NAVSHIPS 91849 T.O. 33AA21-10-1

TECHNICAL MANUAL

TUBE DATA CHARTS AND OPERATOR'S INSTRUCTIONS

for

ELECTRON TUBE ANALYZER TV-8/USM-31

PRINTED FOR USAF DISTRIBUTION 1 AUGUST 1959. PRIOR PRINTING FOR NAVY DISTRIBUTION ONLY.

PUBLISHED BY DIRECTION OF THE CHIEF, BRUREAU OF SHIPS, AND ACCEPTED BY THE SECRETARY OF THE AIR FORCE.

AF-WP-O-SEP 59 725

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USAF

June 15, 1954

TEMPORARY CORRECTION T-2 TO TUBE DATA CHARTS

AND OPERATORS INSTRUCTIONS FOR ELECTRON TUBE ANALYZER TV8/USM-31

Applicable to all copies of Navships 91849. Supercedes T-1 dated June 26, 1953.

Page	Type	Changes
13	1E5	Change 5R to 5Y in Base Column.
	1E7	Change 2.5 to 4.5 in Control Grid Volts Column. Change 2.2 to 7.5 in Plate Volts - Ma Column.
17	2D21	Add 250 in Plate Volts - Ma Column.
19	3B4	Change 2.5(2+6) to 2.5(4+5) in Heater Volts Column. Change 18(3) to 8(3) in Control Grid Volts Column.
21	6AD4	Change 6K to C20 in Base Column.
22	6AH6	Change 5000 to 9000 in Nominal Rating Column. Change 3000 to 5400 in Reject Rating Column.
25	6BC7	Change 7BD to 9AX in Base Column.
27	6CD6	Change (5) to 22.5(5) in Control Grid Volts Column. Change (C) to 250(C)120 in Plate Volts - Ma Column. Change (8) to 150(8)15 in Screen Volts - Ma Column. Add Red in Amp Factor Corrector Column. Add Gm in Measurements Column. Add 11500 in Nominal Rating Column. Add 7500 in Reject Rating Column.
	6CL6	Change 0(3) to 0(1) in Cathode Ohms Column. Change 3(1) to 3(2) in Control Grid Volts Column. Change 300(7)30 to 250(6)30 in Plate Volts - Ma Column. Change 150(8) to 150(8)7 in Screen Volts - Ma Column. Add 0(7) in Suppressor Volts - Ma Column. Change B-67 to 9BV in Base Column.
	6BX7	Change B69 to 8-BD in Base Column.
29	6J6	180(1)8.5 to 100(1)8.5 in Plate Volts - Ma Column. 180(2)8.5 to 100(2)8.5 in Plate Volts - Ma Column.
32	6SS7	Change 5SS7 to 6SS7 in Type Column. Change 100(6) to 100(6)2 in Screen Volts - Ma Column.
33	6V5	Change 250(3)4.5 to 250(3)45 in Plate Volts - Ma Column. Change 2500 to 2150 in Reject Rating Column.
	6Z4	Change (2) to 16(2) in Plate Volts - Ma Column. Change (3) to 16(3) in Plate Volts - Ma Column. Change Ma to 60Ma in Nominal Rating Column. Change Ma to 45Ma in Reject Rating Column.
34	7A7	Change 100(3) to 100(3)5.5 in Screen Volts - Ma Column.

Page	Type	Changes
35	7B8	Change 50(3)1.6 to 50(5)1.6 in Screen Volts - Ma Column.
	7C4	Change Ma to 6Ma in Nominal Rating Column. Change Ma to 4Ma in Reject Rating Column.
36	7Q7	Change (4+6) to 3(4+6) in Control Grid Volts Column. Change 75(3) to 75(3)6 in Screen Volts - Ma Column.
37	12AL5	Delete 2(2) in Control Grid Volts Column. Delete 2(7) in Control Grid Volts Column. Add 2.5(2) in Plate Volts - Ma Column. Add 2.5(7) in Plate Volts - Ma Column. Change 7Ma to 9Ma in Nominal Rating Column. Change 4Ma to 6Ma in Reject Rating Column. Add 12AT7 in Type Column. Add Twin Triode (Sec. 1) to Class Column. (Sec. 2) Add B-30 to Base Column. Add 12.6(4+5) in Heater Volts Column. Add 400(3+8) in Cathode Ohms Column. Add 0(2) in Control Grid Volts Column. 0(7) Add 100(1) in Plate Volts - Ma Column. 100(6) Add Red in Amp Factor Corrector Column. Add Gm in Measurements Column. Add 5500 in Nominal Rating Column. Add 3000 in Reject Rating Column.
38	12BE6	Change 10(1+7) to 1.0(1+7) in Control Grid Volts Column.
39	12BN6	Change 2(2) to 0(2) in Control Grid Volts Column. Change 100(7)0.3 to 100(7)1.0 in Plate Volts - Ma Column.
	12SC7	Change 1200 to 1320 in Nominal Rating Column. Change 700 to 900 in Reject Rating Column.
41	14Y4	Change 20(3) to 18(3) in Plate Volts - Ma Column. Change 20(6) to 18(6) in Plate Volts - Ma Column.
42	19	Change 135(2+5)7 to 135(2)5 in Plate Volts - Ma Column. Change 135(5)7 to 135(5)5 in Plate Volts - Ma Column.
	19BG6	Change 5-BT to A-3 in Base Column.
	19J6	Change 100(4)8.5 to 100(2)8.5 in Plate Volts - Ma Column.
	24	Change 650 to 1050 in Nominal Rating Column. Change 400 to 700 in Reject Rating Column.
43	25BK5	Change 9500 to 8500 in Nominal Rating Column. Change 5000 to 5500 in Reject Rating Column.

Page	Type	Changes
	25CD6	Change (C) to 250(C)120 in Plate Volts - Ma Column. Change (8)2.3 to 150(8)15 in Screen Volts - Ma Column. Add 11500 in Nominal Rating Column. Add 7500 in Reject Rating Column.
45	43	Change 2.5(1+6) to 25(1+6) in Heater Volts Column. Change 2300 to 2400 in Nominal Rating Column. Change 1200 to 1300 in Reject Rating Column.
	45	Change 2600 to 2100 in Nominal Rating Column. Change 1200 to 1400 in Reject Rating Column.
46	45Z3	Change 20(2) to 14(2) in Plate Volts - Ma Column. Change 100Ma to 65Ma in Nominal Rating Column. Change 70Ma to 45 Ma in Reject Rating Column.
47	79	Change (2)4 to 250(2)4 in Plate Volts - Ma Column.
48	82	Change Mercurcy Rectifier to Mercury Rectifier in Class Column.
49	117L7	Change 105(3)12 to 105(3)43 in Plate Volts - Ma Column.
	117N7	Change Diode Pentode to Diode Pentode (Diode) in Class Column.
	117P7	Change Diode Pentode to Diode Pentode (Diode) in Class Column. Add 9(7) to Plate Volts - Ma Column. Add Emmission to Measurements Column. Add 75Ma to Nominal Rating Column. Add 50Ma to Reject Rating Column.
49	262-A	Change 262-A to 262-B in Type Column.
50	313CA	Change cord CX-2291/U to read resistor cord in four column statement. Change working volts 185 to read Working volts 85 in four column statement.
51	375A	Delete one set of data for tube type 375A.
	502	Change 30(3)100 to 250(3)100 in Plate Volts - Ma Column. Change Regulation to Voltage Drop in Measurements Column.
	546	Change Regulation to Voltage Drop in Measurements Column.
52	707B	Change Keystrone to Klystron in Class Column.

Page	Type	Changes
53	884	Change 20(5) to 3(5) in Control Grid Volts Column. Change 30(5)75 to 200(3)75 in Plate Volts - Ma Column. Change Regulation to Voltage Drop in Measurements Column.
	885	Change 20(3) to 3(3) in Control Grid Volts Column. Change 30(3)75 to 200(2) 75 in Plate Volts - Ma Column. Change Regulation to Voltage Drop in Measurements Column.
	CK1005	Change 9V to 18V in Nominal Rating Column. Change 25V to 30V in Reject Rating Column. Change 9V to 18V in Nominal Rating Column. Change 25V to 30V in Reject Rating Column.
	E1148	Add 3P to Base Column.
55	2050	Change 0(5+6) to 0(8+6) in Cathode Ohms Column. Change (5) to 2.4 (5) in Control Grid Volts Column. Change (3) to 250(3)100 in Plate Volts - Ma Column. Change Regulation to Voltage Drop in Measurements Column.
	2051	Change 0(5+6) to 0(8+6) in Cathode Ohms Column. Change (5) to 2.0(5) in Control Grid Volts Column. Change (3) to 200(3)75 in Plate Volts - Ma Column. Change Regulation to Voltage Drop Measurements Column.
56	5591/-403B	Change 180(5) to 180(5)7.7 in Plate Volts - Ma Column.
	5634	Change 100(C)4.5 to 100(C)6.5 in Plate Volts - Ma Column.
59	5718	Change C5 to C15 in Base Column. Change 6.3(3+4) to 6.3(3+6) in Heater Volts Column. Change 0(2) to 0(1) in Control Grid Volts Column. Change 100(1)12 to 100(8)8.5 in Plate Volts - Ma Column.
	5719	Change C5 to C15 in Base Column. Change 6.3(3+4) to 6.3(3+6) in Heater Volts Column. Change 0(2) to 0(1) in Control Grid Volts Column. Change 100(1)1.5 to 100(8)0.75 in Plate Volts - Ma Column.
	5731	Change 6.3(1+4) to 6.3(1+6) in Heater Volts Column. Change 0(5) to 0(7) in Cathode Ohms Column. Change 7(3) to 7(4) in Control Grid Volts Column. Change 250(2)6 to 250(3)6 in Plate Volts - Ma Column.

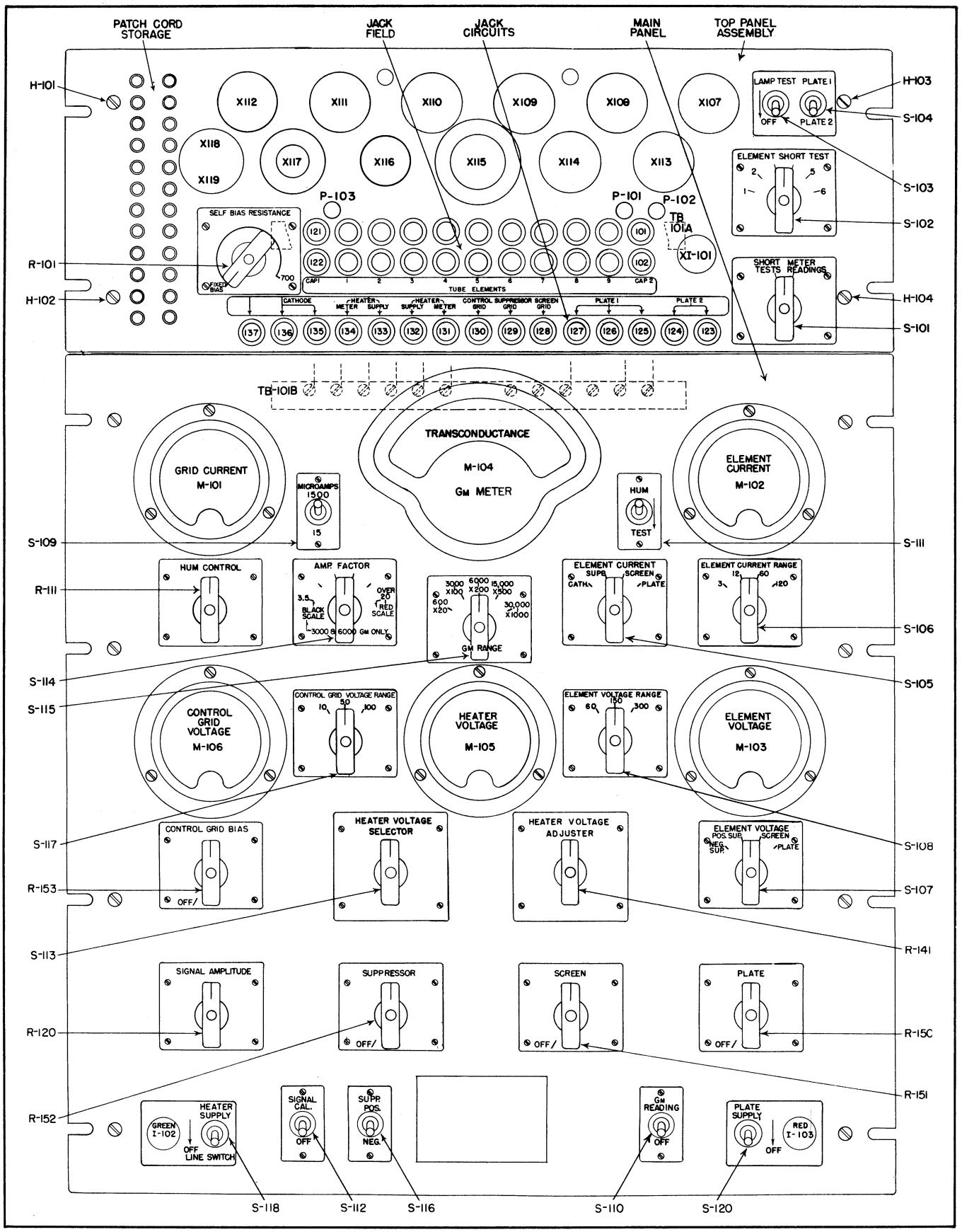


Figure 1. Front Panel View — TV-8/USM-31

1. CAPABILITIES AND LIMITATIONS.

This equipment is designed to test receiving type vacuum tubes having not more than 11 terminal connections. Preliminary checks should be made for internal defects before attempting to measure characteristics.

Inter-electrode leakage and shorts, when present, are indicated on the neon glow lamp, by making the recommended tests.

Cathode emission, element currents, gas conditions, and transconductance, are read from the panel meters, after applying element and signal operating voltages, controlled by the several voltage adjuster potentiometers.

CAUTION

No attempt should be made to test any tube requiring more than 25 watts of Heater power, or whose total element currents exceed 150 Ma.

WARNING!

Failure to observe these precautions may result in serious damage to the precision resistors and accurately calibrated meters.

2. INTRODUCTION.

Figure 1 presents the front panel view with all components labeled to aid the operator in becoming familiar with the instrument. Paragraph 3 lists and describes the functions of the various controls. Careful study of the drawing and of the physical instrument panel should be made before testing is attempted.

The instrument divides functionally into two units: the top panel assembly, and the lower main panel unit. In tube testing, the two units are interconnected by means of patch cords between the double row of tube element receptacles, termed the "JACK FIELD," and the single row receptacles entitled "JACK CIRCUITS."

Two patch cord connections for all tube elements are provided in the "JACK FIELD," by wiring each receptacle in the bottom row in parallel with the top row receptacle directly above it. Each pair of receptacles is then wired to a tube socket or cap connection. The 13 tube sockets, cap connections, and the "JACK FIELD" receptacles have their corresponding terminals connected together, and are numbered in standard RMA code on the designation strip labeled "TUBE ELEMENTS."

The single row of receptacles entitled "JACK CIRCUITS," are connected to the lower main panel meters, and element controls.

3. CONTROLS AND FUNCTIONS.

SYMBOL	CONTROL	FUNCTION
R-101	SELF BIAS RESISTANCE	Develops cathode bias voltage.
R-111	HUM CONTROL	Establishes grid circuit return at exact mid-point of filamentary type tubes.
R-120	SIGNAL AMPLITUDE	Adjust applied a-c grid signal voltage.
R-141	HEATER VOLTAGE ADJUSTER	Regulate filament or heater voltage.
R-150	PLATE	Adjusts applied d-c plate voltage.
R-151	SCREEN	Adjusts applied d-c screen voltage.
R-152	SUPPRESSOR	Adjusts applied d-c suppressor voltage.
R-153	CONTROL GRID BIAS	Adjusts control grid bias voltage.
S-101	SHORT TEST—METER READINGS	Connects tube elements to the short test circuit, or to the Gm measurement circuit.
S-102	ELEMENT SHORT TEST	Selects tube elements to be short tested.
S-103	LAMP TEST	Checks short test circuits for proper functioning.
S-104	PLATE 1—PLATE 2	Connects measuring circuits to either plate in dual section tubes.
S-105	ELEMENT CURRENT	Connects the Element Current Meter (M-102) to the desired tube element.
S-106	ELEMENT CURRENT RANGE	Selects one of 4 current ranges on the Element Current Meter (M-102).
S-107	ELEMENT VOLTAGE	Connects Element Voltmeter (M-103) to the desired circuit.
S-108	ELEMENT VOLTAGE RANGE	Selects one of 3 ranges of the Element Voltmeter (M-103).
S-109	MICROAMPERES	Removes 1500 μa shunt from Grid Current Meter (M-101).
S-110	Gm READING	Applies a-c grid signal to the tube under test.
S-111	HUM TEST	Increases sensitivity of the Gm measuring circuit to detect unbalance heater voltages.

(Continued on next page)

SYMBOL	CONTROL	FUNCTION
S-112	SIGNAL CAL	Switches Gm meter to the grid signal circuit for standardizing the grid signal voltage.
S-113	HEATER VOLTAGE SELECTOR	Selects rated heater or filament voltage for tube under test.
S-114	AMPLIFICATION FACTOR	Changes Gm meter sensitivity when measuring low μ tubes.
S-115	Gm RANGE	Selects proper ratio of grid signal voltage to plate load resistance.
S-116	SUPP	Connects Suppressor rheostat (R-152) to the positive or negative power supplies.
S-117	CONTROL GRID VOLTAGE RANGE	Selects one of 3 negative voltage ranges.
S-118	HEATER SUPPLY LINE switch	Applies a-c primary power to all transformers except high voltages.
S-120	PLATE SUPPLY	Energizes the high voltage power supply and bias rectifier.

Before energizing the equipment, position the Panel Controls as follows:

SET	*TO*
1. SELF BIAS RESISTANCE (R-101)	FIXED BIAS
2. PLATE 1—PLATE 2 toggle (S-104)	PLATE 1
3. ELEMENT SHORT TEST switch (S-102)	1
4. SHORT TEST—METER READINGS switch (S-101)	Short Tests
5. HUM CONTROL (R-111)	0
6. AMPLIFICATION FACTOR switch (S-114)	RED SCALE
7. Gm RANGE switch (S-115)	x100-3,000
8. ELEMENT CURRENT switch (S-105)	PLATE
9. ELEMENT CURRENT RANGE switch (S-106)	120
10. CONTROL GRID VOLTAGE RANGE switch (S-117)	100
11. ELEMENT VOLTAGE RANGE switch (S-108)	300
12. SIGNAL AMPLITUDE potentiometer (R-120)	Mid Scale
13. HEATER VOLTAGE SELECTOR (S-113)	6.3 Volts
14. HEATER VOLTAGE ADJUSTER (R-141)	Mid Scale
15. ELEMENT VOLTAGE switch (S-107)	PLATE
16. CONTROL GRID BIAS potentiometer (R-153)	Mid Scale
17. SUPPRESSOR GRID voltage potentiometer (R-152)	OFF
18. SCREEN GRID voltage potentiometer (R-151)	OFF
19. PLATE voltage potentiometer (R-150)	OFF
20. HEATER SUPPLY LINE switch (S-118)	OFF
21. SUPP polarity reversing switch (S-116)	POS.
22. PLATE SUPPLY toggle switch (S-120)	OFF

4. STEP BY STEP PROCEDURE.

A specific example will demonstrate the Step-by-Step procedure. Type 6J5, a heater-cathode triode, is to be checked—first, for internal defects; and second, for mutual conductance.

1. (a) Open tube chart at type 6J5; (b) insert tube in one of the 2 Octal sockets; X-107 - X-108.
2. On the 6J5 Base Diagram at the bottom of the page, note pin numbers corresponding to the internal tube element connections. These numbers are also shown enclosed by parentheses in each of the applicable data columns.
3. Locate corresponding numbers on the TUBE ELEMENT designation strip associated with the "JACK FIELD."
4. From the storage area at the left side of the top panel assembly, remove one patch cord for each tube pin to be connected. For type 6J5, seven cords will be required.
5. Insert one end of a patch cord in the lower file of "JACK FIELD" receptacles whose number of the designation strip corresponds to a 6J5 pin number. Cords will, accordingly, be plugged into jacks 2-3-5-7-8.
6. On the "JACK CIRCUIT" designation strip, locate the HEATER SUPPLY jacks.
7. Insert second end of patch cords 2 and 7 into the HEATER SUPPLY jacks J-132—J-133.
8. Connect a second patch cord from the "JACK FIELD" upper row of element 7 to the HEATER METER jack J-131. In similar manner, patch between element 2 and jack J-134. This connects the Heater Voltmeter (M-105) to the tube heater pins, and demonstrates use of the duplex element receptacles in the JACK FIELD.
9. Complete the tube element patching.
10. Patch TUBE ELEMENT 3 to PLATE 1 jack J-125.
11. Patch TUBE ELEMENT 5 to CONTROL GRID J-130.
12. Patch TUBE ELEMENT 8 to CATHODE J-137.
13. Rotate SELF-BIAS RESISTANCE (R-101) to FIXED BIAS.
14. Set HEATER VOLTAGE SELECTOR (S-113) to 6.3 volts.
15. Switch HEATER SUPPLY toggle (S-118) to ON.
16. Regulate heater voltage to 6.3 volts by rotating HEATER VOLTAGE ADJUSTER (R-141).
17. Position SHORT TEST-METER READINGS switch (S-101) to SHORT TESTS.

18. Switch LAMP TEST toggle (S-103) to ON and note if neon lamp glows; thus indicating that the short check rectifier is functioning properly. Release spring loaded toggle.
19. Step the ELEMENT SHORT TEST switch (S-102) through its six positions, stopping on each point to gently tap the tube. Continuous or intermittent glow in the neon lamp while the switch is resting on a contact position indicates leakage or short circuit conditions in the tube. In such cases, the tube should be rejected, and no further tests be attempted.

Note

Flashes which occur as the switch is moved from one contact position to another, are normal, and do not indicate a defective tube.

20. If the tube passes the leakage test, proceed to the Gm measurement by turning the SHORT TEST-METER READINGS switch (S-101) to METER READINGS.
21. Index PLATE 1 - PLATE 2 toggle (S-104) to "Plate 1."
22. Select typical operating potentials for the 6J5 listed below.
23. Set PLATE potentiometer (R-150) to OFF then switch PLATE SUPPLY toggle (S-120) to ON. The red indicator lamp (I-103) should light.
24. Advance CONTROL GRID BIAS potentiometer (R-153) until GRID VOLTAGE meter (M-106) indicates 8 volts.
25. Advance PLATE potentiometer (R-150) until ELEMENT VOLTAGE meter (M-103) reads 250 volts.
26. Plate current will be indicated on the ELEMENT CURRENT meter (M-102).
27. Switch SIGNAL CAL toggle (S-112) to ON and set Gm meter (M-104) to full scale deflection by rotating the SIGNAL AMPLITUDE potentiometer (R-120); release SIGNAL CAL toggle.
28. Switch Gm READING toggle (S-110) to ON.
29. Read transconductance on Gm meter (M-104).

5. GENERAL TUBE TEST PROCEDURE SUMMARY.

Pentodes and other multi-element tubes are tested in a similar manner; additional patch cords being connected between the JACK FIELD and the JACK CIRCUITS for the screen and suppressor potentials. Cap connections when required, are made to the receptacles associated with an appropriate marking CAP. JACK FIELD receptacles J-101-102 and J-121-122 are wired to cap connections P-101-102 and P-103, respectively. Tubes having such caps include the 6F8, 6J7, 6BG6, etc.

a. CATHODE.

Connect cathode to any of the three CATHODE jacks J-135, 136, 137, when the SELF-BIAS RESISTANCE Control (R-101) is indexed to the FIXED BIAS position.

Connect to J-135 or J-136 if the SELF-BIAS RESISTANCE Control is to be inserted in the cathode circuit by rotating the knob to a definite resistance value indicated on the etched plate.

b. SUPPRESSOR.

Connect the suppressor to the SUPPRESSOR GRID jack J-129, except for the following conditions:

(a) When other tube elements require a positive or negative voltage from the SUPPRESSOR GRID jack;

(b) When Cathode Self-Bias operation is specified;

(c) When both exceptions exist simultaneously.

In these circumstances, connect suppressor to any of the three CATHODE jacks when the tube is being tested under fixed bias conditions.

Connect suppressor to J-135 or J-136 when the SELF-BIAS RESISTANCE Control (R-101) is inserted into the cathode circuit.

c. AMPLIFIER AND CONVERTER TUBES.

1. Plug patch cords in accordance with data in the TUBE CHARTS.
2. Figures and letters in parentheses in the TUBE CHARTS refer to tube element connection.

6J5 —TUBE DATA.

	DATA	*SET*	*TO*
Heater	6.3 Volts	HEATER VOLTAGE SELECTOR (S-113)	6.3 Volts
Control Grid	—8 Volts	CONTROL GRID VOLTAGE RANGE (S-117)	10 Volts
Plate Voltage	250 Volts	ELEMENT VOLTAGE RANGE (S-108)	300 Volts
		ELEMENT VOLTAGE (S-107)	Plate
Plate Current	9 Ma	ELEMENT CURRENT RANGE (S-106)	12 Ma.
		ELEMENT CURRENT (S-105)	PLATE
Amp Factor (Mu)	20	AMPLIFICATION FACTOR (S-114)	RED SCALE
Transconductance	2,600	Gm RANGE switch (S-115)	x100-3,000

For example: type 1A7 has the figures (3+6) in parentheses in the column headed "Plate Volts." This denotes that TUBE ELEMENT jacks 3 and 6 in the JACK FIELD are both to be patched to a PLATE jack J-125 J-126 in the JACK CIRCUITS. The letter (C) enclosed in parentheses, denotes a Cap connection. Type 1A7 has the figure "4" and the letter "C" in parentheses in the column headed "Control Grid Volts." Hence TUBE ELEMENT jacks "4" and "CAP" are patched together and to the CONTROL GRID receptacles in the "JACK CIRCUITS."

Note

Since CONTROL GRID has only a single receptacle, patching between element (4) and (C) must be done in the "JACK FIELD;" i.e., patch upper 4 to CAP; lower 4 to CONTROL GRID.

3. Rotate SHORT TEST-METER READINGS switch (S-101) to SHORT TESTS.
4. Select rated heater voltage by setting the HEATER VOLTAGE SELECTOR (S-113).
5. Insert tube in a socket corresponding to the pin arrangement of the tube to be checked.
6. Place HEATER SUPPLY toggle (S-118) in the ON position.
7. Rotate HEATER VOLTAGE ADJUSTER (R-141) to correct heater voltage indicated on the HEATER VOLTAGE meter (M-105).
8. Check neon lamp by operating the LAMP TEST toggle (S-103).
9. Rotate ELEMENT SHORT TEST switch (S-102) through its six positions—stopping on each position to tap the tube.
10. A lighted neon lamp indicates a defect in the tube, and no further tests should then be attempted.
11. Set SELF-BIAS RESISTANCE control (R-101) to FIXED BIAS.

Note

If TUBE DATA CHART specifies Self Bias, set rheostat to resistance value corresponding to nearest rated value.

12. Rotate CONTROL GRID BIAS (R-153); SUPPRESSOR (R-152); SCREEN (R-151); and PLATE (R-150); to their extreme counter-clockwise positions.
13. Index SHORT TEST-METER READINGS switch (S-101) to METER READINGS.
14. Index AMPLIFICATION FACTOR switch (S-114) to the position corresponding to the nearest rated value given in the TUBE DATA CHARTS. If the Tube is a Tetrode, Pentode, or has an amp factor rating of 20, or higher, use RED SCALE position.
15. Switch PLATE SUPPLY toggle (S-120) to the ON position.
16. Index Gm RANGE switch to a range consistent with the expected measurement. This is the value listed in the TUBE DATA CHARTS.
17. Index the ELEMENT CURRENT switch (S-105) to the PLATE position.
18. Index ELEMENT CURRENT RANGE switch (S-106) to a range higher than the rated tube plate current.
19. Set CONTROL GRID VOLTAGE RANGE switch (S-117) to the range which includes the operating bias potential.
20. Rotate the CONTROL GRID BIAS knob (R-153) until the CONTROL GRID VOLTAGE meter (M-106) indicates the specified bias voltage.

Note

Set to zero (extreme counter-clockwise) if the SELF-BIAS RESISTANCE control (R-101) is connected into the cathode circuit.

21. Index ELEMENT VOLTAGE switch (S-107) to the PLATE position.
22. Index ELEMENT VOLTAGE RANGE switch (S-108) to a position containing the specified plate potential.
23. Advance PLATE potentiometer (R-150) until ELEMENT VOLTAGE meter (M-103) indicates rated plate potential.
24. Index ELEMENT VOLTAGE switch (S-107) to SCREEN.
25. Set ELEMENT VOLTAGE RANGE (S-108) to appropriate potential range.
26. Advance SCREEN potentiometer (R-151) until ELEMENT VOLTAGE meter (M-103) reads required voltage.

Note

To avoid excessive screen dissipation, maintain plate potential as high, or higher than the screen potential.

Note

Positive or negative suppressor voltages are provided. The SUPP toggle (S-116) selects the desired polarity.

27. Set ELEMENT VOLTAGE switch (S-107) to corresponding suppressor polarity—observing that the switch plate carries POS and NEG SUPP designations.
28. Advance SUPPRESSOR potentiometer (R-152) until ELEMENT VOLTAGE meter reads required potential.
29. Recheck plate, screen, and suppressor element voltages.

30. Element currents can be readily measured by rotating the ELEMENT CIRCUIT switch (S-105) through its four positions, and noting readings on the ELEMENT CURRENT meter (M-102). It may be necessary in doing this to shift ranges on the ELEMENT CURRENT meter, by rotating the ELEMENT CURRENT RANGE switch (S-106) to different positions.
31. If the tube is a filamentary type, switch the HUM toggle (S-111) to the TEST position and rotate the HUM CONTROL (R-111) for minimum reading on the Gm Meter (M-104). (A more precise adjustment can be made by setting the Gm RANGE switch (S-115) to x60-600. This connects the electron tube amplifier to the circuit, and thereby increases the effective current sensitivity of the Gm meter by 10 times. Return Gm RANGE switch to previous position.)
32. Switch SIGNAL toggle (S-112) to CAL and rotate the SIGNAL AMPLITUDE knob (R-120) to obtain a full scale deflection of the Gm meter (M-104).
33. Release SIGNAL toggle.
34. To take the Gm measurement, switch the Gm READING toggle (S-110) and read the Gm meter, multiplying the scale figures by the appropriate factor shown on the Gm RANGE switch plate (S-115). Read black scale arc if the AMPLIFICATION FACTOR switch (S-114) is set to 15, or lower. Read red scale arc for tubes with amplification factors of 20 and higher.
35. Grid current, when present, is read from the zero-center microammeter (M-101). If the pointer does not deflect beyond the RED line, after the tube is heated and element voltages are applied, the MICROAMPERES toggle (S-109) can be pulled, and readings taken on the 15 microampere range.
36. Index HEATER SUPPLY and PLATE SUPPLY toggles (S-118 and S-120) to the OFF position. Place the PLATE, SCREEN and SUPPRESSOR controls (R-150, R-151 and R-152) to the OFF position.

d. RECTIFIER TESTS.

Rectifier tests are primarily emission measurements, with secondary checks for shorts and gas conditions.

