

Osram Valves

Made in England.

TYPE X41

TRIODE-HEXODE FREQUENCY CHANGER.

With Indirectly Heated Cathode.

(For Operation from A.C. Mains).

The OSRAM X41 is a multi-electrode valve designed to perform as a mixer, first detector or frequency changer valve in a superheterodyne receiver. It is fitted with an Indirectly Heated Cathode common to two sets of electrodes:

- (1) The Hexode.
- (2) The Triode.

The triode grid is connected to a mixer grid internally so that oscillations generated by the triode modulate the hexode cathode stream. The control grid of the hexode portion may be connected to an A.V.C. line, as it has "variable mu" characteristics.

The triode hexode offers the following points of advantage:

- (1) Almost complete absence of interaction between triode and hexode sections.
- (2) High mutual conductance in the triode section.
- (3) High conversion gain due to its high impedance.

Type X41 is applicable to short wave reception in a suitable circuit as shown.



Maximum dimensions :
Overall length (including
pins) 135 m/m.
Diameter of bulb 45 m/m.

CHARACTERISTICS.

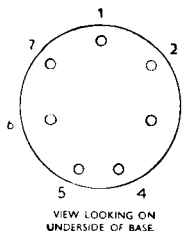
Heater Volts	4.0	
Heater Current	1.2 amp. approx.	
		Recommended Operating Condition.
	Max.	
Anode Volts	250	250
Screen Volts	80	70
Oscillator Anode Volts	150	100
Oscillator Grid Peak Swing	12 peak.	10—12 peak.
Control Grid Voltage	..	—1.5v.
Conversion Conductance average	..	640 micromhos.
Conversion Impedance	..	0.75 megohms.
Total Cathode Current average	..	7.6 ma.

Interelectrode Capacities :—

Control Grid—Anode	0.046 micromicrofarad approx.
Anode—Earth	21.5 " " "
Control Grid—Earth	7.0 " " "
Oscillator Grid—Oscillator Anode	3.56 " " "
Oscillator Anode—Earth	8.5 " " "
Oscillator Grid—Earth	17.0 " " "
Oscillator Grid—Control Grid	0.26 " " "

(Taken on metallised valve)

For prices see
pages 126-129.



BASE 7-PIN.

- 1: Oscillator Anode (A_0)
 - 2: Oscillator and Mixer Grids (G_0, G_1)
 - 3: Screen (G_2, G_3)
 - 4: Heater
 - 5: Heater
 - 6: Cathode
 - 7: Anode (A)
- Top Cap: Control Grid (G_4)

Type X41 is supplied in metallised or plain carbonised bulb, according to requirements.

TYPICAL OPERATING CONDITIONS.

40,000Ω

OSRAM X41

7c

7

3

6

4

5

50,000Ω

0.00001F

0.01mfd

0.1mfd

0.05mfd

0.5MΩ

H.T. +250V

H.T.

A.V.C. Line

Total effective resistance not exceeding 2MΩ

[illegible]

TYPE X41
 Taken at
 ANODE VOLTS - - - - 250
 SCREEN VOLTS - - - - 70
 OSCILLATOR ANODE VOLTS - - - - 100
 OSCILLATOR GRID - - - - 12 VOLTS PEAK

Y-axis (Left): CONVERSION CONDUCTANCE IN MICROMHOS (0 to 900)
 Y-axis (Right): ANODE & CATHODE CURRENTS IN MILLIAMPERES (0 to 9.0)
 X-axis: CONTROL GRID VOLTS (-30 to 0)

Curves shown:
 - CONVERSION CONDUCTANCE (solid line, starts at ~240 μmhos, rises to ~800 μmhos at 0V)
 - TOTAL CATHODE CURRENT (solid line, starts at ~240 mA, rises to ~8.5 mA at 0V)
 - OSCILLATOR ANODE CURRENT (solid line, starts at ~240 mA, rises to ~2.2 mA at 0V)
 - ANODE CURRENT (solid line, starts at ~0 mA, rises to ~1.0 mA at 0V)

CHARACTERISTIC CURVES OF AVERAGE VALVE