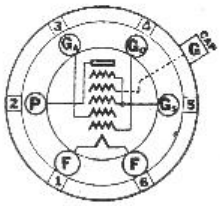
Sylvania

TYPE 1A6

PENTAGRID CONVERTER



CHARACTERISTICS

Filament Voltage	2.0 Volts
Filament Current	0.06 Ampere

Direct Interelectrode Capacitances:

Grid G to Plate (with tube shield)	0.25 μμf
Grid G to Grid Ga (with tube shield)	0.2 μμf
Grid G to Grid Go (with tube shield)	0.1 μμf
Grid Go to Grid Ga	0.8 μμf
Grid G to all other Electrodes (R-F Input)	10.5 μμf
Grid Ga to all other Electrodes (Osc. Output)	6.0 μμf
Grid Go to all other Electrodes (Osc. Input)	5.0 μμf
Plate to all other Electrodes (Mixer Output)	9.0 μμf
Maximum Over-all Length	$4\frac{11}{32}$"
Maximum Diameter	$1\frac{1}{16}$"
Bulb	ST-12
Cap	Small Metal
Base—Small 6-Pin	6-L

Operating Conditions and Characteristics:

Filament Voltage	2.0	2.0 Volts
Plate Voltage	135	180 Volts Max.
Control Grid Voltage (Grid G)	−3.0	−3.0 Volts
Screen Voltage (Grid Gs)	67.5	67.5 Volts
Anode Grid Voltage (Grid Ga)	135	180* Volts
Oscillator Grid Resistor (Grid Go)	50000	50000 Ohms
Plate Current	1.2	1.5 Ma.
Screen Grid Current	2.5	2.0 Ma.
Anode Grid Current	2.0	1.8 Ma.
Oscillator Grid Current	0.2	0.2 Ma.
Total Cathode Current	6.2	5.3 Ma.
Plate Resistance	0.4	0.5 Megohm
Conversion Conductance	275	300 μmhos
Conversion Conductance **	4	4 μmhos

*Applied through a 20000 ohm dropping resistor.
**With control grid voltage at −22.5 volts.

CIRCUIT APPLICATION

Sylvania 1A6 is a 2.0 volt filament type, 5-grid electron-coupled oscillator and mixer tube. This tube was especially designed for use in battery operated receivers where low filament current is of prime importance. In this service the tube replaces the two separate tubes used in previous circuits and gives improved performance at broadcast and lower frequencies. At high frequencies, due to circuit limitations imposed by wide frequency ranges, the limited emission of the 60 milliampere filament and resultant low mutual conductance of the oscillator section may give rise to poor performance on some ranges. For use in receivers with extended frequency ranges, the 1C6 tube has been developed. The 1C6 is similar to Type 1A6, but due to the 120 milliampere filament, increased emission, and greater oscillator-section mutual conductance is secured. The improved performance, coupled with satisfactory operation at high frequencies, is a compensating feature to offset the higher filament current and justifies its design.

The circuit application data with respect to frequency conversion service is the same for Types 1A6 and 1C6. (Refer to Circuit Application Type 1C6.) For diode-tetrode service Type 1A6 should be employed.

TYPE 1A6 AS A DIODE-TETRODE
(Detector, AVC, and Audio Service)

For this service it is recommended that grid #1 be connected to plus filament and that grid #2 be used as a diode, grid #4 is used as the audio control grid, and the plate may be resistance-capacity coupled to the following tube in the usual manner. The recommended operating conditions are:

B Supply Voltage	135 Volts
Screen Voltage	22.5 Volts
Control Grid Voltage	−1.5 Volts
Plate Load Resistor	500,000 Ohms
Plate Current	0.12 Ma.
Screen Current	1.60 Ma.