1. Plug patch cords in accordance with TUBE DATA CHART.
2. If the tube is a dual rectifier type such as type 80, 5R4G, etc., connect plate 1 to any of the 3 PLATE 1 Jacks, J-125, 126, 127; and plate 2 to either of the PLATE 2 Jacks, J-123, 124.
3. Rotate SHORT TEST-METER READINGS switch (S-101) to SHORT TESTS.
4. Select required heater voltage by setting the HEATER VOLTAGE SELECTOR (S-113).
5. Insert tube in a socket corresponding to the pin arrangement of the tube to be checked.
6. Switch HEATER SUPPLY toggle (S-118) to the ON position.
7. Rotate HEATER VOLTAGE ADJUSTER (R-141) to correct heater voltage as read on the HEATER VOLTAGE meter (M-105).
8. Check neon lamp by operating the LAMP TEST toggle (S-103).
9. Rotate ELEMENT SHORT TEST switch (S-102) through its six positions, stopping on each position to gently tap the tube.
10. A lighted neon lamp indicates a defect in the tube, and no further tests should be conducted.

Note

When dual rectifier plates have been patched to P1 and P2 jacks, Short Check as described in Steps 1 through 10, indexing the PLATE 1 toggle (S-104) to both PLATE 1 and PLATE 2 positions.

11. Set SELF-BIAS RESISTANCE control (R-101) to FIXED BIAS.
12. Rotate PLATE potentiometer (R-150) to OFF.
13. Index SHORT TEST-METER READINGS switch (S-101) to METER READINGS.
14. Switch PLATE SUPPLY toggle (S-120) to ON.
15. Set Gm RANGE switch (S-115) to x1000-30,000.
16. Set AMPLIFICATION FACTOR switch (S-114) to 3.5.
17. Index ELEMENT CURRENT RANGE switch (S-106) to 120 Ma position.
18. Set ELEMENT CURRENT switch (S-105) to PLATE.
19. Set ELEMENT VOLTAGE RANGE switch (S-108) to 60.
20. Index ELEMENT VOLTAGE switch (S-107) to PLATE.
21. Advance PLATE potentiometer (R-150) carefully, until the ELEMENT CURRENT meter (M-102) indicates the current listed in the Tube Data Chart.

CAUTION

Reject tubes requiring a test voltage higher than that listed in the Tube Data Charts to obtain specified element current reading. Necessity for increased test potential indicates loss of emission and end of useful tube life.
Reject *vacuum type* rectifiers showing a blue glow between the elements. This is an indication of the presence of gas.

Note

A blue glow in gaseous and mercury vapor rectifiers is normal.

22. Repeat emission checks on second plate, indexing the PLATE 1 toggle (S-104) to the appropriate position.
23. Reject dual rectifiers having materially different PLATE 1 and PLATE 2 readings.
24. Index HEATER SUPPLY and PLATE SUPPLY toggles (S-118 and S-120) to the OFF position. Return the PLATE control (R-150) to the OFF position.

e. LOW CURRENT DIODES.

Diodes commonly used as AM 2nd detectors, discriminators and similar low current applications are measured by a procedure similar to power rectifiers, except for greatly reduced test voltages and rated emission currents.

1. Patch cords in accordance with Tube Data Chart.
2. Set ELEMENT CURRENT RANGE (S-106) to 12 Ma.
3. Index ELEMENT CURRENT switch (S-105) to PLATE.
4. Set ELEMENT VOLTAGE RANGE switch (S-108) to 60 volts.
5. Index ELEMENT VOLTAGE switch (S-107) to PLATE.
6. Position PLATE toggle (S-104) to PLATE 1 or PLATE 2, according to patch cord connections.

Note

If duo-diode tube, PLATE 1 and PLATE 2 should be both patched, and emission test repeated for both positions of the PLATE toggle (S-104).

7. Follow steps 1 through 10 under amplifier and converter tubes for heater voltage and short tests.
8. Advance PLATE potentiometer (R-150) to test voltage shown in Tube Data Chart.
9. Read ELEMENT CURRENT Meter (M-102).
10. Reject tube if plate voltage required to obtain rated emission current exceeds tabulated values.
11. Index HEATER SUPPLY and PLATE SUPPLY toggles (S-118 and S-120) to the OFF position. Return the PLATE control (R-150) to the OFF position

f. GASEOUS REGULATOR TUBES.

Gaseous regulator tests consist of measuring the Ionization Potenti l, and the Operating Voltages for both the maximum and minimum operating currents. This data is listed for a variety of such tubes in the TUBE DATA CHARTS.

1. Plug patch cords in accordance with the TUBE DATA CHARTS.
2. Place SHORT TEST-METER READING switch (S-101) to METER READINGS position.
3. Set PLATE 1-PLATE 2 toggle (S-104) to PLATE 1.
4. Rotate AMPLIFICATION FACTOR switch (S-114) to RED SCALE.
5. Rotate Gm RANGE (S-115) to x500-15,000.
6. Set ELEMENT CURRENT RANGE (S-106) to 120.
7. Rotate ELEMENT CURRENT switch (S-105) to PLATE.
8. Energize the equipment by switching the HEATER SUPPLY toggle (S-118) and PLATE SUPPLY toggle (S-120) to ON.
9. Advance PLATE potentiometer (R-150) until the tube fires—(This is the Ionization Potential) the Plate potential will immediately drop to the "Operating Voltage". Read these potentials from the ELEMENT VOLTAGE voltmeter (M-103).
10. Vary the PLATE potentiometer (R-150), observing the change in Plate potential required to obtain rated minimum and maximum operating current. (This is the regulation characteristics.)
11. If the change in plate potential observed in the previous step is greater than that listed in the TUBE DATA CHART, reject the tube.
12. Place HEATER SUPPLY and PLATE SUPPLY toggles (S-118 and S-120) to the OFF position. Return the PLATE control (R-150) to OFF.

g. ADAPTERS.

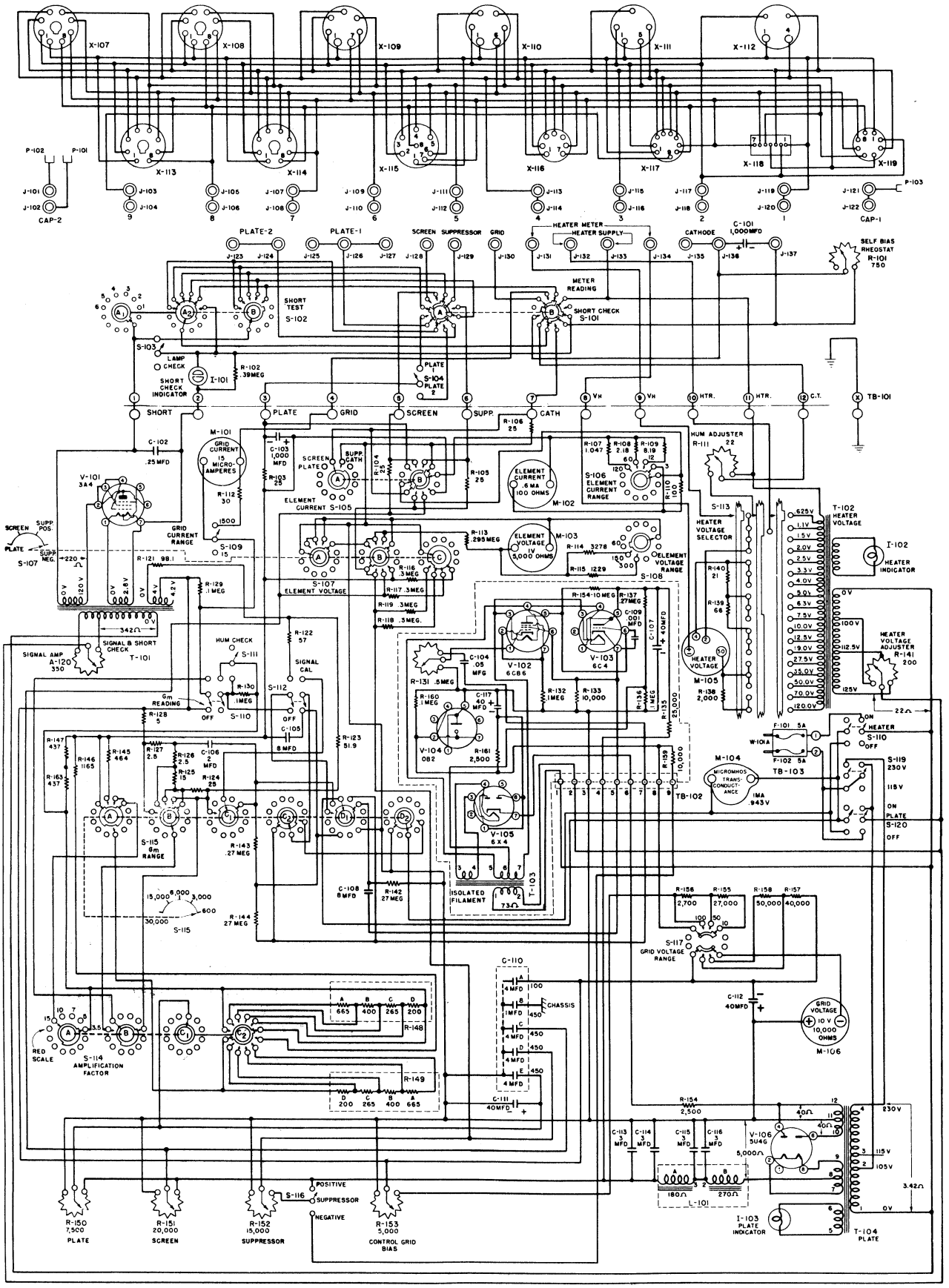
Five adapters are furnished as a part of the equipment. The testing of tubes which require their use consists of fitting the adapter to the base of the tube to be tested, and plugging the tube-plus-adapter into the appropriate standard socket type in the Top Panel Assembly. The balance of the test procedure follows that of any standard type of tube. Test Data for the tubes using these adapters is provided in the Tube Data Charts. Example: Tube type WE316A

1. Use adapter CV49411.
2. Plug WE316A into the CV49411 Adapter.
3. Plug tube plus adapter into socket X-112 in the Top Panel Assembly.
4. Follow Patch Cord connections and Element Voltage settings as shown in the Tube Data Charts for type WE316A.

h. LOW POWER THYRATRONS.

1. Patch cords in accordance with Tube Data Charts.
2. Patch CONTROL GRID, using the resistor patch cord CX2291/U.
3. Patch a tube shield grid, when present, to CATHODE.
4. Index PLATE 1 PLATE 2 toggle (S-104) to PLATE 1.
5. Index SHORT TESTS-METER READINGS (S-101) to METER READINGS.
6. Index AMPLIFICATION FACTOR (S-114) to RED SCALE.

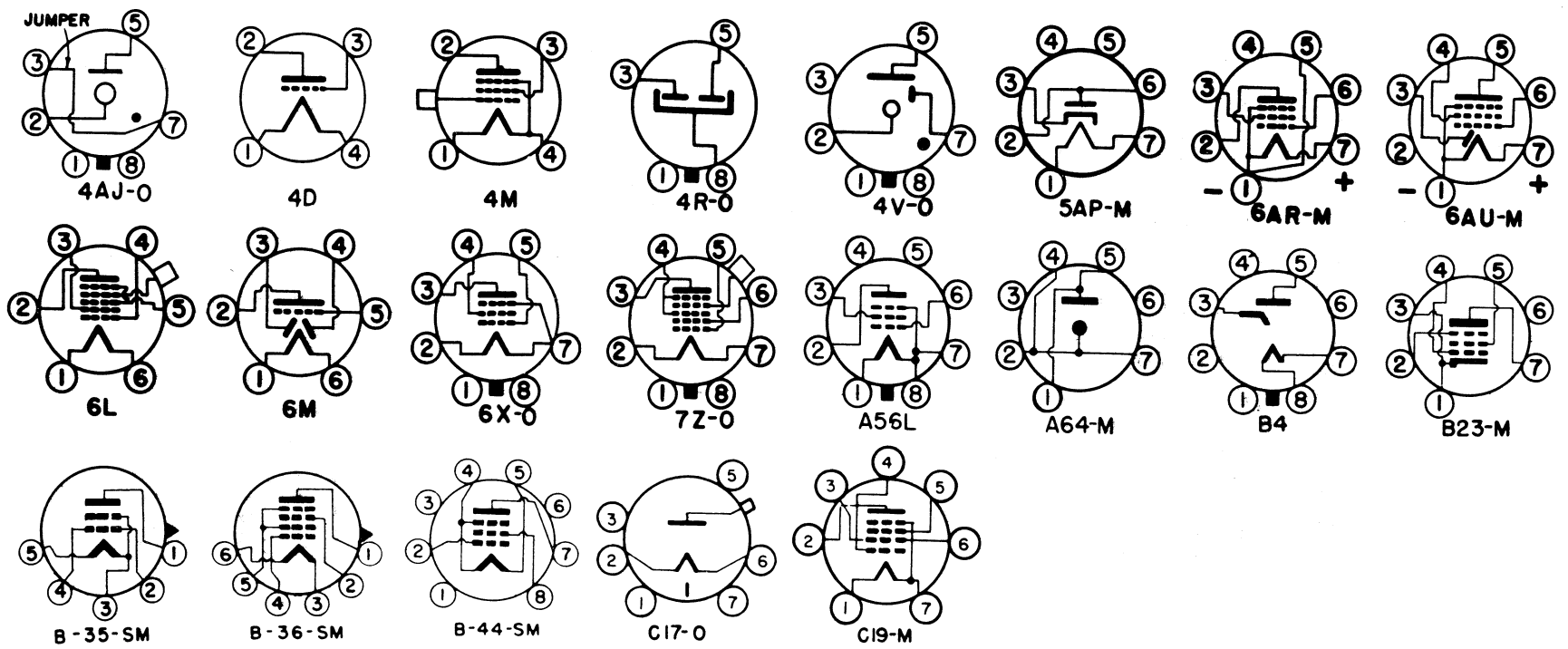
7. Gm RANGE (S-115) to x1000-30,000.
8. ELEMENT CURRENT RANGE (S-106) to 120.
9. ELEMENT CURRENT (S-105) to PLATE.
10. ELEMENT VOLTAGE RANGE (S-108) to 300.
11. ELEMENT VOLTAGE switch (S-107) to PLATE.
12. HEATER VOLTAGE SELECTOR (S-113) to proper heater voltage.
13. PLATE potentiometer (R-150) to zero.
14. CONTROL GRID VOLTAGE RANGE (S-117) to 10.
15. Switch HEATER SUPPLY and PLATE SUPPLY toggles (S-118 and S-120) to ON.
16. Regulate heater potential by means of the HEATER VOLTAGE ADJUSTER (R-141).
17. Advance CONTROL GRID BIAS potentiometer (R-153) to 10 volts.
18. Advance PLATE potentiometer (R-150) to 300 volts.
19. Decrease CONTROL GRID BIAS voltage (R-153) until tube fires.
20. Read emission current on the ELEMENT CURRENT meter (M-102), reducing PLATE potential if necessary, until plate current does not exceed maximum tube ratings.
21. Read voltage drop on the ELEMENT VOLTAGE meter (M-103).
22. Reject tube if voltage drop is greater than that listed in the TUBE DATA CHARTS.
23. Index HEATER SUPPLY and PLATE SUPPLY toggles to OFF. Return the PLATE control (R-150) to the OFF position.



Schematic Wiring Diagram

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	REJECT
0A2	Gas Diode	A64		0 (7)	Anode Starting Volts 155 (5); See Paragraph 5. f. Working Volts 150; Working Current 5 to 30 Ma.				Red	Regulation	2 Volts	4 Volts
0A3	Gas Diode	4-AJ		0 (2)	Anode Starting Volts 100 (5); See Paragraph 5. f. Working Volts 75; Working Current 5 to 40 Ma.				Red	Regulation	5 Volts	10 Volts
0A4G	Gas Triode	4-V		0 (2)	Starting Anode (7) to Plate (5) Using Resistor Patch Cord; Firing Voltage 100; Working Volts 75 ± 15; Working Current 10 to 25 Ma. See Paragraph 5. h.				Red	Regulation	2 Volts	5 Volts
0A5G	Gas Relay	B23		0 (1)	Grid 1 & 2 (4+5) to Plate (7) Using Resistor Patch Cord; Grid 3 (2) to Negative 100 Volts; Starter Anode Ionizing Volts 140 ± 20; Grid 3 Current 200 to 350 MuA; Working Anode Ionizing Volts 200 ± 20; Working Anode Current 1 Ma.				Red	Ionizing Potentials	Not Established	
0B2	Gas Diode	A64		0 (7)	Anode Starting Volts 115 (5); See Paragraph 5. f. Working Volts 105; Working Current 5 to 30 Ma.				Red	Regulation	1 Volts	2 Volts
0B3	Gas Diode	4-AJ		0 (2)	Anode Starting Volts 110 (5); See Paragraph 5. f. Working Volts 90; Working Current 5 to 40 Ma.				Red	Regulation	8 Volts	12 Volts
0C3	Gas Diode	4-AJ		0 (2)	Anode Starting Volts 115 (5); See Paragraph 5. f. Working Volts 105; Working Current 5 to 40 Ma.				Red	Regulation	2 Volts	5 Volts
0D3	Gas Diode	4-AJ		0 (2)	Anode Starting Volts 160 (5); See Paragraph 5. f. Working Volts 150; Working Current 5 to 40 Ma.				Red	Regulation	5 Volts	10 Volts
0Y4	Gas Rectifier	B4		0 (7+3)	Anode Starting Volts 100 (5) Voltage Drop 90 Volts ± 15; Working Current 40 to 75 Ma.				Red	Emission	75 Ma	50 Ma
0Z4	Gas Rectifier	4-R		0 (8)	Anode Starting Volts 170 (3 & 5). Voltage Drop 150 ± 20 Volts; Working Current 30 to 85 Ma.				Red	Emission	85 Ma	70 Ma
00A	Triode	4-D	5 (1+4)		1 (3)	45 (2) 1.5			Red	Gm	550	350
01A	Triode	4-D	5 (1+4)		9 (3)	135 (2) 3			Red	Gm	800	500
1A3	Diode	5-AP	1.4 (1+7)	0 (3)		10 (6)			Red	Emission	0.5 Ma	0.2 Ma
1A4	Pentode	4-M	2 (1+4)		3 (C)	180 (2) 2.3	67 (3) 0.8		Red	Gm	750	450
1A5	Pentode	6-X	1.4 (2+7)		4.5 (5)	90 (3) 4	90 (4) 0.8		Red	Gm	850	500
1A6	Converter	6-L	2 (1+6)		3 (C+4)	180 (2+3) 2.4	65 (5) 2.2		3.5	Gm	1,000	750
				0 (C)	3 (4)	180 (3)	65 (5)	180 (2)	Red	Osc Gm	180	100
1A7	Converter	7-Z	1.4 (2+7)	0 (C)	1 (5)	90 (3+6) 2.5	45 (4)		3.5	Gm	750	500
				0 (C)	0 (5)	90 (6)	45 (4)	90 (3)	Red	Osc Gm	375	250

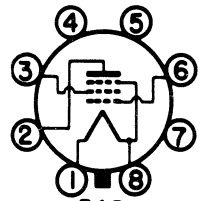
1AB5	Pentode	A56	1.25 (1+7)		1.5 (6)	150 (2) 6.8	150 (3) 2		Red	Gm	1,350	900
1AC5	Pentode	B44	1.25 (4+5)		4.5 (2)	65 (7)	65 (8) 0.8		Red	Gm	750	450
1AD4	Pentode	B35	1.25 (3+5)		0.5 (4)	45 (1) 3	45 (2) 0.8		Red	Gm	2,000	1,200
1AD5	Pentode	B44	1.25 (4+5)		0 (2)	65 (7) 1.85	65 (8) 0.8		Red	Gm	750	500
1AE4	Pentode	6-AR	1.25 (1+7)		0 (6)	90 (2) 3.5	90 (3) 1.2		Red	Gm	1,500	1,000
1AB6	Converter	C19	1.4 (1+7)		0.5 (4+5)	75 (2) 1.25	50 (6+3) 2.8		3.5	Gm	550	350
1AE5	Converter	B36	1.25 (3+6)		0 (4+2)	45 (1+5) 2.2			7	Gm	700	450
1AF4	Pentode	6-AR	1.4 (1+7)		0 (6)	90 (2) 1.8	90 (3) 0.55		Red	Gm	1,000	700
1AF5	Diode Pentode	6-AU	1.4 (1+7)		0 (6)	90 (5) 1.1	90 (4) 0.4		Red	Gm	600	400
1B3	Rectifier	C17	1.25 (2+7)			80 (C)			Red	Emission	2 Ma	1.3 Ma
1B4	Pentode	4-M	2 (1+4)		3 (C)	180 (2) 1.7	65 (3) 0.5		Red	Gm	650	400
1B5/25S	Diode Triode	6-M	2 (1+6)		3 (5)	135 (2) 0.8			Red	Gm	575	350

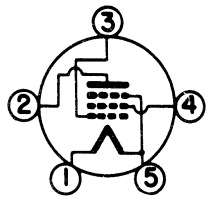


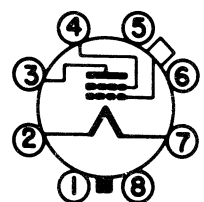
A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

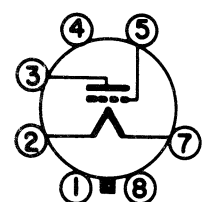
TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
1B7	Converter	7-Z	1.4 (2+7)	0 (C)	1 (5)	90 (3+6) 5	50 (4)		3.5	Gm	1,300	900
1B8	Diode Triode Pentode	8-AW	1.4 (2+7)	(Pent.) (Triode)	6 (5) 0 (C)	90 (3) 3 90 (6) 0.15	90 (4) 1.4		Red Red	Gm Gm	1,100 275	800 150
1C3	Triode	A56	1.4 (1+7)		3 (4)	90 (2) 1.4			15	Gm	750	450
1C5	Pentode	6-X	1.5 (2+7)		7.5 (5)	90 (3) 7.5	90 (4) 1.6		Red	Gm	1,550	1,000
1C6	Converter	6-L	2 (1+6)	0 (C)	1 (4)	90 (2+3) 7.2	50 (5)		3.5	Gm	1,150	750
1C7	Converter	7-Z	2 (2+7)	0 (C)	1 (5)	90 (3+6) 7.2	50 (4)		3.5	Gm	1,150	750
1C8	Converter	B38	1.25 (4+5)	0 (2+8)		30 (6+7) 1.85			5	Gm	750	450
1D3	Triode	B39	1.25 (4+5)		5 (1)	90 (8) 12.5			7	Gm	3,400	2,000
1D5	Pentode	5-R	2 (2+7)		3 (C)	180 (3) 2.2	65 (4) 2.4		Red	Gm	650	400
1D7	Converter	7-Z	2 (2+7)	0 (C)	1 (5)	90 (3+6) 7	50 (4)		Red	Gm	1,000	650
1D8	Triode Pentode	8-AJ	1.4 (2+7)	(Triode) (Pent.)	0 (C) 9 (5)	90 (6) 1.1 90 (3) 5	 90 (4) 1		Red Red	Gm Gm	550 900	350 600
1E4	Triode	5-S	1.4 (2+7)		0 (5)	90 (3) 4.5			15	Gm	1,300	900
1E5	Pentode	5R	2 (2+7)		3 (C)	180 (3) 1.7	65 (4) 0.6		Red	Gm	650	400
1E7	Twin Pentode (Sec. 1) (Sec. 2)	8-C	2 (2+7)		4.5 (4) 2.5 (5)	135 (3) 2.2 135 (6) 2.2	135 (8) 2.2 135 (8) 2.2		Red Red	Gm Gm	1,400 1,400	1,000 1,000
1E8	Converter	B38	1.25 (4+5)		0 (2+8)	30(6+7)1.85			7	Gm	750	500
1F4	Pentode	5-K	2 (1+5)		3 (3)	90 (2) 4	90 (4) 1.1		Red	Gm	1,700	1,000
1F5	Pentode	6-X	2 (2+7)		3 (5)	90 (3) 4	90 (4) 1.1		Red	Gm	1,700	1,000
1F6	Pentode	6-W	2 (1+6)		1.5 (C)	180 (2) 2.2	65 (3) 0.7		Red	Gm	650	400
1F7	Diode Pentode	7-AD	2 (2+7)		1.5 (C)	180 (3) 2.2	65 (6) 0.7		Red	Gm	750	400
1G4	Triode	5-S	1.4 (2+7)		6 (5)	90 (3) 2.3			10	Gm	800	500
1G5	Pentode	6-X	1.4 (2+7)		6 (5)	90 (3) 8.5	90 (4) 2.5		Red	Gm	1,500	1,000
1G6	Twin Triode (Sec. 1) (Sec. 2)	7-AB	1.4 (2+7)		0 (4) 0 (5)	90 (3) 1 90 (6) 1			Red Red	Gm Gm	825 825	500 500
1H4	Triode	5-S	2 (2+7)		13 (5)	180 (3) 3.1			10	Gm	900	600
1H5	Diode Triode	5-Z	1.4 (2+7)		0 (C)	90 (3) 0.15			Red	Gm	275	150

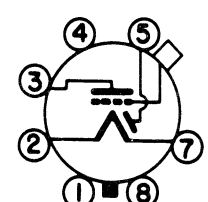
1H6	Diode Triode	7-AA	2 (2+7)		3 (6)	135 (3) 0.8			Red	Gm	575	300
1J5	Pentode	6-X	2 (2+7)		16 (5)	135 (3) 7	135 (4) 2		Red	Gm	950	600
1J6	Twin Triode (Sec. 1) (Sec. 2)	7-AB	2 (2+7)		1 (4) 1 (5)	135 (3) 5 135 (6) 5			Red Red	Gm Gm	1,200 1,200	900 900
1L4	Pentode	6-AR	1.4 (1+7)		0 (6)	90 (2) 5	90 (3) 2		Red	Gm	1,000	700
1L6	Converter	B40	1.4 (1+7)	0 (6)	1 (4)	90 (3+2) 3	45 (5) 1		3.5	Gm	600	350
1LA4	Pentode	5-AD	1.4 (1+8)		4.5 (6)	90 (2) 4	90 (3) 0.8		Red	Gm	850	500
1LA6	Converter	7-AK	1.4 (1+8)	0 (6)	1 (4)	90 (3+2) 3.6	45 (5) 1		3.5	Gm	600	350
1LB4	Pentode	5-AD	1.4 (1+8)		9 (6)	90 (2) 5	90 (3) 1		Red	Gm	900	600
1LB6	Converter	8-AX	1.4 (1+8)	0 (7)	1 (6)	90 (3+2) 5	45 (4) 1		Red	Gm	650	350
1LC5	Pentode	7-AO	1.4 (1+8)		0 (6)	90 (2) 1.2	45 (3) 0.3	0 (4)	Red	Gm	775	450
1LC6	Converter	7-AK	1.4 (1+8)	0 (6)	1 (4)	90 (3+2) 5	45 (5) 1.5		Red	Gm	550	300

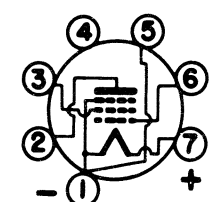


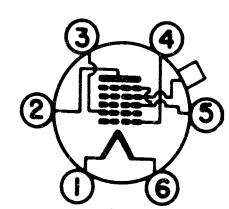


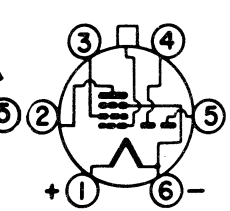


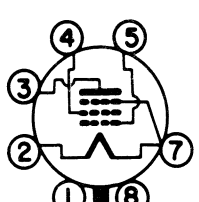


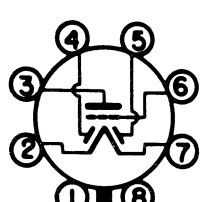


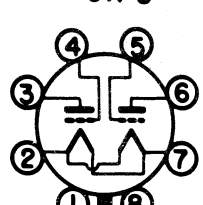


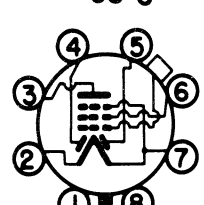


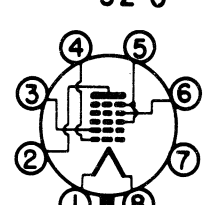


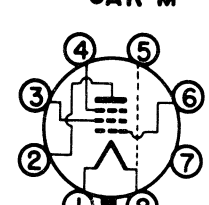


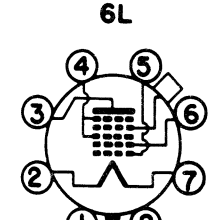


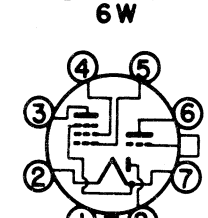


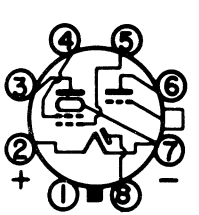


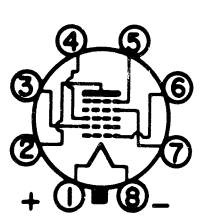


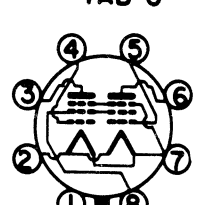


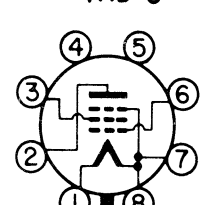


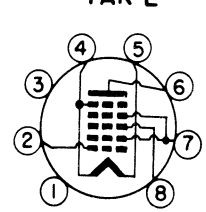


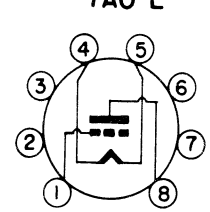


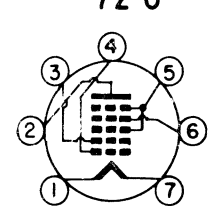








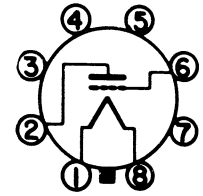


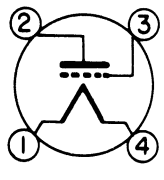


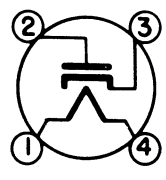
A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

