

grid-plate capacitance, precautions should be observed to keep external plate-cathode capacitances at a minimum. It should be observed that with this method of minimization, the cathode is not at a-c ground potential. Because of this fact, the most favorable connection of the tube electrodes will be obtained with suppressor and screen at a-c ground potential as shown in the circuit diagram below.

In some installations having automatic bias control which provides a fixed minimum bias adequate to limit plate current to 12.5 milliamperes, and also using a 30000-ohm series screen resistor, the cathode may be connected through an unby-passed resistor to ground. This resistor may conveniently form part of the fixed minimum bias. Such an arrangement serves to minimize changes of input capacitance and input conductance.

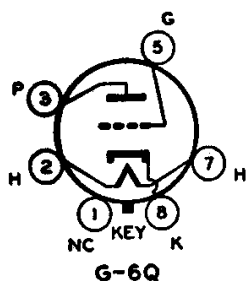
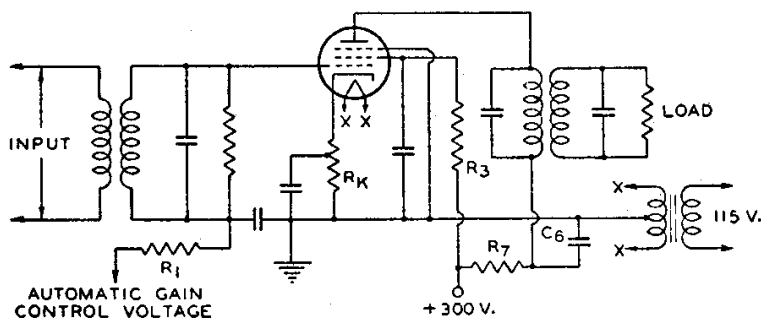
The d-c resistance in the grid circuit should not exceed 0.25 megohm with fixed bias. When full cathode bias and a series screen resistor are used, the d-c resistance may be as high as 0.5 megohm.

The screen voltage may be obtained from a potentiometer, a bleeder across the B-supply source, or through a series resistor. Use of the series screen resistor (Condition II) provides a somewhat more extended cut-off characteristic than is obtained with fixed screen voltage (Condition I).

The suppressor should be connected directly to ground in r-f and i-f circuits to minimize feedback.

As an amplifier, the 6AB7 is especially useful in the r-f and i-f stages of the picture amplifier of television circuits employing automatic gain control.

In circuits where changes of input capacitance and input conductance are not minimized by a partially unby-passed cathode-bias resistor, it will be advisable to operate the 6AB7 with circuits heavily loaded with resistance and capacitance. Although such circuits minimize the effect of the relatively small variations in tube capacitance and conductance, they also cause some sacrifice in gain.



HIGH-MU POWER AMPLIFIER TRIODE

6AC5-G

The 6AC5-G is a high-mu triode designed for use in either single-ended or push-pull audio-frequency power amplifiers. It is especially useful in direct-coupled circuits in which the

driver tube develops positive grid bias for a single 6AC5-G. In push-pull class B service, conventional zero-bias operation is employed.

CHARACTERISTICS

HEATER VOLTAGE (A.C. or D.C.)	6.3	Volts
HEATER CURRENT	0.4	Ampere
AVERAGE CHARACTERISTICS:		
Plate Voltage.....	250	Volts
Grid Voltage.....	+13	Volts
Plate Resistance.....	36700	Ohms
Amplification Factor.....	125	
Transconductance	3400	Micromhos
Plate Current.....	32	Milliamperes
Grid Current.....	5	Milliamperes

As Class B Power Amplifier

PLATE VOLTAGE	250 <i>max.</i> Volts
PEAK PLATE CURRENT (Per tube)	110 <i>max.</i> Milliamperes
AVERAGE PLATE DISSIPATION	10 <i>max.</i> Watts
TYPICAL OPERATION:	

Values are for two tubes

Plate Voltage	250	Volts
Grid Voltage	0	Volts
Peak A-F Grid-to-Grid Voltage	70	Volts
Zero-Signal D-C Plate Current	5	Milliamperes
Effective Load Resistance (Plate-to-plate)	10000	Ohms
Power Output (Approx.)*	8	Watts

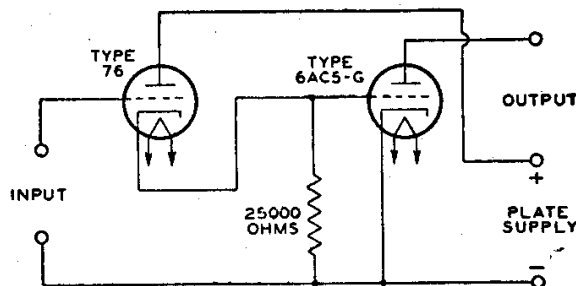
* With peak input of 950 milliwatts applied between grids.

INSTALLATION and APPLICATION

The base of the 6AC5-G fits the standard octal socket which may be installed to hold the tube in any position. Physical characteristics of the 6AC5-G are shown in Fig. 2-17, OUTLINES SECTION. For heater operation, refer to Type 6K6-G. Cathode connection is the same as that for Type 6A8.

In push-pull class B service, the 6AC5-G should be operated as shown under CHARACTERISTICS.

In direct-coupled power amplifier service, a single 6AC5-G is preceded by a Type 76 in the dynamic-coupled circuit shown below. Bias voltage for both tubes is developed by the elements of the circuit which are common to both tubes. The total d-c resistance in the grid circuit of the driver should not exceed one megohm. The main purpose of the 25000-ohm resistor is to prevent a current surge occurring while the tube is warming up. In this service, the maximum plate voltage is 250 volts, the maximum average plate dissipation is 10 watts, the average plate current is 32 milliamperes, and the average plate current of driver is 5.5 milliamperes. With an input signal to the driver of 16.5 volts (rms) and a load resistance of 7000 ohms, the power output is 3.7 watts with 10% distortion. When the driver tube is operated up to the grid-current point, a power output of 4.3 watts with approximately 16% distortion may be obtained.



TELEVISION AMPLIFIER PENTODE

6AC7/1852
METAL

The 6AC7 is a pentode of the single-ended metal type for use in television receivers. It is recommended for use in the r-f and i-f stages of the picture amplifier of such receivers as well as in the first stages of the video amplifier.

The 6AC7 can also be used as a mixer and is a good oscillator in low-voltage applications.

The 6AC7 has the same electrode assembly as the RCA-1851, but a special shielded-lead construction has been employed in the 6AC7, to permit bringing out the control-grid lead to a base pin rather than to a pin cap, without increase in the grid-plate capacitance. From a circuit standpoint, the proximity of grid pin to cathode pin simplifies wiring and decreases the size of the inductance loop connecting the input circuit to the tube. These are features important at high frequencies because they provide decreased feedback and improved circuit stability.

