TYPE 6Q7

DUODIODE
HIGH-MU TRIODE

CHARACTERISTICS

Heater Voltage AC or DC	6.3 Volts
Heater Current	0.3 Ampere

Direct Interelectrode Capacitances (Triode Unit):

Grid to Plate	1.4 $\mu\mu$f
Input	4.8 $\mu\mu$f
Output	5.0 $\mu\mu$f
Maximum Over-all Length	3⅛"
Maximum Diameter	1 $\frac{1}{16}$"
Cap	Miniature
Base—Small Octal 7-Pin	7-V

Operating Conditions and Characteristics:

CLASS A AMPLIFIER (Triode Unit)

Heater Voltage	6.3	6.3 Volts
Plate Voltage	100	250 Volts
Grid Voltage*	−1.5	−3 Volts
Plate Current*	0.35	1.1 Ma.
Plate Resistance	88000	58000 Ohms
Mutual Conductance	800	1200 μmhos
Amplification Factor	70	70

*These are rating values only and not operating points with coupling resistor. See "Circuit Application."

CIRCUIT APPLICATION

The diodes in this tube are substantially the same as those used in the Types 75 and 6B7 and can therefore be used in similar circuit applications. The triode section has a somewhat lower amplification factor than does the triode unit of Type 75. This lower value was chosen to enable the use of a larger signal input both at the 250 volt and 100 volt operating conditions before the grid swing reaches the grid current region. This same feature also renders the value of grid bias less critical than with a tube of higher amplification factor.

The triode section operated with a plate supply voltage of 250 volts and a plate load resistor of 100,000 to 250,000 ohms should have a negative grid bias of approximately 2.5 volts. When the triode is operated on a plate supply of 100 volts with a plate load resistor of 50,000 to 100,000 ohms, the negative grid bias should be of the order of 1.4 volts. For special applications these values may be varied to suit the conditions.

In the typical receiver circuit shown on Page 165 a Type 6Q7 is employed as the second detector and first audio amplifier.