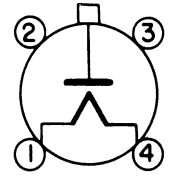
TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
1LD5	Diode Pentode	6-AX	1.4 (1+8)		0 (6)	90 (2) 0.6	45 (3) 0.1		Red	Gm	600	350
1LE3	Triode	4-AA	1.4 (1+8)		0 (6)	90 (2) 4.5			15	Gm	1,300	900
1LF3	Triode	4-AA	1.4 (1+8)		0 (6)	90 (2) 4.5			15	Gm	1,300	900
1LG5	Pentode	7-AO	1.4 (1+8)		0 (6)	90 (2) 1.7	45 (3) 0.4	0 (4)	Red	Gm	800	500
1LH4	Diode Triode	5-AG	1.4 (1+8)		0 (6)	90 (2) 0.2			Red	Gm	275	150
1LN5	Pentode	7-AO	1.4 (1+8)		0 (6)	90 (2) 1.6	90 (3) 0.35	0 (4)	Red	Gm	800	500
1N5	Pentode	5-Y	1.4 (2+7)		0 (C)	90 (3) 1.2	90 (4) 0.3		Red	Gm	750	400
1N6	Diode Pentode	7-AM	1.4 (2+7)		4.5 (5)	90 (3) 3.4	90 (4) 0.7		Red	Gm	800	500
1P5	Pentode	5-Y	1.4 (2+7)		0 (C)	90 (3) 2.3	90 (4) 0.7		Red	Gm	750	400
1Q5	Tetrode	6-AF	1.4 (2+7)		4.5 (5)	90 (3) 9.5	90 (4) 1.3		Red	Gm	2,200	1,400
1Q6	Diode Pentode	B41	1.25 (4+5)		0 (2)	65 (7) 1.6	65 (8) 0.4		Red	Gm	600	350
1R4	Diode	A26	1.4 (1+8)		0 (7)	10 (4)			Red	Emission	5 Ma	3 Ma
1R5	Converter	7-AT	1.4 (1+7)		0 (4+6)	65 (3+2) 8.5			7	Gm	1,400	1,000
1S4	Pentode	7-AV	1.4 (1+7)		7 (3)	90 (2) 7.4	67 (4) 1.4		Red	Gm	1,550	1,000
1S5	Diode Pentode	6-AU	1.4 (1+7)		0 (6)	65 (5) 1.6	65 (4) 0.4		Red	Gm	600	350
1S6	Diode Pentode	B42	1.25 (4+5)		0 (3)	65 (1) 1.6	65 (8) 0.4		Red	Gm	600	350
1SA6	Pentode	6-BD	1.4 (2+7)		0 (4)	90 (8) 2.5	65 (6) 0.7		Red	Gm	1,000	600
1SB6	Diode Pentode	6-BE	1.4 (2+7)		0 (8)	90 (3) 1.5	65 (4) 0.4		Red	Gm	650	400
1T4	Pentode	6-AR	1.4 (1+7)		0 (6)	90 (2) 3.5	65 (3) 1.4		Red	Gm	900	500
1T5	Pentode	6-X	1.4 (2+7)		6 (5)	90 (3) 6.5	90 (4) 0.8		Red	Gm	1,150	700
1T6	Diode Pentode	B42	1.25 (4+5)		0 (3)	65 (1) 1.6	65 (8) 0.4		Red	Gm	600	350
1U4	Pentode	6-AR	1.4 (1+7)		0 (6)	90 (2) 1.6	90 (3) 0.5		Red	Gm	900	600
1U5	Diode Pentode	A65	1.4 (1+7)		0 (6)	65 (2) 1.6	65 (3) 0.6		Red	Gm	600	350
1U6	Converter	B40	1.4 (1+7)		0 (4+6)	90 (3+2) 3	45 (5) 0.9		Red	Gm	600	350
1-V	Rectifier	4-G	6.3 (1+4)		0 (3)	12 (2) 45			Red	Emission	45 Ma	30 Ma
1V2	Rectifier	B43	0.625 (4+5)			25 (9)			Red	Emission	0.5 Ma	0.25 Ma

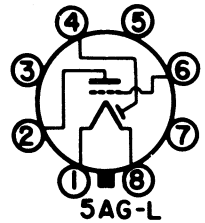
1V5	Pentode	B44	1.25 (4+5)		4.5 (2)	65 (7) 2	65 (8) 0.5		Red	Gm	750	400
1W4	Pentode	B45	1.4 (1+7)		9 (6)	90 (2) 5	90 (3) 1		Red	Gm	900	550
1W5	Pentode	B44	1.25 (4+5)		0 (2)	65 (7) 1.8	65 (8) 0.8		Red	Gm	700	400
1X2/A	Rectifier	B46	1.25 (2+9)			40 (C)			Red	Emission	2 Ma	1 Ma
1Y2	Rectifier	4-P	1.5 (1+4)			25 (C)			Red	Emission	2 Ma	1 Ma
1Z2	Rectifier	A77	1.5 (1+7)			12 (C)			Red	Emission	2 Ma	1 Ma
2A3	Triode	4-D	2.5 (1+4)		45 (3)	250 (2) 60			5	Gm	5,000	3,500

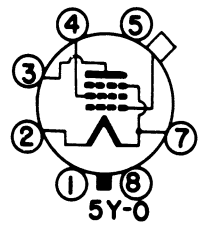


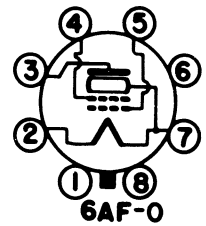


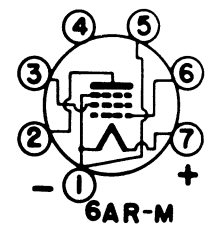


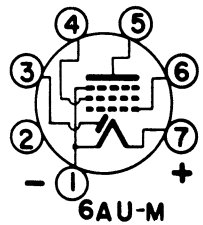


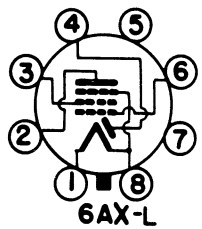


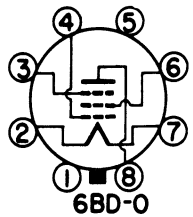


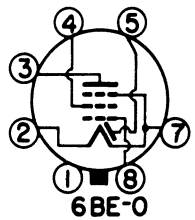


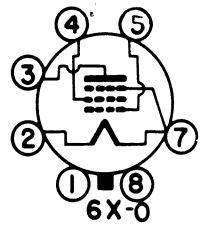


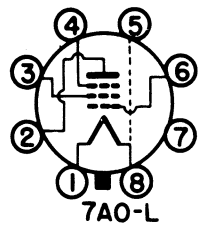


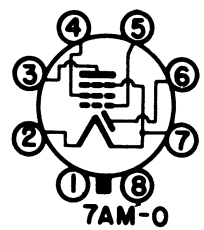


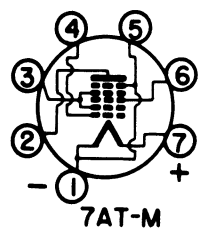


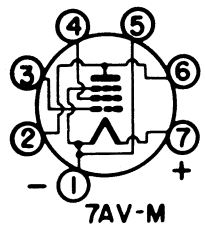


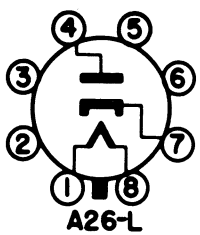


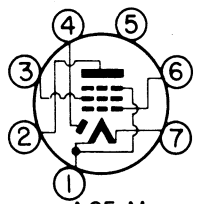


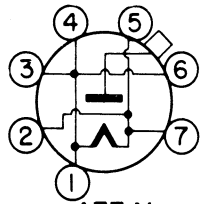


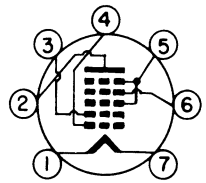


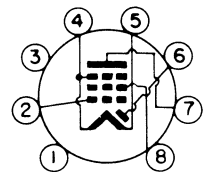


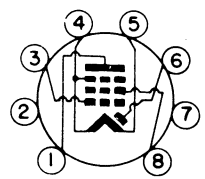


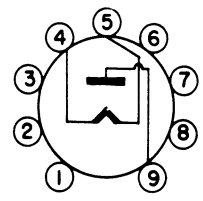


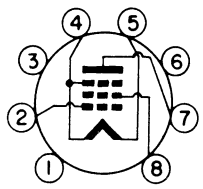


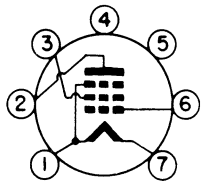


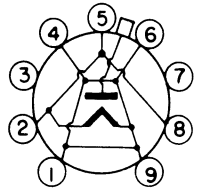








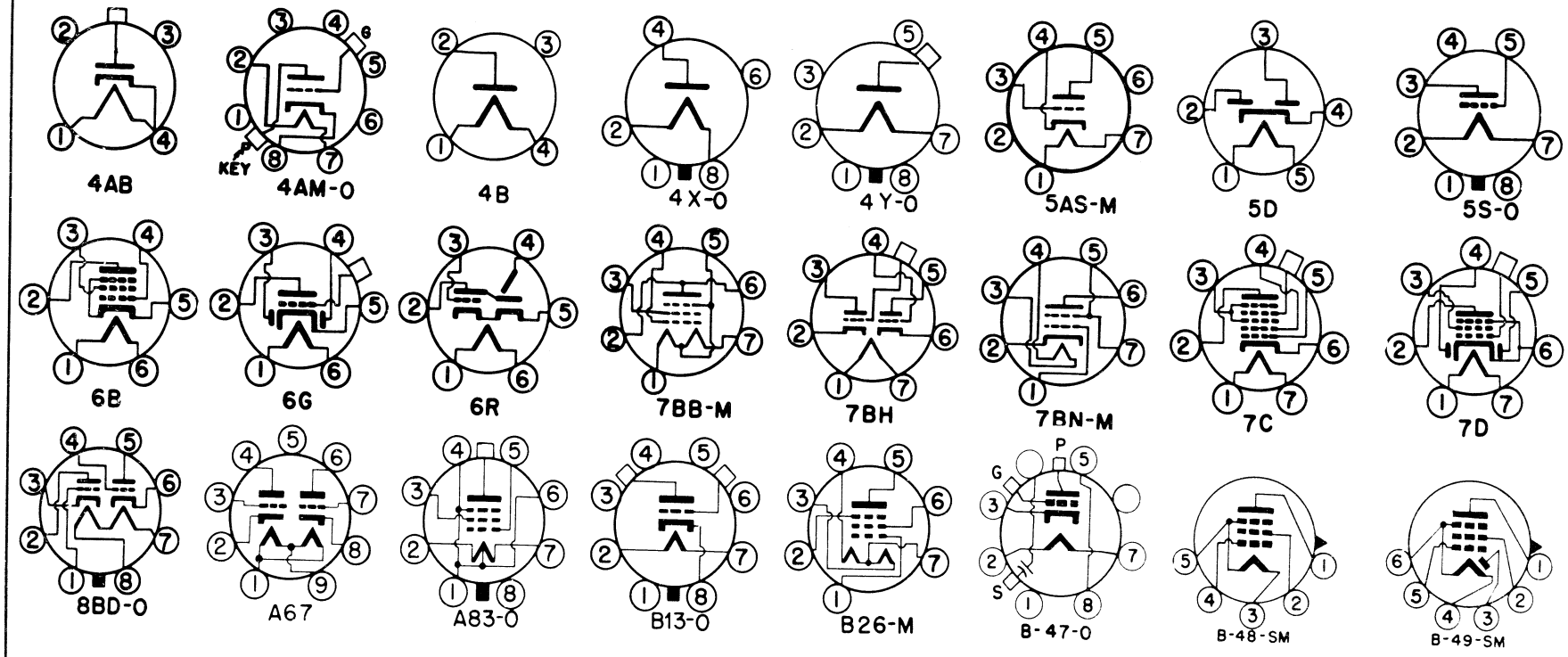




A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
2A4G	Gas Triode	5-S	2.5 (2+7)		3 (5)	30 (3) 10 to 100 Ma (See Paragraph 5. f.)			Red	Voltage Drop	20 V	24 V
2A5	Pentode	6-B	2.5 (1+6)	(5)	20 (4)	285 (2) 38	285 (3) 7		Red	Gm	2,500	1,500
2A6	Diode Triode	6-G	2.5 (1+6)	(5)	2 (C)	250 (2) 0.9			Red	Gm	1,100	750
2A7	Converter	7-C	2.5 (1+7)	0 (6+C)	2 (5)	250 (4+2) 6.6	50 (3) 1.6		3.5	Gm	2,300	1,600
2B7	Diode Pentode	7-D	2.5 (1+7)	0 (6)	3 (C)	250 (2) 9	125 (3) 2.3		Red	Gm	1,100	750
2C21	Twin Triode (Sec. 1) (Sec. 2)	7-BH	6.3 (1+7)	0 (6) 0 (2)	16 (4) 16 (C)	250 (5) 8.5 250 (3) 8.5			10 10	Gm Gm	1,400 1,400	900 900
2C22	Triode	4-AM	6.3 (2+7)	0 (8)	10 (C)	300 (Shell) 11			Red	Gm	3,000	1,800
2C26	UHF Triode	B13	6.3 (2+7)	0 (8)	15 (C)	300 (C) 15			15	Gm	2,500	1,500
2C40	Triode	B47	6.3 (2+7)	0 (5+8)	10 (Ring)	250 (C) 25 (Use Adapter 446)			Red	Gm	5,500	3,500
2C4	Gas Triode	5-AS	2.5 (1+7)	0 (4)	5 (3)	50 (C) 5 (See Paragraph 5. f.)			Red	Voltage Drop	16 V	18 V
2C51	Twin Triode (Sec. 1) (Sec. 2)	A67	6.3 (1+9)	0 (2) 0 (8)	2 (3) 2 (7)	150 (4) 8 150 (6) 8			Red Red	Gm Gm	5,500 5,500	3,500 3,500
2C52	Twin Triode (Sec. 1) (Sec. 2)	8-BD	12.6 (7+8)	0 (3) 0 (6)	2 (2) 2 (4)	250 (1) 1.3 250 (5) 1.3			Red Red	Gm Gm	1,900 1,900	1,000 1,000
2D21	Gas Tetrode	7-BN	6.3 (3+4)	0 (2+5)	(1)	(6) 100 Ma Max (See Paragraph 5. h.)			Red	Voltage Drop	8 V	10 V
2E35	Indicator Tube	6-R	2.5 (1+6)	0 (5)		70 (2) Use Resistor Patch Cord. Target (4) to Screen 125 Volts						
					0 (3)					Shadow Angle	90 Deg	
					6 (3)					Shadow Angle	0 Deg	
2E24	Pentode	A83	6.3 (2+7)		16 (5)	160 (C) 15	160 (3)		Red	Gm	3,200	2,200
2E26	Pentode	B13	6.3 (2+7)	0 (1)	20 (6)	250 (C) 30	150 (3)		Red	Gm	3,500	2,500
2E30	Pentode	B26	6.3 (3+4)		20 (1)	250 (5) 40	250 (6) 3.3		Red	Gm	3,700	2,000
2E31	Pentode	B48	1.25 (3+5)		0 (4)	45 (1) 0.45	25 (2) 0.22		Red	Gm	500	300
2E32	Pentode	B48	1.25 (3+5)		0 (4)	45 (1) 0.45	25 (2) 0.22		Red	Gm	500	300
2E35	Pentode	B48	1.25 (3+5)		0 (4)	45 (1) 0.45	45 (2) 0.1		Red	Gm	500	300

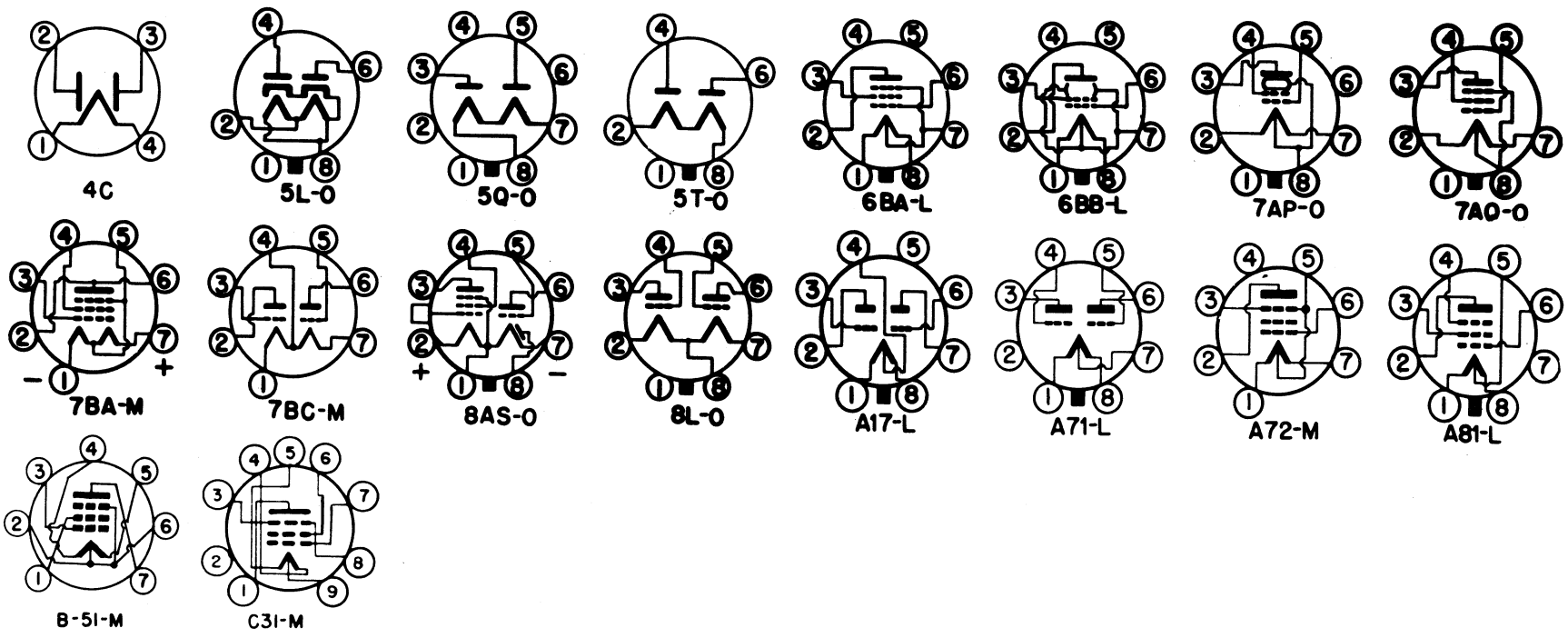
2E36	Pentode	B48	1.25 (3+5)		0 (4)	45 (1) 0.45	45 (2) 0.1		Red	Gm	500	250
2E41	Pentode	B49	1.25 (4+6)		0 (5)	25 (1) 0.3	25 (2) 0.1		Red	Gm	375	200
2E42	Pentode	B49	1.25 (4+6)		0 (5)	25 (1) 0.4	25 (2) 0.15		Red	Gm	375	200
2S/4S	Twin Diode	5-D	2.5 (1+5)		0 (4)	50 (2+3)			Red	Emission	80 Ma	50 Ma
2V3	Rectifier	4-Y	2.5 (2+7)			35 (C)			Red	Emission	3 Ma	2 Ma
2W3	Rectifier	4-X	2.5 (2+8)			12 (4)			Red	Emission	50 Ma	30 Ma
2X2-A	Rectifier	4-AB	2.5 (1+4)			65 (C)			Red	Emission	8 Ma	5 Ma
2Z2	Rectifier	4-B	2.5 (1+4)			12 (2)			Red	Emission	50 Ma	30 Ma
3A4	Pentode	7-BB	2.8 (1+7)		8.5 (4)	150 (6) 13	90 (3) 2.2		Red	Gm	1,900	1,000



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
3A5	Twin Triode (Sec. 1) (Sec. 2)	7-BC	2.8 (1+7)		2.5 (3) 2.5 (5)	90 (2) 3.7 90 (6) 3.7			Red Red	Gm Gm	1,800 1,800	1,000 1,000
3A8	Triode Pentode (Triode) (Pentode)	8AS	2.8 (2+7)		 0 (5) 0 (C)	 90 (6) 0.2 90 (3) 1.5	 90 (4) 0.5		 Red Red	 Gm Gm	 275 750	 150 500
3B4	Pentode	B51	2.5 (2+6)		18 (3)	90 (7) 15	90 (1) 4.8		Red	Gm	1,700	1,000
3B5	Pentode	7-AQ	2.8 (2+7)		7 (5)	65 (3) 8	65 (4)		Red	Gm	1,600	1,000
3B7	Twin Triode (Sec. 1) (Sec. 2)	A17	1.4 (1+8)		0 (3) 0 (6)	135 (2) 18 135 (7) 18			Red Red	Gm Gm	1,900 1,900	1,000 1,000
3C5	Pentode	7-AQ	2.8 (2+7)		9 (5)	90 (3) 6	90 (4) 1.6		Red	Gm	1,500	900
3C6	Twin Triode (Sec. 1) (Sec. 2)	A71	2.8 (1+8)		0 (4) 0 (5)	90 (3) 4.5 90 (6) 4.5			15 15	Gm Gm	1,300 1,300	800 800
3D6	Pentode	6-BA	1.4 (1+8)		4.5 (6)	150 (2) 6	90 (3) 1		Red	Gm	2,400	1,200
3E5	Pentode	A72	2.8 (1+7)		7 (6)	90 (2) 8	90 (3) 1.6		Red	Gm	1,500	900
3E6	Pentode	A81	2.8 (1+8)		0 (6)	90 (2) 3	90 (3) 1.5	0 (4)	Red	Gm	1,700	1,000
3LE4	Pentode	6-BA	2.8 (1+8)		9 (6)	90 (2) 3	90 (3) 1.2	0 (4)	Red	Gm	1,700	1,000
3LF4	Pentode	6-BB	2.8 (1+8)		4.5 (6)	90 (2) 8	90 (3) 1		Red	Gm	2,000	1,200
3Q4	Pentode	7-BA	2.8 (1+7)		4.5 (3)	90 (2) 9.5	90 (4) 2		Red	Gm	2,100	1,400
3Q5	Pentode	7-AP	2.8 (2+7)		4.5 (5)	90 (3) 8	90 (4) 1		Red	Gm	2,000	1,200
3S4	Pentode	7-BA	2.8 (1+7)		7 (3)	90 (2) 6	65 (4) 1		Red	Gm	1,400	850
3V4	Pentode	A72	2.8 (1+7)		4.5 (6)	90 (2) 10	90 (3) 1.7		Red	Gm	2,000	1,200
4A6	Twin Triode (Sec. 1) (Sec. 2)	8-L	4 (2+7)		1.5 (4) 1.5 (5)	90 (3) 1.2 90 (6) 1.2			Red Red	Gm Gm	900 900	600 600
5A6	Pentode	C31	5 (4+5)		10 (7)	150 (1) 30	150 (6)	0 (3)	Red	Gm	1,500	800
5AX4	Rectifier (P-1) (P-2)	5-T	5 (2+8)			(4) (6)			Red	Emission		
5AZ4	Rectifier (P-1) (P-2)	5-T	5 (2+8)			47.5 (4) (6)			Red	Emission	100 Ma	80 Ma
5R4	Rectifier (P-1)	5-T	5 (2+8)			35 (4) (6)			Red	Emission	100 Ma	80 Ma

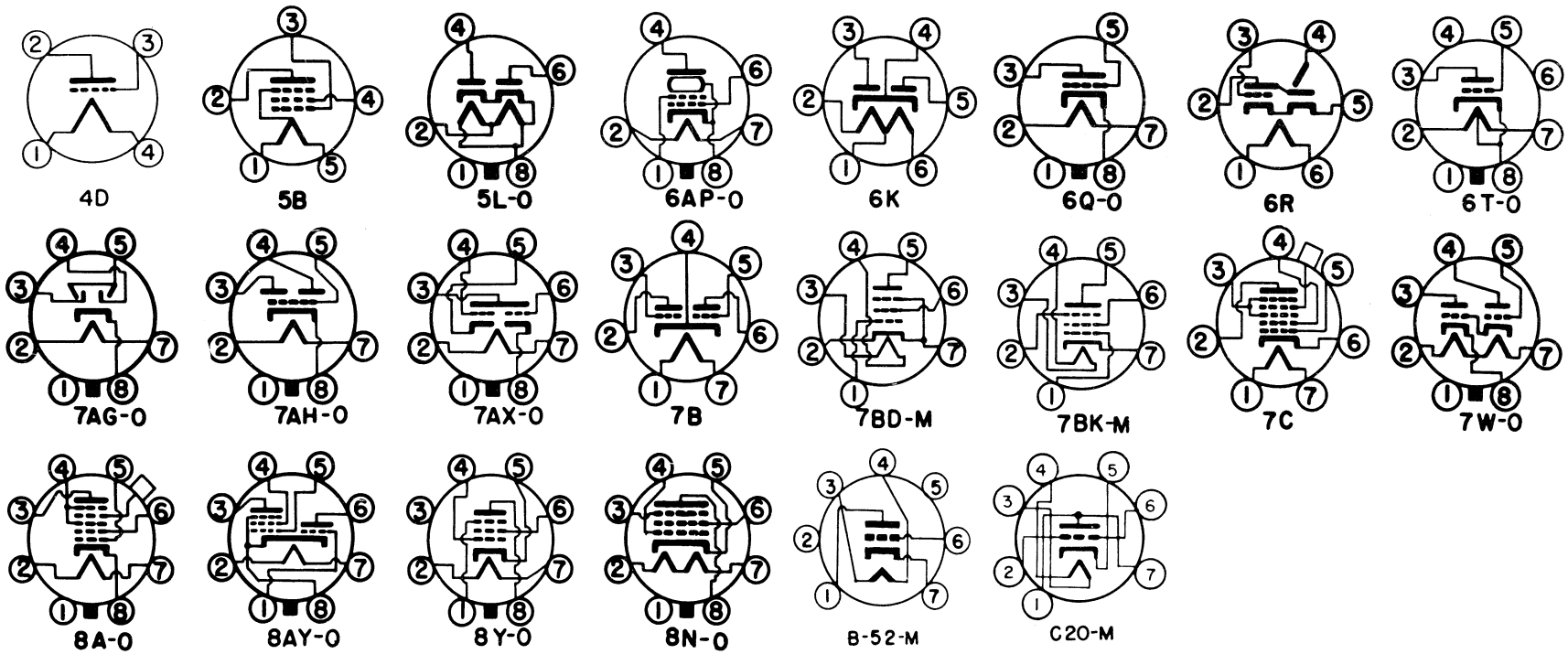
5T4	Rectifier (P-1) (P-2)	5-T	5 (2+8)			12.5 (4) 12.5 (6)			Red	Emission	100	80
5U4	Rectifier (P-1) (P-2)	5-T	5 (2+8)			33 (4) 33 (6)			Red	Emission	100	80
5V4	Rectifier (P-1) (P-2)	5-L	5 (2+8)			15 (4) 15 (6)			Red	Emission	100	80
5W4	Rectifier (P-1) (P-2)	5-T	5 (2+8)			50 (4) 50 (6)			Red	Emission	100	80
5X4	Rectifier (P-1) (P-2)	5-Q	5 (7+8)			35 (3) 35 (5)			Red	Emission	100	80
5Y3	Rectifier (P-1) (P-2)	5-T	5 (2+8)			50 (4) 50 (6)			Red	Emission	100	80
5Y4	Rectifier (P-1) (P-2)	5-Q	5 (7+8)			50 (3) 50 (5)			Red	Emission	100	80
5Z3	Rectifier (P-1) (P-2)	4-C	5 (1+4)			35 (2) 35 (3)			Red	Emission	100	80



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
5Z4	Rectifier (P-1) (P-2)	5-L	5 (2+8)			17.5 (4) 17.5 (6)			Red	Emission	100	80
6A3	Triode	4-D	6.3 (1+4)		45 (3)	250 (2) 60			5	Gm	5,200	3,000
6A4/LA	Pentode	5-B	6.3 (1+5)		12 (3)	180 (2) 22	180 (4) 4		Red	Gm	2,200	1,200
6A5G	Triode	6-T	6.3 (2+7)	0 (8)	45 (5)	250 (3) 60			5	Gm	5,200	3,000
6A6	Twin Triode (Sec. 1) (Sec. 2)	7-B	6.3 (1+7)	0 (4)	6 (3) 6 (5)	300 (2) 7 300 (6) 7			Red Red	Gm Gm	3,200 3,200	2,000 2,000
6A7	Converter	7-C	6.3 (1+7)	0 (6+C)	2 (5)	250 (4+2) 6.6	50 (3) 1.6		3.5	Gm	2,300	1,600
6A8	Converter	8-A	6.3 (2+7)	0 (8+C)	2 (5)	250 (3+6) 6.6	50 (4) 1.6		3.5	Gm	2,300	1,600
6AB4	Triode	B52	6.3 (3+4)	200 (7)	0 (6)	250 (1) 10			Red	Gm	5,500	4,000
6AB5/- 6N5	Indicator Tube	6-R	6.3 (1+6)	0 (5)		125 (2) Use Resistor Patch Cord. Target (4) to Screen 100 Volts.						
					0 (3) 10 (3)				Red	Shadow	90 Deg. 0 Deg.	
6AB6	Direct Coupled Triodes	7-W	6.3 (2+7)	0 (8)	0 (5)	250 (3+4) 39			Red	Gm	1,800	1,000
6AB7	Pentode	8-N	6.3 (2+7)	0 (3+5)	3 (4)	300 (8) 12.5	200 (6) 3.2		Red	Gm	5,000	3,000
6AC5	Triode	6-Q	6.3 (2+7)	0 (8)	0 (5)	250 (3) 5			Red	Gm	3,500	2,500
6AC6	Direct Coupled Triodes	7-W	6.3 (2+7)	0 (8)	0 (5)	180 (3+4) 52			Red	Gm	3,000	2,000
6AC7/- 1852	Pentode	8-N	6.3 (2+7)	160 (3+5)	0 (4)	300 (8) 10	150 (6) 2.5		Red	Gm	9,000	6,000
6AD4	Triode	6-K	6.3 (3+4)	750 (5)	0 (2)	100 (1) 1.4			Red	Gm	2,700	1,700
6AD5	Triode	6-Q	6.3 (2+7)	0 (8)	2 (5)	250 (3) 1			Red	Gm	1,500	900
6AD6	Indicator Tube	7-AG	6.3 (2+7)	0 (8)		150 (5)	0 (3+4)		Red	Shadow Angle	135 Deg.	
							+100			Shadow Angle	0 Deg.	
6AD7	Triode Pentode (Triode) (Pentode)	8-AY	6.3 (2+7)	0 (8)	25 (1) 16 (5)	250 (6) 3.7 250 (3) 34	250 (4) 6.5		5 Red	Gm Gm	325 2,500	200 1,500
6AE5	Triode	6-Q	6.3 (2+7)	0 (8)	15 (5)	95 (3) 7			5	Gm	1,200	800

6AE6	Twin Plate Control Tube Remote Cut-off Plate Sharp Cut-off Plate	7-AH	6.3 (2+7)	0 (8)	 1.5 (5) 1.5 (5)	 250 (4) 6.5 250 (3) 4.5			 Red Red	 Gm Gm	 1,000 950	 600 450
6AE7	Twin Triode	7-AX	6.3 (2+7)	0 (5+8)	13.5 (4+6)	250 (3) 10			15	Gm	3,000	1,800
6AF4	Triode	C20	6.3 (3+4)	150 (5)	0 (6)	80 (1) 16			15	Gm	6,600	4,000
6AF5	Triode	6-Q	6.3 (2+7)	0 (8)	18 (5)	180 (3) 7			7	Gm	1,500	900
6AF6	Indicator Tube	7-AG	6.3 (2+7)	0 (8)		135 (5)	85 (3+4)			Shadow Angle	0 Deg.	
6AG5	Pentode	7-BD	6.3 (3+4)	180 (7)	0 (1)	250 (5) 6.5	150 (6) 2		Red	Gm	5,000	3,000
6AG7	Pentode	8-Y	6.3 (2+7)	0 (5+1)	3 (4)	300 (8) 30	150 (6) 7		Red	Gm	11,000	7,000
6AH5	Pentode	6-AP	6.3 (2+7)	0 (8)	18 (6)	300 (4) 48	250 (1) 2.5		Red	Gm	5,000	3,000
6AH6	Pentode	7-BK	6.3 (3+4)	160 (2+7)	0 (1)	300 (5) 10	150 (6) 2.5		Red	Gm	5,000	3,000



