VALVE ELECTRONIC

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

CV2421

Specification AD/CV2421 Issue No. 3, dated 12.9.60. To be read in conjunction with K1006	SECURITY Specification: Unclassified Valve: Unclassified

→ Indicates a change

TYPE OF VALVE: Tunable packaged Magnetron - for pulsed operation.

CATHODE: Indirectly heated.

PROTOTYPE: VX8222C

MARKING

See K1001/4

RATINGS

(All limiting values are absolute)

			Note
Heater Voltage (starting)	(V)	6.3±0.6	A
Heater Current (Nominal)	(A)	~~1.1~~ 1.2	
Max. Peak Anode Voltage	(V)	1150	
Min. Peak Anode Voltage	(V)	950	
→ Max. Peak Anode Current	(mA)	150	
→ Min. Peak Anode Current	(mA)	50	
Max. Duty Ratio		0.05	
Max. Pulse Length	(μS)	5	
Max. Mean Input Power	(W)	6	
Nom. Peak Output Power	(W)	20	
Min. Tuning Range	(Mc/s)	9150 to 9600	
Max. Temperature of Anode Block	(°C)	140	B
→ Max. Rate of Rise of Voltage	(kV/μS)	5	C

DIMENSIONS

See drawing on ~~Page 4 of CV2420~~ Page 3 Amdt2

NOTES

A. The heater voltage shall be applied at least two minutes before the application of anode voltage.

B. Measured at the anode block on the side remote from the blower.

→ C. Manufacturing tests guarantee operation with rates of rise of voltage (r.r.v.) up to 5kV/μsec. Operation with r.r.v. up to 14 kV/μ sec. is permissible under certain circumstances. (Reference should be made to the Approval Authority). The r.r.v. shall be determined using an oil filled differentiator of approved design. An approved oscilloscope having low input capacity must be employed.

TUNABLE PACKAGED MAGNETRON FOR PULSED OPERATION

Ratings	Ef	epy	ib	Du	Pi	tk	tp	Anode T	rrv	ppr
Absolute	V	V	mA	-	W	Sec.	uS	°C	kV/uS	pps
→ Maximum:	6.3±0.6	1150	150	0.05	6	-	-	140	Note C	-
→ Minimum	-	950	50	-	-	120	-	-	-	-
→ Test Conditions:	6.3	-	120	-	-	-	0.5	-	6	2000

Ref.	Test	Conditions	Min.	Max.
4.5	Holding Period	t = 28 days		
	Vibration:	2.5g at 170 c/s for 60 secs. No voltages	- Note 4	-
Amdt 1 4.10.8.	Heater Current:	Ef=6.3V; ib=0	If: 1.0	1.2A
4.16.3.5.	Pulse Voltage:	F1=9150 Mc/s	epy: 960	1140V
		F2=9600 Mc/s	epy: 960	1140V
4.16.3.6.	Peak Power Output:	F1=9150 Mc/s	po: 20	- W
		F2=9600 Mc/s	po: 18	- W
		F3=9375 Mc/s	po: 20	- W
→ 4.16.5.	Pulling Factor:	F1=9150 Mc/s	ΔF: -	20 Mc/s
		F2=9600 Mc/s	ΔF: -	20 Mc/s
		Note 3		
→ 4.16.6.	Pushing Factor:	ib=50/150 mA F=9375 Mc/s	ΔF: -	1 Mc/s per mA
→ 4.16.7.	Stability:	ib=50/150 mA F=9375 Mc/s Note 5	-	
4.11.	Life Test (Long):	F=9375 Mc/s Note 1	t: 500	- hrs
4.11.4.	Life Test (Long): End Points:	Change in po Note 5	Δpo: -	10%
4.11	Life Test (Short):	F=9375 Mc/s Note 2	t: 20	- hrs.

