

Sylvania

TYPE 71A POWER AMPLIFIER



CHARACTERISTICS

Filament Voltage AC or DC	5.0 Volts
Filament Current	0.25 Ampere

Direct Interelectrode Capacitances:

Grid to Plate	6.6 $\mu\mu\text{f}$
Input	3.2 $\mu\mu\text{f}$
Output	2.9 $\mu\mu\text{f}$
Maximum Over-all Length	4 $\frac{11}{16}$ "
Maximum Diameter	1 $\frac{13}{16}$ "
Bulb	ST-14
Base—Medium 4-Pin	4-D

Operating Conditions and Characteristics:

Filament Voltage	5.0	5.0	5.0 Volts
Plate Voltage	90	135	180 Volts
Grid Voltage	-16.5	-27	-40.5 Volts
Plate Current	10	17.3	20 Ma.
Plate Resistance	2170	1820	1750 Ohms
Mutual Conductance	1400	1650	1700 μmhos
Amplification Factor	3	3	3
Load Resistance	3000	3000	4800 Ohms
Power Output	0.125	0.4	0.79 Watt

CIRCUIT APPLICATION

Sylvania 71A is a power amplifier tube with low plate impedance suitable for use in the output stage of an audio frequency amplifier.

The filament may be operated from a storage battery or from the a-c line through a step-down transformer. In either case, the voltage applied to the filament terminals of the tube should be the rated value of 5.0 volts. If alternating current is used it is advisable to twist the filament lead wires.

When the filament is operated from a d-c source, the grid and plate returns should be made to the negative filament terminal. When a.c. is used on the filament, the plate and grid returns should be brought either to the mid-tap of a 20 to 40 ohm resistor across the filament winding, or to the mid-tap of the filament winding itself (with the C bias increased accordingly by 2.5 volts).

To prevent distortion and over-loading, negative grid bias, as shown in the table of operating voltages, should always be used. If the tubes are a-c operated, increase the negative bias two and one-half volts. Bias may be obtained by means of a "C" battery or by means of the voltage drop through a resistor in the plate return lead. The proper value of the resistor in the plate return lead is 2150 ohms when 180 volts are used; 1700 ohms when 135 volts are used, and 1600 ohms when 90 volts are applied to the plate.

To obtain greater power output without increasing the plate voltage, two 71A tubes may be operated in parallel or push-pull. Under either of these conditions the value of the self-biasing resistor should be reduced to one-half the resistance values shown above.