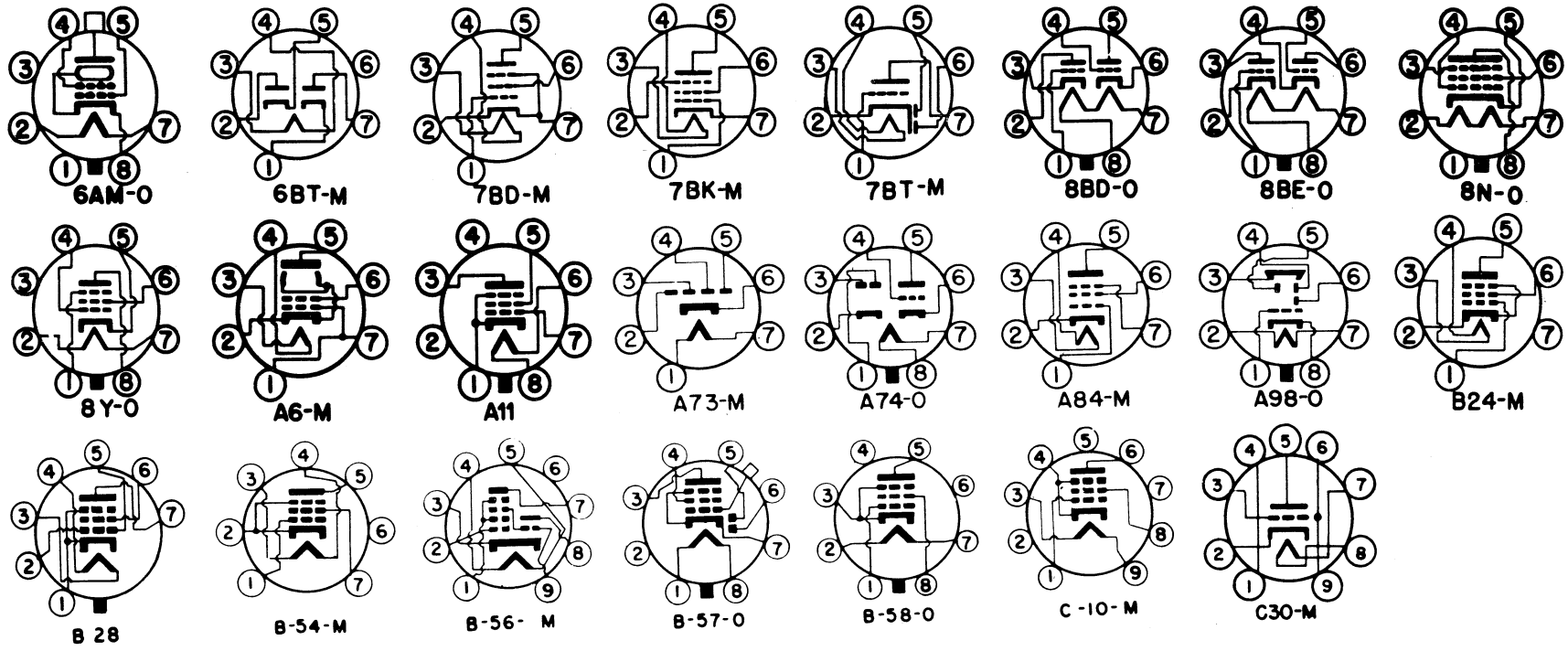
A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
6AH7	Twin Triode (Sec. 1) (Sec. 2)	8-BE	6.3 (7+8)	0 (2) 0 (4)	6.5 (1) 6.5 (5)	180 (3) 7.5 180 (6) 7.5			15 15	Gm Gm	1,900 1,900	1,000 1,000
6AJ4	Triode	C30	6.3 (7+8)	68 (2)	0 (3)	125 (5) 16			Red	Gm	10,000	7,000
6AJ5	Pentode	7-BD	6.3 (3+4)	0 (7)	1 (1)	28 (5) 2.7	28 (6) 1		Red	Gm	2,500	1,000
6AJ7	Pentode	8-N	6.3 (2+7)	160 (3+5)	0 (4)	300 (8) 10	150 (6) 2.5		Red	Gm	9,000	5,000
6AK5	Pentode	7-BD	6.3 (3+4)	180 (2)	0 (1)	180 (5) 7.7	120 (6) 2.5		Red	Gm	5,000	3,000
6AK6	Pentode	7-BK	6.3 (3+4)	0 (2+7)	9 (1)	180 (5) 15	180 (6) 2.5		Red	Gm	2,300	1,500
6AK7	Pentode	8-Y	6.3 (2+7)	0 (5)	3 (4)	300 (8) 30	150 (6) 7		Red	Gm	11,000	6,000
6AL5	Duo Diode (Plate 1) (Plate 2)	6-BT	6.3 (3+4)	0 (1+5)		5 (2) 5 (7)			Red	Emission	20 Ma 20 Ma	10 Ma 10 Ma
6AL6	Pentode	6-AM	6.3 (2+7)	0 (8)	14 (5)	250 (C) 72	250 (4) 5		Red	Gm	6,000	3,500
6AL7	Indicator Tube	A98	6.3 (2+7)	0 (8)	10 (1)	200 (3)		0 (4+5+6)	Red	Shadow Angle	180 Deg.	
								Neg 5 volts		Shadow Angle	0 Deg.	
6AM4	Triode	C10	6.3 (7+8)	100 (2)	0 (1)	150 (5) 7.5			Red	Gm	9,000	6,000
6AM5	Pentode	B54	6.3 (3+4)	0 (2)	13 (1)	250 (5) 16	250 (7) 2.5		Red	Gm	2,600	1,000
6AN5	Pentode	7-BD	6.3 (3+4)	120 (7)	0 (1)	120 (5) 35	120 (6) 12		Red	Gm	8,000	5,000
6AN7	Converter (Triode) (Hexode)	B56	6.3 (4+5)	0 (3)	1 (9) 2 (2)	100 (8) 8 250 (7) 5	 100 (1) 0.3		15 15	Gm Gm	2,800 2,600	1,600 1,750
6AQ5	Pentode	A6	6.3 (3+4)	0 (2)	8.5 (1)	180 (5) 29	180 (6) 3		Red	Gm	3,700	2,200
6AQ6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	3 (1)	250 (7) 1			Red	Gm	4,100	2,400
6AQ7	Diode Triode	A74	6.3 (7+8)	0 (6)	2 (4)	250 (5) 2.3			Red	Gm	1,200	800
6AR5	Pentode	B24	6.3 (3+4)	0 (2)	18 (1)	250 (5) 32	250 (6) 5.5		Red	Gm	2,300	1,300
6AR6	Pentode	A11	6.3 (6+8)	0 (1)	36 (7)	300 (3) 58	300 (5) 3.6		Red	Gm	4,300	2,400

6AR7	Pentode	B57	6.3 (1+8)	0 (7)	2 (C)	250 (3) 7	100 (4) 1.8		Red	Gm	2,500	1,500
6AS5	Pentode	B28	6.3 (3+4)	0 (1)	8.5 (2)	150 (7) 35	110 (6) 2		Red	Gm	4,500	3,000
6AS6	Pentode	A84	6.3 (3+4)	0 (2)	2 (1)	120 (5) 5	120 (6) 4	0 (7)	Red	Gm	3,200	1,800
6AS7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	250 (3) 250 (6)	0 (1) 0 (4)	135 (2) 125 135 (5) 125	See Special Data Below		3.5	Gm	7,000	4,000
6AT6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	3 (1)	250 (7) 1			Red	Gm	1,200	800
6AU5	Pentode	B58	6.3 (2+7)	0 (3)	20 (1)	115 (5) 55	175 (8)		Red	Gm	5,200	3,000
6AU6	Pentode	7-BK	6.3 (3+4)	70 (2+7)	0 (1)	250 (5) 11	150 (6) 4		Red	Gm	5,200	3,000

SPECIAL DATA FOR TYPE 6AS7

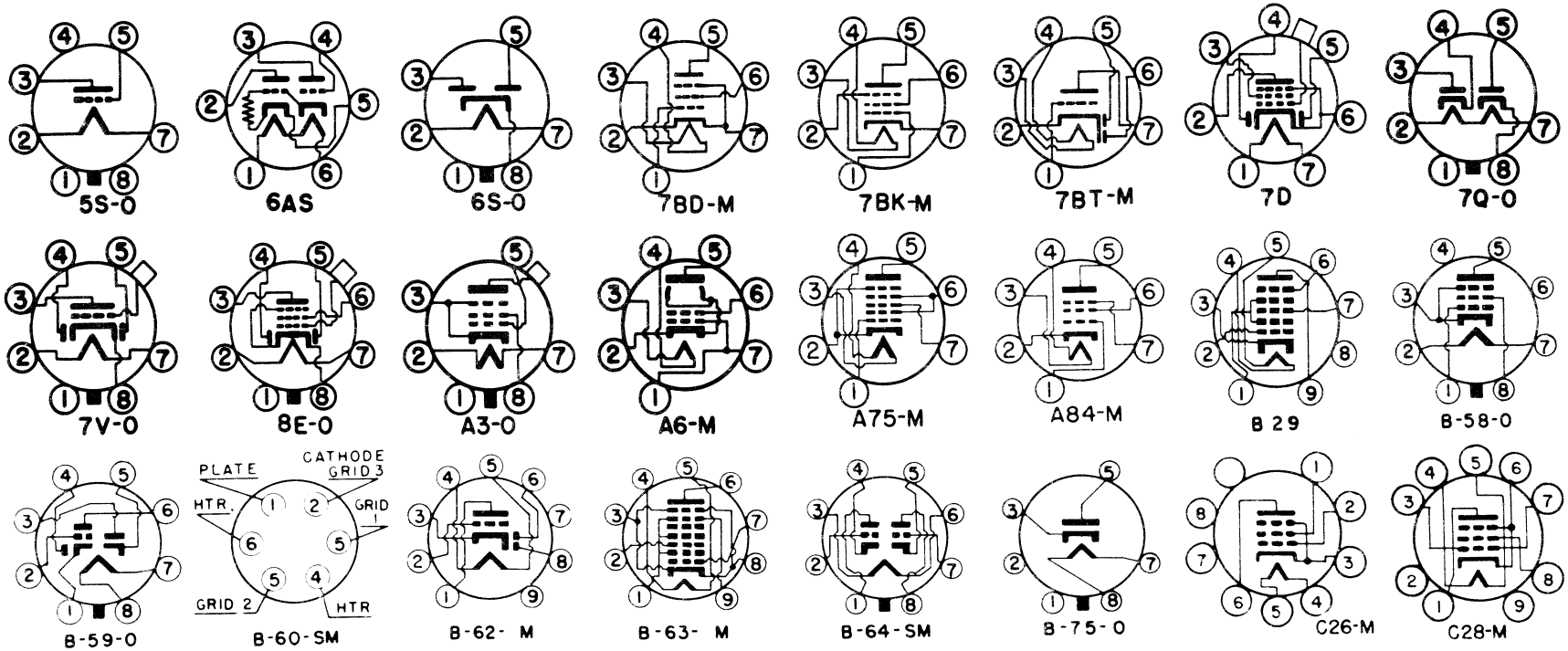
Black Scale Reading	16.4	18.1	19.7	21.3	22.8	24.2	25.6	26.9	28.2	29.5	30.0
True Gm Micromhos	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	8780



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
6AV5	Pentode	B58	6.3 (2+7)	0 (3)	20 (1)	250 (5) 55	150 (8)		Red	Gm	5,500	3,200
6AV6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	2 (1)	250 (7) 1.5			Red	Gm	1,500	900
6AW7	Diode Triode	B59	6.3 (7+8)	0 (1)	0 (2)	100 (6) 1.5			Red	Gm	1,200	750
6AX4	Rectifier	B75	6.3 (7+8)	0 (3)		20 (5)			Red	Emission	100 Ma	75 Ma
6AX5	Rectifier (Plate 1) (Plate 2)	6-S	6.3 (2+7)	0 (8)		40 (3) 40 (5)			Red	Emission	100 Ma	80 Ma
6AX6	Rectifier (Plate 1) (Plate 2)	7-Q	6.3 (2+7)	0 (4+8)		10 (3) 10 (5)			Red	Emission	100 Ma	75 Ma
6B4	Triode	5-S	6.3 (2+7)		45 (5)	250 (3) 60			5	Gm	5,200	3,000
6B5	Direct Coupled Triodes	6-AS	6.3 (1+6)	0 (5)	0 (4)	300 (2+3) 53			Red	Gm	2,400	1,500
6B6	Diode Triode	7-V	6.3 (2+7)	0 (8)	2 (C)	250 (3) 1			Red	Gm	1,100	600
6B7	Diode Pentode	7-D	6.3 (1+7)	0 (6)	3 (C)	250 (2) 9	125 (3) 2		Red	Gm	1,100	600
6B8	Diode-Pentode	8-E	6.3 (2+7)	0 (8)	3 (C)	250 (3) 10	125 (6) 2.3		Red	Gm	1,300	750
6BA5	Pentode	B60	6.3 (4+6)	270 (2)	0 (3)	100 (1) 5	100 (5) 1		Red	Gm	3,300	2,000
6BA6	Pentode	7-BK	6.3 (3+4)	70 (2+7)	0 (1)	250 (5) 11	100 (6) 4.2		Red	Gm	4,400	2,500
6BA7	Converter	B29	6.3 (4+5)	100 (3)	0 (2+7)	125 (9) 2.2	75 (1)	0 (6)	5	Gm	2,500	1,500
6BC5	Pentode	7-BD	6.3 (3+4)	180 (2)	0 (1)	250 (5) 7.5	150 (6) 2		Red	Gm	5,700	3,200
6BC7	Triple Diodes (P-1) (P-2) (P-3)	7BD	6.3 (4+5)	0 (1+7+9)		5 (2) 5 (6) 5 (8)			Red	Emission	35 Ma	20 Ma
6BD6	Pentode	7-BK	6.3 (3+4)	0 (2+7)	3 (1)	250 (5) 9	100 (6) 3.5		Red	Gm	2,000	1,200
6BD7	Diode Pentode	B62	6.3 (4+5)	0 (3)	3 (2)	250 (1) 1			Red	Gm	1,200	800
6BE6	Converter	A75	6.3 (3+4)	300 (2)	0 (1+7)	125 (5) 2.5	75 (6)		5	Gm	2,300	1,500
6BE7	Triple Control Tube	B63	6.3 (4+5)	0 (8)	2 (7)	250 (6) 2.5	100 (1+2+9) 4		Red	Gm	1,200	700
6BF5	Pentode	A6	6.3 (3+4)	0 (2)	7.5 (1)	110 (5) 45	110 (6) 4		Red	Gm	7,500	4,000
6BF6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	9 (1)	250 (7) 9.5			15	Gm	1,900	1,000

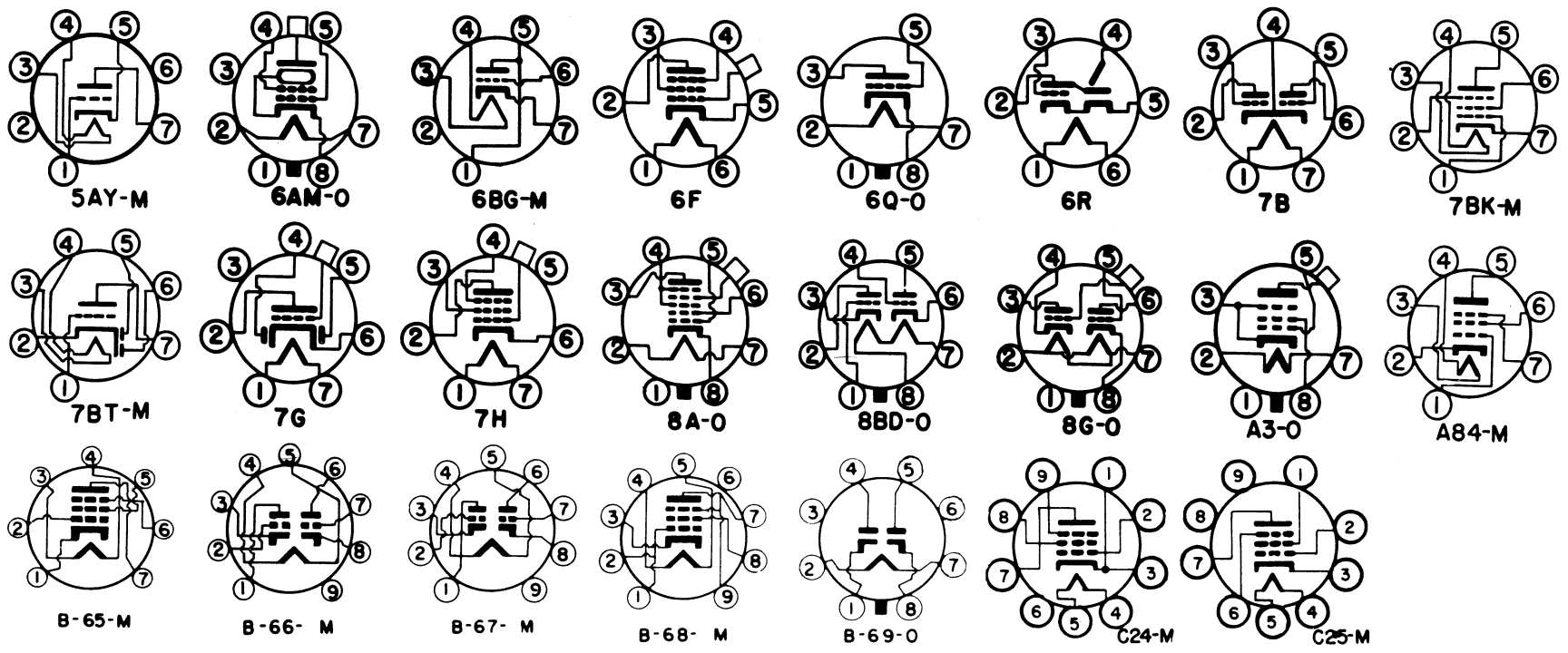
6BF7	Twin Triode (Sec. 1) (Sec. 2)	B64	6.3 (3+6)	100 (4+5)	0 (2) 0 (7)	100 (1) 8 100 (8) 8			Red	Gm	4,800	3,000
6BG6	Pentode	A3	6.3 (2+7)	0 (3)	15 (5)	250 (C) 75	250 (8) 6		Red	Gm	6,500	4,000
6BG7	Twin Triode (Sec. 1) (Sec. 2)	B64	6.3 (3+6)	100 (4+5)	0 (2) 0 (7)	100 (1) 8 100 (8) 8			Red	Gm	4,800	3,000
6BH5	Pentode	C26	6.3 (4+5)	0 (3)	2 (2)	250 (6) 7.5	100 (1) 2		Red	Gm	2,300	1,200
6BH6	Pentode	A84	6.3 (3+4)	0 (2+7)	1 (1)	100 (5) 3.5	100 (6) 1.5		Red	Gm	3,400	2,200
6BJ6	Pentode	A84	6.3 (3+4)	0 (2+1)	1 (1)	250 (5) 9	100 (6) 3.5		Red	Gm	3,600	2,500
6BK5	Pentode	C28	6.3 (4+5)	0 (6)	5 (3)	250 (1) 35	250 (8) 3.5		Red	Gm	8,500	5,000



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
6BK6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	2 (1)	250 (7) 1.5			Red	Gm	1,600	900
6BK7	Twin Triode (Sec. 1) (Sec. 2)	B67	6.3 (4+5)	55 (3+8)	12 (2) 12 (7)	150 (1) 18 150 (6) 18			Red	Gm	8,500	4,000
6BL7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	0 (3+6)	9 (1) 9 (4)	250 (2) 40 250 (5) 40			15	Gm	7,000	4,500
6BN6	Gated Beam Tube	B65	6.3 (3+4)	20 (1+6)	2 (2)	100 (7) 0.3	50 (5) 4.5		3.5	Gm	800	500
6BN7	Twin Triode (Sec. 1) (Sec. 2)	B66	6.3 (4+5)	0 (3+6)	15 (2) 1 (7)	250 (1) 25 120 (9) 5			10 10	Gm Gm	5,500 2,000	3,000 1,000
6BQ6	Pentode	6-AM	6.3 (2+7)	0 (8)	25 (5)	250 (C) 55	155 (4) 2		Red	Gm	5,500	3,000
6BQ7	Twin Triode (Sec. 1) (Sec. 2)	B67	6.3 (4+5)	220 (3+8)	0 (2) 0 (7)	150 (1) 9 150 (6) 9			Red	Gm	6,000	3,800
6BT6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	3 (1)	250 (7) 1			Red	Gm	1,200	800
6BU6	Diode Triode	7-BT	6.3 (3+4)	0 (2)	9 (1)	250 (7) 9.5			15	Gm	1,900	1,000
6BW6	Pentode	B68	6.3 (4+5)	0 (3)	12.5 (1)	250 (7) 45	250 (8) 4.5	0 (9)	Red	Gm	4,100	2,500
6BY5	Rectifier (P-1) (P-1)	B69	6.3 (2+7)	0 (1+8)		22.5 (4) 22.5 (5)			Red	Emission	100 Ma	75 Ma
6BX7	Twin Triode	B69	6.3 (7+8)	390 (3+6)	0 (1) 0 (4)	250 (2) 42 250 (5) 42			10	Gm	7,600	4,500
6CL6	Pentode	B67	6.3 (4+5)	0 (3)	3 (1)	300 (7) 30	150 (8)		Red	Gm	11,000	7,000
6C4	Triode	6-BG	6.3 (3+4)	0 (7)	8.5 (6)	250 (5) 11			15	Gm	2,200	1,200
6BX6	Pentode	C24	6.3 (4+5)	0 (3)	2 (2)	170 (7) 12	170 (8) 3		Red	Gm	8,000	5,000
6C5	Triode	6-Q	6.3 (2+7)	0 (8)	8 (5)	250 (3) 8			Red	Gm	2,000	1,200
6C6	Pentode	6-F	6.3 (1+6)	0 (4+5)	3 (C)	250 (2) 2	100 (3) 0.5		Red	Gm	1,200	750
6C7	Diode Triode	7-G	6.4 (1+7)	0 (6)	9 (C)	250 (2) 5.5			Red	Gm	1,200	750
6C8	Twin Triode (Sec. 1) (Sec. 2)	8-G	6.3 (2+7)	0 (4+8)	4.5 (C) 4.5 (5)	250 (3) 3.5 250 (6) 3.5			Red	Gm	1,600	900
6CB6	Pentode	A84	6.3 (3+4)	180 (7+2)	0 (1)	200 (5) 9.5	150 (6) 2.8		Red	Gm	6,200	3,800
6CD6	Pentode	A3	6.3 (2+7)	0 (3)	(5)	(C)	(8)					

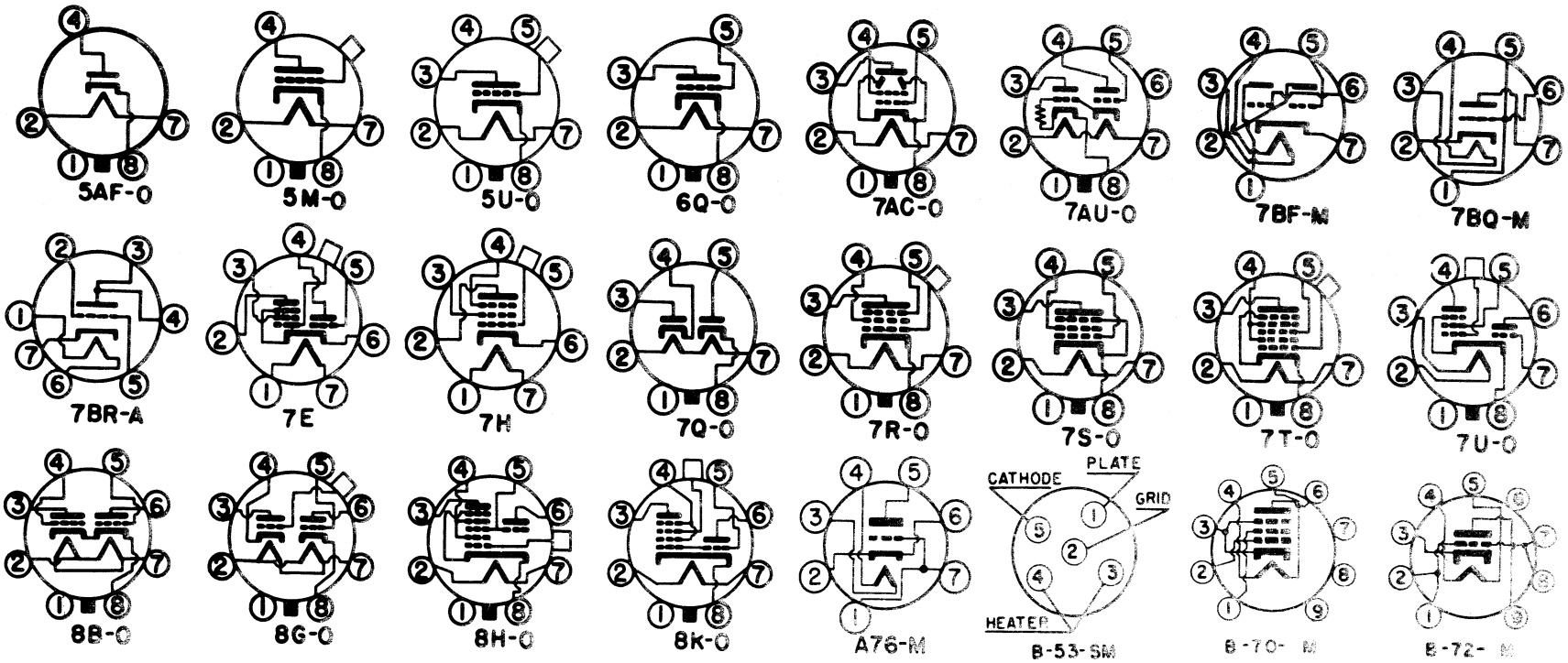
6CG6	Pentode	7-BK	6.3 (3+4)	0 (2+7)	8 (1)	250 (5) 9	150 (6) 2.3		Red	Gm	2,000 1,200
6D4	Gas Triode	5-AY	6.3 (3+4)	(5)	(1)	(7) 25 (See Paragraph 5. h.)			Red	Voltage Drop	16 Volts 18 Volts
6D6	Pentode	6-F	6.3 (1+6)	0 (4+5)	3 (C)	250 (2) 8.5	100 (3) 2		Red	Gm	1,600 900
6D7	Pentode	7-H	6.3 (1+7)	0 (4+6)	3 (C)	250 (2) 2	100 (3) 0.5		Red	Gm	1,200 800
6D8	Converter	8-A	6.3 (2+7)	0 (8+C)	2 (5)	250 (3+6) 6.5	50 (4) 1.7		Red	Gm	2,300 1,600
6CK6	Pentode	C25	6.3 (4+5)	0 (6+3)	5.5 (2)	250 (7) 36	250 (1) 5		Red	Gm	10,000 6,000
6D5	Triode	6-Q	6.3 (2+7)	0 (8)	40 (5)	275 (3) 31			5	Gm	2,100 1,000
6E5	Indicator Tube	6-R	6.3 (1+6)	0 (5)		70 (2) Use Resistor Patch Cord. Target (4) to Screen 125 Volts			Red	Shadow Angle	90 Deg.
					6 (3)					Shadow Angle	0 Deg.
6E6	Twin Triode (Sec. 1) (Sec. 2)	7-B	6.3 (1+7)	0 (4)	27.5 (3) 27.5 (5)	250 (2) 18 250 (6) 18			Red	Gm	1,700 900



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
6E7	Pentode	7-H	6.3 (1+7)	0 (6)	3 (C)	250 (2) 8	100 (3) 2	0 (4)	Red	Gm	1,600	900
6F4	Triode	7-BR	6.3 (1+6)	100 (7)	0 (2)	80 (4) 13			Red	Gm	5,800	3,500
6F5	Triode	5-M	6.3 (2+7)	0 (8)	2 (C)	250 (4) 1			Red	Gm	1,500	8,000
6F6	Pentode	7-S	6.3 (2+7)	0 (8)	20 (5)	285 (3) 38	285 (4) 7		Red	Gm	2,500	1,700
6F7	Triode Pentode (Triode) (Pentode)	7-E	6.3 (1+7)	0 (6)	3 (5) 3 (C)	100 (4) 3.5 250 (2) 6.5	100 (3) 1.5		7 Red	Gm	500 1,100	300 600
6F8	Twin Triode (Sec. 1) (Sec. 2)	8-G	6.3 (2+7)	0 (4+8)	8 (5) 8 (C)	250 (6) 9 250 (3) 9			Red	Gm	2,600	1,200
6G6	Pentode	7-S	6.3 (2+7)	0 (8)	9 (5)	180 (3) 15	180 (4) 2.5		Red	Gm	2,300	1,200
6H4	Diode	5-AF	6.3 (2+7)	0 (8)		5 (4)			Red	Emission	4 Ma	2 Ma
6H6	Duo Diodes (P-1) (P-2)	7-Q	6.3 (2+7)	0 (4+8)		6 (3) 6 (5)			Red	Emission	8 Ma	5 Ma
6J4	Triode	7-BQ	6.3 (3+4)	100 (2)	0 (1)	150 (7) 15			Red	Gm	12,000	7,500
6J5	Triode	6-Q	6.3 (2+7)	0 (8)	8 (5)	250 (3) 9			Red	Gm	2,600	1,500
6J6	Twin Triode (Sec. 1) (Sec. 2)	7-BF	6.3 (3+4)	50 (7)	0 (6) 0 (5)	180 (1) 8.5 180 (2) 8.5			Red	Gm	5,300	3,000
6J7	Pentode	7-R	6.3 (2+7)	0 (5+8)	3 (C)	250 (3) 8.5	100 (4) 0.5		Red	Gm	1,200	800
6J8	Converter (Triode) (Pentode)	8-H	6.3 (2+7)	0 (8)	2 (5+C)	100 (6) 100 (3)	75 (4)		5 5	Gm Gm	2,000 1,200	1,200 800
6K4	Triode	6-K4	6.3 (3+4)	680 (5)	0 (2)	200 (1) 11.5			15	Gm	3,400	2,000
6K5	Triode	5-U	6.3 (2+7)	0 (8)	3 (C)	250 (3) 1.1			Red	Gm	1,400	900
6K6	Pentode	7-S	6.3 (2+7)	0 (8)	21 (5)	300 (3) 25	250 (4) 4		Red	Gm	2,100	1,000
6K7	Pentode	7-R	6.3 (2+7)	0 (5+8)	3 (C)	250 (3) 11	125 (4) 2.5	0 (5)	Red	Gm	1,600	900
6K8	Converter (Triode) (Pentode)	8-K	6.3 (2+7)	0 (8)	2 (5) 2 (5+C)	100 (6) 4 100 (3) 3	75 (4)		5 5	Gm Gm	2,000 1,200	1,500 800
6L4	Triode	7-BR	6.3 (1+6)	150 (7)	0 (2)	80 (4) 9.5			Red	Gm	6,400	4,000
6L5	Triode	6-Q	6.3 (2+7)	0 (8)	9 (5)	250 (3) 8			15	Gm	1,900	1,000
6L6	Pentode	7-AC	6.3 (2+7)	0 (8)	14 (5)	250 (3) 62	250 (4) 5		Red	Gm	6,000	4,000

