

Class A<sub>1</sub> Amplifier

## MAXIMUM RATINGS (Design-Maximum Values)

|                                                       |                     |
|-------------------------------------------------------|---------------------|
| Plate Voltage                                         | 280                 |
| Grid-No.2 (Screen-Grid) Supply Voltage                | —                   |
| Grid-No.2 Voltage                                     | — See curve page 98 |
| Grid-No.1 (Control-Grid) Voltage, Positive-bias value | 0                   |
| Cathode Current                                       | 20                  |
| Plate Dissipation                                     | 2                   |
| Grid-No.2 Input:                                      |                     |
| For grid-No.2 voltages up to 140 volts                | —                   |
| For grid-No.2 voltages between 140 and 280 volts      | — See curve page 98 |

## Triode Unit Pentode Unit

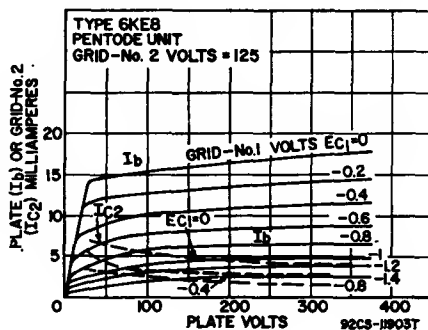
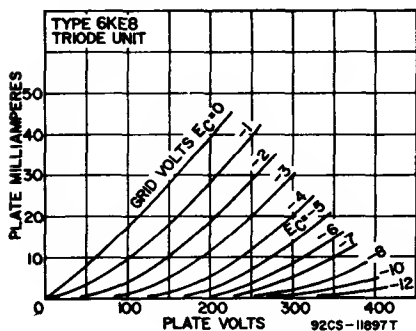
|     |     |       |
|-----|-----|-------|
| 280 | 280 | volts |
| —   | 280 | volts |
| 0   | 0   | volts |
| 20  | 20  | mA    |
| 2   | 2   | watts |
| —   | 0.5 | watt  |
| —   | —   | —     |

## CHARACTERISTICS

|                              |      |        |       |
|------------------------------|------|--------|-------|
| Plate Supply Voltage         | 125  | 125    | volts |
| Grid-No.2 Supply Voltage     | —    | 125    | volts |
| Grid-No.1 Supply Voltage     | 0    | 0      | volts |
| Cathode-Bias Resistor        | 68   | 33     | ohms  |
| Amplification Factor         | 40   | —      | —     |
| Plate Resistance (Approx.)   | 5000 | 125000 | ohms  |
| Transconductance             | 8000 | 12000  | μmhos |
| Plate Current                | 13   | 10     | mA    |
| Grid-No.2 Current            | —    | 2.8    | mA    |
| Grid-No.1 Voltage (Approx.): |      |        |       |
| For plate current of 100 μA  | 5    | —      | volts |
| For plate current of 50 μA   | —    | -3     | volts |

## MAXIMUM CIRCUIT VALUES

|                               |     |      |        |
|-------------------------------|-----|------|--------|
| Grid-No.1-Circuit Resistance: |     |      |        |
| For fixed-bias operation      | 0.5 | 0.25 | megohm |
| For cathode-bias operation    | 1   | 0.5  | megohm |



6KL8

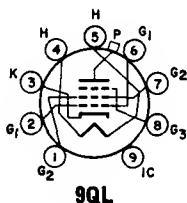
Refer to chart at end of section.

## 6KM6

22KM6

## BEAM POWER TUBE

Novar type used as horizontal-deflection amplifier in color and black-and-white television receivers. Outlines section, 18A; requires novar 9-contact socket. Type 22KM6 is identical with type 6KM6 except for heater ratings.



|                         |     |      |         |
|-------------------------|-----|------|---------|
| Heater Voltage (ac/dc)  | 6.3 | 22   | volts   |
| Heater Current          | 1.6 | 0.45 | amperes |
| Heater Warm-up Time     | —   | 11   | seconds |
| Heater-Cathode Voltage: |     |      |         |

|                                                        |          |       |
|--------------------------------------------------------|----------|-------|
| 6KM6                                                   | 22KM6    |       |
| ±200 max                                               | ±200 max | volts |
| 100 max                                                | 100 max  | volts |
| Grid No.1 to Plate                                     | 1.2      | pF    |
| Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3 | 22       | pF    |
| Plate to Cathode, Heater, Grid No.2, and Grid No.3     | 9        | pF    |

|                                     |          |       |
|-------------------------------------|----------|-------|
| Peak value                          | ±200 max | volts |
| Average value                       | 100 max  | volts |
| Direct Interelectrode Capacitances: |          |       |

