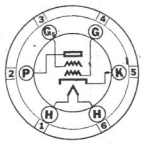

Sylvania

TYPE 48

POWER AMPLIFIER

CHARACTERISTICS

Heater Voltage DC	30.0 Volts
Heater Current	0.4 Ampere
Maximum Over-all Length	5⅜"
Maximum Diameter	2 1/16"
Bulb	ST-16
Base—Medium 6-Pin	6-A

Operating Conditions and Characteristics:

CLASS A AMPLIFIER (Single Tube)

	Tetrode		Triode†		
Filament Voltage	30.0	30.0	30.0	30.0	Volts
Plate Voltage	95	125*	92.5	125*	Volts
Grid Voltage	−20	−22.5*	−22.5	−45	Volts
Screen Voltage	95	100	....	....	Volts
Plate Current	52	52	50	26	Ma.
Screen Current	12	12	....	....	Ma.
Plate Resistance	4000‡	11000‡	600	1000	Ohms
Mutual Conductance	3900	3900	3850	2100	μmhos
Amplification Factor	15.6‡	43‡	2.3	2.1	
Load Resistance	1500	1500	2000	2000	Ohms
Power Output	2.0**	3.0**	0.400	1.0	Watt

†Screen grid connected to plate.

*Recommended conditions for operation with C-battery which permits use of full d-c power line voltage (110-125 v.) for plate supply.

‡Approximate values.

**9% total harmonic distortion.

CLASS A AMPLIFIER (Push-Pull)

	Tetrode		Triode		
Load Resistance (plate to plate)	2500	3000	1250	1250	Ohms
Power Output	4.0	6.0	1.0	2.5	Watts

NOTE: Voltage conditions similar to those given above.

CIRCUIT APPLICATION

Sylvania 48 is a power amplifier tetrode of the heater-cathode type designed especially for use in the output stage of d-c power line receivers. It is admirably suited for such service because of the ability to handle relatively large amounts of power at the low screen and plate voltages which are available.

If a single 48 is self-biased the available power output is 2.0 watts. The self-biasing resistor of 350 ohms should be shunted by a suitable filter to prevent degeneration at low audio frequencies. The total resistance introduced into the grid circuit by the input coupling arrangement and the filter should be kept below 10,000 ohms. For a push-pull circuit arrangement employing two Type 48's it may be possible to omit the filter network. The self-biasing resistor in this case is half the value given for single tube operation.

This tube is not adaptable to conventional AC-DC receivers because its heater current rating is 0.4 ampere. The customary rating for series operation of heaters is 0.3 ampere. For such service a Type 43 will be more suitable.