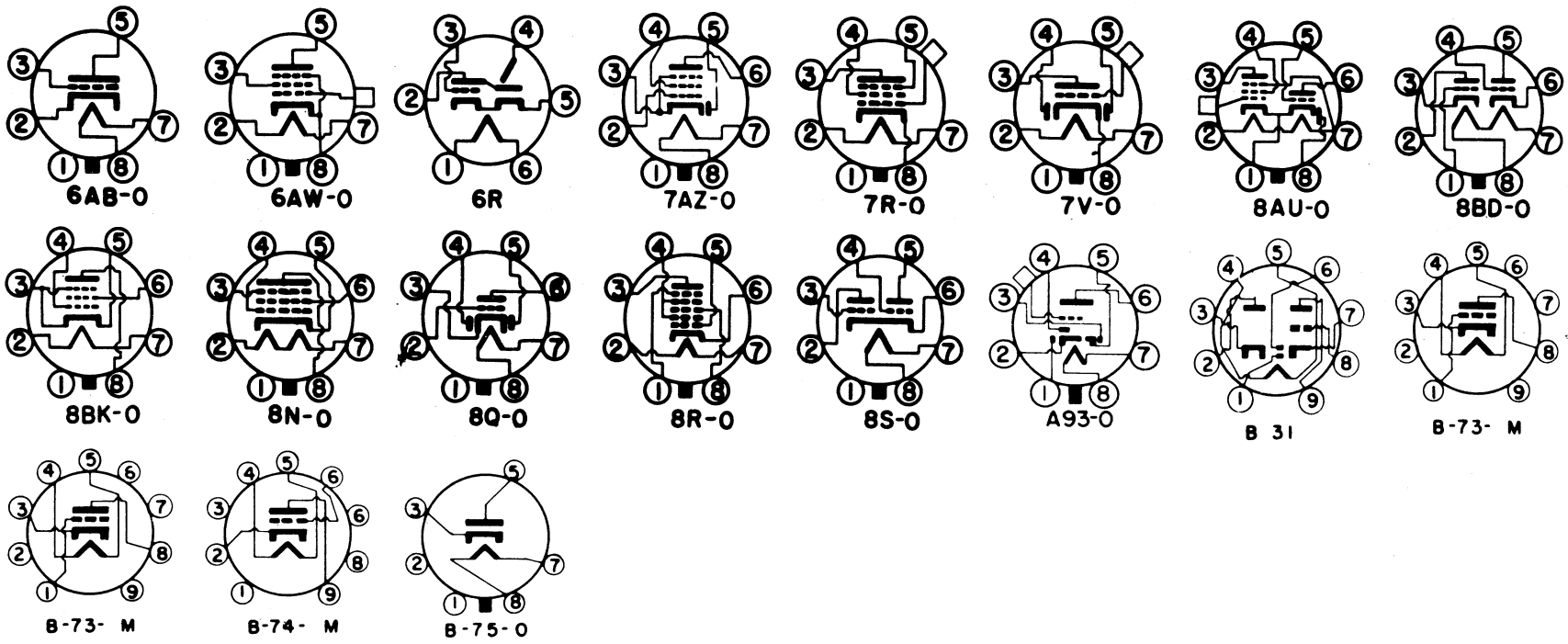
6L7	Mixer Tube	7-T	6.3 (2+7)	0 (8)	3 (C+5)	250 (3) 5.3	100 (4) 6.5		Red	Gm	1,100	700
6M5	Pentode	B70	6.3 (4+5)	170 (3)	0 (2)	250 (7) 36	250 (1) 5		Red	Gm	10,000	6,000
6N4	Triode	7-CA	6.3 (3+4)	0 (2)	3.5 (1)	180 (5) 12			Red	Gm	6,000	3,500
6N6	Direct Coupled Triodes	7-AU	6.3 (2+7)	0 (8)	0 (5)	300 (3+4) 46			Red	Gm	2,600	1,500
6N7	Twin Triode	8-B	6.3 (2+7)	0 (8)	0 (4+5)	300 (3+6) 35			Red	Gm	3,200	2,000
6N8	Diode Pentode	B72	6.3 (4+5)	290 (3+9)	0 (2)	250 (6) 5	250 (1) 1.5		Red	Gm	2,600	1,400
6P5	Triode	6-Q	6.3 (2+7)	0 (8)	12.5 (5)	250 (3) 5			15	Gm	1,400	900
6P7	Triode Pentode (Triode) (Pentode)	7-U	6.3 (2+3)	0 (8)	3 (7) 3 (C)	100 (6) 3.5 250 (4) 6.5	100 (5) 1.5		7 Red	Gm Gm	500 1,100	300 750



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
6Q4	Triode	B72	6.3 (4+5)	0 (3)	1.5 (2)	250 (9) 15			Red	Gm	12,000	7,000
6Q7	Diode Triode	7-V	6.3 (2+7)	0 (8)	3 (C)	250 (3) 1			Red	Gm	1,200	750
6R4	Triode	B73	6.3 (4+5)	0 (3)	2 (1)	150 (8) 30			15	Gm	5,500	3,000
6R6	Pentode	6-AW	6.3 (2+7)	0 (8)	3 (C)	250 (5) 7	100 (3) 1.8		Red	Gm	1,400	800
6R7	Diodes Triode	7-V	6.3 (2+7)	0 (8)	9 (C)	250 (3) 10			15	Gm	1,900	1,000
6R8	3 Diodes Triode	B31	6.3 (4+5)	0 (3+7)	9 (8)	250 (9) 9.5			15	Gm	1,900	1,000
6S4	Triode	B74	6.3 (4+5)	0 (2)	8 (6)	250 (9) 26			15	Gm	4,500	2,800
6S7	Pentode	7-R	6.3 (2+7)	0 (5+8)	3 (C)	250 (3) 8.5	100 (4) 2		Red	Gm	1,700	1,000
6M8	Diode Triode Pentode (Triode) (Pentode)	8-AU	6.3 (2+7)	0 (1)	0 (5) 3 (C)	100 (6) 0.5 100 (3) 8.5	 100 (4)		Red Red	Gm Gm	1,100 1,900	600 1,000
6S8	3 Diodes Triode	A93	6.3 (7+8)	0 (2)	2 (C)	250 (6) 1			Red	Gm	1,100	700
6SA7	Converter	8-R	6.3 (2+7)	250 (6)	0 (5+8)	125 (3) 2.5	75 (4)		5	Gm	1,700	1,200
6SB7-Y	Converter	8-R	6.3 (2+7)	250 (6)	0 (5+8)	125 (3) 3	75 (4)		5	Gm	2,200	1,400
6SC7	Twin Triode (Sec. 1) (Sec. 2)	8-S	6.3 (7+8)	0 (6)	2 (3) 2 (4)	250 (2) 2 250 (5) 2			Red	Gm	1,300	900
6SD7	Pentode	8-N	6.3 (2+7)	0 (5)	2 (4)	250 (8) 9.5	125 (6) 3	0 (3)	Red	Gm	4,200	2,800
6SE7	Pentode	8-N	6.3 (2+7)	0 (5)	1.5 (4)	250 (8) 4.5	100 (6) 1.5	0 (3)	Red	Gm	3,400	2,200
6SF5	Triode	6-AB	6.3 (7+8)	0 (2)	2 (3)	250 (5) 1			Red	Gm	1,500	1,000
6SF7	Diode Pentode	7-AZ	6.3 (7+8)	0 (3)	1 (2)	250 (6) 12.5	100 (4) 3.3		Red	Gm	2,000	1,000
6SG7	Pentode	8-BK	6.3 (2+7)	0 (3)	2.5 (4)	250 (8) 9	150 (6) 3.5		Red	Gm	4,000	2,400
6SH7	Pentode	8-BK	6.3 (2+7)	0 (3)	1 (4)	250 (8) 10	150 (6) 4		Red	Gm	5,000	3,000
6SJ7	Pentode	8-N	6.3 (2+7)	0 (5)	3 (4)	250 (8) 3	100 (6) 1	0 (3)	Red	Gm	1,600	900
6SK7	Pentode	8-N	6.3 (2+7)	0 (5)	3 (4)	250 (8) 9	100 (6) 2.5	0 (3)	Red	Gm	2,000	1,200
6SL7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	0 (3+6)	2 (1) 2 (4)	250 (2) 2.5 250 (5) 2.5			Red	Gm	1,600	900
6SN7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	0 (3+6)	8 (1) 8 (4)	250 (2) 9 250 (5)			Red	Gm	2,600	1,200
6SQ7	Diode Triode	8-Q	6.3 (7+8)	0 (3)	2 (2)	250 (6) 1.5			Red	Gm	1,100	600

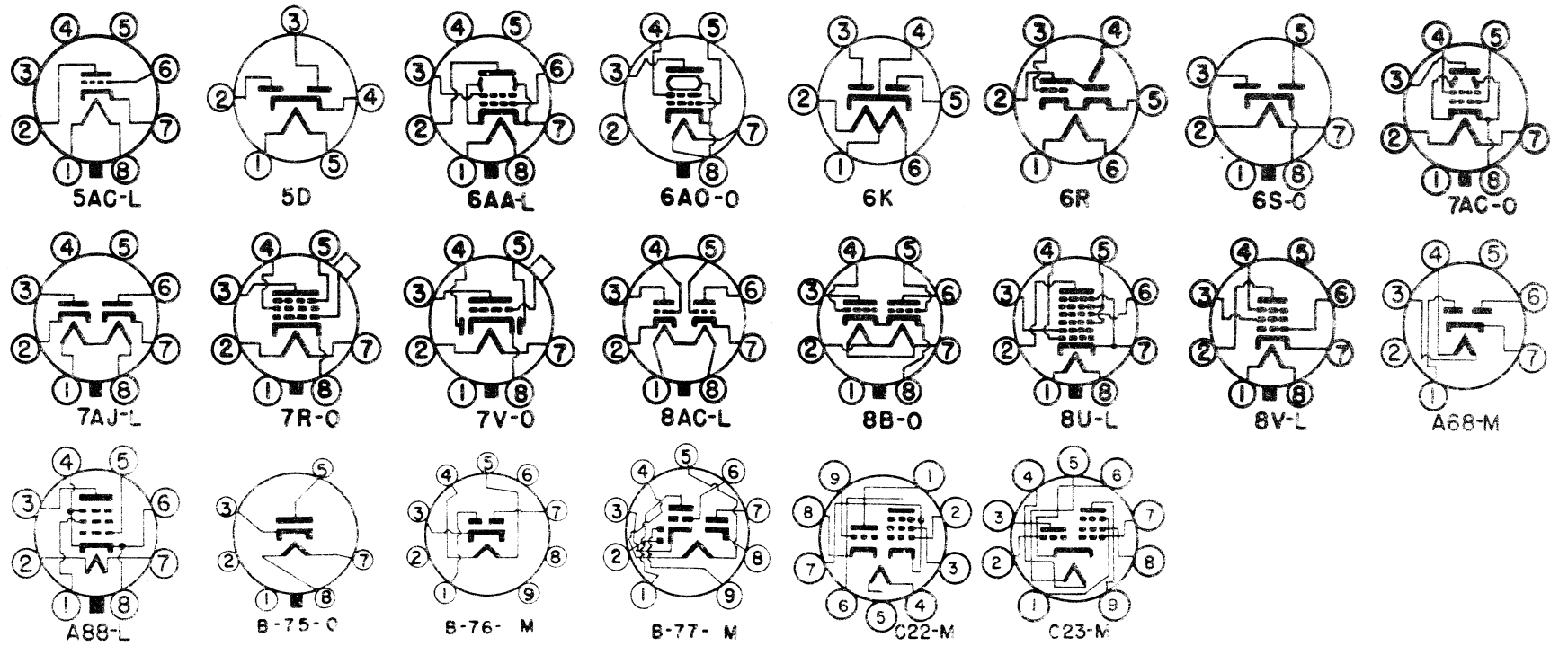
6SR7	Diode Triode	8-Q	6.3 (7+8)	0 (3)	9 (2)	250 (6) 10			Red	Gm	1,800	1,000
5SS7	Pentode	8-N	6.3 (2+7)	0 (5)	3 (4)	250 (8) 9	100 (6)	0 (3)	Red	Gm	1,800	1,000
6ST7	Diode Triode	8-Q	6.3 (7+8)	0 (3)	9 (2)	250 (6) 10			15	Gm	1,800	1,000
6SU7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	0 (3+6)	2 (1) 2 (4)	250 (2) 2.5 250 (5) 2.5			Red	Gm	1,600	900
6SV7	Diode Pentode	7-AZ	6.3 (7+8)	0 (3)	1 (2)	250 (6) 7.5	150 (4) 2.8		Red	Gm	3,600	2,000
6SZ7	Diode Triode	8-Q	6.3 (7+8)	0 (3)	3 (2)	250 (6) 1			Red	Gm	1,200	800
6T5	Indicator Tube	6-R	6.3 (1+6)	0 (5)		80 (2) Use Resistor Patch Cord. Target (4) Screen 125 Volts			Red	Shadow Angle		
					0 (3) 10 (3)						45 Deg. 0 Deg.	
6T7	Diode Triode	7-V	6.3 (2+7)	0 (8)	3 (C)	250 (3) 1.5			Red	Gm	1,000	600
6T8	3 Diodes Triode	B31	6.3 (4+5)	0 (7)	3 (8)	250 (9) 1			Red	Gm	1,200	700



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
6U5/6GS	Indicator Tube	6-R	6.3 (1+6)	0 (5)	(3)	80 (2) Use Resistor Patch Cord. Target (4) Screen 125 Volts						
					0 (3)				Red	Shadow Angle	45 Deg.	
					10 (3)						0 Deg.	
6U6	Pentode	7-AC	6.3 (2+7)	0 (8)	14 (5)	200 (3) 55	135 (4) 3		Red	Gm	6,200	3,500
6U7	Pentode	7-R	6.3 (2+7)	0 (8)	3 (C)	250 (3) 8	100 (4) 2	0 (5)	Red	Gm	1,500	900
6U8	Triode	C22	6.3(4+5)	56(8)	0(9)	150(1)18	110(3)3.5		Red	Gm	4,500	5,000
	Pentode			68(8)	0(2)	250(6)10			Red	Gm	5,200	3,000
6V4	Rectifier (P-1)	B76	6.3 (4+5)	0 (3)		33 (1)			Red	Emission	90 Ma	60 Ma
	(P-2)					33 (2)						
6V5	Pentode	6-AO	6.3 (7+8)	0 (8)	12 (5)	250 (3) 4.5	250 (4) 4.5		Red	Gm	4,100	2,500
6V6	Pentode	7-AC	6.3 (2+7)	0 (8)	12 (5)	250 (3) 32	250 (4) 5		Red	Gm	4,100	2,500
6V7	Diode Triode	7-V	6.3 (2+7)	0 (8)	20 (C)	250 (3) 8			7	Gm	1,100	700
6V8	3 Diodes Triode	B77	6.3 (4+5)	0 (3)	3 (6)	250 (1) 1			Red	Gm	1,200	700
6W4	Rectifier	B75	6.3 (7+8)	0 (3)		12 (5)			Red	Emission	120 Ma	90 Ma
6W5	Rectifier (P-1)	6-S	6.3 (2+7)	0 (8)		22 (3)			Red	Emission	70 Ma	50 Ma
	(P-2)					22 (5)					70 Ma	50 Ma
6W6	Pentode	7-AC	6.3 (2+7)	180 (8)	0 (5)	200 (3) 44	125 (4) 2.5		Red	Gm	8,000	4,500
6W7	Pentode	7-R	6.3 (2+7)	0 (5+8)	3 (C)	250 (3) 2	100 (4) 0.5		Red	Gm	1,200	700
6X4	Rectifier	A68	6.3 (3+4)	0 (7)		22 (1)			Red	Emission	70 Ma	50 Ma
						22 (6)						
6X5	Rectifier (P-1)	6-S	6.3 (2+7)	0 (8)		22 (3)			Red	Emission	70 Ma	50 Ma
	(P-2)					22 (5)						
6X8	Triode Pentode											
	(Triode)	C23	6.3 (4+5)	100 (6)	0 (2)	100 (3) 8.5			Red	Gm	5,800	3,500
	(Pentode)			200 (6+1)	0 (7)	250 (9) 7.7	150 (8) 1.6		Red	Gm	4,600	2,500
6Y6	Pentode	7-AC	6.3 (2+7)	0 (8)	14 (5)	200 (3) 61	135 (4) 2.5		Red	Gm	7,100	4,500
6Y7	Twin Triode (Sec. 1)	8-B	6.3 (2+7)	0 (8)	0 (4)	250 (3) 5			Red	Gm	3,000	1,900
	(Sec. 2)			0 (8)	0 (5)	250 (6) 5						
6Z4	Rectifier (P-1)	5-D	6.3 (1+5)	0 (4)		(2)			Red	Emission	Ma	Ma
	(P-2)					(3)						
6Z5	Rectifier (P-1)	6-K	12.6 (2+6)	0 (5)		14 (3)			Red	Emission	75 Ma	50 Ma
	(P-2)					14 (4)						

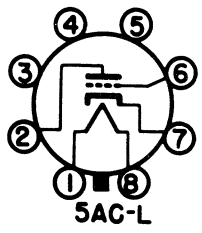
6Z7	Twin Triode (Sec. 1) (Sec. 2)	8-B	6.3 (2+7)	0 (8)	0 (4) 0 (5)	180 (3) 5 180 (6) 5			Red	Gm	2,500	1,500
6ZY5	Rectifier (P-1) (P-1)	6-S	6.3 (2+7)	0 (8)		11 (3) 11 (5)			Red	Emission	40 Ma	30 Ma
7A4	Triode	5-AC	6.3 (1+8)	0 (7)	8 (6)	250 (2) 9			Red	Gm	2,600	1,500
7A5	Pentode	6-AA	6.3 (1+8)	0 (7)	7.5 (6)	110 (2) 40	110 (3) 3		Red	Gm	5,800	3,500
7A6	Duo Diode (P-1) (P-2)	7-AJ	6.3 (1+8)	0 (2+7)		11 (3) 11 (6)			Red	Emission	16 Ma	10 Ma
7A7	Pentode	8-V	6.3 (1+8)	0 (7)	3 (6)	250 (2) 9.2	100 (3)	0 (4)	Red	Gm	2,000	1,200
7A8	Converter	8-U	6.3 (1+8)	100 (7)	0 (4+6)	125 (2+3) 6.2	75 (3+5)		5	Gm	2,000	1,200
7AB7	Pentode	A88	6.3 (2+7)	0 (8)	2 (5)	250 (3) 4	100 (1) 3.2		Red	Gm	1,800	1,000
7AD7	Pentode	8-V	6.3 (1+8)	68 (4+7)	0 (6)	300 (2) 28	150 (3) 7		Red	Gm	9,500	5,000
7AF7	Twin Triode (Sec. 1) (Sec. 2)	8-AC	6.3 (1+8)	0 (2) 0 (7)	10 (4) 10 (5)	250 (3) 9 250 (6) 9			15	Gm	2,100	1,000

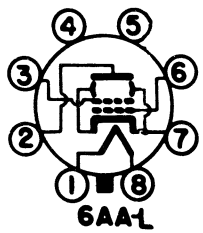


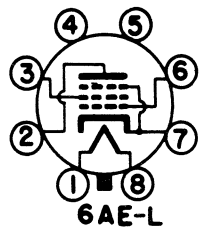
A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

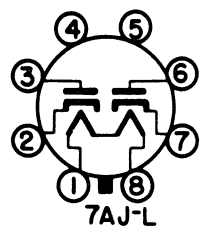
TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
7AG7	Pentode	8-V	6.3 (1+8)	250 (4+7)	0 (6)	250 (2) 6	250 (3) 2		Red	Gm	4,200	3,500
7AH7	Pentode	8-V	6.3 (1+8)	250 (4+7)	0 (6)	250 (2) 6	250 (3) 1.9		Red	Gm	3,300	2,000
7AJ7	Pentode	8-V	6.3 (1+8)	0 (4+7)	1 (6)	100 (2) 6	100 (3) 2		Red	Gm	2,300	1,200
7AK7	Pentode	8-V	6.3 (1+8)	0 (7)	0 (6)	150 (2) 40	90 (3) 21	0 (4)	Red	Gm	6,500	4,000
7B4	Triode	5-AC	6.3 (1+8)	0 (7)	2 (6)	250 (2) 1			Red	Gm	1,500	900
7B5	Pentode	6-AE	6.3 (1+8)	0 (7)	18 (6)	250 (2) 32	250 (3) 5.5		Red	Gm	2,300	1,200
7B6	Diode Triode	8-W	6.3 (1+8)	0 (7)	2 (3)	250 (2) 1			Red	Gm	1,100	600
7B7	Pentode	8-V	6.3 (1+8)	0 (4+7)	3 (6)	250 (2) 8.5	100 (3) 2		Red	Gm	1,700	900
7B8	Converter	8-X	6.3 (1+8)	0 (6+7)	2 (4)	250 (2+3) 6.6	50 (3) 1.6		3.5	Gm	2,300	1,600
7C4	Diode	A26	6.3 (1+8)	0 (7)		6 (4)			Red	Emission	Ma	Ma
7C5	Pentode	6-AA	6.3 (1+8)	0 (7)	8.5 (6)	180 (2) 29	180 (3)		Red	Gm	3,700	2,500
7C6	Diode Triode	8-W	6.3 (1+8)	0 (7)	1 (3)	250 (2) 1.3			Red	Gm	1,000	600
7C7	Pentode	8-V	6.3 (1+8)	0 (4+7)	3 (6)	250 (2) 2	100 (3) 0.3		Red	Gm	1,300	800
7E5	Triode	A87	6.3 (2+8)	0 (6)	3 (1)	180 (7) 5.5			Red	Gm	3,000	1,800
7E6	Diode Triode	8-W	6.3 (1+8)	0 (7)	9 (3)	250 (2) 9.5			15	Gm	1,900	1,000
7E7	Diode Pentode	8-AE	6.3 (1+8)	0 (7)	3 (6)	250 (2) 7.5	100 (5) 1.6		Red	Gm	1,300	750
7F7	Twin Triode (Sec. 1) (Sec. 2)	8-AC	6.3 (1+8)	0 (2+7)	2 (4) 2 (5)	250 (3) 2.3 250 (6) 2.3			Red	Gm	1,600	900
7F8	Twin Triode (Sec. 1) (Sec. 2)	8-BW	6.3 (2+7)	500 (4+5)	0 (1) 0 (8)	250 (3) 6 250 (6) 6			Red	Gm	3,300	2,000
7G7	Pentode	8-V	6.3 (1+8)	0 (7)	2 (6)	250 (2) 5	100 (3) 2	0 (4)	Red	Gm	4,500	2,500
7G8	Twin Tetrode (Sec. 1) (Sec. 2)	8-BV	6.3 (1+8)	0 (6)	2.5 (4) 2.5 (5)	250 (2) 4.5 250 (7) 4.5	100 (3) 0.8		Red	Gm	2,100	1,200
7H7	Pentode	8-V	6.3 (1+8)	180 (4+7)	0 (6)	250 (2) 10	150 (3) 3.2		Red	Gm	4,000	2,400
7J7	Converter (Triode) (Pentode)	8-BL	6.3 (1+8)	0 (7)	2 (4) 2 (6)	100 (3) 6 100 (2) 1.2	100 (5) 3		5 5	Gm Gm	2,000 1,200	1,200 800

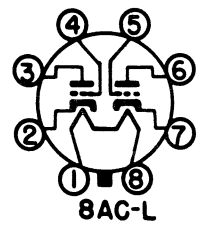
7K7	Diode Triode	8-BF	6.3 (1+8)	0 (2)	2 (4)	250 (3) 2.3			Red	Gm	1,600 900
7L7	Pentode	8-V	6.3 (1+8)	0 (7)	15 (6)	250 (2) 4.5	100 (3) 1.5	0 (4)	Red	Gm	3,100 1,900
7N7	Twin Triode (Sec. 1) (Sec. 2)	8-AC	6.3 (1+8)	0 (2+7)	8 (4) 8 (5)	250 (3) 9 250 (6) 9			Red	Gm	2,600 1,600
7Q7	Converter	8-AL	6.3 (8+1)	0 (7+5)	(4+6)	125 (2) 2.5	75 (3)		5	Gm	1,700 1,200
7R7	Diode Pentode	8-AE	6.3 (1+8)	0 (7)	1 (6)	250 (2) 5.7	100 (5) 2.1		Red	Gm	3,200 2,000
7S7	Converter (Triode) (Pentode)	8-BL	6.3 (1+8)	0 (7)	2 (4+6)	100 (3) 6 100 (2) 1.2	 100 (5) 3		5 5	Gm Gm	2,100 1,200 1,300 800
7T7	Pentode	8-V	6.3 (1+8)	0 (7)	2 (6)	250 (2) 11	150 (3) 4.1	0 (4)	Red	Gm	5,000 3,000
7V7	Pentode	8-V	6.3 (1+8)	160 (7)	0 (6)	300 (2) 10	200 (3)	0 (4)	Red	Gm	5,800 3,600
7W7	Pentode	8-BJ	6.3 (1+8)	160 (7)	0 (6)	300 (2) 10	150 (3) 3.5	0 (5)	Red	Gm	5,800 3,600
7X6	Rectifier (P-1) (P-2)	7-AJ	6.3 (1+8)	0 (2+7)		25 (3) (6)			Red	Emission	75 Ma 50 Ma

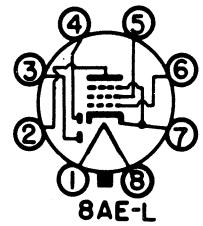


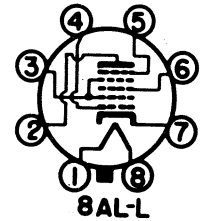


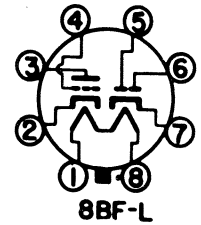


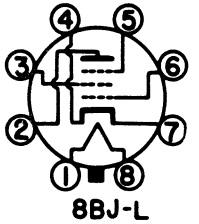


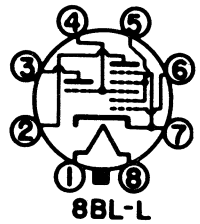


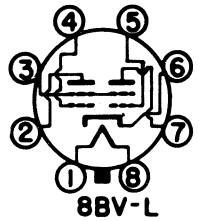


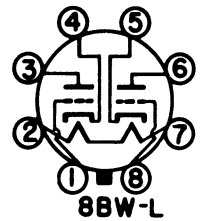


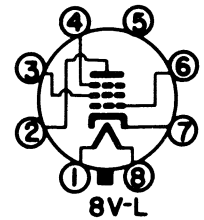


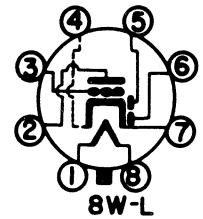


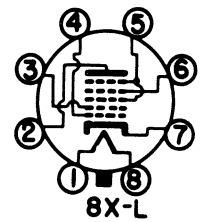


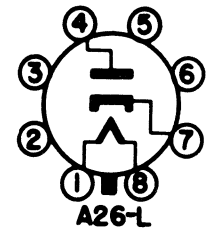


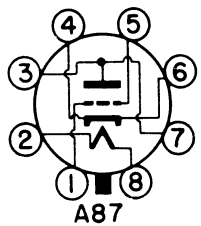








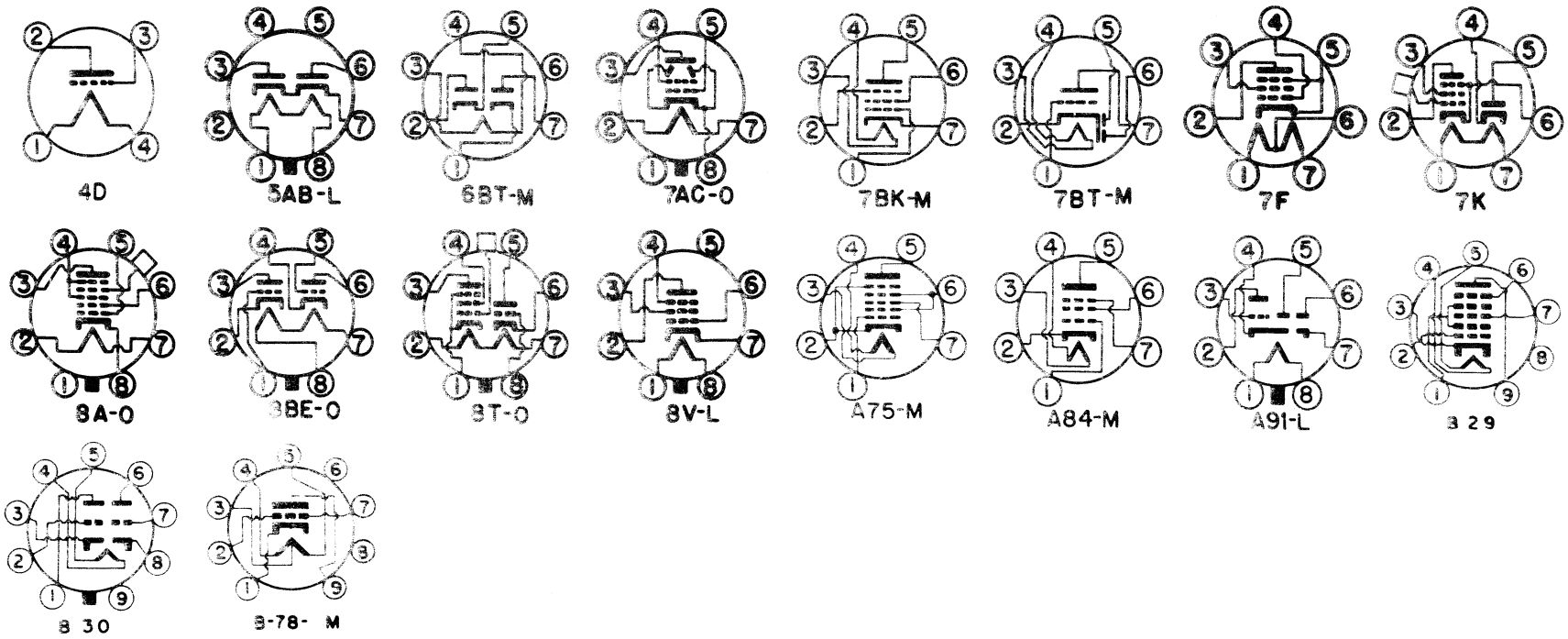




A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
7X7	Diode Triode	A91	6.3 (1+8)	0 (4)	1 (3)	250 (2) 1.9			Red	Gm	1,500	900
7Y4	Rectifier (P-1) (P-1)	5-AB	6.3 (1+8)	0 (7)		20 (3) 20 (6)			Red	Emission	60 Ma	35 Ma
7Z4	Rectifier (P-1) (P-2)	5-AB	6.3 (1+8)	0 (7)		38 (3) 38 (6)			Red	Emission	90 Ma	50 Ma
10	Triode	4-D	7.5 (1+4)		30 (3)	300 (2) 18			7	Gm	1,600	1,000
12-A	Triode	4-D	5 (1+4)		13.5 (3)	180 (2) 8			7	Gm	1,800	1,000
12A4	Triode	B78	12.6 (4+5)	0 (1)	9 (7)	250 (9) 21			Red	Gm	7,200	4,000
12A5	Pentode	7-F	12.6 (1+7)	0 (5)	25 (4)	180 (2) 45	180 (3) 8		Red	Gm	2,400	1,200
12A6	Pentode	7-AC	12.6 (2+7)	0 (8)	12.5 (5)	250 (3) 30	250 (4) 3.5		Red	Gm	3,000	1,800
12A7	Diode Pentode (Diode)	7-K	12.6 (1+7)	0 (6) 0 (4)	13.5 (C)	135 (2) 9 15 (5)	135 (3) 2.5		Red Red	Gm Emission	975 60 Ma	500 35 Ma
12A8	Converter	8-A	12.6 (2+7)	0 (8+C)	2 (5)	250 (3+6) 6.6	50 (4) 1.6		3.5	Gm	2,300	1,600
12AH7	Twin Triode (Sec. 1) (Sec. 2)	8-BE	12.6 (7+8)	0 (2) 0 (4)	6.5 (1) 6.5 (5)	180 (3) 7.5 180 (6) 7.5			15	Gm	1,900	1,000
12AL5	Duo Diode (P-1) (P-2)	6-BT	12.6 (3+4)	0 (1+5)	2 (2) 2 (7)				Red	Emission	7 Ma	4 Ma
12AT6	Diode Triode	7-BT	12.6 (3+4)	0 (2)	3 (1)	250 (7) 1			Red	Gm	1,200	700
12AU6	Pentode	7-BK	12.6 (3+4)	68 (2+7)	0 (1)	250 (5) 10	150 (6) 4.3		Red	Gm	5,200	3,000
12AU7	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	8.5 (2) 8.5 (7)	250 (1) 11 250 (6) 11			15	Gm	2,200	1,200
12AV6	Diode Triode	7-BT	12.6 (3+4)	0 (2)	2 (1)	250 (7) 1.2			Red	Gm	1,600	900
12AV7	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	55 (3+8)	0 (2) 0 (7)	150 (1) 18 150 (6) 18			Red	Gm	8,500	5,000
12AW6	Pentode	A84	12.6 (3+4)	200 (2)	0 (1)	250 (5) 7	150 (6) 2	0 (7)	Red	Gm	5,000	3,000
12AX4	Same as 6AX4											
12AX7	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	1 (2) 1 (7)	100 (1) 0.5 100 (6) 0.5			Red	Gm	1,200	700
12AY7	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	4 (2) 4 (7)	250 (1) 3 250 (6) 3			Red	Gm	1,700	1,000

