

FERRANTI

TRIODE HEPTODE FREQUENCY CHANGER

An indirectly heated triode heptode of all glass construction designed for use as a frequency changer in radio receivers. The triode section serves as the oscillator, being internally coupled to the heptode, which serves as the tuner, this type of construction providing the minimum frequency drift.

PHYSICAL DETAILS.

Base	...	...	B8G—Loctal.
Max. Overall Length	...	...	71 mm. ($2\frac{7}{8}$ in.).
Max. Seated Height	...	...	58 mm. ($2\frac{1}{4}$ in.).
Max. Diameter	...	...	30 mm. ($1\frac{1}{8}$ in.).
Mounting Position	...	...	Any.

BASE CONNECTIONS.

Pin 1—Heater.	Pin 5—Heptode Grids g_2 and g_4 .
Pin 2—Heptode Anode.	Pin 6—Heptode Grid g_1 .
Pin 3—Triode Anode.	Pin 7—Cathode, Internal Shield.
Pin 4—Triode Grid, and Heptode Grid g_3 .	Heptode Grid g_5 .
	Pin 8—Heater.

HEATER.

*Heater Voltage	...	...	6.3 volts.
†Heater Current	...	...	0.3 amp.

RATINGS.

Max. Heptode Anode Voltage	300 volts.
‡Max. Heptode Screen Voltage	100 volts.
Max. Heptode Anode Dissipation	0.6 watt.
‡Max. Heptode Screen Dissipation	0.4 watt.
Max. Triode Anode Voltage	175 volts.
Max. Triode Anode Dissipation	1.0 watt.
Max. Total Cathode Current	14 mA.
Max. V_{h-k}	100 volts.

CHARACTERISTICS.

TRIODE SECTION.

Anode Voltage	...	...	100 volts.
Grid Voltage	...	...	0 volt.
Anode Current	...	...	6.5 mA.
Anode Impedance	...	...	11 k Ω .
Mutual Conductance	...	...	1.65 mA/V.
Amplification Factor	...	...	18

TYPICAL OPERATION.

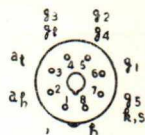
Heptode Anode Voltage	...	100	250	volts.
‡Heptode Screen Voltage	...	100	100	volts.
Heptode Control Grid Voltage (g_1)	...	-2	-2	volts.
Triode Anode Voltage	...	100	250	volts.
Triode Anode Resistor	...	—	20	k Ω .
Auto Bias Resistor	...	240	195	ohms.
Triode Grid and Heptode Grid (g_3) Resistor	...	0.05	0.05	M Ω .
Heptode Anode Current	...	1.9	1.8	mA.
‡Heptode Screen Current	...	3.0	3.0	mA.
Triode Anode Current	...	3.0	5.0	mA.
Triode Grid and Heptode Grid (g_3) Current	...	0.3	0.4	mA.
Heptode Anode Impedance	...	0.5	1.25	M Ω .
Conversion Conductance	...	500	525	μ A/V.
Total Cathode Current	...	8.2	10.2	mA.

*The Nominal Heater Voltage is 7.0 volts.

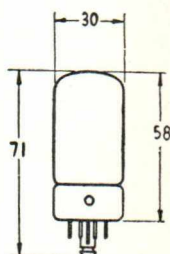
†The Nominal Heater Current is 0.32 amp.

‡Heptode Grids g_2 and g_4 .

7S7



Base
Connections
Underside View
of Base



All dimensions
shown are in
millimetres
(max.).





CAPACITANCES.**

C_{in} (Triode) ...	...	7.3 pF.
C_{out} (Triode) ...	...	3.5 pF.
C_{in} (Heptode) ...	...	5.0 pF.
C_{out} (Heptode) ...	...	8.0 pF.
C_{a-g} (Triode) ...	...	1.0 pF.
C_{a-g} (Heptode) ...	...	0.03 pF. (max.).
C_{at-gh} ...	...	0.10 pF. (max.).
$C_{g1h-g_{tgh}}$...	...	0.35 pF. (max.).

**With close fitting external shield connected to Cathode.

