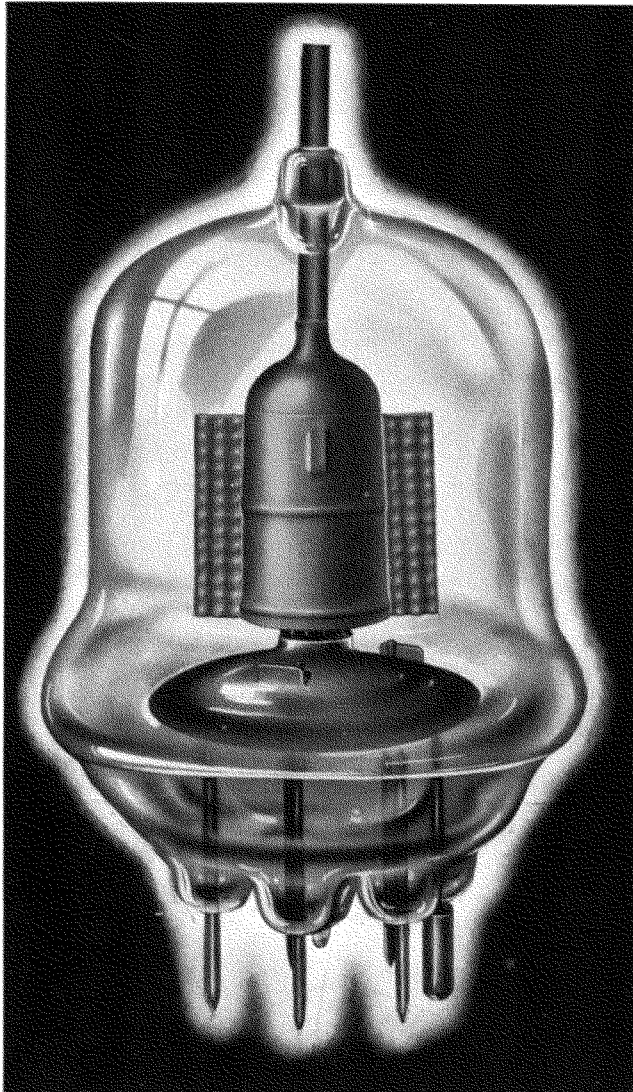


GAMMATRON TYPE 57



BEAM PENTODE

50 watt radiation cooled beam pentode. Exceptional very high frequency performance.

ELECTRICAL DATA

| | |
|--------------------------------|-----------|
| Plate Dissipation | 50 Watts |
| Maximum Screen Input | 25 Watts |
| Filament Voltage | 5.0 Volts |
| Filament Current | 5.0 Amps. |

INTERELECTRODE CAPACITIES

| | |
|-------------------------------|------------|
| Plate-Grid Capacity | .05 Mmfd. |
| Input Capacity | 7.29 Mmfd. |
| Output Capacity | 3.13 Mmfd. |

PHYSICAL DATA

| | |
|----------------------------|-------------------------------|
| Plate | Enclosed Cylindrical Tantalum |
| Grids | Vertical Bar Tantalum |
| Filament | Thoriated Tungsten |
| Socket | Johnson #101 or #247 |
| Envelope | Nonex Glass |
| Net Weight | 2 $\frac{1}{4}$ Ounces |
| Shipping Weight | 6 Ounces |
| Maximum Height | 4 $\frac{1}{16}$ Inches |
| Maximum Diameter | 2 $\frac{3}{8}$ Inches |

The type HK-57 is capable of very high frequency operation and does not require neutralization. It has very low driving power requirements, will stand high plate and screen voltages, and will stand large momentary overloads. These features are made possible through the use of tantalum plate and grid elements and an advanced design by Heintz and Kaufman Ltd. engineers. The HK-57 is the only multi-element tube in its class capable of this kind of performance.

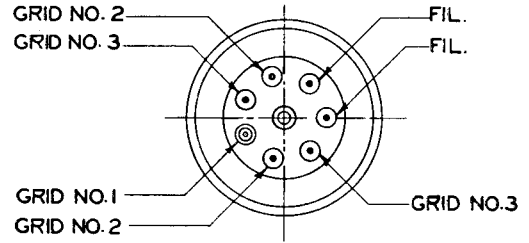
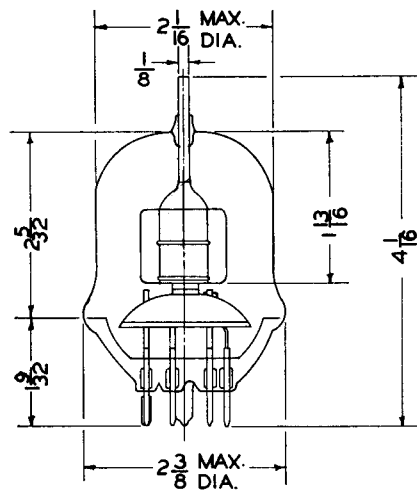
High mutual conductance in combination with high voltage capabilities makes the grid driving power requirements of the HK-57 very low. And under many conditions the power consumed is negligible. This feature reduces the number and size of the preliminary stages required in any transmitter resulting in savings and advantages that are obvious.