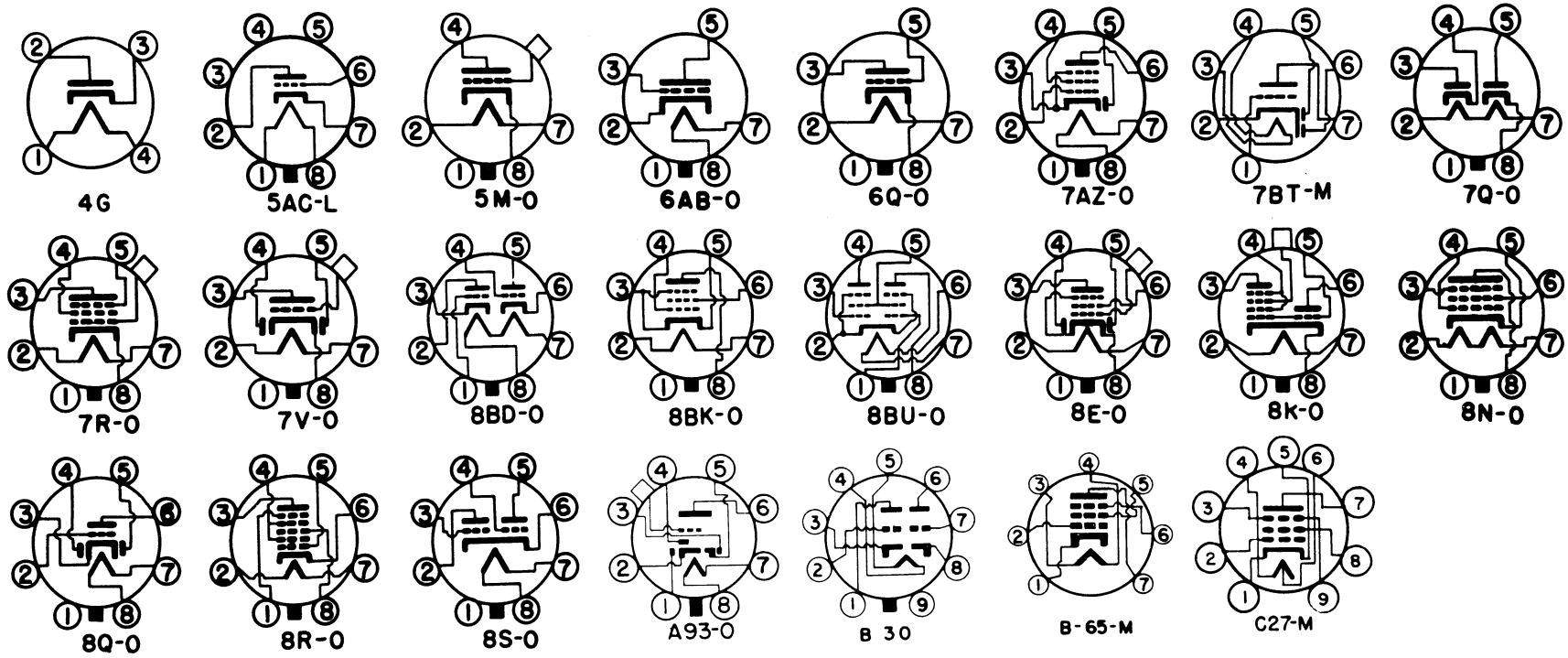
12AZ7	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	1 (2) 1 (7)	100 (1) 4 100 (6) 4			Red	Gm	4,000	2,300
12B4	Triode	B78	12.6 (4+5)	0 (1)	17.5 (2)	250 (9) 35			7	Gm	6,500	3,500
12B7	Pentode	8-V	12.6 (1+8)	0 (7)	3 (6)	250 (2) 9	100 (3) 2.6	0 (4)	Red	Gm	1,900	1,000
12B8	Triode (Pentode) (Triode)	8-T	12.6 (2+7)	0 (1) 0 (6)	3 (C) 0 (8)	90 (3) 7 90 (5) 3	90 (4) 2		Red Red	Gm Gm	1,800 2,400	1,000 1,200
12BA6	Pentode	7-BK	12.6 (3+4)	68 (7)	0 (1)	250 (5) 11	100 (6) 4.2	0 (2)	Red	Gm	4,400	2,400
12BA7	Converter	B29	12.6 (4+5)	0 (3)	0 (2+7)	100 (1+9) 32			15	Gm	8,000	5,000
12BD6	Pentode	7-BK	12.6 (3+4)	0 (7)	3 (1)	250 (5)•9	100 (6) 3.5	0 (2)	Red	Gm	2,000	1,000
12BE6	Converter	A75	12.6 (3+4)	0 (2)	10 (1+7)	100 (5+6) 25			Red	Gm	7,200	4,000
12BF6	Diode Triode	7-BT	12.6 (3+4)	0 (2)	9 (1)	250 (7) 9.5			15	Gm	1,900	1,000
12BH6	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	10.5 (2) 10.5 (7)	250 (1) 11.5 250 (6) 11.5			15	Gm	3,100	1,800



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
12BK6	Diode Triode	7-BT	12.6 (3+4)	0 (2)	2 (1)	250 (7) 1.2			Red	Gm	1,600	900
12BN6	Gated Beam Tube	B65	12.6 (3+4)	200 (1+6)	2 (2)	100 (7) 0.3	50 (5) 4.5		3.5	Gm	800	500
12BT6	Diode Triode	7-BT	12.6 (3+4)	0 (2)	3 (1)	250 (7) 1			Red	Gm	1,200	700
12BU6	Diode Triode	7-BT	12.6 (3+4)	0 (2)	9 (1)	250 (7) 9.5			15	Gm	1,900	1,000
12BY7	Pentode	C27	12.6 (4+5)	68 (1)	0 (2)	250 (7) 25	150 (8) 6	0 (3)	Red	Gm	12,000	7,500
12BZ7	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (4+5)	2 (2) 2 (7)	250 (1) 2.5 250 (6) 2.5			Red	Gm	3,200	1,800
12C8Y	Diode Pentode	8-E	12.6 (2+7)	0 (8)	3 (C)	250 (3) 10	125 (6) 2.3		Red	Gm	1,300	850
12E5	Triode	6-Q	12.6 (2+7)	0 (8)	13 (5)	250 (3) 5			15	Gm	1,400	900
12F5	Triode	5-M	12.6 (2+7)	0 (8)	2 (C)	250 (4) 1			Red	Gm	1,500	900
12H6	Diodes (P-1) (P-2)	7-Q	12.6 (2+7)	0 (4+8)		6 (3) 6 (5)			Red	Emission	8 Ma	4 Ma
12J5	Triode	6-Q	12.6 (2+7)	0 (8)	8 (5)	250 (3) 9			Red	Gm	3,000	1,800
12J7	Pentode	7-R	12.6 (2+7)	Same as 6J7								
12K7	Pentode	7-R	12.6 (2+7)	Same as 6K7								
12K8	Converter	8-K	12.6 (2+7)	Same as 6K8								
12L8	Twin Pentode (Sec. 1) (Sec. 2)	8-BU	12.6 (6+7)	0 (2)	9 (3) 9 (1)	180 (4) 13 180 (8) 13	180 (5) 2.7		Red	Gm	2,100	1,200
12Q7	Diode Triode	7-V	12.6 (2+7)	0 (8)	3 (C)	250 (3) 1			Red	Gm	1,200	700
12S8	Triple Diode Triode	A93	12.6 (7+8)	0 (2)	2 (C)	250 (6) 1			Red	Gm	1,200	700
12SA7	Converter	8-R	12.6 (2+7)	Same as 6SA7								
12SC7	Twin Triode (Sec. 1) (Sec. 2)	8-S	12.6 (7+8)	0 (6)	2 (3) 2 (4)	250 (2) 2 250 (5) 2			Red	Gm	1,200	700
12SF5	Triode	6-AB	12.6 (7+8)	0 (2)	2 (3)	250 (5) 1			Red	Gm	1,500	900
12SF7	Diode Pentode	7-AZ	12.6 (7+8)	0 (3)	1 (2)	250 (6) 12.5	100 (4) 3		Red	Gm	2,000	1,200
12SG7	Pentode	8-BK	12.6 (2+7)	0 (5)	2.5 (4)	250 (8) 9.2	150 (6) 3.4		Red	Gm	4,000	2,200
12SH7	Pentode	8-BK	12.6 (2+7)	0 (5)	1 (4)	250 (8) 10	150 (6) 4		Red	Gm	4,000	2,200
12SJ7	Pentode	8-N	12.6 (2+7)	0 (3+8)	3 (4)	250 (8) 3	100 (6) 1		Red	Gm	1,600	1,000

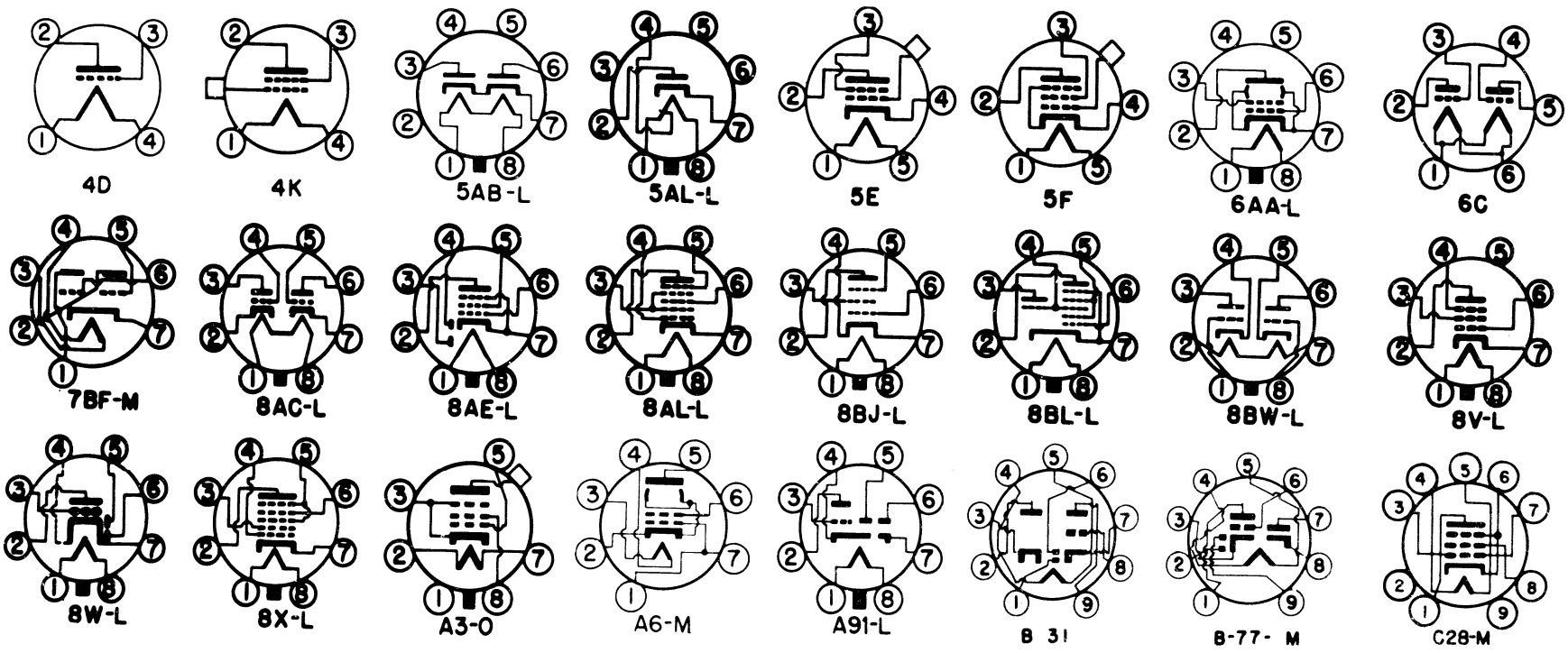
12SK7	Pentode	8-N	12.6 (2+7)	0 (3+8)	3 (4)	250 (8) 9	100 (6) 2.6		Red	Gm	2,000	1,200
12SL7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	12.6 (7+8)	Same as 6SL7								
12SN7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	12.6 (7+8)	Same as 6SN7								
12SQ7	Diode Triode	8-Q	12.6 (7+8)	0 (3)	2 (2)	250 (6) 1.1			Red	Gm	1,200	750
12SR7	Diode Triode	8-Q	12.6 (7+8)	0 (3)	9 (2)	250 (6) 9.5			15	Gm	1,900	1,000
12SW7	Diode Triode	8-Q	12.6 (7+8)	0 (3)	9 (2)	250 (6) 9.5			15	Gm	1,900	1,000
12SX7	Twin Triode (Sec. 1) (Sec. 2)	8-BD	12.6 (7+8)	0 (3+6)	8 (1) 8 (4)	250 (2) 9 250 (5) 9			Red	Gm	2,600	1,400
12SY7	Converter	8-R	12.6 (2+7)	0 (1+ 5+8)		100 (3+4) 27			15	Gm	4,400	2,400
12Z3	Rectifier	4-G	12.6 (1+4)	0 (3)		15 (2)			Red	Emission	100 Ma	70 Ma
14A4	Triode	5-AC	12.6 (1+8)	0 (7)	8 (6)	250 (2) 9			Red	Gm	2,600	1,400



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
14A5	Pentode	6-AA	12.6 (1+8)	0 (7)	12.5 (6)	250 (2) 30	250 (3) 3.5		Red	Gm	3,000	1,900
14A7	Pentode	8-V	12.6 (1+8)	0 (7)	3 (6)	250 (2) 9	100 (3) 2.6	0 (4)	Red	Gm	2,000	1,200
14AF7	Twin Triode (Sec. 1) (Sec. 2)	8-AC	12.6 (1+8)	0 (2+7)	10 (4) 10 (5)	250 (3) 9 250 (6) 9			15	Gm	2,100	1,200
14B6	Diode Triode	8-W	12.6 (1+8)	0 (7)	2 (3)	250 (2) 1			Red	Gm	1,100	600
14B8	Converter	8-X	12.6 (1+8)	0 (7+6)	2 (4)	250 (3+2) 6.6	50 (5) 1.6		3.5	Gm	2,300	1,600
14C5	Pentode	6-AA	12.6 (1+8)	0 (7)	13 (6)	300 (2) 32	225 (3) 2.7		Red	Gm	3,750	2,500
14C7	Pentode	8-V	12.6 (1+8)	0 (7)	3 (6)	250 (2) 2.2	100 (3) 0.7	0 (4)	Red	Gm	1,500	1,000
14E6	Diode Triode	8-W	12.6 (1+8)	0 (7)	9 (3)	250 (2) 9.5			15	Gm	1,900	1,100
14E7	Diode Pentode	8-AE	12.6 (1+8)	0 (7)	3 (6)	250 (2) 7.5	100 (5) 1.6		Red	Gm	1,300	750
14F7	Twin Triode (Sec. 1) (Sec. 2)	8-AC	12.6 (1+8)	0 (2+7)	2 (4) 2 (5)	250 (3) 2.3 250 (6) 2.3			Red	Gm	1,600	900
14F8	Twin Triode (Sec. 1) (Sec. 2)	8-BW	12.6 (2+7)	500 (4+5)	0 (1) 0 (8)	250 (3) 6 250 (6) 6			Red	Gm	3,300	2,000
14H7	Pentode	8-V	12.6 (1+8)	180 (7)	0 (6)	250 (2) 10	150 (3) 3.2	0 (4)	Red	Gm	4,000	2,400
14J7	Converter	8-BL	12.6 (1+8)	Same as 7J7								
14N7	Twin Triode (Sec. 1) (Sec. 2)	8-AC	12.6 (1+8)	0 (2+7)	8 (4) 8 (5)	250 (3) 9 250 (6) 9			Red	Gm	2,600	1,400
14Q7	Converter	8-AL	12.6 (1+8)	0 (4+5+6)		100 (2+3) 30			15	Gm	5,500	3,000
14R7	Diode Pentode	8-AE	12.6 (1+8)	0 (7)	1 (6)	250 (2) 5.7	100 (5) 2.1		Red	Gm	3,200	1,900
14S7	Converter	8-BL	12.6 (1+8)	Same as 7S7								
14W7	Pentode	8-BJ	12.6 (1+8)	150 (7)	0 (6)	300 (2) 10	150 (3) 4	0 (5)	Red	Gm	5,800	3,500
14X7	Diode Triode	A91	12.6 (1+8)	0 (2+7)	1 (3)	250 (2) 1.9			Red	Gm	1,500	900
14Y4	Rectifier (P-1) (P-2)	5-AB	12.6 (1+8)	0 (7)		20 (3) 20 (6)			Red	Emission	60 Ma	35 Ma
14Z3	Rectifier	5-AL	12.6 (1+8)	0 (7)		15 (2)			Red	Emission	100 Ma	70 Ma
15	Pentode	5-F	2 (1+5)	0 (4)	1.5 (C)	135 (2) 1.8	65 (3) 0.3		Red	Gm	750	400

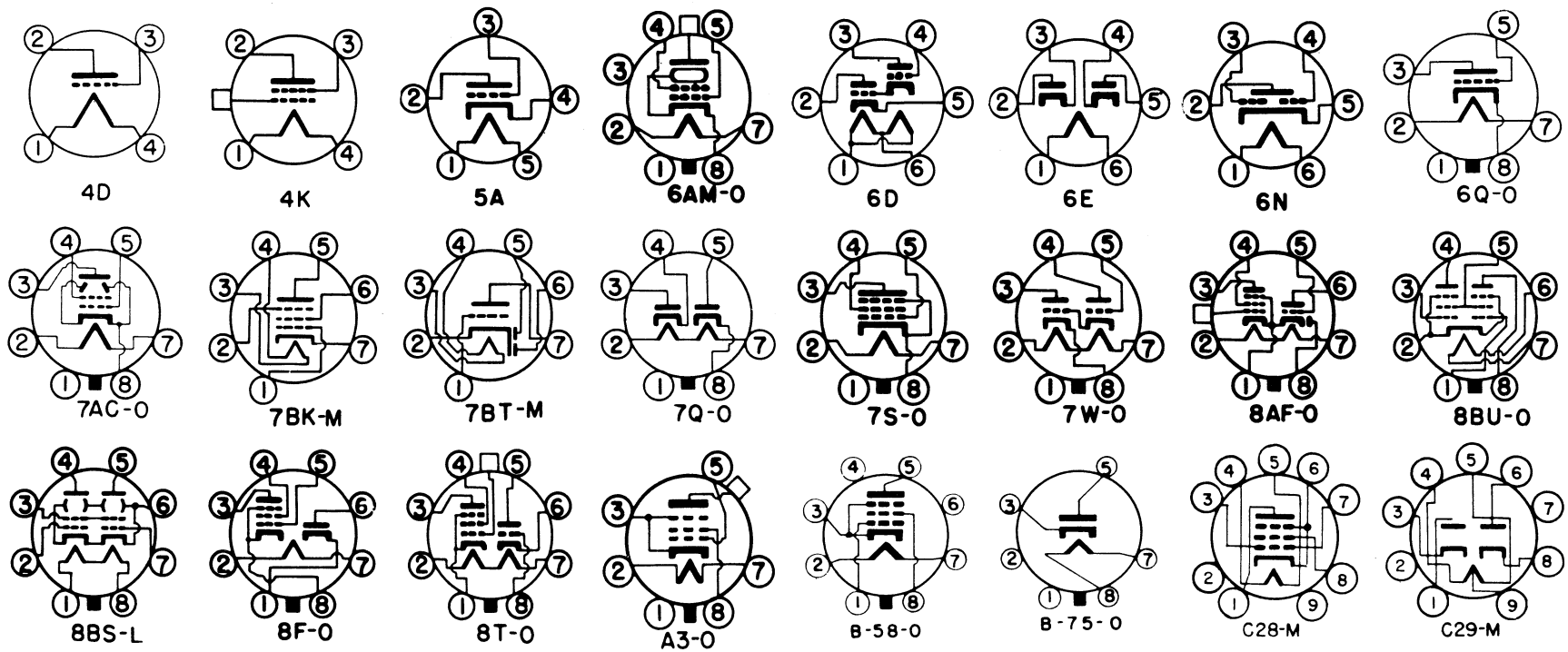
19	Twin Triode (Sec. 1) (Sec. 2)	6-C	2 (1+6)		0 (3+4) 0 (4)	135 (2+5)7 135 (5) 7			Red	Gm	1,400	1,000
19AQ5	Pentode	A6	19 (3+4)	0 (2)	12.5 (7)	250 (5) 45	250 (6) 4.5		Red	Gm	4,100	2,500
19BK5	Pentode	C28	19 (4+5)	0 (6)	5 (3)	250 (1) 35	250 (8) 3.5		Red	Gm	9,500	5,000
19BG6	Pentode	5-BT	19 (2+7)	0 (3)	12 (5)	250 (C) 80	250 (8) 6		Red	Gm	6,000	4,000
19C8	Diode Triode	B31	19 (4+5)	0 (7)	1 (8)	100 (9) 0.5			Red	Gm	1,200	700
19J6	Twin Triode (Sec. 1) (Sec. 2)	7-BF	19 (3+4)	150 (7)	0 (5) 0 (6)	100 (1) 8.5 100 (4) 8.5			Red	Gm	5,300	3,000
19T8	Diode Triode	B31	19 (4+5)	0 (7)	3 (8)	250 (9) 1			Red	Gm	1,200	700
19V8	Diode Triode	B77	19 (4+5)	0 (3)	3 (6)	250 (1) 1			Red	Gm	1,200	700
20	Triode	4-D	3.3 (1+4)		22.5 (3)	135 (2) 6.5			3.5	Gm	525	300
22	Tetrode	4-K	3.3 (1+4)		1.5 (C)	135 (2) 3.7	67 (3) 1.3		Red	Gm	500	300
24	Tetrode	5-E	2.5 (1+5)	0 (4)	3 (C)	250 (2) 4	90 (3) 1.7		Red	Gm	650	400



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
25A6	Pentode	7-S	25 (2+7)	0 (8)	18 (5)	160 (3) 33	120 (4) 6.5		Red	Gm	2,375	1,400
25A7	Pentode (Diode)	8-F	25 (2+7)	0 (8) 0 (1)	15 (5)	100 (3) 20 13 (6)	100 (4) 4		Red Red	Gm Emission	1,800 70 Ma	1,000 50 Ma
25AC5	Triode	6-Q	25 (2+7)	0 (8)		110 (3) 45	15 (5) 7		Red	Gm	3,800	2,200
25AV5	Pentode	B58	25 (2+7)	0 (3)	22.5 (1)	250 (5) 55	150 (8) 2.1		Red	Gm	5,800	3,200
25B5	Direct Coupled Triode	6-D	25 (1+6)	0 (5)	0 (4)	180 (2) 46	100 (3) 5.8		Red	Gm	2,300	1,400
25B6	Pentode	7-S	25 (2+7)	0 (8)	23 (5)	200 (3) 62	135 (4) 1.8		Red	Gm	5,000	3,000
25B8	Triode Pentode (Triode) (Pentode)	8-T	25 (2+7)	0 (6) 0 (1)	1 (8) 3 (C)	100 (5) 0.6 100 (3) 7.5	100 (4) 2		Red Red	Gm Gm	1,500 2,000	800 1,200
25BK5	Pentode	C28	25 (4+5)	0 (6)	5 (3)	250 (1) 35	250 (8) 3.5		Red	Gm	9,500	5,000
25BQ6	Pentode	6-AM	25 (2+7)	0 (8)	22.5 (5)	250 (C) 55	150 (4) 2.1		Red	Gm	5,000	3,000
25CD6	Pentode	A3	25 (2+7)	0 (3)	22.5 (5)	(C)	(8) 2.3		Red	Gm		
25C6	Pentode	7-AC	25 (2+7)	0 (8)	14 (5)	200 (3) 61	135 (4) 2.2		Red	Gm	7,100	4,200
25D8	Diode Triode Pent. (Pentode) (Triode)	8-AF	25 (2+7)	0 (1) 0 (1)	3 (C) 1 (5)	100 (3) 8.5 100 (6) 0.5	100 (4) 2.7		Red Red	Gm Gm	1,900 1,100	1,200 600
25L6	Pentode	7-AC	25 (2+7)	0 (8)	8 (5)	200 (3) 50	110 (4) 2		Red	Gm	7,500	4,500
25N6	Direct Coupled Triode	7-W	25 (2+7)	0 (5+8)	0 (3)	180 (4) 46	100 (3) 5.8		Red	Gm	2,300	1,200
25W4	Rectifier	B15	25 (7+8)	0 (3)		10 (5)			Red	Emission	100 Ma	80 Ma
25Y5	Rectifier (P-1) (P-2)	6-E	25 (1+6)	0 (3+4)		14 (2) 14 (5)			Red	Emission	75 Ma	50 Ma
25Z5	Rectifier (P-1) (P-2)	6-E	25 (1+6)	0 (3+4)		14 (2) 14 (5)			Red	Emission	75 Ma	50 Ma
25Z6	Rectifier (P-1) (P-2)	7-Q	25 (2+7)	0 (4+8)		14 (3) 14 (5)			Red	Emission	75 Ma	50 Ma
26	Triode	4-D	1.5 (1+4)		14.5 (3)	180 (2) 6.2			Red	Gm	1,100	600
26A6	Pentode	7-BK	26.5 (3+4)	125 (7)	0 (1)	250 (5) 11	100 (6) 4	0 (2)	Red	Gm	4,000	2,200
26A7	Twin Pentode (Sec. 1) (Sec. 2)	8-BU	26.5 (6+7)	0 (2)	4.5 (1) 4.5 (3)	26.5 (4) 20 26.5 (8) 20	26.5 (5) 1.5		Red	Gm	6,000	3,000

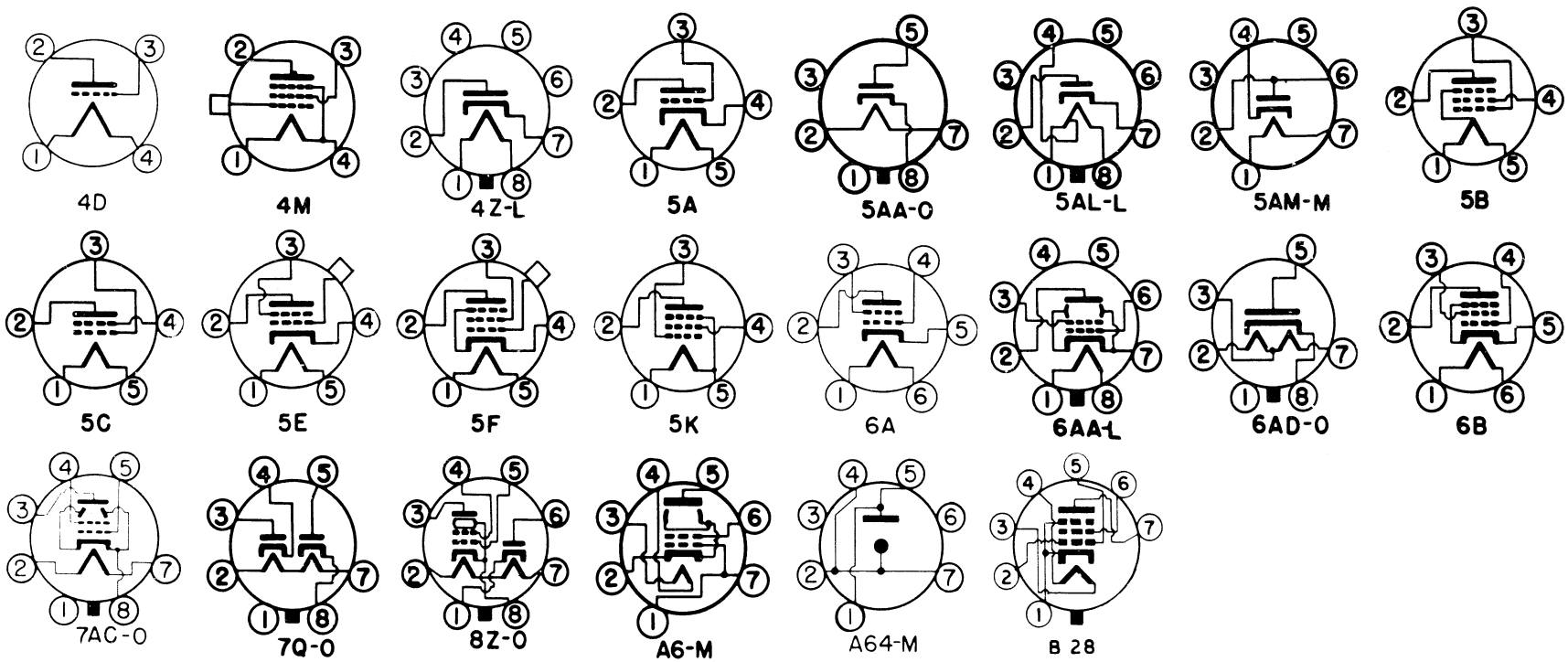
26C6	Diode Triode	7-BT	26.5 (3+4)	0 (2)	9 (1)	250 (7) 9.5			15	Gm	1,900	1,200
26CG6	Pentode	7-BK	26.5 (3+4)	0 (7)	8 (1)	250 (5) 9	150 (6) 2.3	0 (2)	Red	Gm	2,000	1,200
26Z5W	Rectifier (P-1) (P-2)	C29	26.5 (4+5)	0 (3+8)		25 (1) 25 (6)			Red	Emission	100 Ma	70 Ma
27	Triode	5-A	2.5 (1+5)	0 (4)	21 (3)	250 (2) 5.2			10	Gm	1,000	600
28D7	Twin Pentode (Sec. 1) (Sec. 2)	8-BS	28 (1+8)	0 (6)	3.5 (2) 3.5 (7)	28 (4) 12.5 28 (5) 12.5	28 (3) 1		Red	Gm	3,400	2,000
29	Triode	6-N	2.5 (1+6)	0 (5)	3 (3+4)	180 (2) 4.5			Red	Gm	1,400	1,000
30	Triode	4-D	2 (1+4)		13.5 (3)	180 (2) 3.1			10	Gm	900	500
31	Triode	4-D	2 (1+4)		30 (3)	180 (2) 12.5			3.5	Gm	1,000	600
32	Tetrode	4-K	2 (1+4)		3 (C)	180 (2) 1.7	67 (3) 0.5		Red	Gm	650	350



