MINISTRY OF SUPPLY (D.C.D.)

VALVE ELECTRONIC

CV158

Specification MAP/CV158/Issue 3 Dated 31.12.48. To be read in conjunction with K1001 ignoring clauses:- 5.2.1.2., 5.8, 7.2.	SECURITY Specification: [redacted] Unclassified Valve: UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Velocity modulated oscillator

CATHODE - Indirectly heated

ENVELOPE - Glass - unmetallised

MARKING

See K1001/4

PACKING

See K1005

RATING

			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.60	
Min. Oscillation Frequency	(Mc/s)	3137	
Max. Oscillation Frequency	(Mc/s)	3253	
Max. Resonator Dissipation	(W)	10.0	
AVERAGE WORKING CONDITIONS			
Resonator Voltage	(kV)	1.2	E
Reflector Voltage	(V)	-320	E
Grid Voltage	(V)	0	
Mean Resonator Dissipation	(W)	10.0	C
Min. Power Output	(mW)	100	

BASE

I.O.

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

The connection to the resonator is made by the metal frame-work

TOP CAP

See K1001/AI/5.2

DIMENSIONS

See drawing on page 3.

NOTES

A - All internal and external copper parts shall be carefully cleaned with acid. The resonator shall be plated first with copper then with silver.

B - The valve shall be processed to withstand a maximum anode voltage of not less than 3.0kV. positive with respect to grid and reflector strapped.

C - The terms anode and resonator are synonymous.

D - In operation the temperature of the resonator must not exceed 100°C., and if the mounting gives insufficient cooling by conduction then artificial cooling must be used.

E - The valve has been designed to operate at zero grid voltage.

F - Variations of resonator and reflector voltages to cover the ranges shown in test clause (c) should be provided in equipments.

To be performed in addition to those applicable in K1001.

	Test Conditions Vh	Vg	Va	Vr	Test	Limits Min.	Max.	No. Tested
a	See K1001/3.3				H-C Leakage Current (uA)	-	50	100%
b	4.0	0	0	0	Ih (A)	-	1.6	100%
c	4.0	0	Varied	Varied	1. Range over which oscillations can be obtained. (Mc/s)	3137	to 3253	100%
	Max. power input 10W. Frequency of oscillation varied by means of preset and fine tuners.				2. Va over range (kV)	1.0	1.5	100%
					3. Vr over range (V)	-250	-390	100%
d	4.0	0	Varied See Note 2.	Varied	1. Power output at 3195 Mc/s. (mW)	140	-	100%
	Pre-set tuners adjusted to give frequency of oscillation of 3195 Mc/s. when the fine tuner is at the centre of its traverse. Max. power input 10W. Va and Vr adjusted for max. output at 3195 Mc/s.				2. Power output over full range of fine tuner, Va and Vr being left unchanged. (mW)	100	-	100%
e	4.0	0	Varied See Note 2.	Varied	Fine tuner range (Mc/s)	46	-	1%(1)
	Frequency of oscillation varied by means of fine tuner only. Valve loaded resistively for max. output. Other test conditions as for test (d)							
f	3.8	0	Varied See Note 2.	Varied	Power output at 3195 Mc/s. (mW)	100	-	100%
	Other test conditions as for test (d).							
g	4.0	0	Varied See Note 2.	Varied	Frequency drift to be measured from the time of application of electrode voltages to the cold tube to the time when steady state has been reached.			See Note 3.
	Other test conditions as for test (d)				Positive drift (Mc/s)	-	0	
					Negative drift (Mc/s)	-	5.0	