The plate and grid leads are short and sturdy, resulting in low lead inductance. The suppressor grid and screen grid are each supported with two parallel leads. All four leads are terminated on the base so that they may be individually bypassed to ground. The feed back capacity is extremely low and thus it is possible to operate the HK-57 even at very high frequencies without neutralization. This feature makes the HK-57 adaptable to instant band switching circuits and such circuits may be designed with a minimum of controls.

Installation into practical circuits is facilitated by the unique physical design of the HK-57. The input and output circuits are readily isolated and complete shielding is assured when the base shell is grounded.

TYPE HK-57

The information on this and the following page does not represent exact conditions of operation to be imposed for any particular situation. Because tubes are used under many widely different conditions Heintz and Kaufman will gladly furnish information for applications which differ appreciably from the illustrative examples given.



RADIO FREQUENCY POWER AMPLIFIER CLASS "C" UNMODULATED

| | Maximum Rating Per Tube | TYPICAL OPERATION, 1 TUBE* | | | | |
|-------------------------------------|----------------------------|----------------------------|------|------|-------|-------|
| | | 250 | 166 | 125 | Watts | |
| Power Output | | .18 | .15 | .14 | Watts | |
| Driving Power | | 3000 | 2000 | 1500 | Volts | |
| D.C. Plate Volts | 3000 | 100 | 110 | 105 | M. A. | |
| D.C. Plate Current | 150 | -0- | +30 | +30 | Volts | |
| D.C. Suppressor Voltage | | -0- | 1 | 4 | M. A. | |
| D.C. Suppressor Current | | 500 | 450 | 450 | Volts | |
| D.C. Screen Voltage | 500 | 2 | 2 | 4 | M. A. | |
| D.C. Screen Current | 20 | 400 | -175 | -145 | -145 | Volts |
| D.C. Control Grid Voltage | 400 | 1 | 1 | 1 | M. A. | |
| D.C. Control Grid Current | 15 | 195 | 160 | 160 | Volts | |
| Peak R.F. Control Voltage | | 50† | 50 | 32 | Watts | |
| Plate Dissipation | 50† | 300 | 216 | 157 | Watts | |
| D.C. Plate Input | 300 | | | | | |

*Other values to obtain similar results may be used provided the maximum ratings are not exceeded.
†Continuous rating. Intermittent rating 75 watts.

RADIO FREQUENCY POWER AMPLIFIER CLASS "C" PLATE MODULATED

(100% Modulation Peaks, 60% Average Value)

| | Maximum Rating Per Tube | TYPICAL CARRIER CONDITIONS, 1 TUBE | | | | |
|-------------------------------------|----------------------------|------------------------------------|------|------|-------|-------|
| | | 200 | 135 | 125 | Watts | |
| Power Output | | .18 | .2 | .2 | Watts | |
| Driving Power | | 2500 | 2000 | 1500 | Volts | |
| D.C. Plate Volts | 3000 | 96 | 88 | 105 | M. A. | |
| D.C. Plate Current | 135 | -0- | +30 | +30 | Volts | |
| D.C. Suppressor Volts | | -0- | 3 | 4 | M. A. | |
| D.C. Suppressor Current | | 500 | 450 | 450 | Volts | |
| D.C. Screen Volts | 500 | 2 | 2 | 4 | M. A. | |
| D.C. Screen Current | 20 | 400 | -175 | -145 | -145 | Volts |
| D.C. Control Grid Volts | 400 | 1 | 1.5 | 1.5 | M. A. | |
| D.C. Control Grid Current | 15 | 190 | 165 | 165 | Volts | |
| Peak R.F. Control Voltage | | 40 | 40 | 32 | Watts | |
| Plate Dissipation | 40 | 240 | 175 | 157 | Watts | |
| D.C. Plate Input | 250 | | | | | |

