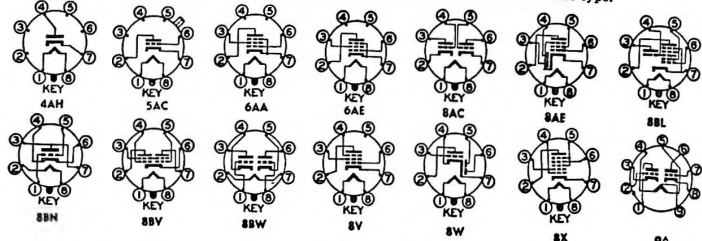


| Tube Type | Classification by Construction     | Base Connections | Out-line Dwg | Type Cath. code | Filament Volts | Filament Amp | Max Plate Volts                         | Max Screen Volts | Capacitance in Micromicrofarads                 |         |            |
|-----------|------------------------------------|------------------|--------------|-----------------|----------------|--------------|-----------------------------------------|------------------|-------------------------------------------------|---------|------------|
|           |                                    |                  |              |                 |                |              |                                         |                  | Input                                           | Out-put | Grid-plate |
| 7A U7     | Medium-Mu Twin Triode              | 9A               | 6-2          | Htr             | 7.0<br>[3.5]   | 0.3<br>0.6   | 300                                     | —                | 1.8                                             | 2.0     | 1.5        |
| 7B4       | High-Mu Triode                     | 5AC              | 9-30         | Htr             | 6.3            | 0.3          | 300                                     | —                | 3.6                                             | 3.4     | 1.6        |
| 7B5       | Power Amplifier Pentode            | 6AE              | 9-31         | Htr             | 6.3            | 0.4          | 315                                     | 285              | —                                               | —       | —          |
| 7B6       | Duplex-Diode High-Mu Triode        | 8W               | 9-30         | Htr             | 6.3            | 0.3          | 300                                     | —                | —                                               | —       | —          |
| 7B7       | Remote-Cutoff RF Pentode           | 8V               | 9-30         | Htr             | 6.3            | 0.15         | 300                                     | 100              | 5.0                                             | 6.0     | 0.004      |
| 7B8       | Pentagrid Converter                | 8X               | 9-30         | Htr             | 6.3            | 0.3          | 300                                     | 100              | Osc $I_{g1} = 0.4$ ma<br>$R_{g1} = 50,000$ ohms | —       | —          |
| 7C4       | High-Frequency Diode               | 4AH              | 9-30         | Htr             | 6.3            | 0.15         | Tube Voltage Drop:<br>11 v at 10 ma d-c |                  |                                                 |         |            |
| 7C5       | Beam Power Amplifier               | 6AA              | 9-31         | Htr             | 6.3            | 0.45         | 315                                     | 285              | —                                               | —       | —          |
| 7C6       | Duplex-Diode High-Mu Triode        | 8W               | 9-30         | Htr             | 6.3            | 0.15         | 300                                     | —                | —                                               | —       | —          |
| 7C7       | Sharp-Cutoff Pentode               | 8V               | 9-30         | Htr             | 6.3            | 0.15         | 300                                     | 100              | 5.5                                             | 6.5     | 0.007      |
| 7E5       | High-Frequency Triode              | 8BN              | 9-30         | Htr             | 6.3            | 0.15         | 250                                     | —                | 3.6                                             | 2.8     | 1.5        |
| 7E6       | Duplex-Diode Medium-Mu Triode      | 8W               | 9-30         | Htr             | 6.3            | 0.3          | 250                                     | —                | —                                               | —       | —          |
| 7E7       | Duplex-Diode Remote-Cutoff Pentode | 8AE              | 9-30         | Htr             | 6.3            | 0.3          | 250                                     | 100              | 4.6                                             | 4.6     | 0.005      |
| 7F7       | High-Mu Twin Triode                | 8AC              | 9-30         | Htr             | 6.3            | 0.3          | 250                                     | —                | —                                               | —       | —          |
| 7F8       | High-Frequency Twin Triode         | 8BW              | 9-32         | Htr             | 6.3            | 0.3          | 300                                     | —                | 2.8                                             | 1.4     | 1.6        |
| 7G7       | Sharp-Cutoff Pentode               | 8V               | 9-30         | Htr             | 6.3            | 0.45         | 250                                     | 100              | 9.0                                             | 7.0     | 0.007      |
| 7G8       | Sharp-Cutoff Twin Tetrode          | 8BV              | 9-32         | Htr             | 6.3            | 0.3          | 300                                     | 150              | 3.4                                             | 2.6     | 0.15       |
| 7H7       | Semi-Remote-Cutoff RF Pentode      | 8V               | 9-30         | Htr             | 6.3            | 0.3          | 300                                     | 150              | 8.0                                             | 7.0     | 0.004      |
| 7J7       | Triode Heptode Converter           | 8BL              | 9-30         | Htr             | 6.3            | 0.3          | 300                                     | 100              | Osc $I_{g1} = 0.4$ ma<br>$R_{g1} = 50,000$ ohms | —       | —          |

Metal tubes are shown in bold-face type, miniature tubes in italics.