### Class A<sub>1</sub> Amplifier

#### CHARACTERISTICS

|                                             | Triode Connection | Pentode Connection |                 |
|---------------------------------------------|-------------------|--------------------|-----------------|
| Plate Voltage                               | 140               | 60                 | 140 volts       |
| Peak Positive-Pulse Plate Voltage**         | —                 | 6500               | volts           |
| Grid-No.3 (Suppressed-Grid) Voltage         | 0                 | 30                 | volts           |
| Grid-No.2 (Screen-Grid) Voltage             | 140               | 140                | volts           |
| Grid-No.1 (Control-Grid) Voltage            | -24.5             | 0                  | volts           |
| Amplification Factor†                       | 4                 | —                  | —               |
| Plate Resistance (Approx.)                  | —                 | —                  | 6000 ohms       |
| Transconductance                            | —                 | —                  | 9500 $\mu$ mhos |
| Plate Current                               | —                 | 560††              | 80 mA           |
| Grid-No.2 Current                           | —                 | 31††               | 2.4 mA          |
| Grid-No.1 Voltage for plate current of 1 mA | —                 | -110               | -42 volts       |

### Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

#### MAXIMUM RATINGS (Design-Maximum Values)

|                                       |      |       |
|---------------------------------------|------|-------|
| DC Plate Supply Voltage               | 770  | volts |
| Peak Positive-Pulse Plate Voltage#    | 6500 | volts |
| Peak Negative-Pulse Plate Voltage     | 1500 | volts |
| DC Grid-No.3 Voltage*                 | 75   | volts |
| DC Grid-No.2 Voltage                  | 220  | volts |
| Peak Negative-Pulse Grid-No.1 Voltage | 330  | volts |
| Peak Cathode Current                  | 950  | mA    |
| Average Cathode Current               | 275  | mA    |
| Grid-No.2 Input                       | 3.5  | watts |
| Plate Dissipation**                   | 20   | watts |
| Bulb Temperature (At hottest point)   | 240  | °C    |

#### MAXIMUM CIRCUIT VALUES

|                                  |      |         |
|----------------------------------|------|---------|
| Grid-No.1-Circuit Resistance:    |      |         |
| For grid-resistor-bias operation | 0.47 | megohm  |
| For plate-pulsed operation       | 10   | megohms |

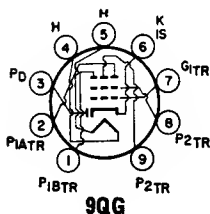
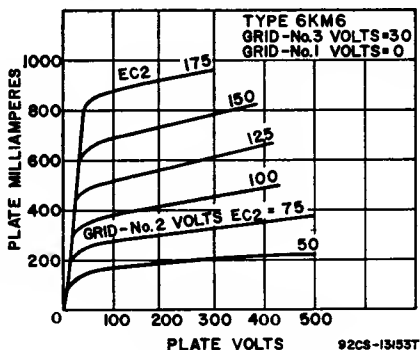
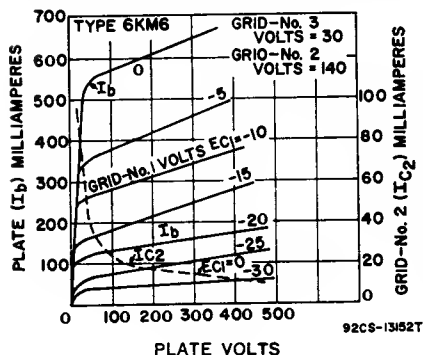
# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

† With grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.

†† This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

\* In this service, a positive value may be applied to grid No.3 to minimize "snivets" interference; a typical value for this voltage is 30 volts.

\*\* A bias resistor or other means is required to protect the tube in absence of excitation.



### DIODE—SHARP-CUTOFF THREE-PLATE TETRODE

## 6KM8

Miniature type used in frequency-divider and complex-wave generator circuits of electronic musical instruments. In such circuits the tetrode unit can provide three independent output-signal voltages; the diode unit can be used as a key in a vibrato circuit. Outlines section, 6E; requires miniature 9-contact socket.