VALVE ELECTRONIC **CV456**

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT.

Specification AD/CV456, Issue No. 3. Dated: 15.4.53 To be read in conjunction with K1001.	SECURITY Specn. Valve Unclassified Unclassified

→ indicates a change

TYPE OF VALVE:- Gas Modulator, Hydrogen Thyratron CATHODE:- Directly heated. ENVELOPE:- Glass. PROTOTYPE:- VX3152.	MARKING See K1001/4, Additional marking: Serial No. .....

RATING			Notes
Filament Voltage DC or AC	(V)	2.5±.1	
Filament Current	(A)	27.5	
Normal Peak Anode Voltage	(kV)	10 to 15	A,B
Normal Peak Anode Current	(A)	160	A,B
Min. Trigger Pulse Voltage	(V)	220	C
Min. Trigger Pulse Length	(/us)	4	C

BASE AND DIMENSIONS

See Fig. 1.

TOP CAP

See K1001/A1/D5.7.

PACKAGING

See K1005.

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 Conditions			Test	Limits		No. Tested	Note
	Vf (V)	Va(kV)	Vg (V)		Min.	Max.		
a	2.5			If (A)	24.8	30.2	100%	1
b	2.5	15	-50	Operation in line discharge modulator at between 15 and 15.5 kV hold off voltage.				
				Ia (A)	200 ± 3		100%	2.3
				Duration of test (mins.)	10			

NOTES

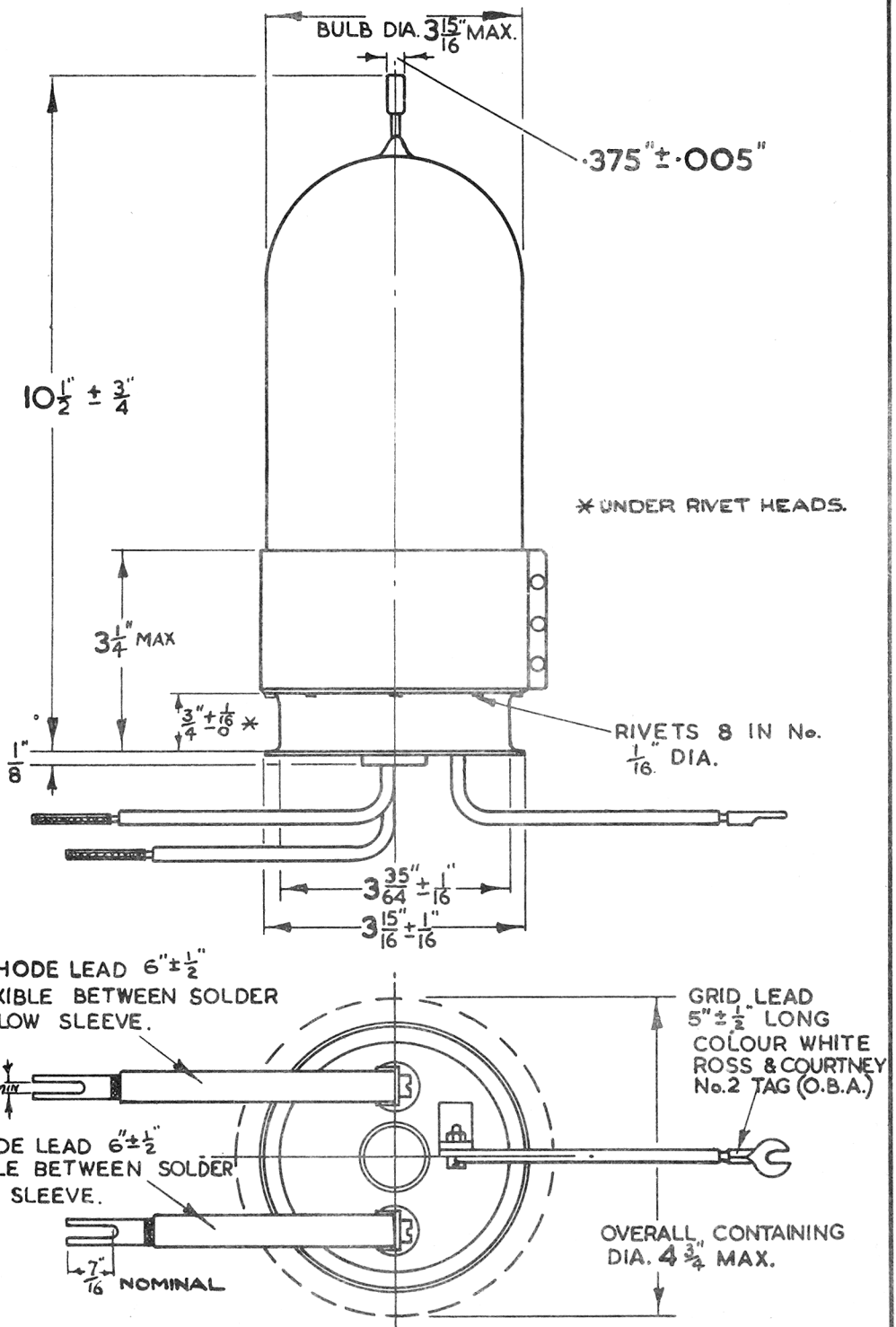
1. The filament voltage should be measured at the tags at the ends of the cathode leads.

