



Sylvania
TYPE 1A4
SUPER-CONTROL
RF AMPLIFIER

CHARACTERISTICS

Filament Voltage DC	2.0 Volts
Filament Current	0.060 Ampere

Direct Interelectrode Capacitances:

Grid to Plate (with tube shield)	0.010 $\mu\mu\text{f}$ Max.
Input	4.6 $\mu\mu\text{f}$
Output	11.0 $\mu\mu\text{f}$
Maximum Over-all Length	4 $\frac{1}{4}$ "
Maximum Diameter	1 $\frac{1}{8}$ "
Bulb	ST-12
Cap	Small Metal
Base—Small 4-Pin	4-K

Operating Conditions and Characteristics:

Filament Voltage	2.0	2.0 Volts
Plate Voltage	135	180 Volts
Screen Voltage	67.5	67.5 Volts
Grid Voltage	-3	-3 Volts
Plate Current	2.2	2.3 Ma.
Screen Current	0.7	0.7 Ma.
Plate Resistance	400,000	750,000 Ohms
Amplification Factor	250	525
Mutual Conductance	625	700 μmhos
Mutual Conductance*	15	15 μmhos

*At -15 volts bias.

CIRCUIT APPLICATION

Sylvania Type 1A4 is an improved r-f amplifier which is very similar to the Type 34 but has a less remote cut-off characteristic. An important change has been effected in reducing the physical size of the 1A4. The ST-12 bulb is employed for this type instead of the ST-14 size.

Stable operation of Type 1A4 in radio frequency circuits designed to give maximum gain per stage requires separation of the input and output circuit elements. Complete stage shielding is required and adequate filtering must be provided if oscillations and instability are to be prevented.

The screen voltage may be obtained from a tap on the B-supply battery or from a bleeder circuit across the supply source. The use of a series resistor to obtain the required screen grid voltage is not recommended unless self-biased operation is employed with this tube.

In the typical 2-volt 2-band battery operated receiver circuit shown on Page 167 Type 1A4 tubes are employed as the r-f and i-f amplifiers.