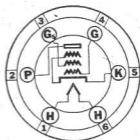


Sylvania

# TYPE 41

## INTERMEDIATE POWER PENTODE



### CHARACTERISTICS

Heater Voltage AC or DC . . . . .	6.3 Volts
Heater Current . . . . .	0.4 Ampere
Maximum Over-all Length . . . . .	4 1/4"
Maximum Diameter . . . . .	1 1/8"
Bulb . . . . .	ST-12
Base—Small 6-Pin . . . . .	6-B

### Operating Conditions and Characteristics:

Heater Voltage . . . . .	6.3	6.3	6.3	6.3 Volts
Plate Voltage . . . . .	125	167.5	180	250 Volts
Grid Voltage . . . . .	-10	-12.5	-13.5	-18.0 Volts
Screen Voltage . . . . .	125	167.5	180	250 Volts
Plate Current . . . . .	11	17	18.5	32 Ma.
Screen Current . . . . .	2	3	3	5.5 Ma.
Plate Resistance . . . . .	100,000	85000	81000	68000 Ohms
Mutual Conductance . . . . .	1525	1800	1850	2200 $\mu$ mhos
Amplification Factor . . . . .	150	150	150	150
Load Resistance . . . . .	11000	9500	9000	7600 Ohms
Power Output (10% total distortion) 0.65	1.25	1.5	3.4	Watts

### CIRCUIT APPLICATION

Sylvania 41 is an efficient power amplifier pentode of the indirectly heated cathode type. It has a 6.3 volt heater and is adaptable to AC, AC-DC, DC, and automobile service. This tube was designed primarily for use in the output stage of automobile radios. It is more universally used for this purpose than any other type of receiving tube because of its desirable characteristics.

The heater is designed to operate directly from a 6-volt storage battery. Ordinary battery voltage fluctuations during charge and discharge periods will not affect the performance. The tube will furnish a large power output with low distortion at relatively small input signal voltage. In these respects it is superior to Types 38 and 89 (pentode connection). The 250 volt plate rating makes it especially adaptable in radios designed to operate with this supply voltage.

Type 41 may be used either singly or in push-pull combination. If a single tube is employed in the output stage, using self-bias, the self-biasing resistor should be shunted by a suitable filter network. For the push-pull arrangement the value of this resistor is one-half that required for a single tube.

Transformer or impedance coupling devices are to be recommended. If it is desired to use resistance coupling, the grid resistor (with self-bias) should be limited to 1.0 megohm provided the heater voltage never exceeds about 7 volts. With fixed bias the maximum allowable resistance for the grid resistor is 0.1 megohm.

The recommended load resistance should be used if possible in order to keep the second harmonic at a minimum. If, however, two tubes are used in push-pull Class A, somewhat lower third harmonic in the output may be obtained by employing a lower load for both tubes than normal since the second harmonics will cancel with the push-pull arrangement.