7.0	AMPLIFIER CLASS A	250 100	-1 -1	150 100	10.8 5.3	4.1 2.1		.9 MEG .35MEG	4900 4000			-5.5 -4.0	6SH7
6SJ7 6SJ7GT	PENTODE	HTR	6.3	.3	8N-0W8 8N-0W8	8E 9E	.005	6.0	7.0	AMPLIFIER CLASS A	250 100	-3 -3	100 100	3.0 2.9	0.8 0.9	2500 1100	1.5MEG 0.7MEG	1650 1575			-9 -9	6SJ7 6SJ7GT
6SK7 6SK7GT/G	PENTODE	HTR	6.3	.3	8N-0W8 8N-0W8	8E 9E	.003 .005*	6.0 6.5*	7.0 7.5*	AMPLIFIER CLASS A	250 100	-3 -1	100 100	9.2 13.0	2.6 4.0	2000 2350	0.8MEG .12MEG	2000 2350			-35 -35	6SK7 6SK7GT/G
6SQ7 6SQ7GT/G	DUO-DI TRIODE	HTR	6.3	.3	8Q-0W8 8Q-0W8	8E 9E	1.8	4.2	3.4	AMPLIFIER CLASS A	250 100	-2 -1		0.9 0.4		100 100	91000 110000	1100 900				6SQ7 6SQ7GT/G
6SR7	DUO-DIO TRIODE	HTR	6.3	.3	8Q-0W8	8E	2.0	3.4	2.8	AMP CL A	250	-9		9.5		16	8500	1900				6SR7
6T7G	DUO DI TRIODE	HTR	6.3	.15	7V-0S7	12F	1.3	2.7	4.5	AMPLIFIER CLASS A	250 135	-3 -1.5		1.2 0.9		65 65	62000 65000	1050 1000				6T7G
6U5/6G5	ELEC RAY	HTR	6.3	.3	6R-SS6	9R				TUNING IND	250 THRU 1 MEG TARGET 250v, GRID 0v FOR 90°, -22v FOR 0° 100 THRU .5 MEG TARGET 100v, GRID 0v FOR 90°, -8v FOR 0°										6U5/6G5	
6U6GT	BEAM PWR AMP	HTR	6.3	.75	7AC-0GT7	9H				POWER AMP CLASS A	200 110	-14 -10.5	135 110	55 44	3 4		20000 10000	6200 5600	5.5 2.0	3000 2000		6U6GT
6U7G	PENTODE	HTR	6.3	.3	7R-0S7	12L	.007*	5*	9*	AMP CL A	250 100	-3 -3	100 100	8.2 8.0	2.0 2.2		.8 MEG .25MEG	1600 1500			-50 -50	6U7G
6V6 6V6GT/G	BEAM POWER AMP	HTR	6.3	.45	7AC-0W7 7AC-0W7	8H 9H			2 TUBES	AMPLIFIER CLASS A PP CL AB	315 250 250 285	-13 -12.5 -15 -19	225 250 250 285	34 45 70 70	2.2 4.5 5.0 4.0		77000 52000 60000 65000	3750 4100 3750 3600	5.5 4.5 10 14	8500 5000 10000 8000		6V6 6V6GT/G
6V7G	DUO-DI TRIODE	HTR	6.3	.3	7V-0S7	12F	1.7	2.0	3.5	AMPLIFIER CLASS A	250 180	-20 -13.5		8 6		8.3 8.3	7500 8500	1100 975	.35 .16	20000 20000		6V7G
6W5G	TWIN DI	HTR	6.3	.9	6S-0S6	12E				FULL WAVE RECTIFIER	325 RMS MAX COND IN 90 DC MAX 450 RMS MAX CHOKE IN 90 DC MAX					TUBE DROP 24v AT 90ma DC					6W5G	
6W7G	PENTODE	HTR	6.3	.15	7R-0S7	12F	.007*	5.0*	8.5*	AMP CL A	250	-3	100	2.0	0.5		1.5MEG	1225			-7	6W7G
6X5 6X5GT/G	TWIN DIODE	HTR	6.3	.6	6S-0W6 6S-0GT6	8H 9H				FULL WAVE RECTIFIER	325 RMS MAX COND IN 70 DC MAX 450 RMS MAX CHOKE IN 70 DC MAX					TUBE DROP 22v AT 70ma DC					6X5 6X5GT/G	
6Y5	TWIN DIODE	HTR	6.3	.8	6J-SS6	12E	(MERCURY VAPOR)			FULL WAVE RECTIFIER	CHARACTERISTICS SAME AS FOR TYPE 84/624										6Y5	
6Y6G	BEAM PWR AMP	HTR	6.3	1.25	7AC-0M7	14C				POWER AMP CLASS A	200 135	-14 -13.5	135 135	61 58	2.2 3.5		18300 9300	7100 7000	6.0 3.6	2600 2000		6Y6G
6Y7G	TWIN TRIODE	HTR	6.3	.6	8B-0S8	12E				CL B AMP 2 SECTIONS	250 180	0 0		10.6 NO SIG 7.6 NO SIG				8 5.5	14000 7000		6Y7G	
6Z5	TWIN DIODE	HTR	12.6 or 6.3	.4 .8	6K-SS6	12B				FULL WAVE RECTIFIER	CHARACTERISTICS SAME AS FOR TYPE 84/624										6Z5	
6Z7G	TWIN TRIODE	HTR	6.3	.3	8B-0S8	12E				CL B AMP 2 SECTIONS	180 135	0 0		8.4 NO SIG 6.0 NO SIG				4.2 2.5	12000 9000		6Z7G	
6ZY5G	TWIN DI	HTR	6.3	.3	6S-0S6	12E				FULL WAVE RECTIFIER	325 RMS MAX COND IN 40 DC MAX 450 RMS MAX CHOKE IN 40 DC MAX					TUBE DROP 18v AT 40ma DC					6ZY5G	
7A4	TRIODE	HTR	6.3	.3	5AC-L8	9A	4	3.4	3.0	AMPLIFIER CLASS A	250 90	-8 0		9 10		20 20	7700 6700	2600 3000				7A4

