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

VALVE ELECTRONIC CV232

Specification: MOS/CV232/Issue 2 Dated:- 17.8.48. To be read in conjunction with K1001. ignoring clauses:- 5.2, 5.3, 5.7 and 5.8. Clause 7.3 applies.	SECURITY Specification [redacted] Unclassified	Valve Unclassified

→ indicates a change

TYPE OF VALVE:- Resonant magnetron, air cooled. CATHODE:- Indirectly heated ENVELOPE:- Metal - glass PROTOTYPE:- BTH type MF selected as a temporary measure for use only in certain A.A. No.3 Mk.II sets as specified (c.f CV120)	MARKING See K1001/4 Serial No.... See Note 1.

RATING		Note	BASE None
Heater voltage	(V) 6.0		Connections and Dimensions as for CV120.
Heater current	(A) 7.0		
Max. anode dissipation	(W) 1000		
Wavelength	(cms) 10.70 ±0.2	1	

CV232

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions	Test	Limits Min	Limits Max	No. Tested	Notes
a	Filament voltage 6.0 volts	If (A)	6.3	7.7	100%	
b	Peak Ia 40 amps. Magnetic field 1200 oersteds.	Peak anode voltage (kV)	-	27	100%	3
c	Peak Ia 40 amps. Magnetic field 1200 oersteds.	(i) Value of wavelength (ohms)	10.49	10.91	100%	1,3
		(ii) Presence of one wavelength.	With matching adjustments as in Note 3, page 3, only 1 wavelength shall be generated either during each pulse or during successive pulses and this wavelength shall be within the limits of wavelength laid down in c(i)		100%	3
d	Peak Ia 40 amps. Magnetic field 1200 oersteds.	Value of power output (kW)	100	220	100%	3
e	(i) Peak Ia 40 amps. Magnetic field varied from 1150 to 1300 oersteds. (ii) Magnetic field 1200 oersteds. Peak Ia varied from 30 to 50 amps.	Wavelength continuity	Wavelength shall show no sudden discontinuities.		5%	3,4

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NOTES

1. The valve shall be marked according to the wavelength band in which it falls, viz:-

Wavelength		Marking
10.56±0.07	cms	CV 232 A
10.70±0.07	cms	CV 232 B
10.84±0.07	cms	CV 232 C

Where CV 232 is specified without qualification, valves with any of these markings will be accepted.

2. These operating conditions refer to a sensibly square pulse shape, 1 microsecond duration, repetition rate 500 cycles per second (max.), and during operating and testing air must be blown through a fitting surrounding the fins. In no case shall the temperature of the anode exceed 140°C.

3. The test equipment is to be subject to approval by R.R.D.E., Ministry of Supply. The modulator is required to give sensibly square pulses of 1 microsecond duration and a repetition frequency of 420 ± 46 c.p.s. and modulators type A 453 or AS 442 are recommended as giving a suitable waveform.

In all tests (a) filament voltage = 6 volts, (b) air is to be blown through the anode fins to maintain the anode temperature below 140°C. (c) serious or continued flashing (internal or external) must not occur.

The power output shall be measured in a high frequency load system of a type consisting of a matching section electrically similar to that used in A.A. No. 3 Mk.II equipment followed by a length of concentric line of 40 ohm impedance (internal diameter of outer tubing 15/16 inch) terminated to give a standing wave ratio in voltage of less than 1.3 to 1. The matching section shall be adjusted to give highest power output and tests b, c, d and e must be done with this setting. (If this adjustment of the matching section leads to a serious number of rejections on tests c(ii) and e the test specification may be modified to allow a limited variation about this setting. In such cases the valve would have to satisfy tests b, c, d and e for a single setting of the matching section controls).

4. The figure of 5% may be modified depending on the number of rejects.