MINISTRY OF SUPPLY (D.C.D.)

VALVE ELECTRONIC **CV110**

Specification MAP/CV110/Issue 3
Dated 22.11.49.
To be read in conjunction with K1001, ignoring clauses:- 5.2, 5.8.

SECURITY	
Specification	Valve
[redacted] Unclass.	UNCLASSIFIED

← Indicates a change

TYPE OF VALVE - Gas filled voltage stabiliser

CATHODE - Cold

ENVELOPE - Glass-unmetallised

RATING

			Note
Voltage Anode (1) - Cathode	(V)	70	A
Voltage Anode (2) - Cathode	(V)	140	A
Voltage Anode (3) - Cathode	(V)	210	A
Voltage Anode (4) - Cathode	(V)	280	A
Striking Voltage	(V)	280	
Maximum Cathode Current	(mA)	60	

NOTE

A. Cathode Current = 30 mA.

MARKING

CV.110

BASE

B5

PACKING

See K1005

CONNECTIONS

Pin	Electrode
1	Anode 4
2	Cathode
3	Anode 2
4	Anode 3
5	Anode 1

DIMENSIONS

See K1001/A1/D1.

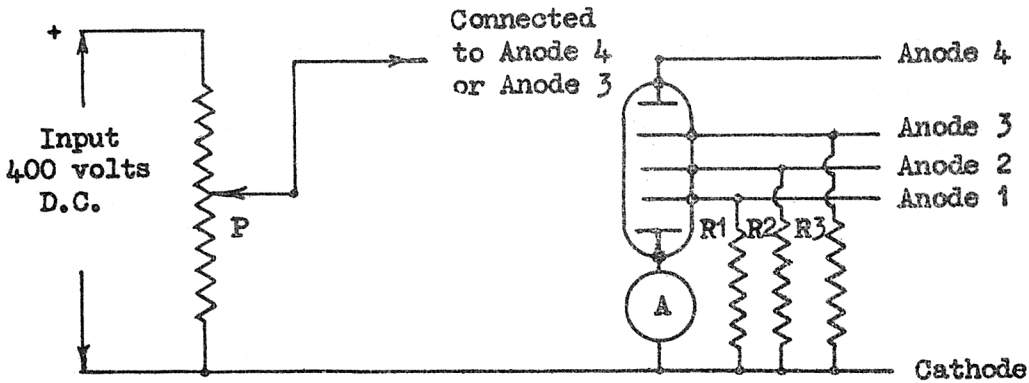
Dimension		Min.	Max.
A	(mm)	136	145
B	(mm)	-	56.5
D	(mm)	-	46.5
J	(mm)	80 nominal	

To be performed in addition to those applicable in K1001.

	Test Conditions	Test	Limits Min.	Limits Max.	% Tested
	For tests 'a', 'b', 'c' given below the valve to be tested in a circuit similar to Circuit No.1 shown on page 3. For test 'a' the supply voltage is to be applied between Anode 3 and Cathode and for the tests 'b' and 'c' between Anode 4 and Cathode. For tests 'd' and 'e' given below the valve is to be tested in a circuit similar to Circuit No.2 shown on page 3.				
a	Increase applied voltage from zero until current flows.	Striking voltage Anode 3 to Cathode (V)	-	280	100%
Before the tests given below are made the valves are to be run for a period of 15 mins. with the cathode current adjusted to 30 milliamps.					
b	Cathode current adjusted to 30 mA.	Output voltages			100%
		1. Anode 4 to Cathode	250	318	
		2. Anode 3 to Cathode	183	236	
		3. Anode 2 to Cathode	121	162	
		4. Anode 1 to Cathode	57	80	
c	Cathode current changed from 10 mA. to 60 mA.	Output voltage change. Anode 4 to Cathode (V)	-	25	100%
d	Voltage applied to valve and stabilising resistance adjusted to 239 volts.	Cathode current (mA)	4	-	100%
e	Voltage applied to valve and stabilising resistance adjusted to 338 volts.	Cathode current (mA)	-	62	100%

NOISE TEST. A calibrated amplifier-detector having a substantially uniform response over the range 50-500 c.p.s. is to be connected between anode 3 and cathode. The voltage applied to the valve and stabilising resistance is to be varied slowly between 239 and 338 volts. At no point in this range is the noise input voltage to the amplifier to exceed a value of 100 millivolts R.M.S. If it is more convenient the noise test may be made in an approved circuit other than that shown in Circuit No.2, provided that cathode current is varied between the value actually obtained in clauses 'd' and 'e' above.

NOTE. Any valve which fails any of the above tests is to be run for a period of 15 mins. with a cathode current of 40 milliamps and re-tested.

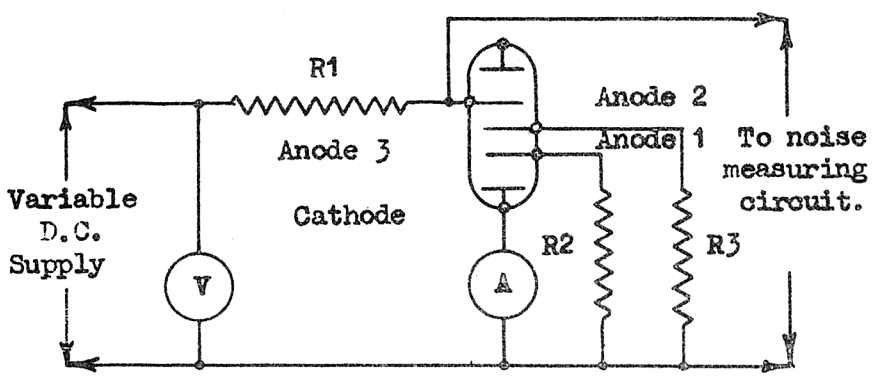


P Potentiometer
A Low Resistance Milliammeter

R1 = R2 = R3 = 250,000 ohms.

FOR OUTPUT VOLTAGE READINGS A HIGH RESISTANCE VOLTMETER IS TO BE CONNECTED BETWEEN THE POINT MARKED CATHODE AND THE APPROPRIATE ANODE.

CIRCUIT NO. 1.



V = Voltmeter
A = Low Resistance Milliammeter
R1 = 2,300 ohms.
R2 = R3 = 250,000 ohms.

CIRCUIT NO. 2.