

Radiotron Type 12AT7 Twin Triode

(Reprinted by courtesy of Radio Corporation of America)

Radiotron type 12AT7 is a miniature type twin triode designed for use as a grounded-grid radio-frequency amplifier or as a frequency converter at frequencies below approximately 300 megacycles. It is also suitable for audio-frequency applications. A centre-tapped heater permits operation of the valve from either a 6.3 volt or a 12.6 volt heater supply.

General

Cathodes Coated Unipotential
Series Parallel

Heater Voltage (a.c. or d.c.) 12.6 6.3 volts

Heater Current 0.150 0.300 ampere

Envelope T-6½ Glass

Base Small-Button Noval 9-Pin

Mounting Position Any

Direct Interelectrode Capacitances (approximate)*

(Grounded Cathode Operation)

Grid to Plate (Each Section) 1.45 μF

Input (Each Section) 2.5 μF

Output (Section Number 1) 0.45 μF

Output (Section Number 2) 0.35 μF

Grid to Grid (Max.) 0.005 μF

Plate to Plate (Max.) 0.4 μF

Heater to Cathode (Each Section) . 2.5 μF

(Grounded Grid Operation)

Plate to Cathode (Each Section) 0.15 μF

Input (Each Section) 5.0 μF

Output (Section Number 1) 1.6 μF

Output (Section Number 2) 1.5 μF

Socket connections.

Pin 1—Plate (Section Number 2).

Pin 2—Grid (Section Number 2).

Pin 3—Cathode (Section Number 2)

Pin 4—Heater

Pin 5—Heater

Pin 6—Plate (Section Number 1).

Pin 7—Grid (Section Number 1).

Pin 8—Cathode (Section Number 1).

Pin 9—Heater Centre-Tap.

Maximum ratings.

	Design Centre	Absolute
Plate Voltage	300	330 volts
Plate Dissipation (Each Section)	2.5	2.8 watts
D.C. Heater-Cathode Voltage	90	100 volts

Characteristics and typical operation.

Class A Amplifier (Each Triode Section)

Plate Voltage 100 180 250 volts

Grid Bias Voltage . -1 -1 -2 volts

Amplification Factor. 54 62 55

Transconductance .. 4000 6600 5500 micromhos

Plate Current 3.7 11 10 milliamperes

Grid Bias Voltage** . -6 -8 -12 volts

* Approximate values without external shield.

** Approximate values for 10 microamperes plate current.