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE	
		TYPE	HTR OR FIL VOLTS	FIL AMPS			G-P μMFD	IN μMFD	OUT μMFD														
7A5	PENTODE	HTR	6.3	.75	6AA-L8	9B				POWER AMP CLASS A	125 110	-9 -7.5	125 110	44.0 40.0	3.3 3.0		17000 14000	6000 5800	2.2 1.5	2700 2500		7A5	
7A6	DUO-DI	HTR	6.3	.15	7AJ-L8	9A	.05PP			DETECTOR	150 RMS MAX			8 DC MAX		TUBE DROP 11v AT 16maDC					7A6		
7A7	PENTODE	HTR	6.3	.3	8V-L8	9A	.005	6.0	7.0	AMP CL A	250 100	-3 -1	100 100	9.2 13.0	2.6 4.0	1600 1600	.8 MEG .12 MEG	2000 2350			-35 -35	7A7	
7A8	OCTODE	HTR	6.3	.15	8U-L8	9A	.15	7.5	9.0	OSC SECT MIXER	250S 250	.05MEG -3	100	4.2 3.0	3.2		GRID #2 RES .7 MEG	2000 550C	.02 MEG		-30	7A8	
7B4	TRIODE	HTR	6.3	.3	5AC-L8	9A	1.6*	3.6*	3.4*	AMP CL A	100 250	-1 -2		0.5 0.9		100 100	85000 66000	1175 1500				7B4	
7B5	PENTODE	HTR	6.3	.4	6AE-L8	9B				POWER AMP CLASS A	315 100	-24 -7	250 100	25.5 9.0	4.0 1.6		75000 .1 MEG	2100 1500	4.5 .35	9000 12000		7B5	
7B6	DUO-DI TRIODE	HTR	6.3	.3	8W-L8	9A	1.5	3.0	3.0	AMPLIFIER CLASS A	250 100	-2 -1		0.9 0.4		100 100	91000 110000	1100 900				7B6	
7B7	PENTODE	HTR	6.3	.15	8V-L8	9A	.007	5.0	6.0	AMP CL A	250 100	-3 -3	100 100	8.5 8.2	1.7 1.8		.7 MEG .3 MEG	1700 1675			-40 -40	7B7	
7B8	HEPTODE	HTR	6.3	.3	8X-L8	9A	.2	10.0	9.0	OSC MIXER											CHARACTERISTICS SAME AS FOR TYPE 6A8GT		7B8
7C5	BEAM PWR AMP	HTR	6.3	.45	6AA-L8	9B				PUSH PULL PR AMP CL A CL AB 2 TUBE											CHARACTERISTICS SAME AS FOR TYPE 6V6		7C5
7C6	DUO-DI TRIODE	HTR	6.3	.15	8W-L8	9A	1.4	2.4	3.0	AMPLIFIER CLASS A	250 100	-1 0		1.3 1.0		100 85	.1 MEG .1 MEG	1000 850					7C6
7C7	PENTODE	HTR	6.3	.15	8V-L8	9A	.007*	5.5*	6.5*	AMPLIFIER CLASS A	250	-3	100	2.0	0.5		2 MEG	1300			-7	7C7	
7E6	DUO-DI TRIODE	HTR	6.3	.3	8W-L8	9A	1.5	3.0	3.4	AMP CL A	250	-9		9.5		16	8500	1900					7E6
7E7	DUO-DI PENTODE	HTR	6.3	.3	8AE-L8	9A	.005*	4.6*	4.6*	AMPLIFIER CLASS A	250 100	-3 -1	100 100	7.5 10.0	1.6 2.7		.7 MEG .15 MEG	1300 1600			-42.5 -36.0	7E7	
7F7	TWIN TR	HTR	6.3	.3	8AC-L8	9A				CL A 1 SECT	250	-2		2.3		70	44000	1600					7F7
7G7/1232	PENTODE	HTR	6.3	.45	8V-L8	9A	.007*	9.0*	7.0*	AMP CL A	250	-2	100	6.0	2.0		.8 MEG	4500			-6	7G7/1232	
7H7	PENTODE	HTR	6.3	.3	8V-L8	9A	.007*	8.0*	7.0*	AMP CL A	250 100	-2.5 -1	150 100	9.5 8.2	3.5 3.3		.8 MEG .25MEG	3800 3800			-19 -12	7H7	
7J7	TRI HEX	HTR	6.3	.3	8AR-L8	9A	.01*	5.5*	7.5*	OSC-TRIODE MIXER HEX	250S 250	.05MEG -3	100	5.4 1.3	2.9		TRIODE PLATE RESISTOR 1.5MEG	.02 MEG 300C			-20	7J7	
7K7	DUO-DIODE	HTR	6.3	.3	8BF-L8	9A				AMPLIFIER CLASS A	250	-2		2.3		70	44000	1600					7K7
7L7	PENTODE	HTR	6.3	.3	8V-L8	9A	.01*	8.0*	6.5*	AMP CL A	250 100	-1.5 -1	100 100	4.5 5.5	1.5 2.4		1 MEG .1 MEG	3100 3000			-5 -5	7L7	
7N7	TWIN TRIODE	HTR	6.3	.3	8AC-L8	9B	3.0L* 3.0R*	3.4L* 2.9R*	2.0L* 2.4R*	CL A 1 SECT	250 90	-8 0		9 10		20 20	7700 6700	2600 3000					7N7
7Q7	HEPTODE	HTR	6.3	.3	8AL-L8	9A	.2*	9.0*	9.0*	OSC SECT MIXER	OSC GRID RES 250	-2		-.02 MEG 100	OSC GRID CUR 8.5		OSC CUR 1.0 MEG	-.5ma 550C			-35	7Q7	
7R7	DUO-DI PENTODE	HTR	6.3	.3	8AE-L8	9A	.004	5.6	5.3	AMP CL A	250 100	-1 -1	100 100	5.7 5.5	1.7 2.0		1.0 MEG .35 MEG	3200 3000			-20 -16	7R7	

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE	
		TYPE	HTR OR VOLTS	FIL AMPS			G-P μFDS	IN μFDS	OUT μFDS														
† 7Y4	TWIN DI	HTR	6.3	.5	5AB-L8	9A				F W RECT	325 RMS MAX COND IN 60 DC MAX TUBE DROP 20v AT 60ma DC 450 RMS MAX CHOKE IN 60 DC MAX										7Y4		
† 10	TRIODE	FIL	7.5	1.25	4D-SM4	16B	7	4	3	POWER AMP CLASS A	425 350	-39 -22.0		18 10		8 8	5000 6000	1600 1330	1.6 0.4	10200 13000		10	
† 12A	TRIODE	FIL	5.0	.25	4D-SM4B	14D	7.5	4.0	3.0	AMPLIFIER CLASS A	180 135	-13.5 -9		7.7 6.2		8.5 8.5	4700 5100	1800 1650	.285 .130	10650 9000		12A	
† 12A5	PENTODE	HTR	12.6 or 6.3	.3 .6	7F-SS7	12B				POWER AMP CLASS A	180 100	-25 -15	180 100	45 17	8 3		35000 50000	2400 1700	3.4 0.8	3300 4500		12A5	
† 12A7	DIODE PENTODE	HTR	12.6	.3	7K-SS7	12H				H W RECT AMP CL A	125 RMS MAX 135	-13.5	135	30 DC MAX 9	2.5	100	.1 MEG	975	.55	13500		12A7	
† 12A8GT	HEPTODE	HTR	12.6	.15	8A-OW8	9F				OSC MIXER	CHARACTERISTICS SAME AS FOR TYPE 6A8GT										12A8GT		
† 12B8GT	TRIODE PENTODE	HTR	12.6	.3	8T-OGT8	9L	2.3 .015	5.0 5.2	6.3 9.6	AMP TRIODE CLASS A AMP PENT CLASS A	100 90 100 90	-1 0 -3 -3		0.6 2.8 8 7		110 90 360 360	73000 37000 .17MEG .20MEG	1500 2400 2100 1800			-2.5 -2.5 -42.5	12B8GT	
† 12C8	DUO-DI PENTODE	HTR	12.6	.15	8E-OW7	8F	.005	6	9	AMPLIFIER CLASS A	CHARACTERISTICS SAME AS FOR TYPE 6B8										12C8		
† 12F5GT	TRIODE	HTR	12.6	.15	5M-OW5	9J				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6F5GT										12F5GT		
† 12J5GT	TRIODE	HTR	12.6	.15	6Q-OW6	9H				AMP CL A	CHARACTERISTICS SAME AS TYPE 6J5GT										12J5GT		
† 12J7GT	PENTODE	HTR	12.6	.15	7R-OW7	9F				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6J7GT										12J7GT		
† 12K7GT	PENTODE	HTR	12.6	.15	7R-OW7	9F				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6K7GT										12K7GT		
† 12K8GT	TRIODE HEXODE	HTR	12.6	.15	8K-OW8	9GA				OSC TRIODE MIXER HEX	CHARACTERISTICS SAME AS FOR TYPE 6K8GT										12K8GT		
† 12Q7GT	DUO-DI TRIODE	HTR	12.6	.15	7V-OW7	9F				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6Q7GT										12Q7GT		
† 12SA7 12SA7GT/G	HEPTODE	HTR	12.6	.15	8R-OW8 8AD-OW8	8E 9E	.13 .20	9.5 11.0*	12 12.0*	OSC-MIXER	CHARACTERISTICS SAME AS FOR TYPE 6SA7										12SA7 12SA7GT/G		
† 12SC7	TWIN TRI	HTR	12.6	.15	8S-OW8	8E				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6SC7										12SC7		
† 12SF5 12SF5GT	TRIODE	HTR	12.6	.15	6AB-OW6 6AB-OGT6	8E 9H				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6SF5GT										12SF5 12SF5GT		
† 12SJ7 12SJ7GT	PENTODE	HTR	12.6	.15	8N-OW8 8N-OW8	8E 9E	.005	6.0	7.0	AMPLIFIER CLASS A	CHARACTERISTICS SAME AS FOR TYPE 6SJ7										12SJ7 12SJ7GT		
† 12SK7 12SK7GT/G	PENTODE	HTR	12.6	.15	8N-OW8 8N-OW8	8E 9E	.003 .005	6.0 6.5	7.0 7.5	AMPLIFIER CLASS A	CHARACTERISTICS SAME AS FOR TYPE 6SK7										12SK7 12SK7GT/G		
† 12SQ7 12SQ7GT/G	DUO-DI TRIODE	HTR	12.6	.15	8Q-OW8 8Q-OW8	8E 9E	1.8	4.2	3.4	AMPLIFIER CLASS A	CHARACTERISTICS SAME AS FOR TYPE 6SQ7										12SQ7 12SQ7GT/G		
† 12SR7	DUO-DI TRIODE	HTR	12.6	.15	8Q-OW8	8E				AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6SR7										12SR7		
† 12Z3	DIODE	HTR	12.6	.3	4G-SS4	12B				H W RECT	235 RMS MAX			55 DC MAX								TUBE DROP 17v AT 110ma DC	12Z3
† 14A7/12B7	PENTODE	HTR	12.6	.15	8V-L8	9A	.005*	5.5*	7.0*	AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 7A7										14A7/12B7		
† 14H7	PENTODE	HTR	12.6	.15	8V-L8	9A	.007*	8.0*	7.0*	AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 7H7										14H7		

