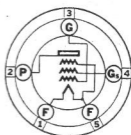


Sylvania

TYPE 1F4

POWER OUTPUT

PENTODE



CHARACTERISTICS

Filament Voltage DC	2.0 Volts
Filament Current	0.120 Ampere

Direct Interelectrode Capacitances:

Grid to Plate	0.8 μmf
Input	10 μmf
Output	8 μmf
Maximum Over-all Length	4 $\frac{11}{16}$ "
Maximum Diameter	1 $\frac{11}{16}$ "
Bulb	ST-14
Base—Medium 5-Pin	5-K

Operating Conditions and Characteristics:

Filament Voltage	2.0 Volts
Plate Voltage	135 Volts
Grid Voltage*	-4.5 Volts
Screen Voltage	135 Volts
Plate Current	8 Ma.
Screen Current	2.6 Ma.
Plate Resistance	200,000 Ohms
Mutual Conductance	1700 μmhos
Amplification Factor	340
Load Resistance	16000 Ohms
Power Output†	0.340 Watt
Total Harmonic Distortion	5 Per Cent

*Grid return to negative filament.

†With 3.5 r-m-s volts signal.

CIRCUIT APPLICATION

Sylvania Type 1F4 is a new output tube designed for use in battery operated receivers. This tube has a high power sensitivity and will deliver considerable power output. These characteristics, along with the low filament and plate current consumption, provide means for an economical output system.

Resistance coupling may be employed and the rated output obtained under Class A operation. Although the optimum load is shown as 16,000 ohms it is possible to employ lower values, down to 12,500 ohms, without seriously affecting the performance. There will be a slight decrease in power output and an increase of one to two per cent in total distortion.

The tube can also be coupled to a suitable driver, thus permitting additional power output with some increase in distortion, by driving the grid of the 1F4 into the region of positive grid potential. For example, with a Type 1B5 as the second detector and first audio amplifier, about 525 milliwatts with 12% total distortion is delivered by the 1F4 when the input signal to the driver is 0.5 volt.

Push-pull operation may also be employed if desired. If operated under Class A conditions two Type 1F4 tubes will deliver about 800 milliwatts with 5% total distortion. Under Class AB operation, using a Type 30 as the driver tube, the system will provide 1.4 watts with about 12% total distortion. At this output level the total grid current of the two Type 1F4 tubes is approximately 210 microamperes.