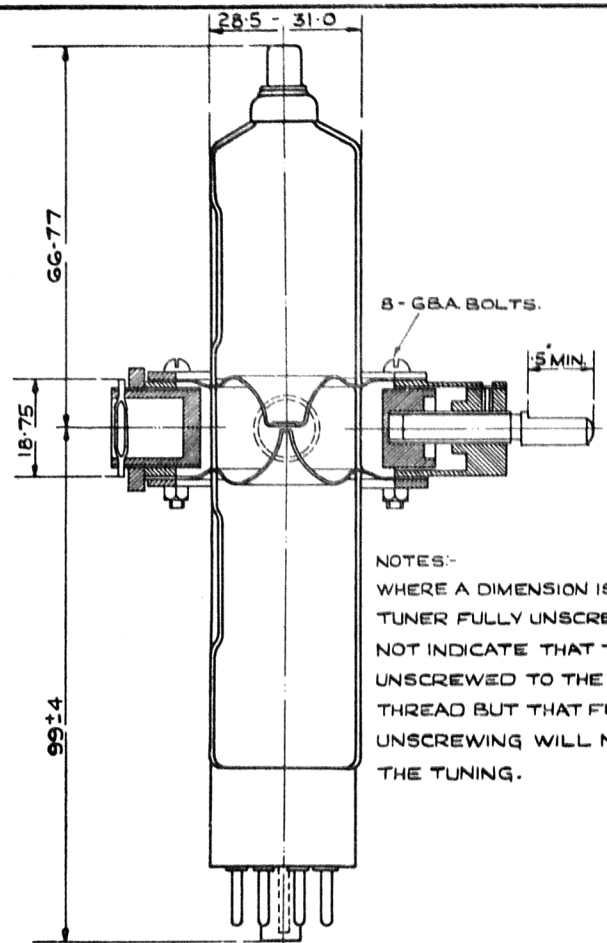
NOTES

1 - The symbol Vr is used to designate the reflector voltage. The symbol Va is used to designate the resonator voltage.

2 - For test clauses (d), (e), (f) and (g), Va and Vr must be within the limits in test clause (c)(2) and (c)(3).

3 - Before bulk delivery commences, the results on 25 valves shall be submitted to M.O.S., DOD/RDC8. If these are satisfactory the manufacturer will not be required to carry out the test on further valves.

CV158

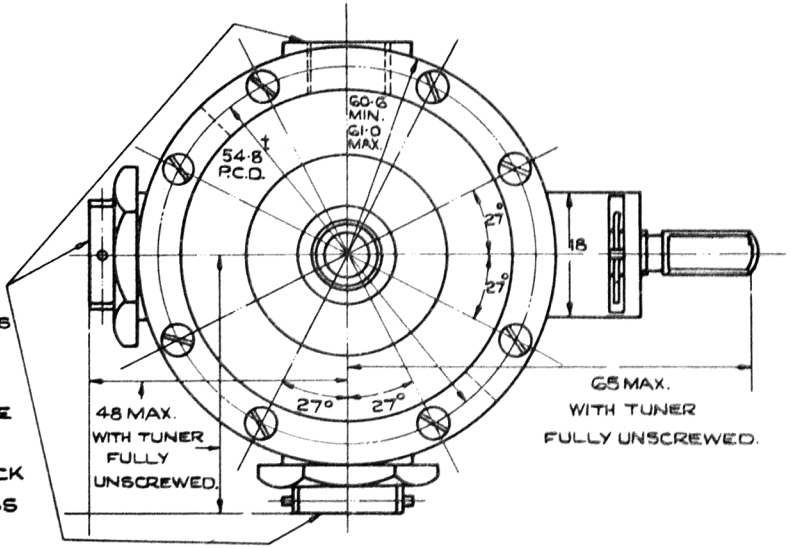


END VIEW OF SPINDLE.

NOTES:-

WHERE A DIMENSION IS GIVEN WITH TUNER FULLY UNSCREWED THIS DOES NOT INDICATE THAT TUNER IS UNSCREWED TO THE LIMIT OF THE THREAD BUT THAT FURTHER UNSCREWING WILL NOT AFFECT THE TUNING.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.



THREE SOCKETS AND TWO TUNING PLUNGERS TO BE 5/8" DIA. 26T.P.I. TO MEDIUM FIT TOLERANCES (TABLE 24A. BSS 84-1940) AFTER PLATING. LOCK NUTS 23-24 ACROSS FLATS.