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
32L7	Diode Pentode (Diode)	8-Z	32 (2+7)	0 (8) 0 (1)	7 (5)	90 (3) 27 10 (6)	90 (4) 2		Red Red	Gm Emission	4,800 60 Ma	2,400 35 Ma
33	Pentode	5-K	2 (1+5)		18 (3)	180 (2) 22	180 (4) 5		Red	Gm	1,700	1,100
34	Pentode	4-M	2 (1+4)		3 (C)	180 (2) 2.8	65 (3) 1		Red	Gm	600	350
35/51	Pentode	5-E	2.5 (1+5)	0 (4)	3 (C)	250 (2) 6.5	90 (3) 2.5		Red	Gm	1,000	600
35A5	Pentode	6-AA	35 (1+8)	180 (7)	0 (6)	200 (2) 43	125 (3) 2		Red	Gm	6,100	3,000
35B5	Pentode	A6	35 (3+4)	0 (2)	7.5 (1)	110 (5) 40	110 (6) 3		Red	Gm	5,800	3,500
35C5	Pentode	B28	35 (3+4)	0 (1)	7.5 (2)	110 (7) 40	110 (6) 3		Red	Gm	5,800	3,500
35L6	Pentode	7-AC	35 (2+7)	180 (8)	0 (5)	200 (3) 43	125 (4) 2		Red	Gm	6,100	3,500
35W4	Rectifier	A64	35 (3+4)	0 (7)		11 (5)			Red	Emission	100 Ma	70 M
35Y4	Rectifier	5-AL	35 (1+8)	0 (7)		10 (2)			Red	Emission	100 Ma	70 Ma
35Z3	Rectifier	4-Z	35 (1+8)	0 (7)		12 (2)			Red	Emission	100 Ma	70 Ma
35Z4	Rectifier	5-AA	35 (2+7)	0 (8)		11 (5)			Red	Emission	100 Ma	70 Ma
35Z5	Rectifier	6-AD	35 (2+7)	0 (8)		11 (5)			Red	Emission	100 Ma	70 Ma
35Z6	Rectifier (P-1) (P-2)	7-Q	35 (2+7)	0 (4+8)		14 (3) 14 (5)			Red	Emission	75 Ma	50 Ma
36	Tetrode	5-E	6.3 (1+5)	0 (4)	3 (C)	250 (2) 3.2	90 (3) 1.7		Red	Gm	1,100	600
37	Triode	5-A	6.3 (1+5)	0 (4)	18 (3)	250 (2) 7.5			10	Gm	1,100	600
38	Pentode	5-F	6.3 (1+5)	0 (4)	25 (C)	250 (2) 22	250 (3) 3.8		Red	Gm	1,200	650
39/44	Pentode	5-F	6.3 (1+5)	0 (4)	3 (C)	250 (2) 5.8	90 (3) 1.4		Red	Gm	1,100	650
40	Triode	4-D	5 (1+4)		3 (3)	180 (2) 0.2			Red	Gm	200	100
41	Pentode	6-B	6.3 (1+6)	0 (5)	21 (4)	300 (2) 25	250 (3) 4		Red	Gm	2,100	1,100
42	Pentode	6-B	6.3 (1+6)	0 (5)	20 (4)	285 (2) 38	285 (3) 7		Red	Gm	2,600	1,500
43	Pentode	6-B	2.5 (1+6)	0 (5)	18 (4)	160 (2) 33	120 (3) 6.5		Red	Gm	2,300	1,200
45	Triode	4-D	2.5 (1+4)		55 (3)	275 (2) 37			3.5	Gm	2,600	1,200

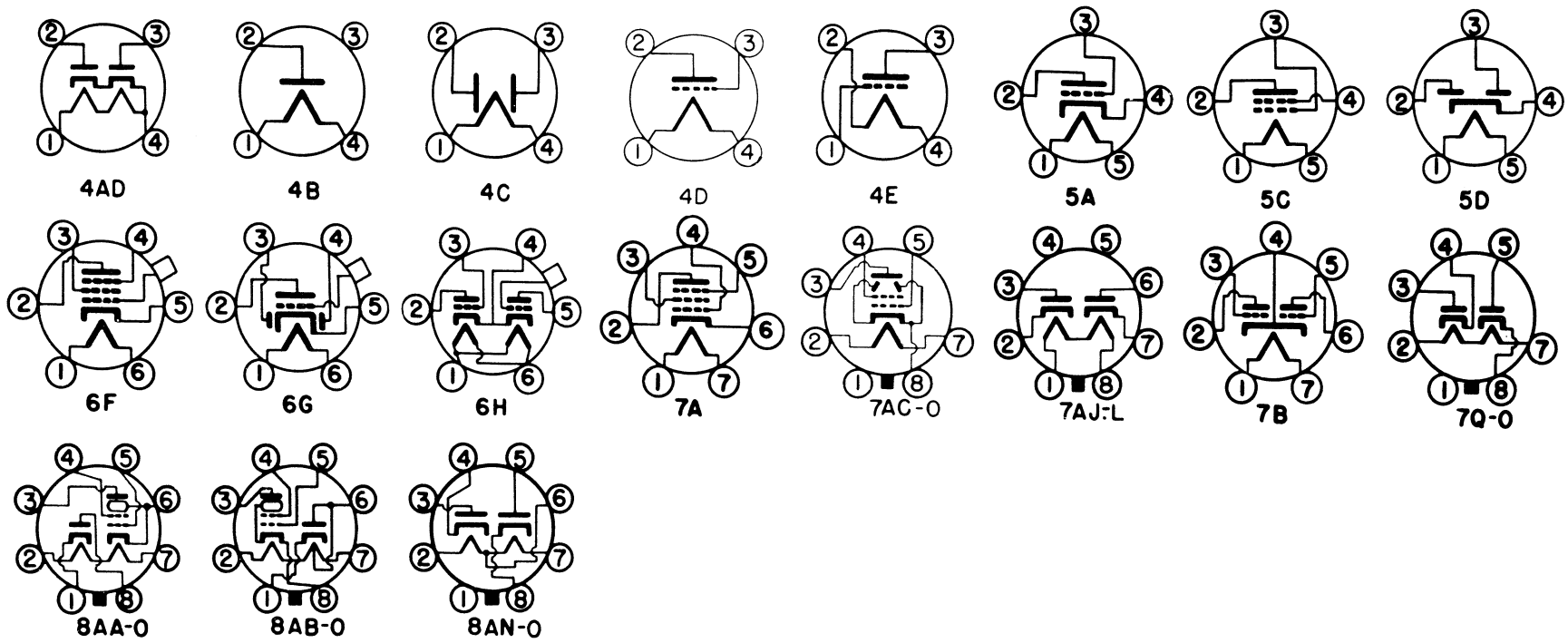
45Z3	Rectifier	5-AM	45 (1+7)	0 (4)		20 (2)			Red	Emission	100 Ma	70 Ma
45Z5/-40Z5	Rectifier	6-AD	45 (2+7)	0 (8)		10 (5)			Red	Emission	100 Ma	70 Ma
46	Tetrode	5-C	2.5 (1+5)		33 (3)	250 (2+4) 22			5	Gm	2,300	1,400
47	Pentode	5-B	2.5 (1+5)		16.5 (3)	250 (2) 31	250 (4) 6		Red	Gm	2,500	1,500
48	Tetrode	6-A	30 (1+6)	0 (5)	20 (4)	125 (2) 56	100 (3) 9.5		Red	Gm	3,900	2,300
49	Tetrode	5-C	2 (1+5)		20 (3)	135 (2) 6	135 (4)		5	Gm	1,100	600
50	Triode	4-D	7.5 (1+4)		54 (3)	300 (2) 35			3.5	Gm	1,900	1,200
50A5	Pentode	6-AA	50 (1+8)	180 (7)	0 (6)	200 (2) 46	125 (3) 2.2		Red	Gm	8,000	4,500
50B5	Pentode	A6	50 (3+4)	0 (2)	7.5 (1)	110 (5) 49	110 (6) 4		Red	Gm	7,500	4,000
50C5	Pentode	B28	50 (3+4)	0 (1)	7.5 (2)	110 (7) 49	110 (6) 4		Red	Gm	7,500	4,000
50C6	Pentode	7-AC	50 (2+7)	0 (8)	13.5 (5)	135 (3) 58	135 (4) 3.5		Red	Gm	7,000	4,000



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
50L6	Pentode	7-AC	50 (2+7)	180 (8)	0 (5)	200 (3) 46	125 (4) 2.2		Red	Gm	8,000	4,500
50X6	Rectifier (P-1) (P-2)	7-AJ	50 (1+8)	0 (2+7)		15 (3) 15 (6)			Red	Emission	75 Ma	50 Ma
50Y6	Rectifier (P-1) (P-2)	7-Q	50 (2+7)	0 (4+8)		14 (3) (5)			Red	Emission	75 Ma	50 Ma
50Y7	Rectifier (P-1) (P-2)	8-AN	50 (2+7)	0 (4+8)		15 (3) (5)			Red	Emission	75 Ma	50 Ma
50Z7	Rectifier (P-1) (P-2)	8-AN	50 (2+7)	0 (4+8)		14 (3) (5)			Red	Emission	70 Ma	50 Ma
51	See 35/51											
52	Twin Grid Triode	5-C	6.3 (1+5)		0 (3+4)	110 (2) 43			5	Gm	3,000	1,800
53	Twin Triode (Sec. 1) (Sec. 2)	7-B	2.5 (1+7)	0 (4)	6 (3) 6 (5)	300 (2) 3.5 300 (6) 3.5			Red	Gm	3,200	2,000
55	Diode Triode	6-G	2.5 (1+6)	0 (5)	20 (C)	250 (2) 8			7	Gm	1,100	600
56	Triode	5-A	2.5 (1+5)	0 (4)	13.5 (3)	250 (2) 5			15	Gm	1,400	800
57	Pentode	6-F	2.5 (1+6)	0 (5)	3 (C)	250 (2) 2	100 (3) 0.5	0 (4)	Red	Gm	1,200	800
58	Pentode	6-F	2.5 (1+6)	0 (5)	3 (C)	250 (2) 9	100 (3) 2	0 (4)	Red	Gm	1,600	900
59	Pentode	7-A	2.5 (1+7)	0 (6)	28 (4)	250 (2) 35	250 (3) 9	0 (5)	Red	Gm	2,500	1,500
70A7	Diode Pentode	8-AB	70 (2+7)	0 (8)	7.5 (5)	110 (3) 40	100 (4) 3		Red	Gm	5,800	3,500
70L7	Diode Pentode (Diode)	8-AA	70 (2+7)	0 (6) 0 (1)	7.5 (5)	110 (3) 40 12 (8)	110 (4) 3.8		Red	Gm Emission	7,500 70 Ma	4,800 50 Ma
71A	Triode	4-D	5 (1+4)		40 (3)	180 (2) 20			3.5	Gm	1,700	900
75	Diode Triode	6-G	6.3 (1+6)	0 (5)	2 (C)	250 (2) 0.9			Red	Gm	1,100	600
76	Triode	5-A	6.3 (1+5)	0 (4)	13 (3)	250 (2) 5			15	Gm	1,400	800
77	Pentode	6-F	6.3 (1+6)	0 (5)	3 (C)	250 (2) 2.3	100 (3) 0.5	0 (4)	Red	Gm	1,200	750
78	Pentode	6-F	6.3 (1+6)	0 (5)	3 (C)	250 (2) 11	100 (3) 2	0 (4)	Red	Gm	1,400	800
79	Twin Triode (Sec. 1) (Sec. 2)	6-H	6.3 (1+6)	300 (4)	0 (C) 0 (3)	250 (5) 4 (2) 4			15	Gm	2,500	1,000
80	Rectifier (P-1) (P-2)	4-C	5 (1+4)			50 (2) 50 (3)			Red	Emission	100 Ma	70 Ma

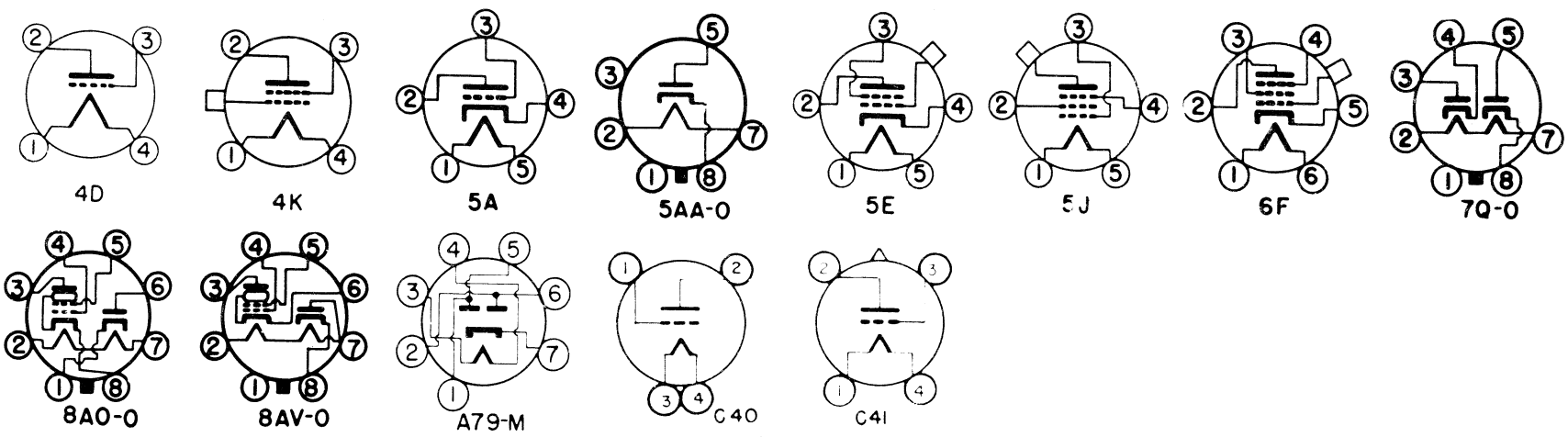
81	Rectifier	4-B	7.5 (1+4)			55 (2)			Red	Emission	85 Ma 50 Ma
82	Mercurcy Rectifier (P-1) (P-2)	4-C	2.5 (1+4)			15 (2) 15 (3)			Red	Emission	120 Ma 100 Ma
83	Mercury Rectifier (P-1) (P-2)	4-C	5 (1+4)			15 (2) 15 (3)			Red	Emission	120 Ma 100 Ma
83V	Rectifier (P-1) (P-2)	4-AD	5 (1+4)			15 (2) (3)			Red	Emission	100 Ma 70 Ma
84/6Z4	Rectifier (P-1) (P-2)	5-D	6.3 (1+5)	(4)		20 (2) 15 (3)			Red	Emission	60 Ma 35 Ma
85	Diode Triode	6-G	6.3 (1+6)	0 (5)	20 (C)	250 (2) 8			7	Gm	1,100 750
89	Pentode	6-F	6.3 (1+6)	0 (5)	25 (C)	250 (2) 32	250 (3) 5.5	0 (4)	Red	Gm	1,800 1,000
UV199	Triode	4-E	3.3 (2+4)		4.5 (1)	90 (3) 2.5			7	Gm	425 250
UX199	Triode	4-D	3.3 (1+4)		4.5 (3)	90 (2) 2.5			7	Gm	425 250



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
101-D	Triode	4-D	4.5 (1+4)		6 (3)	130 (2) 11			7	Gm	1,200	650
101-F	Triode	4-D	4.15 (1+4)		4 (3)	130 (2) 11			7	Gm	1,300	750
102-D	Triode	4-D	2.1 (1+4)		3 (3)	160 (2) 0.4			Red	Gm	360	200
102-F	Triode	4-D	2.1 (1+4)		3 (3)	160 (2) 0.5			Red	Gm	520	300
104-D	Triode	4-D	4.5 (1+4)		20 (3)	130 (2) 25			3.5	Gm	1,200	750
112-A	Triode	4-D	5 (1+4)		4.5 (3)	90 (2) 5			7.5	Gm	1,700	1,000
117L7	Diode Pentode (Diode)	8-AO	117 (2+7)	0 (8) 0 (1)	5 (4)	105 (3) 12 8.5 (6)	105 (5) 4		Red	Gm Emission	5,300 75 Ma	3,000 50 Ma
117N7	Diode Pentode	8-AV	117 (2+7)	0 (6) (8)	6 (4)	100 (3) 50 8.5 (7)	100 (5) 5		Red	Gm Emission	7,000 75 Ma	4,000 50 Ma
117P7	Diode Pentode	8-AV	117 (2+7)	0 (6)	5 (4)	105 (3) 43	105 (5) 4		Red	Gm	5,300	3,100
117Z3	Rectifier	B79	117 (3+4)	0 (6)		14 (5)			Red	Emission	90 Ma	60 Ma
117Z4	Rectifier	5-AA	117 (2+7)	0 (8)		12 (5)			Red	Emission	75 Ma	50 Ma
117Z6	Rectifier (P-1) (P-2)	7-Q	117 (2+7)	0 (4+8)		10 (3) 10 (5)			Red	Emission	60 Ma	35 Ma
182B	Triode	4-D	5 (1+4)		35 (3)	250 (2) 18			5	Gm	1,500	1,000
183	Triode	4-D	5 (1+4)		60 (3)	250 (2) 30			3.5	Gm	1,700	1,100
205-D	Triode	4-D	4.5 (1+4)		6 (3)	200 (2) 23			7	Gm	1,800	1,000
215-A	Triode	C41	1.1 (1+4)		1 (3)	60 (2) 2			5	Gm	420	200
231-D	Triode	4-D	3.1 (1+4)		3 (3)	90 (2) 2.1			7	Gm	500	300
244-A	Triode	5-A	2 (1+5)	0 (4)	6 (3)	135 (2) 5.5			10	Gm	1,000	600
245-A	Tetrode	5-E	2 (1+5)	0 (4)	1.5 (C)	180 (2) 5	45 (3) 1.5		Red	Gm	770	400
246-A	Tetrode	4-K	3.3 (1+6)		1.5 (C)	185 (2) 1.5	75 (3)		Red	Gm	800	400
247-A	Triode	5-A	2 (1+5)	0 (4)	4 (3)	120 (2) 2.5			15	Gm	900	500
257-A	Triode	4-D	3.1 (1+4)		3 (C)	90 (2) 2.1			7	Gm	500	300
259-A	Tetrode	5-E	2 (1+5)	0 (4)	1.5 (C)	180 (2) 7.5	90 (3) 1.7		Red	Gm	1,500	900
262-A	Triode	4-K	10 (1+4)	0 (3)	4.5 (C)	140 (2) 3.2			15	Gm	950	550

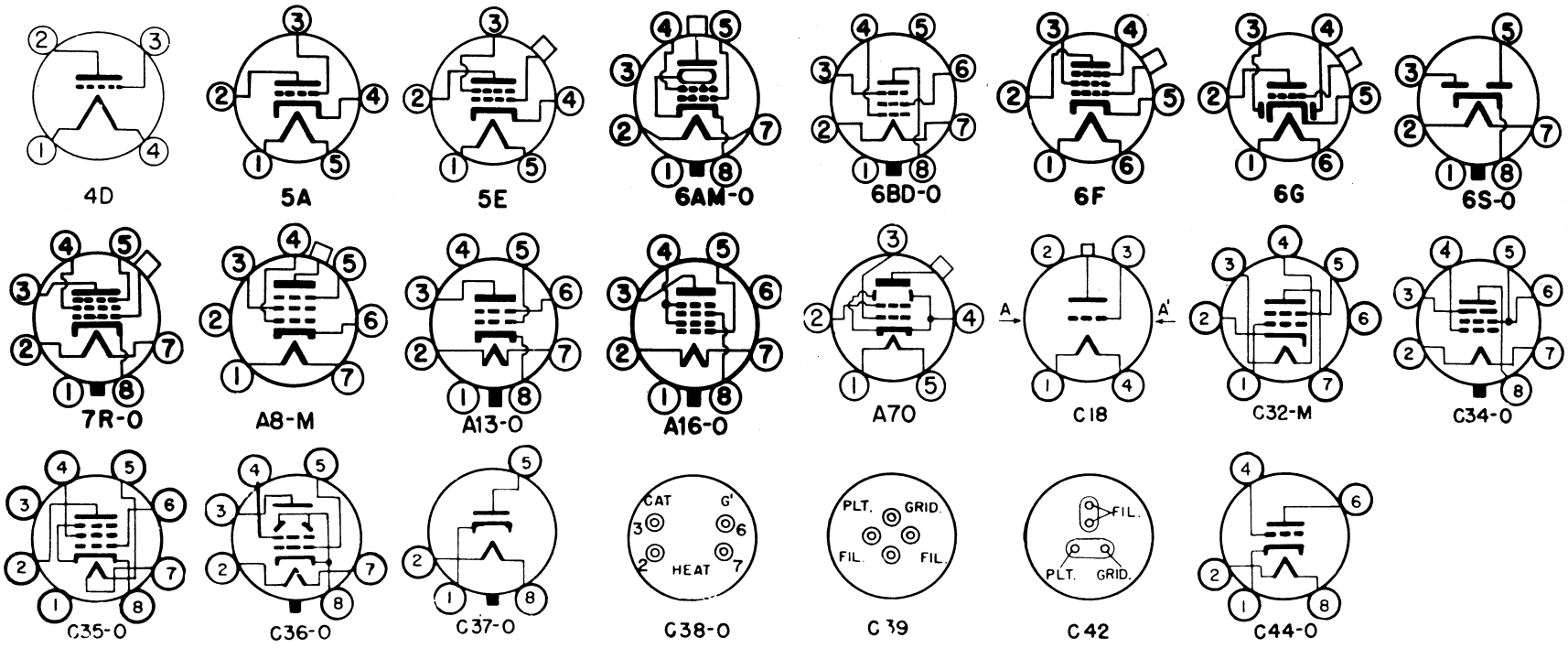
264-B	Triode	4-D	1.5 (1+4)		7 (3)	90 (2) 1.9			7	Gm	600	350
264-C	Triode	4-D	1.5 (1+4)		7 (3)	90 (2) 1.9			7	Gm	550	300
271-A	Triode	5-A	5 (1+5)	0 (4)	25 (3)	300 (2) 19			7	Gm	2,200	1,100
272-A	Triode	5-A	10 (1+5)	0 (4)	10 (3)	120 (2) 7			5	Gm	900	500
274-B	Rectifier (P-1) (P-2)	4-D	5 (1+4)			35 (2) 35 (3)			Red	Emission	100 Ma	80 Ma
275-B	Triode	4-D	5 (1+4)		55 (3)	200 (2) 15			3.5	Gm	1,700	1,000
283-A	Tetrode	5-E	2 (1+5)	0 (4)	1.5 (C)	180 (2) 6	75 (3) 1.6		Red	Gm	1,300	800
285-A	Pentode	5-E	2 (1+5)	0 (4)	10.5 (C)	135 (2) 7.5	135 (3) 1.1		Red	Gm	850	400
300-B	Triode	4-D	5 (1+4)		42 (3)	200 (2) 30			3.5	Gm	5,500	3,000
307-A	Pentode	5-J	5.5 (1+5)		15 (3)	200 (C) 36	200 (2) 3.5	0 (4)	Red	Gm	3,500	2,000
309-A	Pentode	5-E	10 (1+5)	0 (4)	1.5 (C)	180 (2) 5	75 (3) 1.1		Red	Gm	1,100	600
310-A	Pentode	6-F	10 (1+6)	0 (5)	3 (C)	180 (2) 5.5	135 (3) 2	0 (4)	Red	Gm	1,600	850
311-A	Pentode	5-E	10 (1+5)	0 (4)	15 (C)	135 (2) 30	135 (3) 7		Red	Gm	2,800	1,200
313CA	Gas Triode	4-D		0 (1)	Starter Anode (4) To plate (2) Using Cord CX2291/U. Firing Volts 170; Working Volts 185.				Red	Regulation	85 V.	110 V.
316A	Triode	C40	2 (1+4)		(3)	300 (2) 40			8	Gm	1,800	1,200
328-A	Pentode	6-F	7.5 (1+6)	0 (5)	3 (C)	135 (2) 5.5	135 (3) 2	0 (4)	Red	Gm	1,600	900



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
329-A	Pentode	5-E	7.5 (1+6)	0 (5)	15 (C)	135 (2) 30	135 (3) 7		Red	Gm	2,800	1,200
336-A	Pentode	6-F	10 (1+6)	0 (5)	8 (4)	180 (2) 28	180 (3) 7		Red	Gm	4,200	2,200
337-A	Pentode	6-F	10 (1+6)	0 (5)	3 (C)	135 (2) 63	135 (3)	0 (4)	Red	Gm	1,600	900
339-A	Pentode	5-E	5 (1+5)		32 (3)	250 (C) 70	250 (2)	0 (4)	Red	Gm	4,800	2,400
348-A	Pentode	7-R	6.3 (2+7)	0 (8)	3 (C)	135 (3) 5.5	135 (3)	0 (4)	Red	Gm	1,800	900
349-R	Pentode	7-R	6.3 (2+7)	0 (8)	8 (5)	180 (3) 28	180 (4)		Red	Gm	4,200	2,500
350-B	Tetrode	6-AM	6.3 (2+7)	0 (8)	20 (5)	300 (3) 75	250 (4)		Red	Gm	5,200	3,000
351-A	Rectifier (P-1) (P-2)	6-S	6.3 (2+7)	0 (8)		35 (3) 35 (5)			Red	Emission	100 Ma	80 Ma
357-A	Diode Triode	6-G	10 (1+6)	0 (5)	4.5 (C)	135 (2) 14			15	Gm	800	500
367-A	Tetrode	C35	6.3 (3+5)	0 (6)	18 (4)	300 (1) 53	250 (2)		Red	Gm	6,000	3,500
373-A	Pentode	C34	2 (2+7)		3 (4)	250 (8) 2	150 (6) 0.5	0 (3)	Red	Gm	1,400	900
374-A	Pentode	C34	3 (2+7)		16 (4)	135 (8) 18	135 (6)	0 (3)	Red	Gm	3,000	1,500
375-A	Pentode	C36	20 (2+7)	0 (8)	7.5 (5)	130 (3) 12.5	130 (4) 3.7		Red	Gm	4,700	3,000
375-A	Pentode	C36	20 (1+8)	0 (7)	7.5 (6)	130 (2) 12.5	130 (3)		Red	Gm	4,700	3,000
381-A	Diode	C37	6.3 (2+8)	0 (1)		10 (5)			Red	Emission	10 Ma	5 Ma
383-A	Triode	C44	6.3 (2+8)	(1)	(4)	120 (6) 4.5			Red	Gm	2,800	1,500
385-A	Pentode	A16	6.3 (2+8)	(1)	(5)	275 (C) 6	130 (3)	0 (7)	Red	Gm	2,500	1,400
387-A	Pentode	A16	6.3 (2+8)	0 (1)	2 (5)	180 (C) 7.5	120 (3)	0 (7)	Red	Gm	4,000	2,500
396-A	See 2C51											
398-A/-5603	Pentode	6-BD	6.3 (2+7)		(4)	135 (8) 50	135 (6)	0 (3)	Red	Gm	5,400	3,100
485	Triode	5A	3 (1+5)	0 (4)	9 (3)	180 (2) 6			10	Gm	1,400	900
502	Gas Triode	A13	6.3 (2+7)	0 (6+8)	2 (5)	30 (3) 100 (See Par. 5. h.)			Red	Regulation	8 V.	10 V.
546	Gas Tetrode	C32	6.3 (3+4)	0 (2+5)	2 (1)	30 (7) 20 (See Par. 5. h.)			Red	Regulation	11 V.	14 V.
586	Triode	4-D	7.5 (1+4)		54 (3)	300 (2) 35			3.5	Gm	1,900	1,200

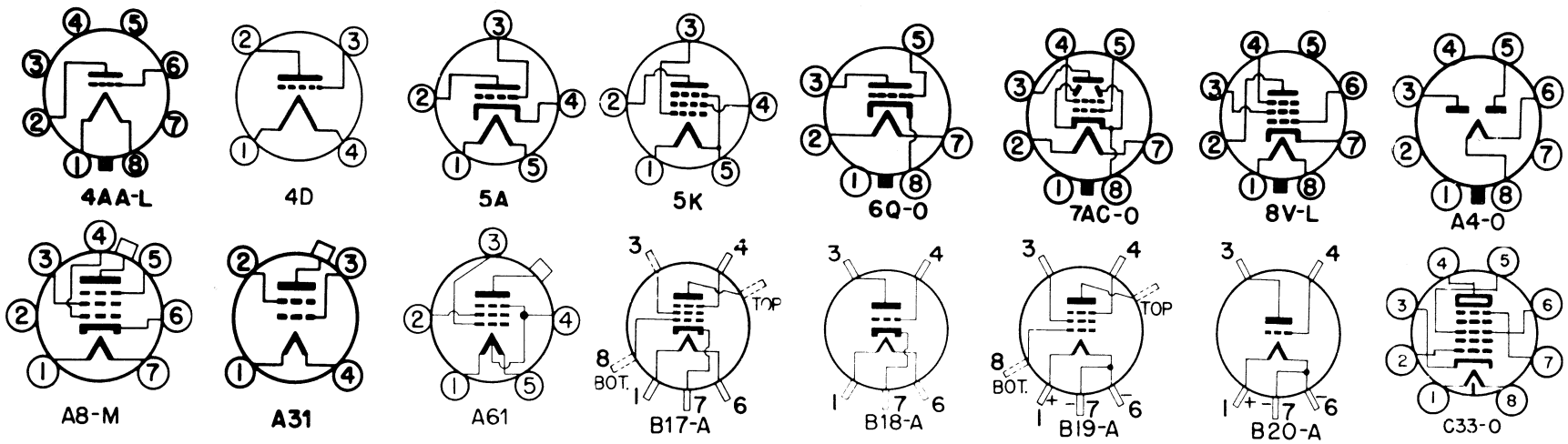
703A	Triode	C42	1.2 (1+4)		0 (3)	300 (2) 30 (Use Adapter 703).			8	Gm	1,800	1,000
707B	Keystron	C38	6.3 (2+7)	Repeller (3)		300 (6) (Use Adapter 707).			Red	Emission	40 Ma	20 Ma
708A	Triode	C39	1.7 (1+4)		Shell	300 (2) 30 (Use Adapter 708).			10	Gm	2,000	1,000
801	Triode	4-D	7.5 (1+4)		30 (3)	300 (2) 18			7	Gm	1,600	800
802	Pentode	6-BM	6.3 (1+7)	0 (6)	20 (4)	250 (C) 25	250 (3)	+40 (5)	Red	Gm	2,200	1,200
807	Pentode	A70	6.3 (1+5)	0 (4)	14 (3)	250 (C) 72	250 (2) 5		Red	Gm	6,000	3,500
809	Triode	C18	6.3 (1+4)		0 (3)	250 (C) 15			Red	Gm	3,000	2,000



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
837	Pentode	A8	12.6 (1+7)	0 (6+2)	10 (4)	200 (C) 24	200 (3)	+40 (5)	Red	Gm	4,000	2,500
841	Triode	4-D	7.5 (1+4)		5 (3)	300 (2) 2			Red	Gm	450	250
842	Triode	4-D	7.5 (1+4)		50 (3)	300 (2) 35			3.5	Gm	1,200	750
843	Triode	5-A	7.5 (1+5)	0 (4)	10 (3)	300 (2) 45			5	Gm	3,000	2,000
864	Triode	4-D	1.1 (1+4)		10 (3)	135 (2) 3			7	Gm	500	300
865	Tetrode	A-31	7.5 (1+4)	0 (4)	3 (3)	300 (C) 17	175 (2) 7		Red	Gm	700	450
879	See 2X2A											
884	Gas Triode	6-Q	6.3 (2+7)	0 (8)	3 (5)	30 (3) 75 (See Par. 5. h.)			Red	Regulation	16 V.	19 V.
885	Gas Triode	5-A	2.5 (1+5)	0 (4)	3 (3)	30 (2) 75 (See Par. 5. h.)			Red	Regulation	16 V.	19 V.
950	Pentode	5-K	2 (1+5)		16 (3)	135 (2) 7	135 (4) 2		Red	Gm	950	500
951	See 1B4P											
954	Pentode	B17	6.3 (1+6)	0 (4+7)	3 (8)	250 (C1) 2	100 (3) 0.7		Red	Gm	1,400	850
955	Triode	B18	6.3 (1+6)	0 (7)	7 (4)	250 (3) 7			Red	Gm	2,200	1,200
956	Pentode	B17	6.3 (1+6)	0 (4+7)	3 (8)	250 (C1) 7	100 (3) 3		Red	Gm	1,800	1,000
957	Triode	B20	1.25 (1+6)		5 (4)	135 (3) 2			15	Gm	650	400
958	Triode	B20	1.25 (1+6)		7.5 (4)	135 (3) 3			10	Gm	1,200	750
959	Pentode	B19	1.25 (1+6)		3 (8)	135 (C1) 1.7	67 (3) 0.4	0 (3)	Red	Gm	600	350
FM1000	Converter	C33	6.3 (1+8)	5 (3+7)	(2+6)	250 (4)	100 (5) 2.5		15	Gm	800	400
CK1005	Gas Rectifier (P-1) (P-2)	A4	6.3 (6+8)			(3) 70 (5) 70			Red	Emission	9 V. 9 V.	25 V. 25 V.
E1148	Triode		6.3 (2+7)	0 (8)	12.5 (C1)	300 (C2) 20			Red	Gm	3,500	2,000
1201	See 7E5											
1203	See 7C4											
1204	See 7AB7											
1231	Pentode	8-V	6.3 (1+8)	0 (7+4)	3 (6)	300 (2) 2	150 (3) 2.5		Red	Gm	5,500	3,000
1232	Pentode	8-V	6.3 (1+8)	0 (7+4)	2 (6)	250 (2) 6	100 (3) 2		Red	Gm	4,500	2,500