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS.	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		HTR OR FIL TYPE	VOLTS	FIL AMPS			G-P μFDS	IN μFDS	OUT μFDS													
† 15	PENTODE	HTR	2.0	.22	5F-SS5	12H	.01*	2.4	7.8	AMPLIFIER CLASS A	135 67.5	-1.5 -1.5	67.5 67.5	1.85 1.85	0.3 .3	600 450	.8 MEG .63MEG	750 710				15
† 19	TWIN TR	FIL	2.0	.26	6C-SS6	12B				CL B 2 SECT	CHARACTERISTICS SAME AS FOR TYPE 1J6G										19	
† 20	TRIODE	FIL	3.3	.132	4D-SS4	9Q	4.1	2.0	2.3	PR AMP CL A	135	-22.5		6.5		3.3	6300	525	.11	6500		20
† 22	TETRODE	FIL	3.3	.132	4K-SM4	14E	.02*	3.3	12	AMP CL A	135	-1.5	67.5	3.7	1.3		.33MEG	500				22
† 24A 24S	TETRODE	HTR	2.5	1.75	5E-SM5 5E-SM5	14E	.007*	5.3	10.5	AMPLIFIER CLASS A	250 180	-3 -3	90 90	4 4	1.7 1.7	630 400	.6 MEG .4 MEG	1050 1000				24A 24S
† 25A6 25A6G 25A6GT	PENTODE	HTR	25	.3	7S-OW7 7S-OW7 7S-OW7	8H 14C 9H				AMPLIFIER CLASS A	160 135 95	-18 -20 -15	120 135 95	33 37 20	6.5 8 4		42000 35000 45000	2375 2450 2000	2.2 2.0 0.9	5000 4000 4500		25A6 25A6G 25A6GT
† 25A7GT/G	DIODE PENTODE	HTR	25	.3	8F-OGT8	14C 9H				H W RECT AMP CL A	117 RMS MAX 100		100	75 DC MAX 20.5	4	90	TUBE DROP 23v AT 50000	150ma DC 1800	.77	4500		25A7GT/G
† 25AC5G 25AC5GT	TRIODE	HTR	25	.3	6Q-OS6 6Q-OGT6	12K 9H	6AE5G DRIVER			DIR C'P'D AMP	110 FROM DRIVER					45		2	2000		25AC5G 25AC5GT	
† 25B6G	PENTODE	HTR	25	.3	7S-OW7	14C				POWER AMP CLASS A	200 135 105	-23 -22 -16	135 135 105	62 61 48	1.8 2.5 2.0		18000 15000 15500	5000 5000 4800	7.1 4.3 2.4	2500 1700 1700		25B6G
† 25B8GT	TRIODE PENTODE	HTR	25	.15	8T-OGT8	9L				CL A TRIODE CL A PENT	100 100	-1 -3	100	0.6 7.6	2.0	113	.08MEG .19MEG	1500 2000			-2.5 -41	25B8GT
† 25C6G	BM PWR	HTR	25	.3	7AC-OM7	14C				PR AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6Y6G										25C6G	
† 25L6 25L6GT/G	BEAM PWR AMP	HTR	25	.3	7AC-OW7 7AC-OGT7	8H 9H				POWER AMP CLASS A	110 200	-7.5 -8.0	110 110	49 50	4 1.5		10000 35000	8200 8250	2.1 4.3	2000 3000		25L6 25L6GT/G
† 25Y5	TWIN DIODE	HTR	25	.3	6E-SS6	12B				H W RECT V DOUBLER	250 RMS MAX 117 RMS MAX			85 DC MAX 85 DC MAX			(EXPORT TYPE)					25Y5
† 25Z5 25Z6 25Z6GT/G	TWIN DIODE	HTR	25	.3	6E-SS6 7Q-OW7 7Q-OGT7	12B 8H 9H				H W RECT V DOUBLER	235 RMS MAX 117 RMS MAX			75 DC MAX 75 DC MAX			TUBE DROP 22v AT 150ma DC					25Z5 25Z6 25Z6GT/G
† 26	TRIODE	FIL	1.5	1.05	4D-SM4	14D	8.1	3.5	2.2	AMP CL A	180	-14.5		6.2		8.3	7300	1140				26
† 27 27S	TRIODE	HTR	2.5	1.75	5A-SS5 5A-SS5	12B	3.3	3.5	3.0	AMPLIFIER CLASS A	250 135	-21 -9		5.2 4.5		9 9	9250 9000	975 1000				27 27S
† 30	TRIODE	FIL	2.0	.06	4D-SS4	12B	6.0	3.7	2.1	AMP CL A BIAS DET	180 180	-13.5 -18		3.1 0.2 WITH NO SIGNAL		9.3	10300	900	(SEE 1H4G ALSO)			30
† 31	TRIODE	FIL	2.0	.13	4D-SS4	12B	5.7	3.5	2.7	AMPLIFIER CLASS A	180 135	-30 -22.5		12.3 8		3.8 3.8	3600 4100	1050 925	.375 .185	5700 7000		31
† 32	TETRODE	FIL	2.0	.06	4K-SM4	14E	.015*	5.3	10.5	AMPLIFIER CLASS A	180 135	-3 -3	67.5 67.5	1.7 1.7	0.4 0.4	780 610	1.2MEG .95MEG	650 640				32
† 32L7GT	DIODE BM PWR	HTR	32.5	.3	8Z-OGT8	9H				H W RECT POWER AMP CLASS A	125 RMS MAX 110 90	-7.5 -7	110 90	40 27	3 2		15000 17000	6000 4800	1.5 1.0	2500 2600		32L7GT
† 33	PENTODE	FIL	2.0	.26	5K-SM5	14D				POWER AMP CLASS A	180 135	-18 -13.5	180 135	22 14.5	5 3	90 70	55000 50000	1700 1450	1.4 0.7	6000 7000		33
† 34	PENTODE	FIL	2.0	.06	4M-SM4	14E	.015*	6.0	11.5	AMPLIFIER CLASS A	180 67.5	-3 -3	67.5 67.5	2.8 2.7	1.0 1.1	620 224	1 MEG 0.4MEG	620 560			-22.5 -22.5	34

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		TYPE	HTR OR VOLTS	FIL AMPS			C-P μMFDs	IN μMFDs	OUT μMFDs													
35/51 355/51S	TETRODE	HTR	2.5	1.75	5E-SM5 5E-SM5	14E	.007*	5.3	10.5	AMPLIFIER CLASS A	250 180	-3 -3	90 90	6.5 6.3	2.5 2.5	420 305	0.4MEG 0.3MEG	1050 1020			-40.0 -40.0	35/51 355/51S
35A5	BM PWR	HTR	32	.15	6AA-L8	9B				PR AMP CL A	110 200	-7.5 -8.0	110 110	40 41	3.0 2.0		14000 40000	5800 5900	1.5 3.3	2500 4500		35A5
35L6GT/G	BM PWR	HTR	35	.15	7AC-OGT7	9H				PR AMP CL A	110 200	-7.5 -8.0	110 110	40 41	3.0 2.0		13800 40000	5800 5900	1.5 3.3	2500 4500		35L6GT/G
35Z3	DIODE	HTR	32	.15	4Z-L8	9B				H W RECT	235 RMS MAX			100 DC MAX			TUBE DROP 20v AT 200ma DC					35Z3
35Z4GT	DIODE	HTR	35	.15	5AA-OGT6	9H				H W RECT	235 RMS MAX			100 DC MAX			TUBE DROP 18v AT 200ma DC					35Z4GT
35Z5GT/G	DIODE	HTR TAP	35 7.5	.15 .15	6AD-OGT6	9H				H W RECT LAMP TAP	235 RMS MAX			100 DC MAX OR 60 DC MAX WITH 6.3v - 150 ma PANEL LAMP			TUBE DROP 18v AT 200ma DC					35Z5GT/G
35Z6G	TWIN DIODE	HTR	35	.3	7Q-OM7	14C				H W RECT V DOUBLER	235 RMS MAX 117 RMS MAX		110 DC MAX 110 DC MAX		TUBE DROP 20v AT 220ma DC					35Z6G		
36	TETRODE	HTR	6.3	.3	5E-SS5	12H	.007*	3.7	9.2	AMP CL A BIAS DET	250 250	-3 -8	90 90	3.2 0.1	1.7 WITH NO SIGNAL	595 MEG	.55 MEG	1080				36
37	TRIODE	HTR	6.3	.3	5A-SS5	12B	2.0	3.5	2.2	AMP CL A BIAS DET	250 250	-18 -28		7.5 .2		9.2 8400	1100					37
38	PENTODE	HTR	6.3	.3	5F-SS5	12H	.3	3.5	7.5	POWER AMP CLASS A	250 135	-25 -13.5	250 135	22 9	3.8 1.5	120 120	.1 MEG .13MEG	1200 925	2.5 0.55	10000 13500		38
39/44	PENTODE	HTR	6.3	.3	5F-SS5	12H	.007*	3.5	10	AMPLIFIER CLASS A	250 90	-3 -3	90 90	5.8 5.6	1.4 1.6	1050 360	1.0MEG .38MEG	1050 950			-42.5 -42.5	39/44
40	TRIODE	FIL	5.0	.25	4D-SM4	14D	8.8	3.4	1.5	AMP CL A	180	-3		0.2		30	.15MEG	200 PL RESISTOR			.25MEG	40
41	PENTODE	HTR	6.3	.4	6B-SS6	12B				PR AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6K6G											41
42	PENTODE	HTR	6.3	.7	6B-SM6	14D				POWER AMP	CHARACTERISTICS SAME AS FOR TYPE 6F6G											42
43	PENTODE	HTR	25	.3	6B-SM6	14D				POWER AMP	CHARACTERISTICS SAME AS FOR TYPE 25A6G											43
45	TRIODE	FIL	2.5	1.5	4D-SM4	14D	7	4	3	POWER AMP CLASS A CL AB 2 TUBE	275 180 275	-56 -31.5 -68		36 31 28		3.5 3.5	1700 1650	2050 2125	2 .825 18	4600 2700 3200		45
45Z3	DIODE	HTR	45	.075	5AM-MB7	5.5A				H W RECT	117 RMS MAX			65 DC MAX			TUBE DROP 23v AT 130ma DC					45Z3
45Z5GT	DIODE	HTR	45	.15	6AD-OGT6	9H				H W RECT LAMP TAP	235 RMS MAX			100 DC MAX OR 60 DC MAX WITH 6.3v - 150 ma PANEL LAMP			TUBE DROP 16v AT 200ma DC					45Z5GT
46	DUAL GRID TRIODE	FIL	2.5	1.75	5C-SM5	16B	G2 TIED TO P G1 TIED TO G2			PR AMP CL A PR AMP CL B 2 TUBES	250 400 300	-33 0 0		22 12 8		5.6 NO SIGNAL NO SIGNAL	2380	2350	1.25 20 16	6400 5800 5200		46
47	PENTODE	FIL	2.5	1.75	5B-SM5	16B				PR AMP CL A	250	-16.5	250	31	6	150	60000	2500	2.7	7000		47
48	PENTODE	HTR	30	.4	6B-SM6	16B				PR AMP CL A	125	-20	100	56	9.5			3900	2.5	1500		48
49	DUAL GRID TRIODE	FIL	2.0	.12	5C-SM5	14D	G2 TIED TO P G1 TIED TO G2			PR AMP CL A PR AMP CL B 2 TUBES	135 180 135	-20 0 0		6 4 2.6		4.7 NO SIGNAL NO SIGNAL	4175	1125	.17 3.5 2.3	11000 12000 8000		49
50	TRIODE	FIL	7.5	1.25	4D-SM4B	19A				POWER AMP CLASS A	450 350	-84 -63		55 45		3.8 3.8	1800 1900	2100 2000	4.6 2.4	4350 4100		50
50C6G	BM PWR	HTR	50	.15	7AC-OM7	14C				PR AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6Y6G											50C6G
50L6GT	BM PWR	HTR	50	.15	7AC-OGT7	9H				PR AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 25L6GT											50L6GT

