

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV.2484

ISSUE NO.1 DATED 10.7.58

AMENDMENT NO. 1

<u>Page 1</u>	<u>Rating</u>	Amend Operating Frequency Range to read " <u>7100</u> to 11,500 Mc/s".
<u>Page 2.</u>	<u>Test Clause "C"</u>	Under "Insertion Loss" (4) amend to read "(4) at 7100 and 11,500 Mc/s."

JUNE, 1959.  
N.71554/D

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

VALVE ELECTRONIC

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

**CV2484**

Specification AD/CV 2484 Issue No. 1 dated 10.7.58. To be read in conjunction with K1001.	<u>SECURITY</u>	
	<u>Specification</u>	<u>Valve</u>
	Unclassified	Unclassified

<u>Type of Valve - Power Limiting Gas Cell</u> <u>Prototype - VX1009 Mk. V</u>		<u>Marking</u> See K1001/4
<u>Rating</u>	Note	<u>Dimensions</u> See drawing on Page 4
Operating Frequency Range (Mc/s)	7000 to 11,500	
Max. Peak Power (W)	100	
Max. Primer Supply Voltage (V)	-950	
Primer Current (μA)	100	A

Notes

- A. The primer current shall be limited by a series resistance of which at least 1 megohm must be placed adjacent to the cell.

TESTS

To be performed in addition to those applicable in K1001 after a holding period of 7 days.

	Test Conditions		Test	Limits		No. Tested	Note
	Primer Supply			Min.	Max.		
(a)	-900V	Test to be performed at least 7 days after any previous discharge	<u>Primer Breakdown</u> (secs.)	-	5	100%	1
(b)	-1000V		<u>Primer Operating Voltage</u> (V)	170	240	100%	1
(c)	-1000V	Valve shall be mounted between matched impedances (V.S.W.R. better than 1.1:1). The line shall be energized by not more than 10 mW. R.F. power. Primer Current adjusted to 100 $\mu$ A.	<u>Insertion Loss</u> (dB) (1) at 7400, 7700, 7900, Mc/s.	0.6	1.2	100%	1
			(2) at 8000, 8500, 9000, 9500, 9900 Mc/s.	0.4	0.9	100%	1
			(3) at 10,000, 10,300, 10,600 Mc/s.	0.3	0.8	100%	1
			(4) at 7000, and 11,500 Mc/s.	-	4.0	100%	1
(d)	-1000V	The test frequency of the simulated echo pulse shall be within the range 9000-9500 Mc/s, and its power incident on the cell shall be less than 10 mW. The test frequency of the transmitter pulse shall be within the range 9000-9500 Mc/s and the peak power 10W. Pulse length of simulated echo shall be 1 $\mu$ S and p.r.f. 1000 c.p.s.	<u>Recovery Time</u> ( $\mu$ S) The time shall be measured from the trailing edge of the transmitter pulse for an insertion loss exceeding that immediately before the transmitter pulse by 6 dB.	-	50	100%	1.2

TESTS

To be performed in addition to those applicable in K1001 after a holding period of 7 days.

	Test Conditions		Test	Limits		No. Tested	Note
	Primer Supply			Min.	Max.		
(e)	-1000V	Applied power varied from 10 mW to 10W peak.  Pulse length 1.0 $\mu$ S p.r.f. 1000 c/s.	<u>Leakage Power</u> (mW peak)  The max. leakage shall be measured at frequencies of (i) 9000 Mc/s (ii) 9400 Mc/s (iii) 9800 Mc/s	-	300	100%	1,2
(f)	-1000V	as for test (e) but with applied power 10W pk (min.) and frequency within limits 9000-9800 Mc/s. Each cell on test to be followed by a matched load. (V.S.W.R. better than 1.1:1)	<u>Life</u> Valves to be run for 1500 hours. Number of valves which exceed life test limits in any respect. (No.) (Note 3)	-	1	T. A. and 5% or 6 whichever is greater number.	1,4,5
<u>NOTES</u>							
1.	The primer supply shall be D.C. having a peak to peak ripple voltage not exceeding 1% and shall be negative with respect to the body of the cell. The regulation of the supply shall be negligible at load currents up to 300 $\mu$ A. The supply shall be connected to the primers through resistances totalling 8.0 $\pm$ 5% megohm, of which at least 1 megohm shall be placed adjacent to the cell.						
2.	A selected tunable magnetron type CV2421 (or a suitable frequency variant of CV2421) shall be used.						
3.	At the conclusion of the test period the tests (a) to (e) must be repeated, and the limits of tests (a) to (e) are to be taken as the life test end limits.						
4.	Life test samples are to be taken at random from the production batch. For the initial contract the life test results are to be used for record purposes only.						
5.	Any approved magnetron within the frequency range shall be used.						

