## VALVE ELECTRONIC CV456

## ADMIRALTY SIGNAL & RADAR ESTABLISHMENT.

Specification AD/CV456, Issue I	SECURITY		
Dated: 15.4.53	•	Specn.	<u>Valve</u>
To be read in conjunction with	Unclassified	Unclassified	

### -> indicates a change

TYPE OF VALVE:- Gas Modulator, Hydrogen Thyratron CATHODE:- Directly heated. ENVELOPE:- Glass. PROTOTYPE:- VX3152.			MARKING See K1901/4, Additional marking: Serial No			
RATING			Notes	BASE AND DIMENSIONS		
Filament Voltage DC or AC Filament Current Normal Peak Anode	(V) (A)	2.5 <u>+</u> .1 27.5		See Fig. 1.		
Voltage	(kV)	10 to 15	A,B	TOP CAP		
Normal Peak Anode Current Min. Trigger Pulse	(A)	160	A,B	See K1001/A1/D5.7.		
Voltage	(V)	220	C.	<u>PACKAGING</u>		
Min. Trigger Pulse Length	(_/us)	. 4	C	See Kl005.		

## NOTES

- A. These ratings are for operation with:-
  - (1) Repetition frequency of 500 pps.
  - (2) Pulse length of 0.6 to 2 microsecs. (Note B).
  - (3) Sensibly square pulse shape.
  - (4) Load resistance of 37.5 ohms.
  - (5) Approx. rate of rise of pulse from 10% of max. value to 90% of max. value: 600 A per microsecond.
- B. This valve contains a hydrogen replenisher which requires that both max. and min. limits to ratings are given.
- C. The trigger pulse should be 4 /us long at the 220V (or higher) potential level. The source impedance of the trigger pulse generator should be as low as possible and should not exceed 5000 ohms.

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#### TESTS

To be performed in addition to those applicable in K1001.

	Test Vf (V)	Conditi Va(kV)	ons Vg (V)	Test	Lin Min.	Limits Min. Max.		Note
a	2.5			If (A)	24.8	30.2	100%	1
Ъ	2.5	15	-50	Operation in line discharge modulator at between 15 and 15.5 kV hold off voltage.  Ia (A)  Duration of test (mins.)	200 ± 3 10		100%	2.3

### NOTES

- 1. The filament voltage should be measured at the tags at the ends of the cathode leads.
- 2. A test modulator according to the recommended modulator circuit of page 4 (e.g. panel 3 BA) should be used producing conditions as in Note A on page 1. After a filament heating time of 10 minutes (2 mins. only if valve was operated within the previous 24 hrs.) the valve shall not require more than 2 mins. for the anode voltage to be gradually raised until 160A current is passed and not more than 10 mins. (inclusive of the 2 mins.) until 200 A current is reached. The full load condition should not exceed 15 minutes duration.
  - 3. No object should be placed within 1" of the glass work of the valve in operation.

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