TYPE	DESIGN	CATHODE HTR OR FIL TYPE	CATHODE		BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
			VOLTS	AMPS			G-P μFDS	IN μFDS	OUT μFDS													
† 50Y6GT/G	TWIN DIODE	HTR	50	.15	7Q-OM7	9H				H W RECT V DOUBLER	CHARACTERISTICS SAME AS FOR TYPE 25Z6GT/G										50Y6GT/G	
† 50Z7G	TWIN DIODE	HTR	50	.15	8AN-OS7	12E				H W RECT V DOUBLER	117 RMS MAX 117 RMS MAX	65 DC MAX 65 DC MAX	TUBE DROP 21v AT 130ma DC									50Z7G
† 52	2 GRID TRIODE	FIL	6.3	.3	5C-SM5	14D	G2 TIED TO P G1 TIED TO G2			PR AMP CL A CL B 2 TUBE	110 180	0 0	43 3	5.2 NO SIGNAL		1750	3000	1.5 5	2000 10000		52	
† 53	TWIN TRIODE	HTR	2.5	2.0	7B-SM7	14D				POWER AMP	CHARACTERISTICS SAME AS FOR TYPE 6N7G										53	
† 55 55S	DUO-DI TRIODE	HTR	2.5	1.0	6G-SS6 6G-SS6	12H	1.7	2.0	3.5	AMPLIFIER CLASS A	250 135	-20 -10.5	8 3.7	8.3 8.3	7500 11000	1100 750	.3 .075	20000 25000			55 55S	
† 56 56S 56AS	TRIODE	HTR	2.5 2.5 6.3	1.0 1.0 .3	5A-SS5 5A-SS5 5A-SS5	12B	3.2	3.2	2.2	AMPLIFIER CLASS A BIAS DET	250 100 250	-13.5 -5 -20	5 2.5 0.2	13.8 13.8 WITH NO SIGNAL		9500 12000	1450 1150				56 56S 56AS	
† 57 57S 57AS	PENTODE	HTR	2.5 2.5 6.3	1.0 1.0 .4	6F-SS6 6F-SS6 6F-SS6	12J	.007*	5.0	6.5	AMPLIFIER CLASS A	250 100	-3 -3	100 100	2 2	0.5 0.5	1500 1185	1.5MEG 1.0MEG	1225 1185			-7 -7	57 57S 57AS
† 58 58S 58AS	PENTODE	HTR	2.5 2.5 6.3	1.0 1.0 .4	6F-SS6 6F-SS6 6F-SS6	12J	.007*	5.0	6.5	AMPLIFIER CLASS A	250 100	-3 -3	100 100	8.2 8	2 2.2	1280 375	.8 MEG .25MEG	1600 1500			-50 -50	58 58S 58AS
† 59	PENTODE	HTR	2.5	2.0	7A-SM7	16B	PENT CONN TO PL 2 TUBES G ₂ TO P, G ₃			PR AMP CL A TRI CONN PR AMP CL B G ₁ TO G ₂	250 250 400 300	-18 -28 0 0	250	35 26 26 20	9 6 NO SIGNAL NO SIGNAL	100 2300	2500 2600	3 1.25 20 15	6000 5000 6000 4600			59
† 70A7GT	DI BEAM PR AMP	HTR	70	.15	8AB-OGT8	9H				H W RECT PR AMP CL A	125 RMS MAX 110	60 DC MAX -7.5	110 40	3 3	TUBE DROP 14v AT 120ma DC 5800 1.5 2500					70A7GT		
† 70L7GT	DIODE BM PWR	HTR	70	.15	8AA-OGT8	9H				H W RECT PR AMP CL A	125 RMS MAX 110	70 DC MAX -7.5	110 40	3 3	TUBE DROP 20v AT 140ma DC 15000 7500 1.8 2000					70L7GT		
† 71A	TRIODE	FIL	5	.25	4D-SM4B	14D				POWER AMP CLASS A	180 90	-40.5 -16.5	20 10	3 3	1750 2170	1700 1400	.79 .125	4800 3000			71A	
† 75 75S	DUO-DI TRIODE	HTR	6.3	.3	6G-SS6 6G-SS6	12H	1.7	2.0	3.5	AMPLIFIER CLASS A	250	-2	0.9	100	91000	1100					75 75S	
† 76	TRIODE	HTR	6.3	.3	5A-SS5	12B				AMPLIFIER	CHARACTERISTICS SAME AS FOR TYPE 56										76	
† 77	PENTODE	HTR	6.3	.3	6F-SS6	12H	.007*	4.7	11	AMPLIFIER CLASS A	250 100	-3 -1.5	100 60	2.3 1.7	0.5 0.4	1.5MEG 0.6MEG	1250 1100				-7.5 -5.5	77
† 78	PENTODE	HTR	6.3	.3	6F-SS6	12H	.007*	4.5	11	AMPLIFIER	CHARACTERISTICS SAME AS FOR TYPE 6K7G										78	
† 79	TWIN TR	HTR	6.3	.6	6H-SS6	12H				POWER AMP	CHARACTERISTICS SAME AS FOR TYPE 6Y7G										79	
† 80	TWIN DI	FIL	5.0	2.0	4C-SM4	14D				F W RECT	CHARACTERISTICS SAME AS FOR TYPE 5Y3G										80	
† 81	DIODE	FIL	7.5	1.25	4B-SM4	16B				H W RECT	700 RMS MAX	85 DC MAX	TUBE DROP 91v AT 170ma DC									81
† 82	TWIN DI	FIL	2.5	3.0	4C-SM4	14D	(MERCURY VAPOR)			FULL WAVE RECTIFIER	450 RMS MAX 550 RMS MAX	COND IN MAX	115 DC MAX	TUBE DROP 15v							82	
† 83	TWIN DI	FIL	5.0	3.0	4C-SM4	16B	(MERCURY VAPOR)			FULL WAVE RECTIFIER	450 RMS MAX 550 RMS MAX	COND IN MAX	225 DC MAX	TUBE DROP 15v							83	
† 83v	TWIN DI	HTR	5.0	2.0	4AD-SM4	14D				FULL WAVE RECTIFIER	375 RMS MAX 500 RMS MAX	COND IN MAX	175 DC MAX	TUBE DROP 23v AT 175ma DC							83v	