♣ Subminiature type.



| Service                       | Plate Volts                                                                                                                    | Screen Volts | Neg Grid Volts     | Plate Milli-amperes | Screen Milli-amperes | $R_p$ Ohms         | $G_m$ μmhos    | $\mu$ Fac-tor | Load for Rated Out-put, Ohms                                               | Power Out-put, Watts | Tube Type |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|---------------------|----------------------|--------------------|----------------|---------------|----------------------------------------------------------------------------|----------------------|-----------|
| Class A Amplifier             | 250<br>100                                                                                                                     | —            | 8.5<br>0           | 10.5<br>11.8        | —                    | 7,700<br>6,500     | 2,200<br>3,100 | 17<br>20      | —                                                                          | —                    | 7A U7     |
| Vertical Deflection Amplifier | Max positive pulse plate voltage; $\square = 1,200$ volts; max plate dissipation = 2.75 watts; max a-c cathode current = 20 ma |              |                    |                     |                      |                    |                |               |                                                                            |                      |           |
| Class A Amplifier             | 250                                                                                                                            | —            | 2.0                | 0.9                 | —                    | 66,000             | 1,500          | 100           | —                                                                          | —                    | 7B4       |
| Class A Amplifier             | 315<br>250                                                                                                                     | 250<br>250   | 21<br>18           | 25.5<br>32†         | 4.0<br>5.5†          | 75,000<br>68,000   | 2,100<br>2,300 | —             | 9,000<br>7,600                                                             | 4.5<br>3.4           | 7B5       |
| Class A Amplifier             | 250<br>100                                                                                                                     | —            | 2.0<br>1.0         | 0.9<br>0.4          | —                    | 91,000<br>110,000  | 1,100<br>900   | 100<br>100    | —                                                                          | —                    | 7B6       |
| Class A Amplifier             | 250<br>100                                                                                                                     | 100<br>100   | 3.0<br>3.0         | 8.5<br>8.2          | 1.7<br>1.8           | 750,000<br>800,000 | 1,750<br>1,675 | —             | —                                                                          | —                    | 7B7       |
| Converter                     | 250                                                                                                                            | 100          | 3.0                | 3.5                 | 2.7                  | 360,000            | 550 #          | —             | $E_{g2}$ (Osc Plate) = 250 thru 20,000 ohms<br>$I_{g2} = 4.0$ ma           | —                    | 7B8       |
| Half-Wave Rectifier           | Max d-c output current = 5.0 ma; max rms supply voltage = 117 volts                                                            |              |                    |                     |                      |                    |                |               |                                                                            |                      |           |
| Class A Amplifier             | 315<br>250                                                                                                                     | 225<br>250   | 13.0<br>12.5       | 34†<br>41†          | 2.2†<br>4.5†         | 77,000<br>52,000   | 3,750<br>4,100 | —             | 8,500<br>5,000                                                             | 5.5<br>4.5           | 7C5       |
| Class A Amplifier             | 250<br>100                                                                                                                     | —            | 1.0<br>0           | 1.3<br>1.0          | —                    | 100,000<br>100,000 | 1,000<br>850   | 100<br>85     | —                                                                          | —                    | 7C6       |
| Class A Amplifier             | 250                                                                                                                            | 100          | 3.0                | 2.0                 | 0.5                  | 2,000,000          | 1,300          | —             | —                                                                          | —                    | 7C7       |
| Class A Amplifier             | 180                                                                                                                            | —            | 3.0                | 5.5                 | —                    | 12,000             | 3,000          | 36            | —                                                                          | —                    | 7E5       |
| Class A Amplifier             | 250                                                                                                                            | —            | 9.0                | 9.5                 | —                    | 8,500              | 1,900          | 16            | —                                                                          | —                    | 7E6       |
| Class A Amplifier             | 250                                                                                                                            | 100          | 3.0                | 7.5                 | 1.6                  | 700,000            | 1,300          | —             | —                                                                          | —                    | 7E7       |
| Class A Amplifier             | 250                                                                                                                            | —            | 2.0                | 2.3                 | —                    | 44,000             | 1,600          | 70            | —                                                                          | —                    | 7F7       |
| Class A Amplifier             | 250                                                                                                                            | —            | $R_k = 500$        | 6.0                 | —                    | —                  | 3,300          | 48            | —                                                                          | —                    | 7F8       |
| Class A Amplifier             | 250                                                                                                                            | 100          | 2.0                | 6.0                 | 2.0                  | 800,000            | 4,500          | —             | —                                                                          | —                    | 7G7       |
| Class A Amplifier             | 250                                                                                                                            | 100          | 2.5                | 4.5                 | 0.8                  | 225,000            | 2,100          | —             | —                                                                          | —                    | 7G8       |
| Class A Amplifier             | 250<br>100                                                                                                                     | 150<br>100   | $R_k = 180$<br>1.5 | 10<br>7.5           | 3.2<br>2.6           | 800,000<br>350,000 | 4,000<br>4,000 | —             | —                                                                          | —                    | 7H7       |
| Converter                     | 250                                                                                                                            | 100          | 3.0                | 1.4                 | 2.8                  | 1,500,000          | 290 #          | —             | $E_{g3}$ (Triode Osc) = 250 thru 50,000 ohms<br>$I_{g3}$ (Triode) = 5.0 ma | —                    | 7J7       |

‡ Approximate.

\* Without external shield.

† Zero signal.

‡ Grids 3 and 5 are screen. Grid 4 is signal-input grid.

♣ Conversion transconductance.

# Maximum.

♦ Grids 2 and 4 are screen. Grid 3 is signal-input grid.

\* Screen supply voltage.

† Absolute maximum rating.

‡ Plate-to-plate.

♣ Per section.

♣ For both sections.

\* Minimum.

‡ Heater warm-up time controlled for series-acting service.

# Filament supply voltage.

|| Input plate.

— The duration of the pulse voltage must not exceed 15 percent of one scanning cycle.

— Section 1.

— Section 2.

— A resistor of 3 ohms must be put in series with heater.