Gammatron Tubes

RADIO FREQUENCY POWER AMPLIFIER CLASS "C" SUPPRESSOR GRID MODULATED

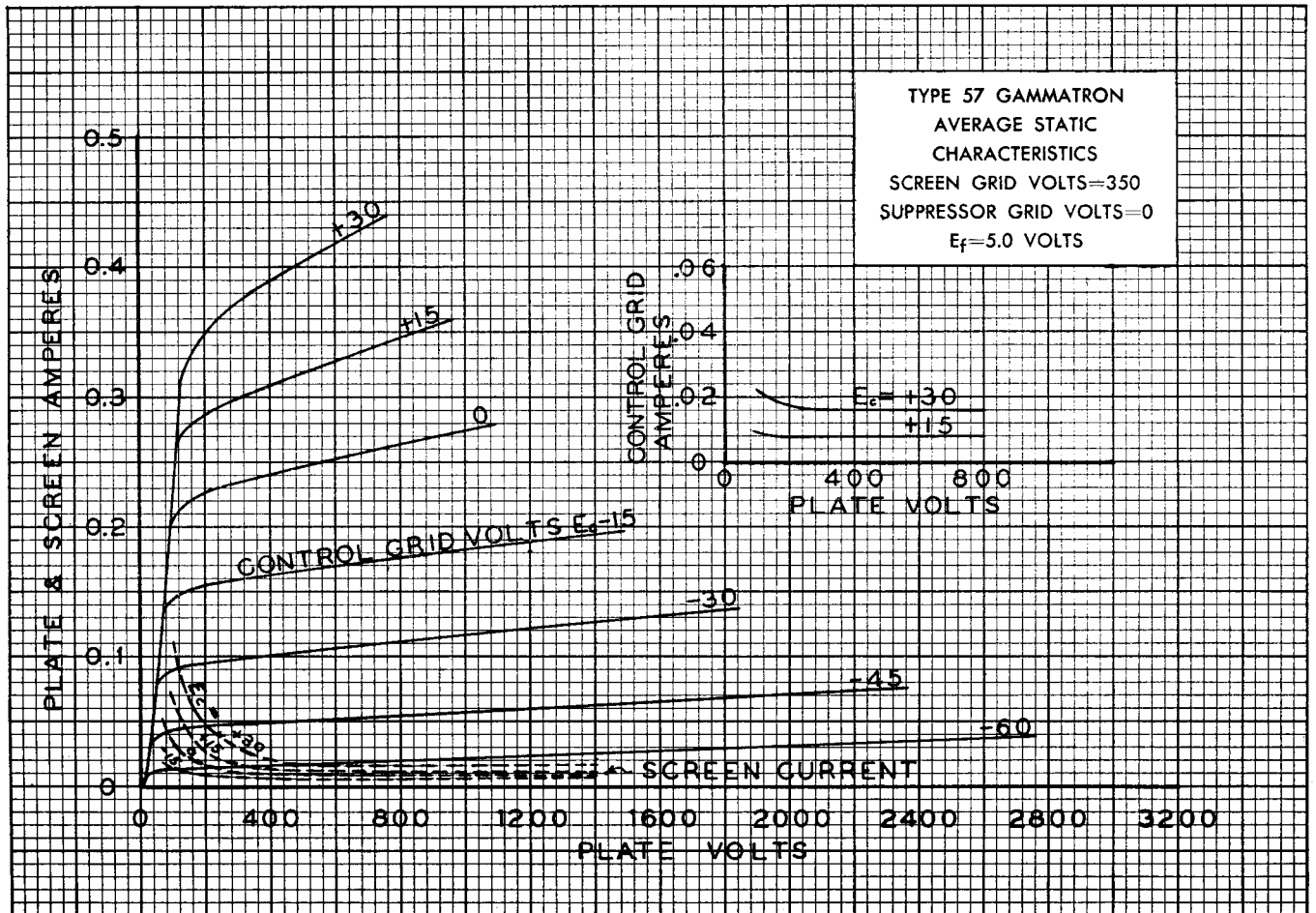
TYPICAL CARRIER CONDITIONS, 1 TUBE

| | | | | |
|--|---------|---------|---------|------------|
| Power Output | 90 | 50 | 23 | Watts |
| Driving Power | 0.6 | 0.3 | 0.2 | Watts |
| Audio Power | 100 | 140 | 121 | Milliwatts |
| D.C. Plate Voltage | 2000 | 1500 | 1000 | Volts |
| D.C. Plate Current | 80 | 58 | 40 | M. A. |
| D.C. Suppressor Voltage | -190 | -150 | -120 | Volts |
| D.C. Screen Voltage* | 450 | 400 | 350 | Volts |
| D.C. Screen Current | 14 | 11 | 12 | M. A. |
| Screen Series Resistor† | 110,000 | 100,000 | 56,000 | Ohms |
| D.C. Control Grid Voltage | -240 | -210 | -180 | Volts |
| D.C. Control Grid Current | 2.5 | 1.5 | 1.0 | M. A. |
| Peak R.F. Driving Voltage | 265 | 230 | 200 | Volts |
| Peak A.F. Modulating Voltage | 240 | 182 | 160 | Volts |
| Plate Dissipation | 50 | 25 | 17 | Watts |
| Suppressor Circuit Resistance‡ | 300,000 | 120,000 | 100,000 | Ohms |
| Modulation Percentage | 94 | 95 | 94 | % |

*Screen voltage obtained from plate source through specified dropping resistor.

†Screen series resistor value specified provides the regulation required.

‡Load shown to modulator.



Gammatron Tubes