TYPE	DESIGN	CATHODE			BASING DATA	MAX SIZE VIEW	CAPACITIES			USED AS	PLATE VOLTS	GRID VOLTS	SCR VOLTS	PLATE MA	SCR MA	AMP FACT	PLATE RESIS OHMS	MUT COND μMHO	OUT PUT WATTS	LOAD RESIS OHMS	CUT OFF VOLTS	TYPE
		HTR OR FIL	VOLTS	AMPS			G-P #MFDS	IN #MFDS	OUT #MFDS													
84/6Z4	TWIN DI	HTR	6.3	.5	5D-SS5	12B				FULL WAVE RECTIFIER	325 RMS MAX COND IN 60 DC MAX			450 RMS MAX CHOKE IN 60 DC MAX			TUBE DROP 20v AT 60ma DC			84/6Z4		
85	DUO-DI TRIODE	HTR	6.3	.3	6G-SS6	12H	1.7	2.0	3.5	AMP CL A	CHARACTERISTICS SAME AS FOR TYPE 6V7G											85
85AS	DUO-DI TRIODE	HTR	6.3	0.3	6G-SS6					AMP CL A	250	-9		5.5		20		1250			85AS	
89	PENTODE	HTR	6.3	.4	6F-SS6	12H	G3 TIED TO K G1 TIED TO G2			PENT PR AMP CLASS A CL B 2 TUBE	250 135 180	-25 -13.5 0	250 135	32 14 6	5.5 2.2	125 125	70000 92500	1800 1350	3.4 0.75 3.5	6750 9200 9400	89	
V99 X99	TRIODE	FIL	3.3	.063	4E-SV4 4D-SS4	8A 9Q	3.3	2.5	2.5	AMP CL A BIAS DET	90 90	-4.5 -10.5		2.5 0.2		6.6	15500	425			V99 X99	
117L7GT 117M7GT	DI BEAM PR AMP	HTR	117	.09	8AO-OGT8	9HA				H W RECT PR AMP CL A	117 105	RMS MAX -5.2	105	75 43	DC MAX 4	TUBE DROP 16v AT 160ma DC	17000	5300	.85	4000	117L7GT 117M7GT	
117N7GT	DI BEAM PR AMP	HTR	117	.09	8AV-OGT8	9HA				H W RECT PR AMP CL A	117 100	RMS MAX -6	100	75 51	DC MAX 6.0	TUBE DROP 16v AT 150ma DC	16000	7000	1.2	3000	117N7GT	
117Z6GT/G	TWIN DIODE	HTR	117	.075	7Q-OGT7	9H				RECTIFIER V DOUBLER	235 RMS MAX 117* RMS MAX			60 60	DC MAX DC MAX	TUBE DROP 15.5v AT 125ma DC					117Z6GT/G	
183/483	TRIODE	FIL	5.0	1.25	4D-SM4	14D				POWER AMP CLASS A	250	-58		20		3		1500			183/483	
950	PENTODE	FIL	2.0	.12	5K-SM5	14D				POWER AMP	CHARACTERISTICS SAME AS FOR TYPE 1J5G											950
BA	TWIN DI	COLD			4J-SM4	19B	GAS FILLED			F W RECT	350 RMS MAX		350 DC MAX		TUBE DROP 80v			BA				
BH	TWIN DI	COLD			4J-SM4	14A	GAS FILLED			F W RECT	350 RMS MAX		125 DC MAX		TUBE DROP 90v			BH				
BR	DIODE	COLD			4H-SM4	12A	GAS FILLED			H W RECT	300 RMS MAX		50 DC MAX		TUBE DROP 60v			BR				
VR90-30	DIODE	COLD			4W-OS7	12E	GAS FILLED			VOLTAGE REGULATOR	90V OUTPUT THROUGH A CURRENT RANGE 10-30ma											VR90-30
VR105-30	DIODE	COLD			4W-OS7	12E	GAS FILLED			VOLTAGE REGULATOR	105V OUTPUT THROUGH A CURRENT RANGE 5-30ma											VR105-30
VR150-30	DIODE	COLD			4W-OS7	12E	GAS FILLED			VOLTAGE REGULATOR	150V OUTPUT THROUGH A CURRENT RANGE 5-30ma											VR150-30
XXD	TWIN TRIODE	HTR	12.6	.15	8AC-L8	9A	2.3	2.2	1.6	AMP CL A 1 SEC	250 100	-10 0		9 10.8		16 17	7600 6500	2100 2600			XXD	
XXL	TRIODE	HTR	6.3	.3	5AC-L8	9A	2.0	3.4	2.6	AMP CL A	250 100	-8 0		8 10		20 25	8700 7000	2300 3600			XXL	

INTERCHANGEABLE TUBE TYPES*

TYPE	REPLACE WITH	TYPE	REPLACE WITH	TYPE	REPLACE WITH	TYPE	REPLACE WITH	TYPE	REPLACE WITH	TYPE	REPLACE WITH
AD	1-V	2A3H	Δ2A3	6U5	6U5/6G5	36A	36	98	84/6Z4	230	30
AF	82	G4	2S/4S	6X5MG	#6X5GT/G	37A	37	WX99	X99	231	31
AG	83	G4S	2S/4S	6Z3	1-V	38A	38	112	12A	232	32
AX	01A	KR5	6A4/LA	6Z4	84/6Z4	39	39/44	112A	12A	233	33
B	V99	5Y3	5Y3GT/G	7A7LM	7A7	39A	39/44	117L7GT	117L7GT	234	34
BX	X99	5Z4GT/G	5Z4	7B5LT	7B5	43MG	25A6GT		117M7GT	235	35/51
E	20	5Z4MG	5Z4	7B6LM	7B6	44	39/44	117M7GT	117L7GT	236	36
G	40	6A7S	#6A7	7B8LM	7B8	45A	45		117M7GT	237	37
H	01A	6A8MG	#6A8GT	7C5LT	7C5	HZ50	12Z3	120		238	38
LA	6A4/LA	6AC5MG	6AC5G	12A8G	12A8GT	51	35/51	171	71A	239	39/44
PZ	47	6B6	6B6G	12B7	14A7/12B7	51S	35S/51S	171A	71A	240	40
PZH	2A5	6B6MG	6B6G	12B7ML	14A7/12B7	56A	Δ76	171AC	71A	245	45
OO	01A	6B7S	#6B7	12J7G	12J7GT	57A	Δ6C6	171B	71A	247	47
D 1/2	81	6B8GT	6B8 or 6B8G	12K8	#12K8GT	58A	Δ78	182A	Δ71A	250	50
D1	80	6C5MG	#6C5GT	12Q7G	12Q7GT	64	Δ36	182B	**183/483	280	80
DEL	27	6F5MG	#6F5GT	12SA7G	12SA7GT	64A	36	V199	V99	280M	83V
KR1	1-V	6F6GT	6F6 or Δ6K6GT/G	14Z3	12Z3	65	Δ39/44	X199	X99	281	81
REL	80	6F6MG	6F6 or 6F6G	AC22	24A	65A	39/44	200	00A	288	83V
O1	01A	6F7S	#6F7	24	24A	67	Δ37	201	01A	C299	V99
l	1-V	6G5	6U5/6G5	KR25	2A5	67A	37	201A	01A	X299	X99
O1AA	01A	6H5	6U5/6G5	25/25S	1B5/25S	68	Δ38	202	10	401A	01A
O1B	Δ01A	6H6MG	#6H6GT	25A6MG	25A6GT	68A	38	210	10	482A	Δ71A
1A4	1A4P	6J7MG	#6J7GT	25A7	25A7GT	71	71A	213	80	483	183/483
1A4T	1A4P	6K6MG	6K6GT/G	25A8	25A7GT	71B	71A	216	81	585	50
1B4T	1B4/951	6K7MG	#6K7GT	25S	1B5/25S	80M	83V	216B	81	586	50
1B5	1B5/25S	6L7MG	6L7 or #6L7G	25Z5MG	25Z6GT/G	81M	81	220	20	P861	84/6Z4
1D5G	1D5GP	6N6MG	6N6G	25Z6MG	25Z6GT/G	G84	2Z2/G84	222	22	951	1B4/951
1D5GT	1D5GP	6N7GT/G	6N7 or 6N7G	27HM	Δ56	84	84/6Z4	224	24A	986	†83
1E5G	1E5GP	6P7	#6P7G	KR28	84/6Z4	85S	#85	224A	24A	1232	7G7/1232
1E5GT	1E5GP	6Q6G	6T7G	35	35/51	87S	#Δ6C6	226	26		
G2	2S/4S	6T7G/6Q6G	6T7G	35A5LT	35A5	88	83V	227	27		
G2S	2S/4S	6Q7MG	#6Q7GT	35L6G	35L6GT/G	88M	#6K7GT				
RE2	81	6R7MG	#6R7GT	35Z3LT	35Z3	88S	Δ#6D6				
S02	50	6S4Q7G	6S4Q7GT/G	35Z5G	35Z5GT/G	95	2A5				

* Bantam tubes may vary in the type designation for identical tubes. For example, the 6K6GT/G is the same as the 6K6GT or 6K6GT/6K6G. This change in marking was made to indicate the tubes which may be used to replace "G" and metal tubes of the equivalent types under normal circumstances and lessen the number of tube types required for replacement. However, the substitution of a bantam for the other tubes may require an addition or change in the external tube shielding.

