MINISTRY OF SUPPLY (S.R.D.E.)

CV485

VALVE ELECTRONIC

Specification No. MOS/CV.485 Issue 1 Dated 1.1.57. To be read in conjunction with K1001 and BS 1409	SECURITY Specification: Unclassified Valve: Unclassified

TYPE OF VALVE: Velocity-modulated coaxial line oscillator
ENVELOPE: Glass
CATHODE: Indirectly Heated
PROTOTYPE: CV.228 selected

MARKING: See K1001/4

RATING			Note
Heater voltage	(V)	6.3 ± 5%	A
Nominal heater current	(A)	0.3	A
Grid voltage V_{g1}	(V)	-10V	
Resonator voltage V_{Res}	(V)	220 ± 5%	B
Screen voltage V_{g2}	(V)	0 to V_{Res}	C
Anode voltage V_a	(V)	(V_{Res} +10) to (V_{Res} +20)	D
Power output (Min.)	(W)	0.25	E
Cathode current (max.)	(mA)	40	
Tuning range (min.)	(Mc/s)	4580 to 4860	
Magnetic field (min.)	gauss	1100	F

BASE: B7G

CONNECTIONS

Pin	Electrode
1	Grid
2	Cathode
3	Heater
4	Heater
5	Anode
6	Resonator (Note G)
7	Screen Grid

DIMENSIONS: See attached drawing

NOTES

A. AC frequencies above 65 c/s must not be used.

B. At f = 4650 Mc/s.

C. Adjust to give specified cathode current. V_{g2} must not exceed V_{Res}

D. Operation with $V_a = V_{Res}$ may result in increased noise output.

E. Measured at 4650 Mc/s with coupling adjusted to optimum.

F. Magnet Jessops Type Nos. 10512 or 9501.

G. The copper disc to connect internally to pin 6.

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions						Test		Limits		No.
									Min.	Max.	Tested
	V_h (V)	V_{g1} (V)	V_a (V)	V_{Res} (V)	V_{g2} (V)	I_k (mA)					
a	6.3	-	-	-	-	-	Heater current	(A)	0.25	0.35	100%
b	6.3	-10	240	220	Adj.	40	Anode current	(mA)	17	-	100%
			See Note 3				Screen Voltage	(V)	-	160	
							Screen current	(mA)	-	3	
							Grid current	(µA)	-	30	
Oscillations at 4,650 Mc/s											
c	6.3	-10	V_{Res} +20	Adj.	Adj.	40	Resonator Voltage	(V)	200	230	100%
			See Notes 1 to 4				Power output	(mW)	250	-	
							Circuit length	(cms)	-	4.75 (l_{c2})	
Oscillations at 4,860 Mc/s											
d	6.3	-10	V_{Res} +20	Adj.	Adj.	40	Circuit length	(cms)	6.05 (l_{c1})	-	100%
			See Notes 1 to 4								
e							$l_{c1}-l_{c2}$	(cms)	1.45	1.80	100%

NOTES

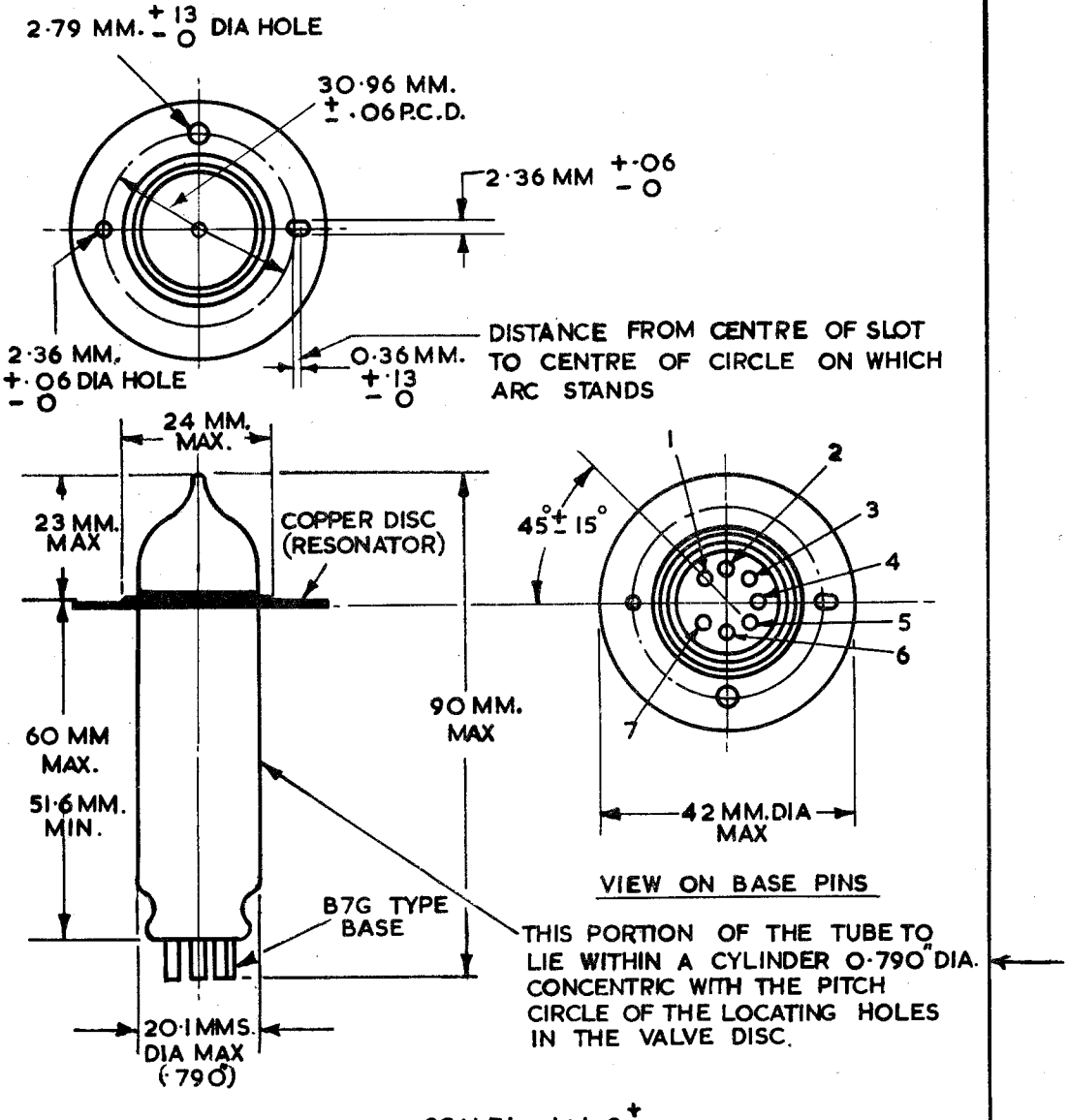
1. The valve to be operated in an approved circuit constructed from 2" x 1" internal, waveguide, with an output probe situated in the centre of the end face of the cavity adjacent to the valve. The coupling to be adjusted for maximum output power.

2. V_{Res} to be adjusted for maximum output power.

3. The magnet must be adjusted to give maximum anode current. If the magnet is finally fixed in relation to pins engaging the location holes in the tube disc, tubes may be changed without further adjustment. The magnet should have a field strength of between 1100 and 1150 gauss.

4. Circuit length l_c is measured between the longitudinal axis through the valve and the shorting face of the piston.

ALL DIMENSIONS ARE IN MILLIMETRES



SCALE:- 1:1 3+