MINISTRY OF SUPPLY (DCD)

VALVE ELECTRONIC **CV237**

Specification MAP/CV237/Issue 2 Dated 3.9.47. To be read in conjunction with K1001 ignoring clauses:- 5.3, 5.2, 1.2, 7.2.	SECURITY Specification: [redacted] Unclass Valve: [redacted] Unclass

→ Indicates a change

TYPE OF VALVE - Velocity Modulated Oscillator

CATHODE - Indirectly heated

ENVELOPE - Copper-glass with resonator

PROTOTYPE - KR6/2

MARKING

See K1001/4

RATING			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.5	
Tuning Range	(Mc/s)	3390-3170	
Max. Resonator Dissipation	(W)	8.0	
Mean Resonator Voltage	(V)	250	
Reflector Voltage Range	(V)	80-150	C
Grid Voltage	(V)	0	
Min. A.F.C. Range	(Mc/s)	20	A
Reflector Voltage change for 20 Mc/s frequency change	(V)	25	B
Max. permissible series resistance in target circuit	(Ω)	20000	
Max. Resonator temperature during operation	(°C)	140	

BASE

I.O.

Pin	Electrode
1	Grid
2	Heater
3	No connection
4	Resonator
5	No connection
6	No connection
7	Heater
8	Cathode
T.C.	Reflector

TOP CAP

See K1001/A1/5.2

DIMENSIONS

See drawing on page 3.

NOTES

A. The resonator shall be plated first with copper, then with silver, then with gold.
All other external metal parts, excluding pins and top cap, to be either plated or treated with any other approved corrosion resisting finish.

B. By variation of reflector voltage from half power to half power at any mean frequency in the range.

C. Superimposed on optimum setting, but not necessarily disposed symmetrically about this setting.

D. This range applies to the 50% loaded condition. With the valve unloaded the reflector voltage is about 10V. higher, and with the valve fully loaded about 5V. lower.

E. The valve has been designed for and should be used with zero grid voltage.

F. the tuner should not be screwed out more than 5 turns from the fully screwed in position, otherwise the retaining clips may become detached and these are difficult to replace.

G. Mounting position-any.

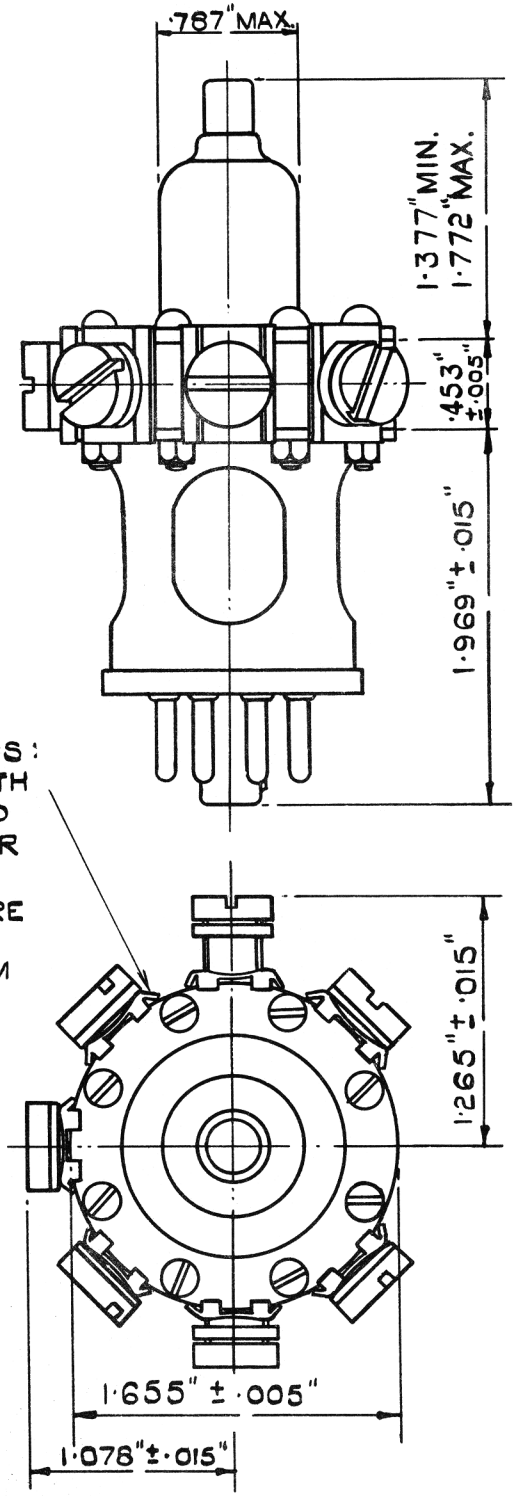
To be performed in addition to those applicable in K.1001.

	Test Conditions				Test	Limits		No. Tested
	Vh	Vg	Va	Vr		Min.	Max.	
a	4.0	0	0	0	Ih (A)	1.0	1.6	100%
b	4.0	0	Adjusted	Adjusted	1. Range over which oscillation can be obtained (Mc/s)	3220 to 3390		100%
	Va adjusted for Wa not greater than 8W. Vr adjusted for max. power output. The frequency of oscillation varied by means of preset tuners and the valve to be loaded resistively for max. output.				2. Vr over range (V)	75.0	145	100%
					3. Va over range (V)	235	265	100%
					4. Power Output at 3220 Mc/s(mW)	100	-	100%
					5. Power Output at 3390 Mc/s(mW)	100	-	100%
c	4.0	0	Adjusted	Initially as in test 'b'	1. Total frequency change (Mc/s)	20	40	100%
	With the valve tuned to 3390 Mc/s reduce the resistive loading, e.g. by rotating the coupling loop, so that 50% of the power given with full loading is obtained. Vary the reflector voltage from a value less than to a value more than the optimum to reduce the power at the extreme to not less than one half of that for optimum Vr.				2. Total reflector voltage change (V)	25	50	100%
d	4.0	0	Adjusted	Initially as in test 'b'	1. Total frequency change (Mc/s)	20	40	5% (10)
	Test 'c' to be repeated at 3220 Mc/s.				2. Total reflector voltage change (V)	25	50	5% (10)

NOTE

1. Va = Resonator Voltage
   Vr = Reflector Voltage

CV 237.


·787" MAX.
1·377" MIN.
1·772" MAX.
·453" ±·005"
1·969" ± ·015"
ALTERNATIVE TO SPRING WASHERS: SPRING WIRE (WITH ENDS ANCHORED UNDER RESONATOR CLAMPING BOLTS) MAY BE USED. WIRE TO BE RUN ALTERNATELY FROM TOP TO BOTTOM UNDER PLUG WASHERS.
1·265" ± ·015"
1·655" ± ·005"
1·078" ± ·015"