† When the filament supply will stand one ampere additional drain.

** When both power tubes are changed together.

Replacement may require the addition of a shield can.

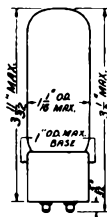
Δ Replacement satisfactory in parallel filament circuits. In series circuits provisions must be made to supply proper filament or heater current.



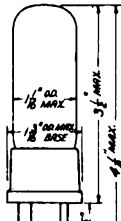
5 1/2 A



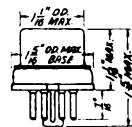
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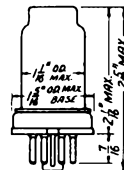
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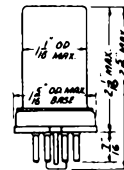
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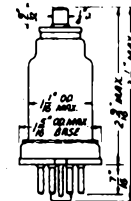
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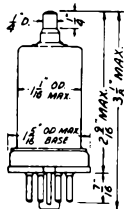
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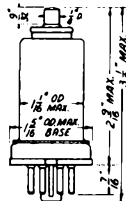
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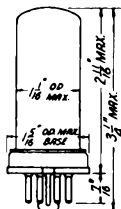
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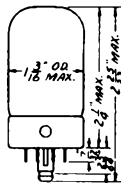
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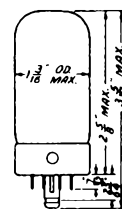
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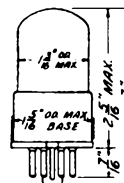
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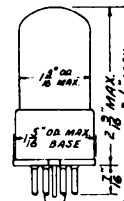
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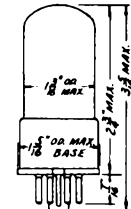
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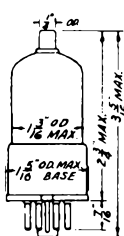
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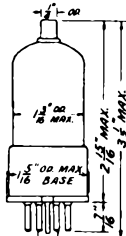
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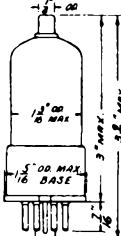
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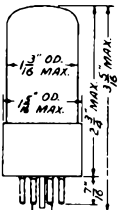
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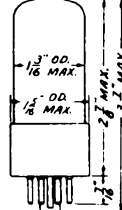
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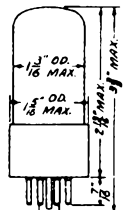
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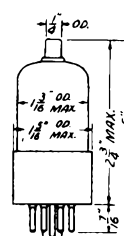
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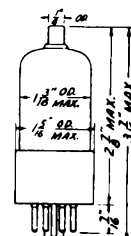
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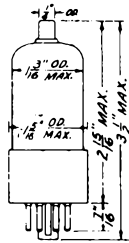
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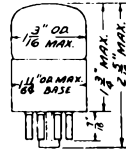
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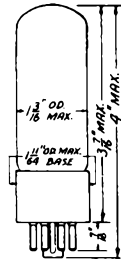
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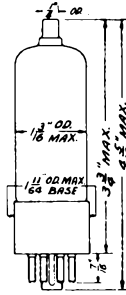
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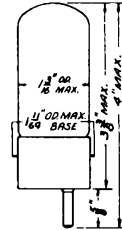
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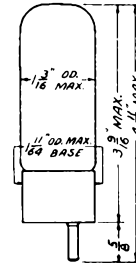
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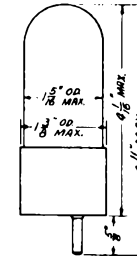
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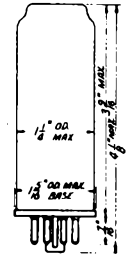
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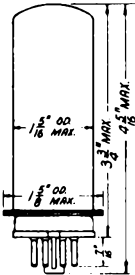
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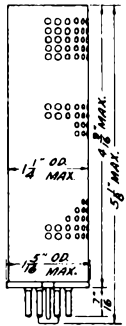
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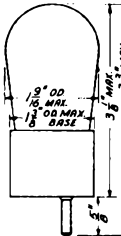
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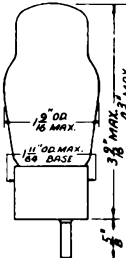
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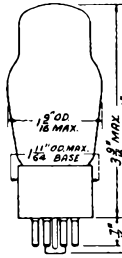
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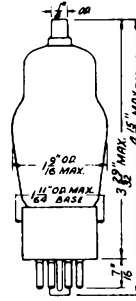
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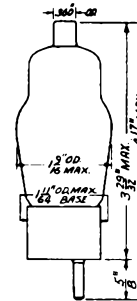
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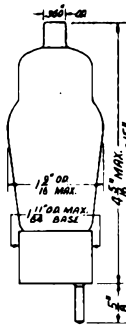
12E



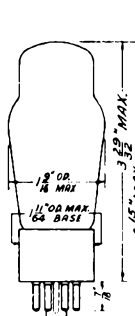
12F



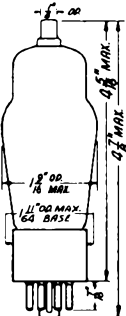
12H



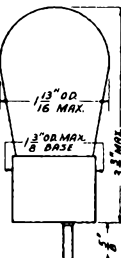
12J



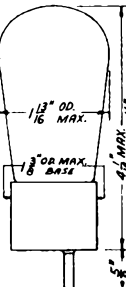
12K



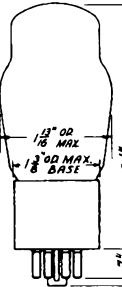
12L



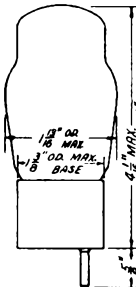
14A



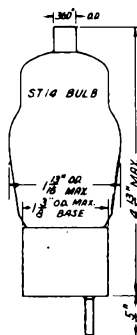
14B



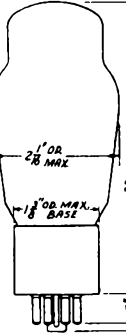
14C



14D



14E

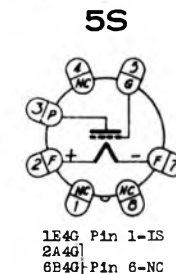
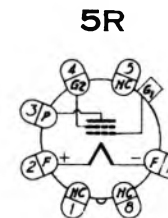
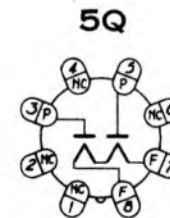
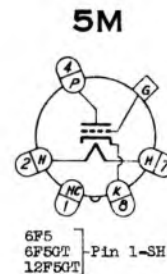
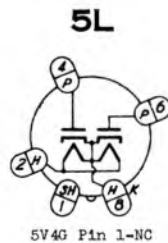
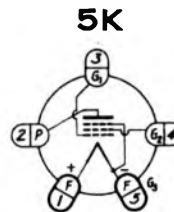
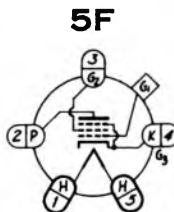
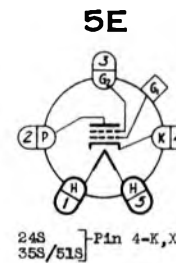
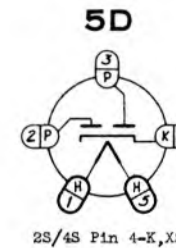
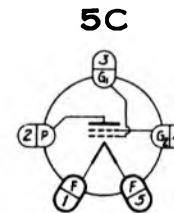
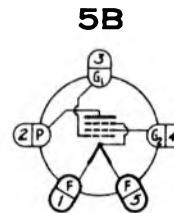
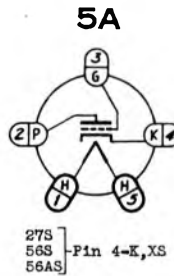
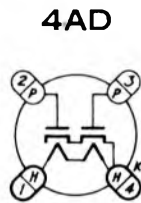
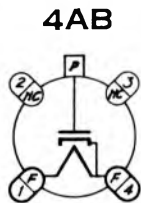
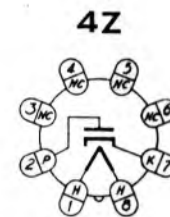
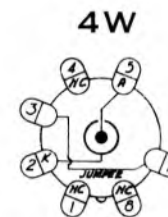
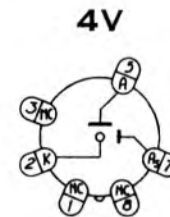
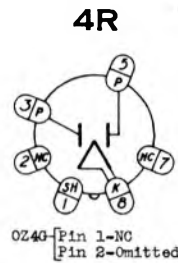
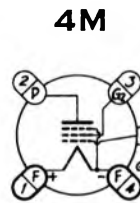
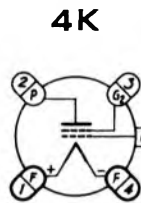
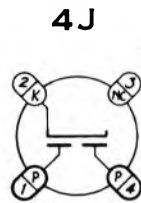
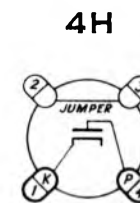
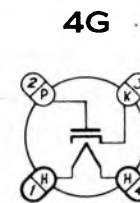
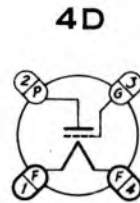
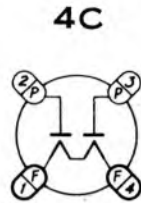
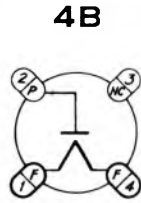