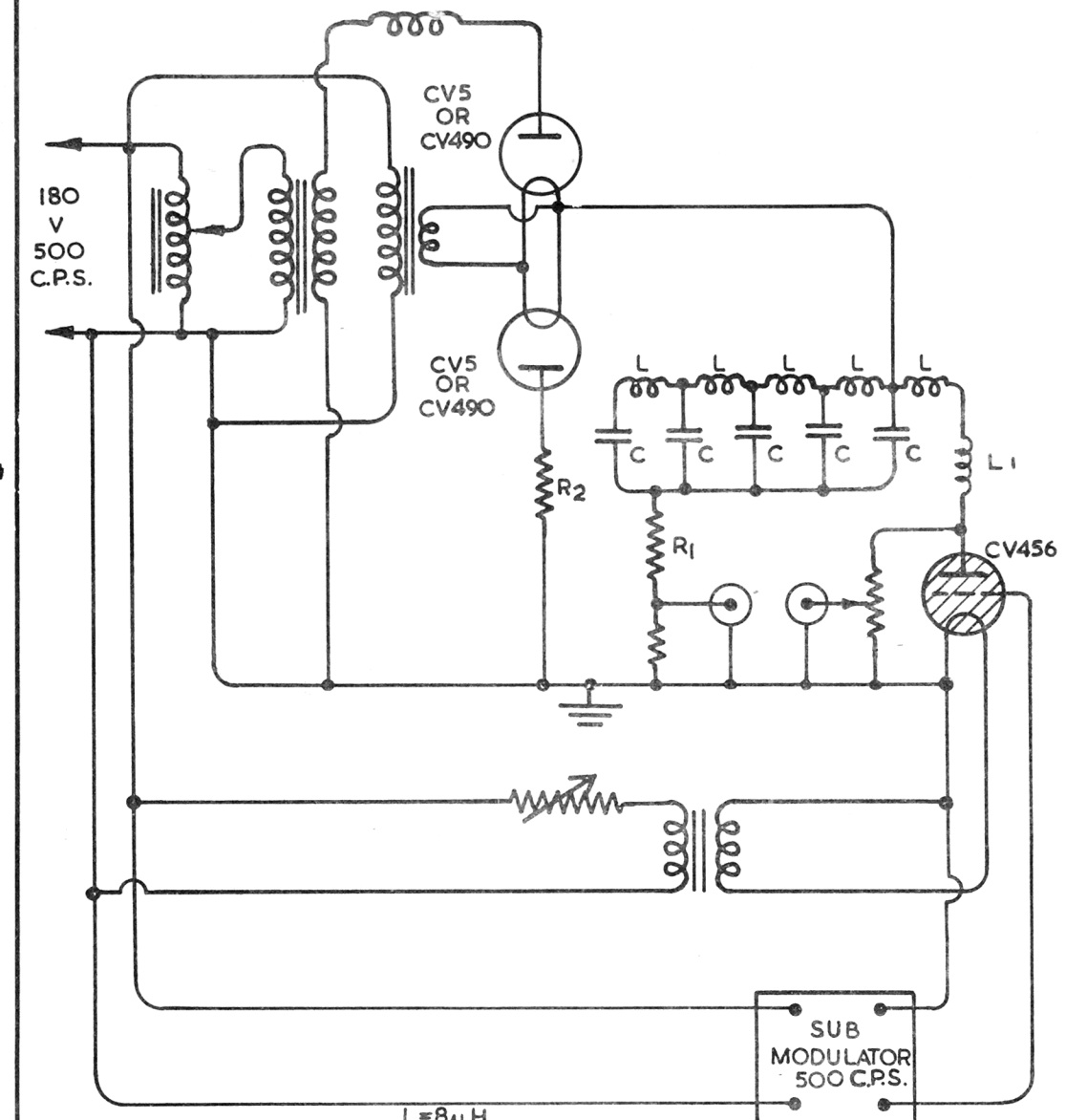
2. A test modulator according to the recommended modulator circuit of page 4 (e.g. panel 3 BA) should be used producing conditions as in Note A on page 1. After a filament heating time of 10 minutes (2 mins. only if valve was operated within the previous 24 hrs.) the valve shall not require more than 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.

OUTLINE DIMENSIONS

CV456





L=8μH

L_1= INDUCTANCE WHICH MUST BE ADDED TO THE STRAY CIRCUIT INDUCTANCE TO LIMIT RATE OF RISE OF ANODE CURRENT TO 600 AMPS PER MICROSECOND.

C=0·005μF

R_1= 37·5 OHMS APPROX.(SIX 240V 250 WATT. LAMPS IN PARALLEL)

R_2= 250 OHMS.