

VALVE ELECTRONIC CV521ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

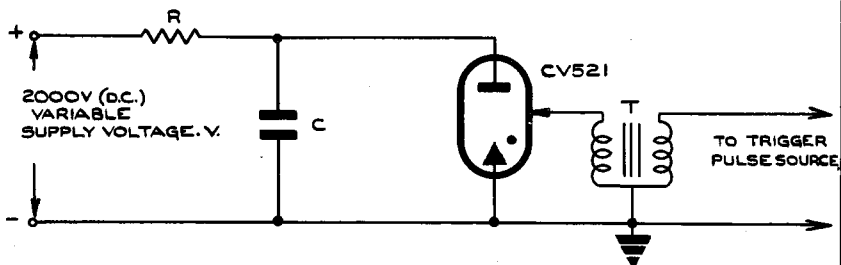
Specification AD/CV521 Issue No. 2 dated 23rd May, 1955. To be read in conjunction with K1001.	<u>SECURITY</u>	
	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified

→ Indicates a change

<u>TYPE OF VALVE</u> :- Cold Cathode Gas Discharge Tube.		<u>MARKING</u>	
<u>ENVELOPE</u> :-	Glass.	See K1001/4 and Page 3.	
<u>PROTOTYPE</u> :-	R4410.		
<u>RATING</u>		<u>DIMENSIONS</u>	
		Note	
Max. Anode Voltage (V)	1800	A	See drawing, page 3.
Max. Mean Anode Current (mA)	100	A	
Max. Value of Discharge Capacitance ( $\mu\text{F}$ )	10	A,B	
Max. Frequency of Discharge (pps)	4	A	
Trigger Voltage (kV)	20-30	C	
Ambient Temperature Range ( $^{\circ}\text{F}$ )	-37 to + 140		
<u>NOTES</u>			
A. Absolute Maximum Value.			
B. To prolong tube life the value of the discharge capacitance should be kept as low as is practicable. A value not exceeding 4 $\mu\text{F}$ is recommended.			
C. Trigger voltages are provided by a high-voltage transformer, such as a car ignition transformer with secondary voltage of 20 to 30 kV. The primary is supplied with appropriate voltage pulses and the secondary is connected to a metal band, or to a few turns of bare wire, around a length not exceeding one inch of the midportion of the tube. Suitable trigger pulses may be obtained by discharging a 1 $\mu\text{F}$ capacitor, charged to 450 V, across the primary of Ignition Coil, Admiralty Pattern, W6743.			

To be performed in addition to those applicable in K1001.

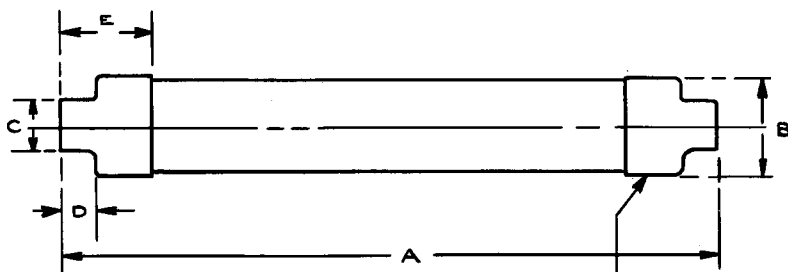
	Test Conditions	Test	Requirements	No. Tested
	The valves are to be tested in the circuit given on page 3.			
a	Set supply voltage V at 1500 V (D.C.). Then apply trigger voltage.	Starting Voltage	Tube must fire	100%
b	Set supply voltage V at 1900 V (D.C.). No trigger voltage.	Breakdown Voltage	Tube must not fire.	100%
c	Set supply voltage V at 1650 V (D.C.). Apply trigger voltage at 1 p.p.s. and then at 4 p.p.s.	Discharge Frequency Range	Tube must fire regularly. Test duration at each frequency to be at least 1 minute.	100%
d	Set supply voltage V at 1650 V (D.C.). Apply trigger voltage at 4 p.p.s. C = 10 $\mu$ F.	Life Test	300 hours min. (Life ends when tube fails to fire, fires erratically or discharges continuously.)	T.A.
e	Set supply voltage V at 1650 V (D.C.). Apply trigger voltage at 4 p.p.s.	Ambient Temperature Test	Tubes must operate satisfactorily over ambient temperature range of -35 $^{\circ}$ F to +140 $^{\circ}$ F.	T.A.



$C = 10 \mu\text{F}$  for all tests.

T = High-Voltage Transformer.

$R = 1000 \Omega$  (If the impedance of the supply voltage source is appreciable, this value of the charging resistance R is adequate; but, if the source impedance is low, then R must be of such higher value (e.g.  $5000 \Omega$ ) as will ensure that the tube will return to the non-conducting condition between pulses).



ANODE END TO BE INDICATED BY RED BAND MARKING.

DIMENSIONS IN INCHES.		
DIM.	MIN.	MAX.
A	9.25	9.75
B	1.125	1.185
C	0.562	0.625
D	0.495	0.515
E	1.300	1.412