16A

BASE CONNECTION DIAGRAMS
(VIEWED FROM BOTTOM OF BASE)
(RMA NUMBERING SYSTEM)

LIST OF SYMBOLS

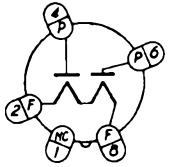
- A ANODE
As STARTER ANODE
B DIODE PLATE
C DIODE PLATE-BOTTOM
D DIODE PLATE-LEFT
E DIODE PLATE-RIGHT
F DIODE PLATE-TOP
G DEFLECTOR PLATES
H CONTROL ELECTRODE
I FILAMENT
J FILAMENT TAP
K GRID
L GRID NO. 1
M GRID NO. 2
N GRID NO. 3
P GRID NO. 4
Q GRID NO. 5
R GRID NO. 6
S HEPTODE GRID NO. 1
T HEPTODE GRID NO. 2
U HEPTODE GRID NO. 3
V HEPTODE GRID NO. 4
W HEPTODE GRID NO. 5
X HEXODE GRID NO. 1
Y HEXODE GRID NO. 2
Z HEXODE GRID NO. 3
AA HEXODE GRID NO. 4
AB GRID NO. 1-LEFT
AC PENTODE GRID NO. 1
AD PENTODE GRID NO. 2
AE PENTODE GRID NO. 3
AF GRID NO. 1-RIGHT
AG GRID-INPUT SECT.
AH GRID-LEFT
AI GRID-RIGHT
AJ TRIODE GRID
AK HEATER
AL HEATER TAP
AM INTERNAL SHIELD
AN CATHODE
AO DIODE CATHODE
AP CATHODE-LEFT
AQ CATHODE-OUTPUT SECT.
AR PENTODE CATHODE
AS CATHODE-RIGHT
AT TRIODE OR TETRODE CATH.
AU NO CONNECTION
AV PLATE
AW HEPTODE PLATE
AX HEXODE PLATE
AY PLATE-INPUT SECT.
AZ PLATE-LEFT
BA PLATE-OUTPUT SECT.
BB PENTODE PLATE
BC PLATE-RIGHT
BD TRIODE OR TETRODE PLATE
BE SHELL
BF TARGET
BG EXTERNAL SHIELD



SH DESIGNATION FOR GT TYPES
INDICATES METAL BASE SHELL.

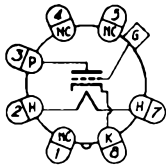
SUBSCRIPTS R & L INDICATE
RIGHT & LEFT ELEMENTS WHEN
LOOKING DOWN ON TOP OF TUBE
WITH LOCATING LUG OF KEY
OR FILAMENT PINS AT FRONT.

5T

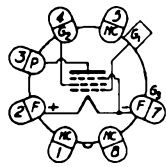


5T4 } Pin 1-SH
5W4 }
5U4G Pins 3,5,7-NC

5U

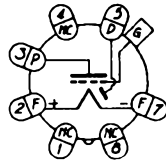


5Y



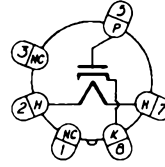
1N5GT Pin 1-SH

5Z

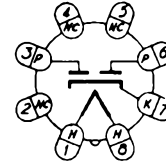


1H5GT Pin 1-SH

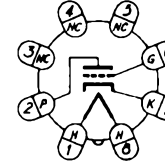
5AA



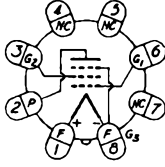
5AB



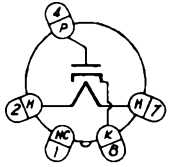
5AC



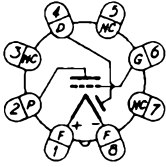
5AD



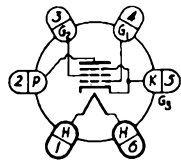
5AF



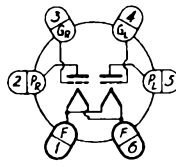
5AG



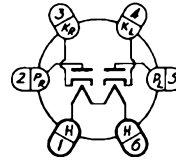
6B



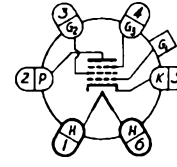
6C



6E

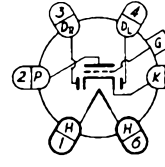


6F



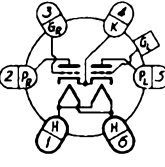
57S }
57AS } Pin 5-K, XS
76S }
56S }
56AS }

6G

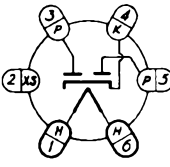


56S } Pin 5-K, XS
76S }
65AS Pin 6-H, XS

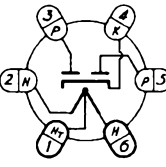
6H



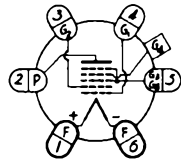
6J



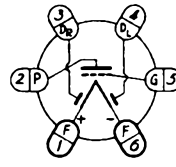
6K



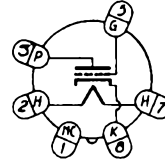
6L



6M

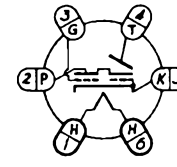


6Q

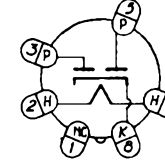


6C5 }
6J5 } Pin 1-SH
6J5GT }
12E5GT }
12J5GT }
6C5G } Pin 1-IS

6R

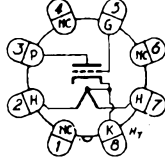


6S

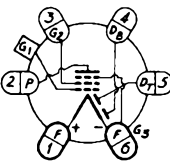


6X5 Pin 1-SH

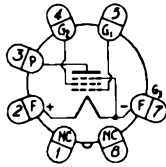
6T



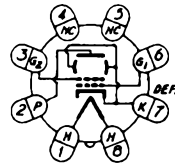
6W



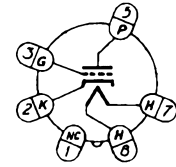
6X



6AA

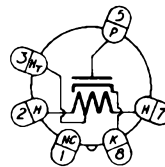


6AB

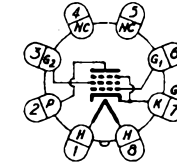


6SF5 Pin 1-SH

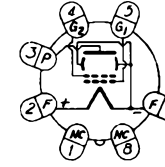
6AD



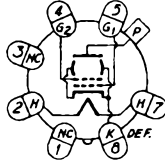
6AE

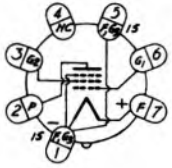
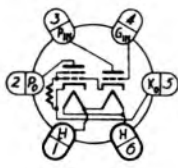
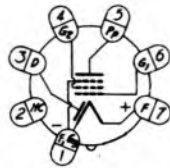
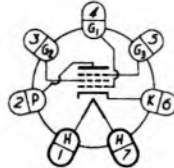
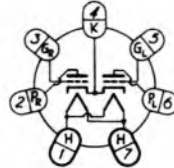


6AF

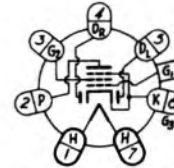


6AM

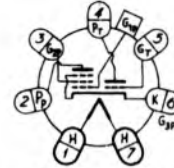


6AR**6AS****6AU****7A****7B****7C**

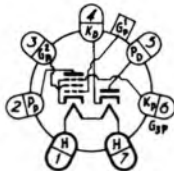
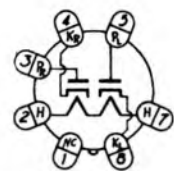
2A7S } Pin 6-K, XS
6A7S }