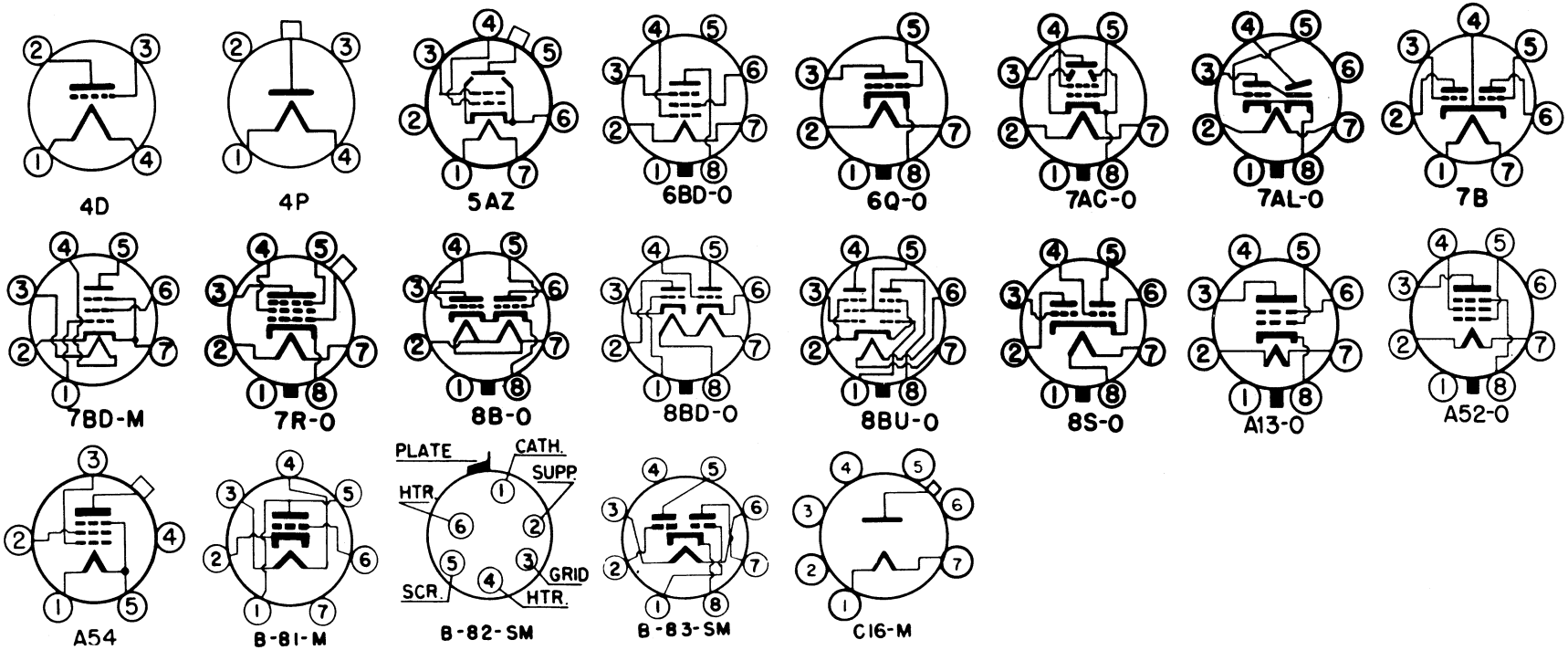
HY1269	Pentode	A61	12 (1+5)		15 (3)	250 (C) 72	250 (2) 5		Red	Gm	6,000	3,500
1273	See 14C7	8-V	6.3 (1+8)									
1280	See 7C7	8-V	12.6 (1+8)									
1284	Pentode	8V	12.6 (1+8)	0 (7+4)	3 (6)	250 (2) 9	100 (3) 2.5		Red	Gm	2,000	1,000
1291	See 3B7											
1293	Triode	4-AA	1.4 (1+8)		0 (6)	90 (2) 5.2			15	Gm	1,500	900
1294	See 1R4											
1299	See 3D6											
1603	See 6C6											
1609	Pentode	5-K	1.1 (1+5)		1.5 (3)	135 (2) 2.5	65 (4) 0.6		Red	Gm	725	400
1612	See 6L7											
1613	Pentode	7AC	6.3 (2+7)	0 (8)	20 (5)	300 (3) 40	300 (4) 7		Red	Gm	2,500	1,200



A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASURE-MENT	RATING NOMINAL	RATING REJECT
1614	Pentode	7-AC	6.3 (2+7)	0 (8)	15 (5)	300 (3) 75	250 (4) 5		Red	Gm	5,000	3,500
1616	Rectifier	4-P	2.5 (1+4)			60 (C) 100			Red	Emission	100 Ma	70 Ma
1619	Pentode	A52	2.5 (2+7)	0 (5+8)	10 (5)	300 (3) 44	250 (4) 5		Red	Gm	4,500	3,000
1620	See 6J7											
1621	See 6F6											
1622	See 6L6											
1623	Triode	4-D	6.3 (1+4)		0 (3)	300 (4) 30			Red	Gm	5,000	3,000
1624	Pentode	A54	6.3 (1+4)		5 (3)	300 (C) 75	250 (2) 10		Red	Gm	4,000	2,500
1625	Pentode	5-AZ	12.6 (1+5)	0 (6)	14 (4)	250 (C) 72	250 (3) 4		Red	Gm	6,000	3,500
1626	Triode	6-Q	12.6 (2+7)	0 (8)	32 (5)	250 (3) 25			5	Gm	2,100	1,000
1629	See 6E5	7-AL	12.6 (2+7)									
1631	See 6L6	7-AC	12.6 (2+7)									
1632	See 25L6	7-AC	12.6 (2+7)									
1633	See 6SN7	8-BD	25 (7+8)									
1634	See 12SC7	8-S	12.6 (7+8)									
1635	Twin Triode (Sec. 1) (Sec. 2)	8B	6.3 (2+7)	0 (8)	0 (4) 0 (5)	300 (3) 3.6 300 (6)			Red	Gm	1,500	900
1642	See 2C21											
1644	See 12L8	8-BU	12.6 (6+7)									
1654	Rectifier	C16	1.4 (1+7)			40 (C)			Red	Emission	1 Ma	0.5 Ma
1851	Pentode	7-R	6.3 (2+7)	0 (8)	2 (C)	300 (3) 10	150 (4) 2.5	0 (5)	Red	Gm	9,000	5,400
1852	See 6AC7											
1853	See 6AB7											
2050	Gas Tetrode	A13	6.3 (2+7)	0 (5+6)	(5)	(3) (See Par. 5. h.)			Red	Regulation	8 V.	11 V.
2051	Gas Tetrode	A13	6.3 (2+7)	0 (5+6)	(5)	(3) (See Par. 5. h.)			Red	Regulation	8 V.	11 V.
5556	Triode	4-D	5 (1+4)		20 (3)	300 (2) 15			7	Gm	1,300	750

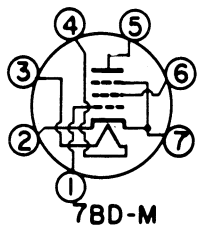
5590/- 401A	Pentode	7-BD	6.3 (3+4)	750 (7)	0 (1)	90 (5) 4	90 (6) 1.5		Red	Gm	2,000	1,000
5591/- 403B	Pentode	7-BD	6.3 (3+4)	200 (7)	0 (1)	180 (5)	120 (6) 2.5		Red	Gm	5,100	3,000
5603/- 398A	Pentode	6-BD	6.3 (2+7)		12 (4)	135 (8) 50	135 (6) 5	0 (3)	Red	Gm	6,500	4,000
5608	Pentode	7-BD	6.3 (3+4)	0 (7)	12 (1)	120 (5) 7.5	120 (6) 2		Red	Gm	5,000	3,000
5608A	Twin Triode (Sec. 1) (Sec. 2)	7-B	2.5 (1+7)	0 (4)	6 (3) 6 (5)	300 (2) 6 300 (5) 6			Red	Gm	2,400	1,000
5610	Triode	B81	6.3 (3+4)	0 (2)	1.5 (6)	90 (5) 17			15	Gm	4,000	2,400
5633	Pentode	B82	6.3 (4+6)	150 (1)	0 (3)	100 (C) 7	100 (5) 2.8		Red	Gm	3,400	2,100
5634	Pentode	B82	6.3 (4+6)	150 (1)	0 (3)	100 (C) 4.5	100 (5) 2.5		Red	Gm	3,500	2,100
5635	Twin Triode (Sec. 1) (Sec. 2)	B83	6.3 (3+6)	100 (8)	0 (1) 0 (2)	100 (5) 4.8 100 (7) 4.8			Red	Gm	3,800	2,400

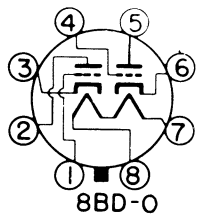


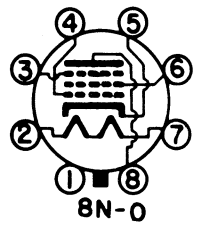
A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

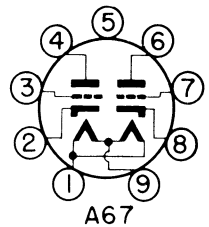
TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
5636	Pentode	B84	6.3 (3+6)	150 (2)	0 (1)	100 (5) 3	100 (7) 5	0 (4)	Red	Gm	3,000	1,900
5637	Triode	B85	6.3 (3+4)	750 (5)	0 (2)	100 (1) 1.6			Red	Gm	2,700	1,800
5638	Pentode	B86	6.3 (3+5)	270 (1)	0 (2)	100 (6) 4.8	100 (4) 1.25		Red	Gm	3,300	1,900
5639	Pentode	B87	6.3 (3+6)	100 (2)	0 (1)	150 (5) 21	100 (7) 4		Red	Gm	9,000	5,000
5640	Pentode	B88	6.3 (2+4)	0 (5)	9 (6)	100 (1) 31	100 (3) 2.2		Red	Gm	5,000	3,000
5641	Rectifier	B89	6.3 (3+6)	0 (5)		15 (4)			Red	Emission	35 Ma	20 Ma
5642	Rectifier	B90	1.25 (1+2)			(C)			Red	Emission	2 Ma	1 Ma
5643	Gas Tetrode	C43	6.3 (6+3)	0 (5+4)	0 (7)	Use Resistor Patch Cord. See Par. 5. h. 25 (1) 22			Red	Firing Volts		27 V.
5644	Gas Diode	C43		0 (2)		Anode Test Volts 120 (1). See Par. 5. f. Working Volts 95 (Approximate) Working Current 5 to 25 Ma.			Red	Regulation	5 V.	8 V.
5645	Triode	B91	6.3 (3+5)	550 (2)	0 (4)	100 (1) 5			Red	Gm	2,700	1,600
5646	Triode	B91	6.3 (3+5)	750 (2)	0 (4)	100 (1) 1.4			Red	Gm	2,400	1,200
5647	UHF Diode	B92	6.3 (2+3)	0 (4) Yellow		6 (1) Blue			Red	Emission	45 Ma	25 Ma
5654	Pentode	7-BD	6.3 (3+4)	200 (7)	0 (1)	120 (5) 7.5	120 (6) 2.5		Red	Gm	5,000	3,000
5670	Twin Triode (Sec. 1) (Sec. 2)	A67	6.3 (1+9)	240 (2+8)	0 (3) 0 (7)	150 (4) 8.2 150 (6) 8.2			Red	Gm	5,500	3,000
5672	Pentode	B48	1.25 (3+5)		6.5 (3)	67 (1) 3.2	67 (2) 1.1		Red	Gm	650	300
5675	Pencil Triode	B93	6.3	68	0	135 24			Red	Gm	6,200	3,600
5676	Triode	B94	1.25 (2+4)		5 (3)	135 (1) 4			15	Gm	1,600	900
5677	Triode	B94	1.25 (2+4)		0 (3)	135 (1) 2			15	Gm	650	300
5678	Pentode	B95	1.25 (3+5)		0 (4)	67 (1) 1.8	67 (2) 0.5		Red	Gm	1,100	600
5686	Pentode	B97	6.3 (4+5)	0 (1)	12.5 (2)	250 (7) 27	250 (6) 5		Red	Gm	3,100	1,800
5687	Twin Triode (Sec. 1) (Sec. 2)	B32	12.6 (4+5)	0 (3+6)	7 (2) 7 (7)	180 (1) 23 180 (9) 23			15	Gm	6,400	3,600

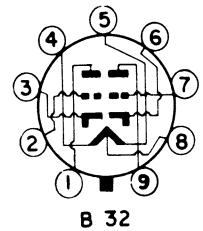
5691	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	0 (3+6)	2 (1) 2 (4)	250 (2) 2.3 250 (5) 2.3			Red	Gm	1,600	900
5692	Twin Triode (Sec. 1) (Sec. 2)	8-BD	6.3 (7+8)	0 (3+6)	9 (1) 9 (4)	250 (2) 6.5 250 (5) 6.5			Red	Gm	2,200	1,200
5693	Pentode	8-N	6.3 (2+7)	0 (5)	3 (4)	250 (8) 3	100 (6) 0.9	0 (3)	Red	Gm	1,600	900
5694	Twin Triode (Sec. 1) (Sec. 2)	B99	6.3 (2+7)	0 (1+8)	6 (4) 6 (5)	290 (3) 7 290 (6) 7			Red	Gm	3,200	1,900
5697	Triode	C1	0.625 (3+4)		3 (7)	120 (1) 0.25			3.5	Gm	135	50
5702	Pentode	C2	6.3 (3+4)	200 (6)	0 (7)	120 (1) 7.5	120 (2) 2.5	0 (5)	Red	Gm	5,000	3,000
5703	Triode	C3	6.3 (3+4)	220 (6)	0 (5)	120 (1) 9			Red	Gm	5,000	3,000

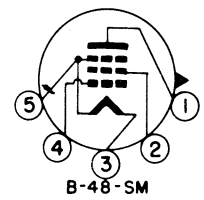


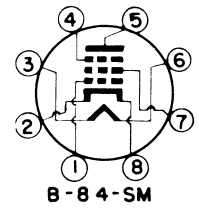


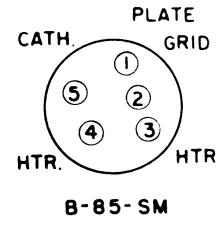


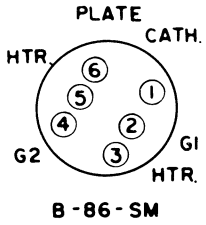


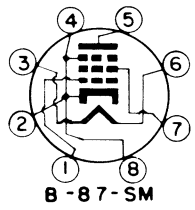


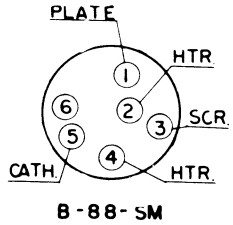


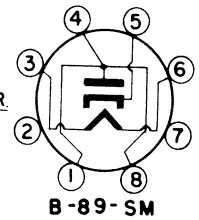


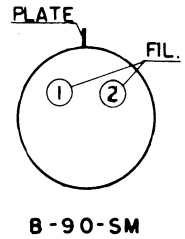


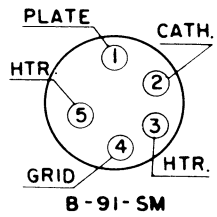


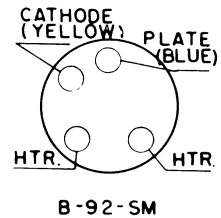


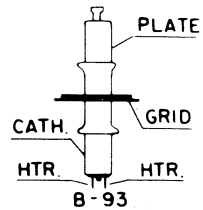


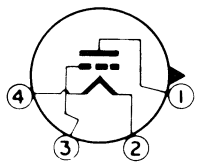


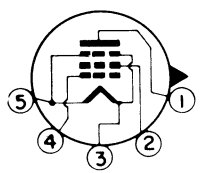


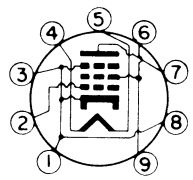


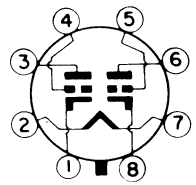


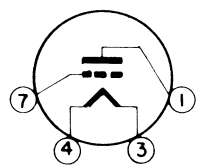


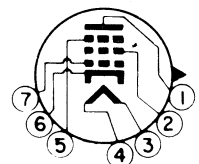


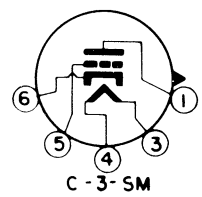


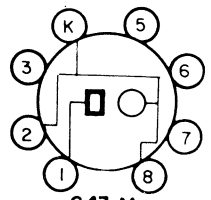








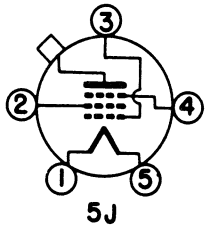


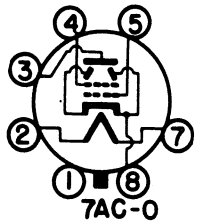


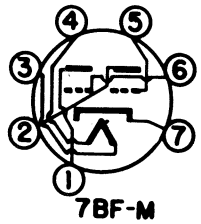
A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

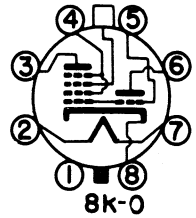
TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
5718	Triode	C5	6.3 (3+4)	150 (5)	0 (2)	100 (1) 12			Red	Gm	5,500	3,000
5719	Triode	C5	6.3 (3+4)	750 (5)	0 (2)	100 (1) 1.5			Red	Gm	2,800	1,800
5725	Pentode	A84	6.3 (3+4)	0 (2)	2 (1)	120 (5) 5.2	120 (6) 3.5	0 (7)	Red	Gm	3,200	2,000
5731	Triode	B18	6.3 (1+4)	0 (5)	7 (3)	250 (2) 6			Red	Gm	2,200	1,300
5744	Triode	C7	6.3 (2+3)	500 (5)	0 (4)	250 (1) 4			Red	Gm	4,000	2,300
5751	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	3 (2) 3 (7)	250 (1) 1 250 (6) 6			Red	Gm	1,200	700
5784	Pentode	C2	6.3 (3+4)	0 (6)	2 (7)	120 (1) 5	120 (2) 3.5		Red	Gm	3,200	1,900
5814	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	8 (2) 8 (7)	250 (1) 11 250 (6) 11			15	Gm	2,300	1,200
5824	Pentode	7-AC	25 (2+7)	0 (8)	22 (5)	135 (3) 61	135 (4) 2.5		Red	Gm	5,000	3,000
5829	Duo Diode (P-1) (P-2)	C21	6.3 (3+5)	0 (2+7)		6.5 (6) 6.5 (1)			Red	Emission	15 Ma	10 Ma
5840	Pentode	B87	6.3 (3+6)	150 (2)	0 (1)	100 (5) 7.5	100 (7) 2.4		Red	Gm	5,000	3,000
5842	Triode	C9	6.3 (3+9)	62 (6)	0 (7)	150 (1) 26			Red	Gm	24,000	12,000
5844	Twin Triode (Sec. 1) (Sec. 2)	7-BF	6.3 (3+4)	470 (7)	0 (6) 0 (4)	100 (1) 4.8 100 (2)			Red	Gm	3,400	2,000
5847	Pentode	C10	6.3 (3+9)	110 (4)	0 (1)	150 (6) 13	150 (8) 4.5		Red	Gm	12,500	7,000
5851	Pentode	C11	2.5 (1+7)		7.5 (8)	125 (3) 5.5	125 (6) 1		Red	Gm	1,600	900
5854	Pentode	5-J	1.25 (3+5)		2 (4)	45 (1) 1 Ma	45 (2) 0.4		Red	Plate Current	0.8 Ma	0.45 Ma
5871	Pentode	7-AC	6.3 (2+7)	0 (8)	13 (5)	300 (3) 33	225 (4) 2.2		Red	Gm	3,700	2,400
5879	Pentode	C12	6.3 (4+5)	0 (3)	3 (1)	250 (8) 1.8	100 (7) 0.4	0 (9)	Red	Gm	1,000	600
5873	Twin Triode (Sec. 1) (Sec. 2)	8-K	6.3 (1+8)	0 (4+5)	3 (3) 3 (6)	150 (2) 9 150 (7) 9			Red	Gm	2,900	1,400
5881	Pentode	7-AC	6.3 (2+7)	0 (8)	14 (5)	250 (3) 75	250 (4) 5		Red	Gm	5,200	3,000
5896	Duo Diode (P-1) (P-2)	C14	6.3 (3+6)	0 (2+7)		10(1) 10 (5)			Red	Emission	50 Ma	30 Ma
5897	Triode	C15	6.3 (3+6)	150 (5)	0 (1)	100 (8) 8.5			Red	Gm	5,800	3,600
5898	Triode	C15	6.3 (3+6)	680 (5)	0 (1)	150 (8) 1.7			Red	Gm	2,700	1,700

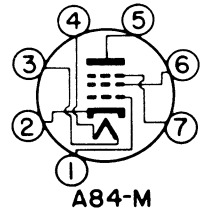
5899	Pentode	B87	6.3 (3+6)	120 (2)	0 (1)	100 (5) 7.2	100 (7) 2.2		Red	Gm	4,500	2,600
5900	Pentode	B87	6.3 (3+6)	120 (2)	0 (1)	100 (5) 7.2	100 (7) 2.2		Red	Gm	4,500	2,600
5901	Pentode	B87	6.3 (3+6)	150 (2)	0 (1)	100 (5) 7.5	100 (7) 2.4		Red	Gm	5,000	3,000
5902	Pentode	B87	6.3 (3+6)	270 (2)	0 (1)	110 (5) 30	110 (7) 2.2		Red	Gm	4,200	2,500
5904	Triode	C15	26.5 (3+6)	0 (5)	1 (1)	26.5 (8) 3			Red	Gm	5,000	3,000
5905	Pentode	B87	26.5 (3+6)	0 (2)	1 (1)	26.5 (5) 2.3	26.5 (7) 1		Red	Gm	2,800	1,700
5906	Pentode	B87	26.5 (3+6)	150 (2)	0 (1)	100 (5) 7.5	100 (7) 2.4		Red	Gm	5,000	3,000
5907	Pentode	B87	26.5 (3+6)	0 (2)	1 (1)	26.5 (5) 2.7	26.5 (7) 1.1		Red	Gm	3,000	1,600
5908	Pentode	B84	26.5 (3+6)	0 (2)	1 (1)	26.5 (5) 2.3	26.5 (7) 1.6	0 (4)	Red	Gm	1,700	1,000
5930	See 2A3											
5931	See 5U4G											

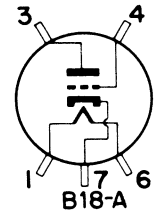


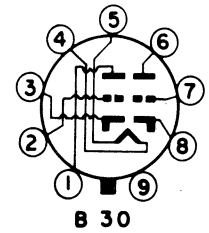


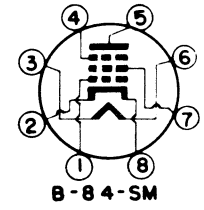


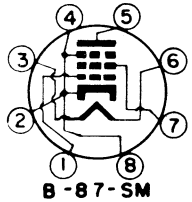


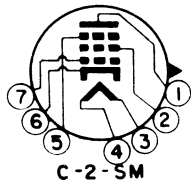


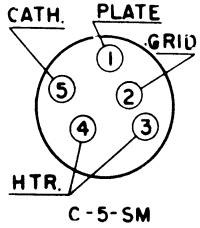


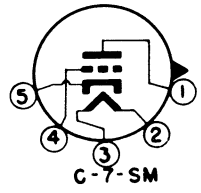


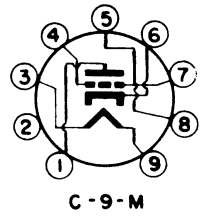


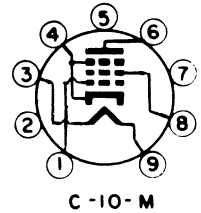


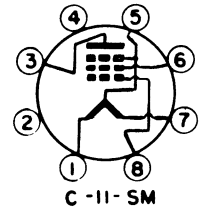


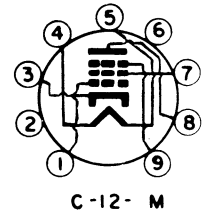


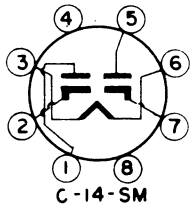


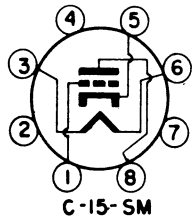


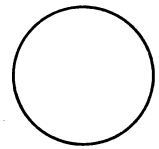








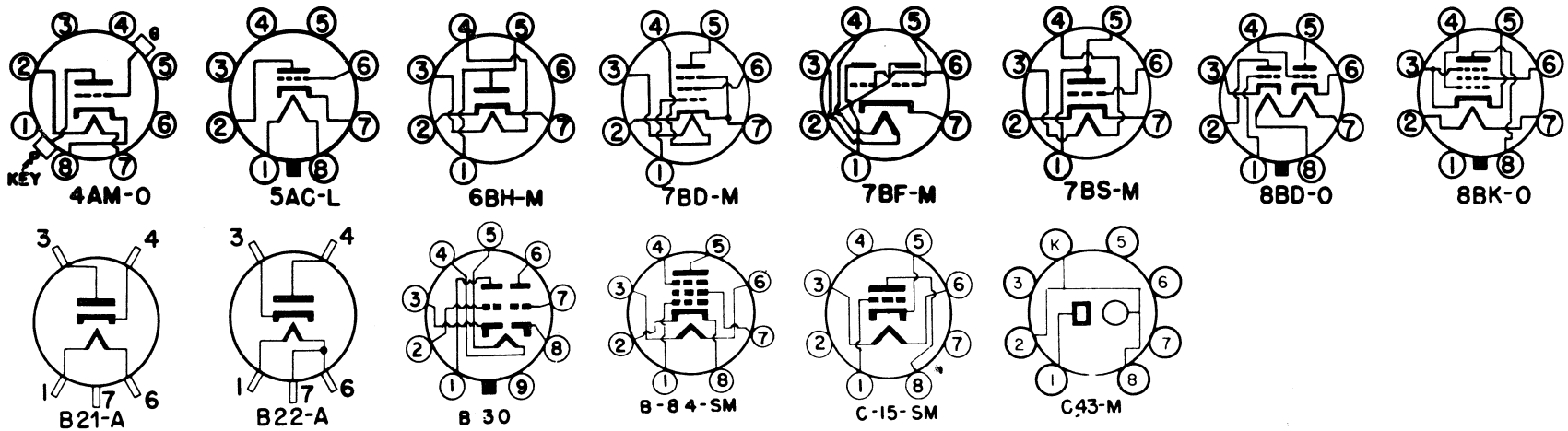




A — Acorn L — Loctal M — Miniature O — Octal SM — Subminiature

TYPE	CLASS	BASE	HEATER VOLTS	CATHODE OHMS	CONTROL GRID VOLTS	PLATE VOLTS MA	SCREEN VOLTS MA	SUPPRESSOR VOLTS MA	AMP FACTOR CORRECTOR	MEASUREMENT	RATING NOMINAL	RATING REJECT
5916	Pentode	B84	26.5 (3+6)	150 (2+4)	0 (1)	100 (5) 4.4	100 (7) 3.4		Red	Gm	3,000	1,700
5932	See 6L6											
5963	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	0 (2) 0 (7)	67 (1) 7 67 (6) 7			Red	Gm	2,800	1,500
5964	Twin Triode (Sec. 1) (Sec. 2)	7-BF	6.3 (3+4)	50 (7)	0 (5) 0 (6)	100 (2) 9.5 100 (1) 9.5			Red	Gm	6,000	3,300
5975	See 6152											
5977	Triode	C15	6.3 (3+6)	270 (5)	0 (1)	100 (8) 6.5			15	Gm	4,500	2,300
6006	Pentode	8-BK	6.3 (2+7)	0 (3)	1 (5)	250 (8) 12	125 (6) 4.5		Red	Gm	4,700	2,800
6072	See 12AY7											
6080	See 6AS7											
6082	Twin Triode (Sec. 1) (Sec. 2)	8-BD	26.5 (7+8)	250 (3+6)	0 (1) 0 (4)	135 (2) 12.5 135 (5) 12.5			3.5	Gm	7,000	4,100
6111	Twin Triode (Sec. 1) (Sec. 2)	C43	6.3 (3+6)	220 (4+5)	0 (2) 0 (7)	100 (1) 8.5 100 (8) 8.5			Red	Gm	4,700	2,800
6112	Twin Triode (Sec. 1) (Sec. 2)	C43	6.3 (3+6)	0 (4+5)	1 (2) 1 (7)	100 (1) 0.8 100 (8) 0.8			Red	Gm	1,800	1,000
6135	See 6C4											
6136	See 6AU6											
6137	See 6SK7											
6158	Twin Triode (Sec. 1) (Sec. 2)	B30	12.6 (4+5)	0 (3+8)	4.5 (2) 4.5 (7)	250 (1) 6 250 (6) 6			Red	Gm	2,300	1,100
6201	See 12AT7											
7193	Triode	4-AM-0	6.3 (2+7)	0 (8)	10.5 (Cap)	300 (Key) 11.5			Red	Gm	3,000	1,900
8016	See 1B3											
9001	Pentode	7-BD	6.3 (3+4)	0 (2)	3 (1)	250 (5) 2	100 (6) 0.7		Red	Gm	1,400	900
9002	Triode	7-BS	6.3 (3+4)	0 (2)	7 (6)	250 (5) 6.5			Red	Gm	2,200	1,100

9003	Pentode	7-BD	6.3 (3+4)	0 (2)	3 (1)	250 (5) 6.5			Red	Gm	1,800	1,000
9004	Diode	B21	6.3 (1+4)	0 (3)		1.5 (2)			Red	Emission	5 Ma	2 Ma
9005	Diode	B22	3.6 (1+4)	0 (2)		1 (3)			Red	Emission	0.8 Ma	0.3 Ma
9006	Diode	6-BH	6.3 (3+4)	0 (2)		8 (5)			Red	Emission	5 Ma	2 Ma
XXB	See 3C6											
XXD	See 14AF7											
XXFM	See 7X7											
XXL	Triode	5-AC	6.3 (1+8)	(7)	8 (6)	250 (2) 8			Red	Gm	2,300	1,200



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