NOTES

1. One valve to be tested per year.

2. One valve to be tested per month. Valve to be within specification after test.

3. Pulling figure to be measured with a VSWR of 1.5 : 1 varied through all phases.

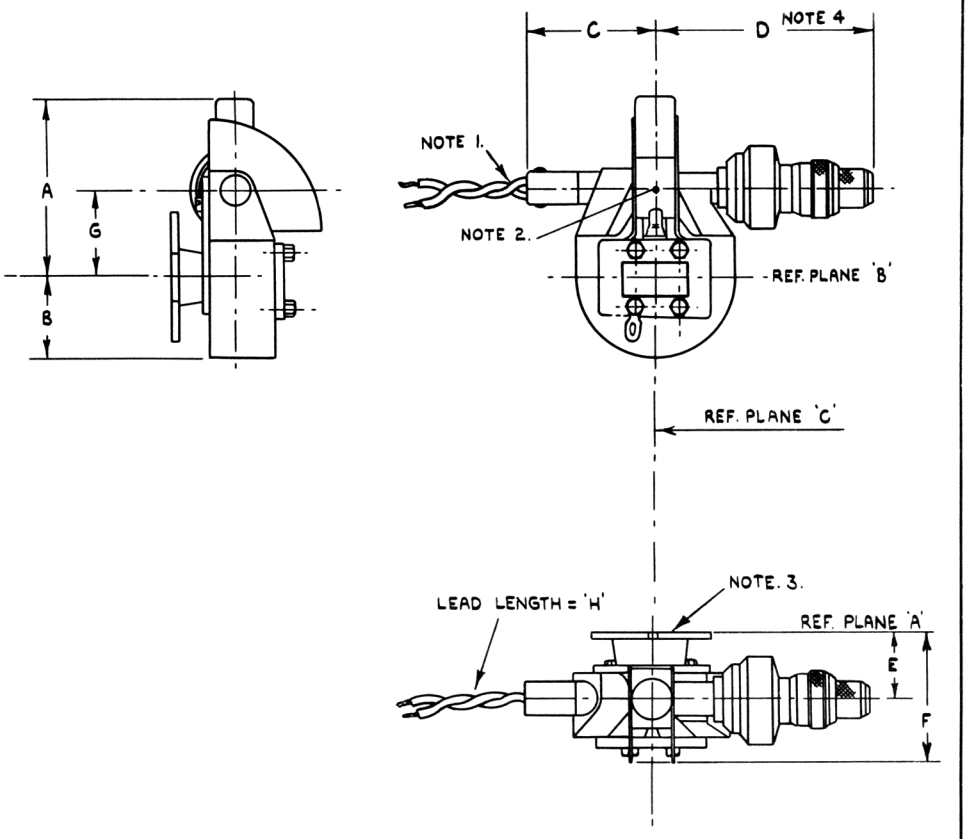
4. The directions of vibration to be:

   (i) Perpendicular to the plane of the flange.

   (ii) Parallel to the plane of the flange and to its narrower edges.

   This test shall not result in shorts or defects which will cause tube to be inoperative.

5. There shall be no double trace as shown on the current pulse nor any lines missing from the spectrum.



NOTES

1. HEATER LEAD RED, CATHODE LEAD BLUE.
2. ANODE TEMP. MEASURING POINT.
3. FLANGE REF. NO. Z 83004
4. DIMEMSION D MEASURED WITH TUNER FULLY OUT.

DIM.	MIN.M	MAX.M
A		65
B		32
C		50
D		86
E	23.5	25.5
F		57
G	29	33
H	125	135

ALL DIMENSIONS IN MMs.

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION AD/CV2421
ISSUE NO. 3 DATED 12.9.60

Amendment No. 1

Page 1 Heater Current (Nominal)

Amend from 1.1A to read 1.2A.

Page 2 4.10.8 Heater Current

Amend limits from 1.0A min., 1.2A max.
to read:- 1.1A min. 1.3A max.

May, 1961. ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

N.56927/D

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV2421 ISSUE NO. 3

DATED 12TH SEPTEMBER, 1960

AMENDMENT NO. 2

Page 1	No. of Pages:	delete '2' and substitute '3'
	Dimensions:	Amend "See drawing on Page 4 of CV2420" and substitute "See drawing on Page 3".
Page 3	Insert additional Page 3, attached hereto.	

June 1963

(163870)

T.V.C. for A.S.W.E.

12/10/63