7D

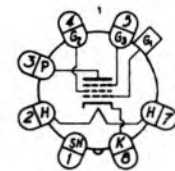
2B7S } Pin 6-K, G₃, XS
6B7S }

7E

6F7S Pin 6-K, G₃, XS

7F**7G****7H****7K****7Q**

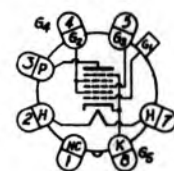
6H6 Pin 1-SH, IS
6H6G Pin 1-IS
6H6GT Pin 1-SH, IS
2526 Pin 1-SH

7R

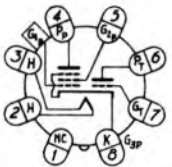
6J7G Pin 1-IS
6K7G
6S7G } Pin 1-NC
6U7G
6W7G
6J7GT Pin 1-SH, IS

7S

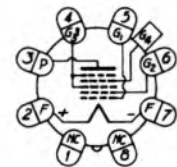
6F6
25A6 } Pin 1-SH
25A6GT

7T

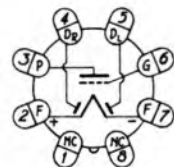
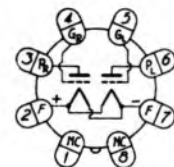
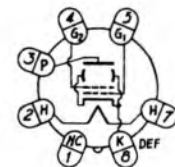
6L7 Pin 1-SH

7U**7V**

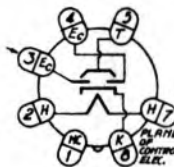
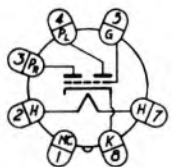
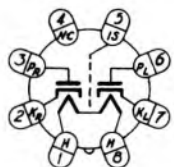
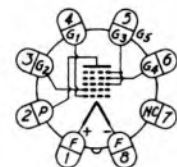
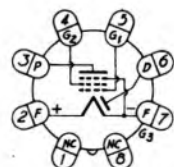
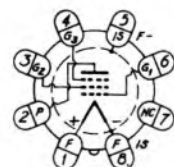
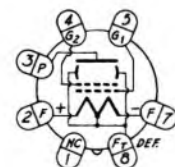
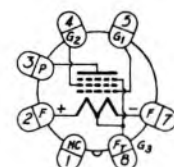
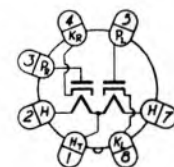
6Q7
6Q7GT } Pin 1-SH
6R7
6R7GT
12Q7GT

7Z

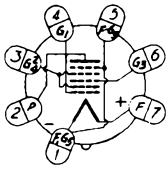
1A7GT Pin 1-SH

7AA**7AB****7AC**

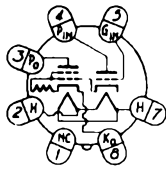
6L6
6V6 } Pin 1-SH
25L6

7AD**7AG****7AH****7AJ****7AK****7AM****7AO****7AP****7AQ****7AR**

7AT

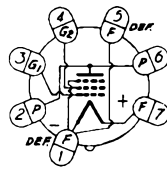


7AU

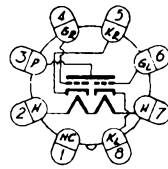


6N6MG Pin 1-SH

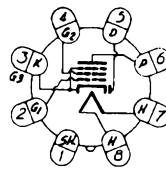
7AV



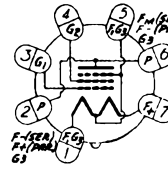
7AX



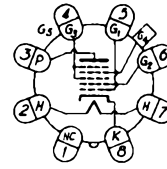
7AZ



7BA

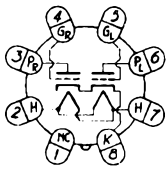


8A



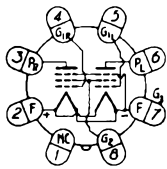
6A8 } Pin 1-SH
6A8GT }
12A8GT }

8B

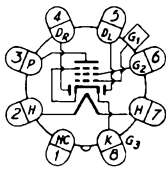


6H7 Pin 1-SH

8C

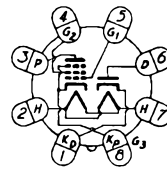


8E

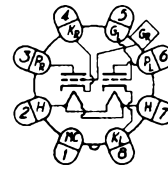


6B8 } Pin 1-SH
12C8 }

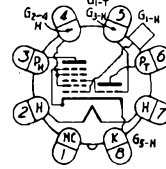
8F



8G



8H

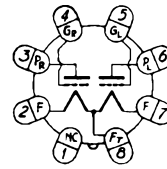


8K

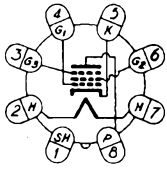


6K8 Pin 1-SH, DEF
6K8GT Pin 1-SH

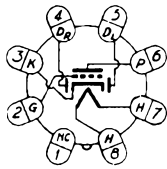
8L



8N

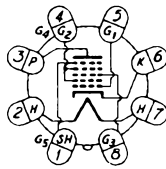


8Q

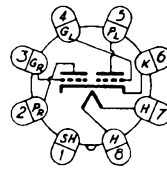


6SQ7 } Pin 1-SH
12SQ7 }

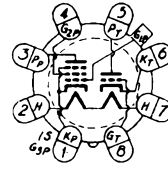
8R



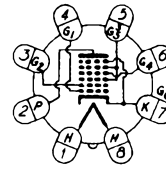
8S



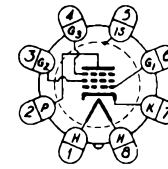
8T



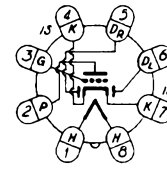
8U



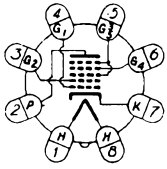
8V



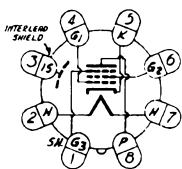
8W



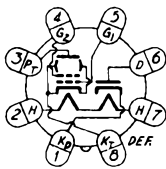
8X



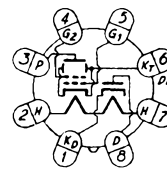
8Y



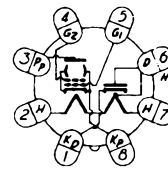
8Z



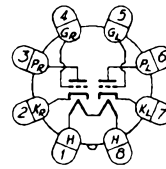
8AA



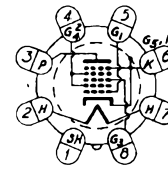
8AB



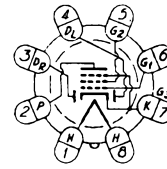
8AC



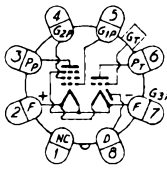
8AD



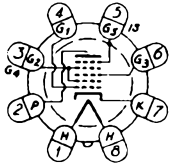
8AE



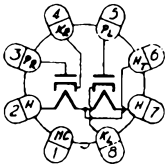
8AJ



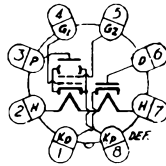
8AL



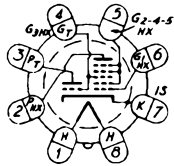
8AN



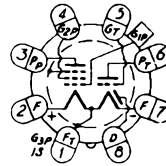
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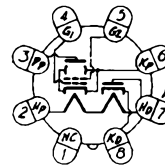
8AR



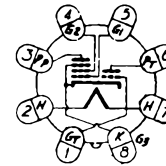
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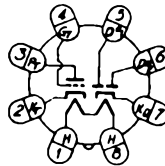
8AV



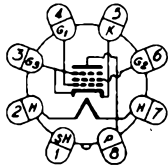
8AY



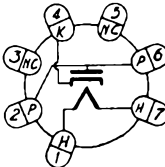
8BF



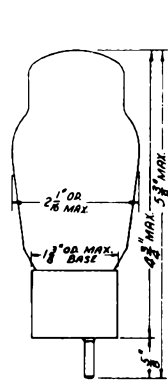
8BK



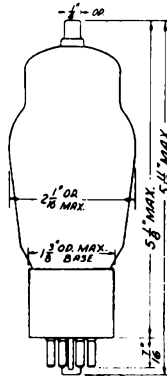
5AM



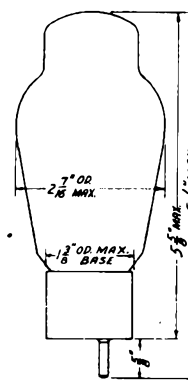
BALANCE OF TUBE DIAGRAMS



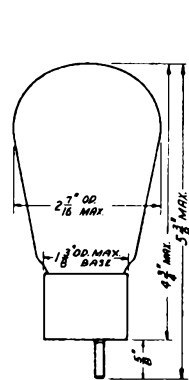
16B



16C



19A



19B

FOR REPLACEMENT

