Osram Valves

Made in England.

Maximum Dimensions : Overall length (including pins) 152 m/m.
Diameter of bulb 57 m/m.

TYPE N31

UNIVERSAL RANGE OUTPUT PENTODE

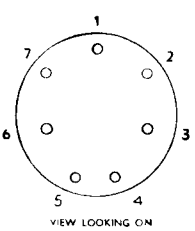
With Indirectly Heated Cathode.

The OSRAM N31 is a Power Amplifier Pentode for use in the output stage of radio receivers or low frequency amplifiers in which the heater is wired in series with the 0.3 amp. heaters of the remaining valves. It is thus suitable for use in D.C. or D.C.-A.C. Universal Receivers. The valve exhibits a high mutual conductance and as the result of its high sensitivity it can be fed directly from a diode detector. This enables the diode to operate with a much larger input voltage, giving a closer approach to distortionless amplification.

CHARACTERISTICS.

Heater Current		0.3 amp.	
Heater Volts		26.0	
		Max.	Recommended Operating Conditions.
Anode Volts		200	200
Screen Volts		180	180
Grid Volts		..	−4.4
Anode Current		..	40 ma.
Screen Current		..	10.6 ma.
Anode Dissipation		..	8 watts
Mutual Conductance		..	10.0 ma/volt.
Optimum Load Resistance		..	5,500 ohms.
Automatic Bias Resistance		..	87 ohms.
Interelectrode Capacities—			
Grid—Anode	0.7 micro-microfarad approx.		
Anode—other electrodes	11.0 ,, ,, ,,		
Grid—other electrodes	19.0 ,, ,, ,,		

For prices see pages 126-129.



BASE, 7-PIN.

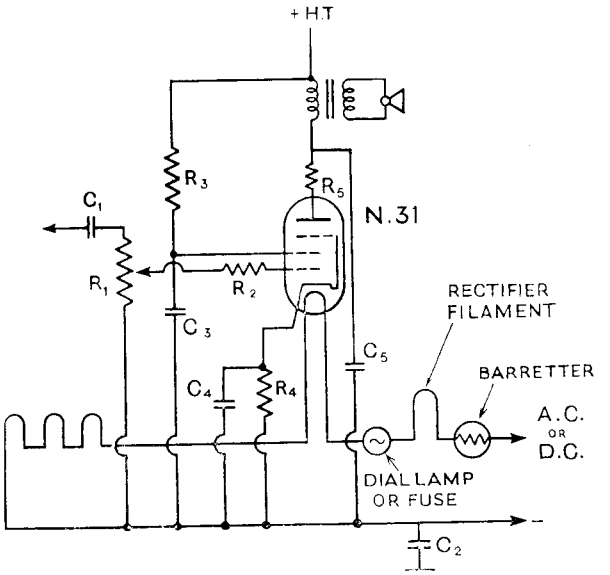
1: Heater Centre Tap.
2: —
3: Screen Grid
4: Heater
5: Heater
6: Cathode
7: Anode
Top Cap: Control Grid

Type N31 has a carbonised bulb.

TYPICAL OPERATING CONDITIONS.

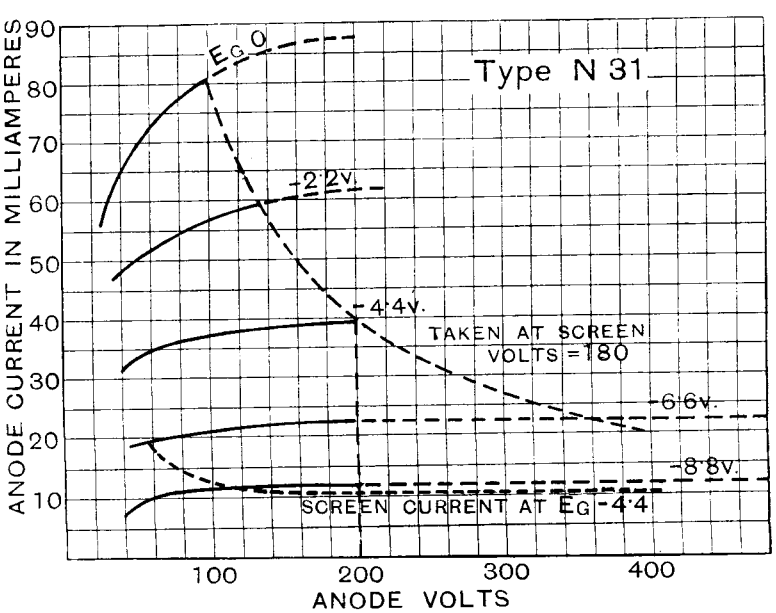
Owing to the high sensitivity of the N31 valve the wiring and arrangement of the circuit should be such as to keep the capacity between input and output circuits as low as possible. A grid stopper resistance of 100,000 ohms or anode stopper of 100 ohms should be included. It is recommended that the total resistance in the grid circuit should in no case exceed 500,000 ohms. Precautions should be taken to prevent H.F. or I.F. volts arriving at the grid of the valve. In a series heater circuit the N31 should be connected at the high potential end of the circuit, as shown opposite.

TYPE N31



R_1	400,000 ohms variable	C_1	0.1 μF
R_2	100,000 ohms	C_2	0.1 μF.
R_3	4,000 ohms	C_3	2.0 μF.
R_4	90 ohms	C_4	50 μF. electrolytic
R_5	100 ohms	C_5	0.01 μF.

TYPICAL CIRCUIT DIAGRAM FOR N31 VALVE IN OUTPUT STAGE OF D.C.-A.C. RECEIVER.



CHARACTERISTIC CURVES OF AVERAGE VALVE.