ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOA/CV2479, ISSUE 1B, DATED 19th July, 1964.
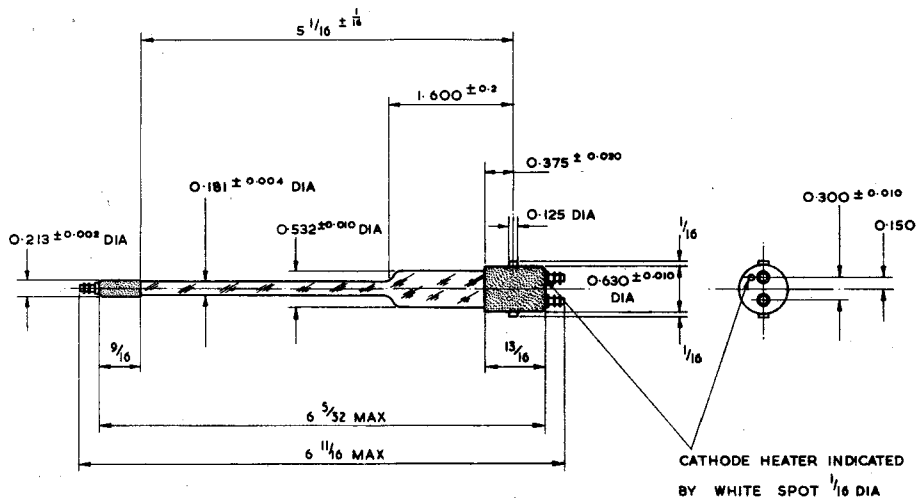
AMENDMENT NO. 1

Page 4   Cancel (but do not remove) existing Page 4 and substitute
          new Page 4, dated 1st October, 1964, attached hereto.
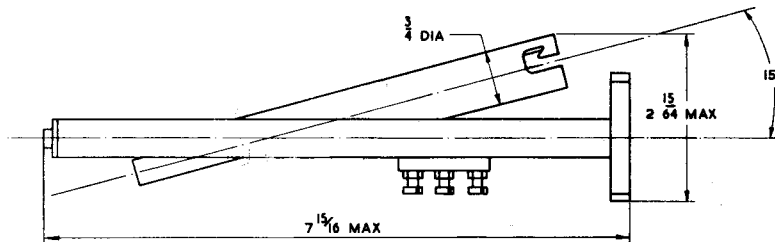
T.V.C. for R.R.E.

November, 1964.

NM.190472

FIG. 2

$5\frac{1}{16} \pm \frac{1}{16}$

$1\cdot600 \pm 0\cdot2$

$0\cdot375 \pm 0\cdot020$

$0\cdot181 \pm 0\cdot004$ DIA

$0\cdot125$ DIA

$0\cdot532 \pm 0\cdot010$ DIA

$0\cdot300 \pm 0\cdot010$

$0\cdot213 \pm 0\cdot002$ DIA

$0\cdot150$

$\frac{1}{16}$

$0\cdot630 \pm 0\cdot010$ DIA

$\frac{9}{16}$

$\frac{1}{16}$

$\frac{13}{16}$

$6\frac{5}{32}$ MAX

$6\frac{11}{16}$ MAX

CATHODE HEATER INDICATED
BY WHITE SPOT $\frac{1}{16}$ DIA

NOISE DIODE OUTLINE DRAWING
(THIRD ANGLE PROJECTION)

DIMENSIONS IN INCHES

FIG. 3

$\frac{3}{4}$ DIA

$15°$

$2\frac{15}{64}$ MAX

$7\frac{15}{16}$ MAX

OUTLINE DRAWING OF APPROVED MOUNT

DIMENSIONS IN INCHES

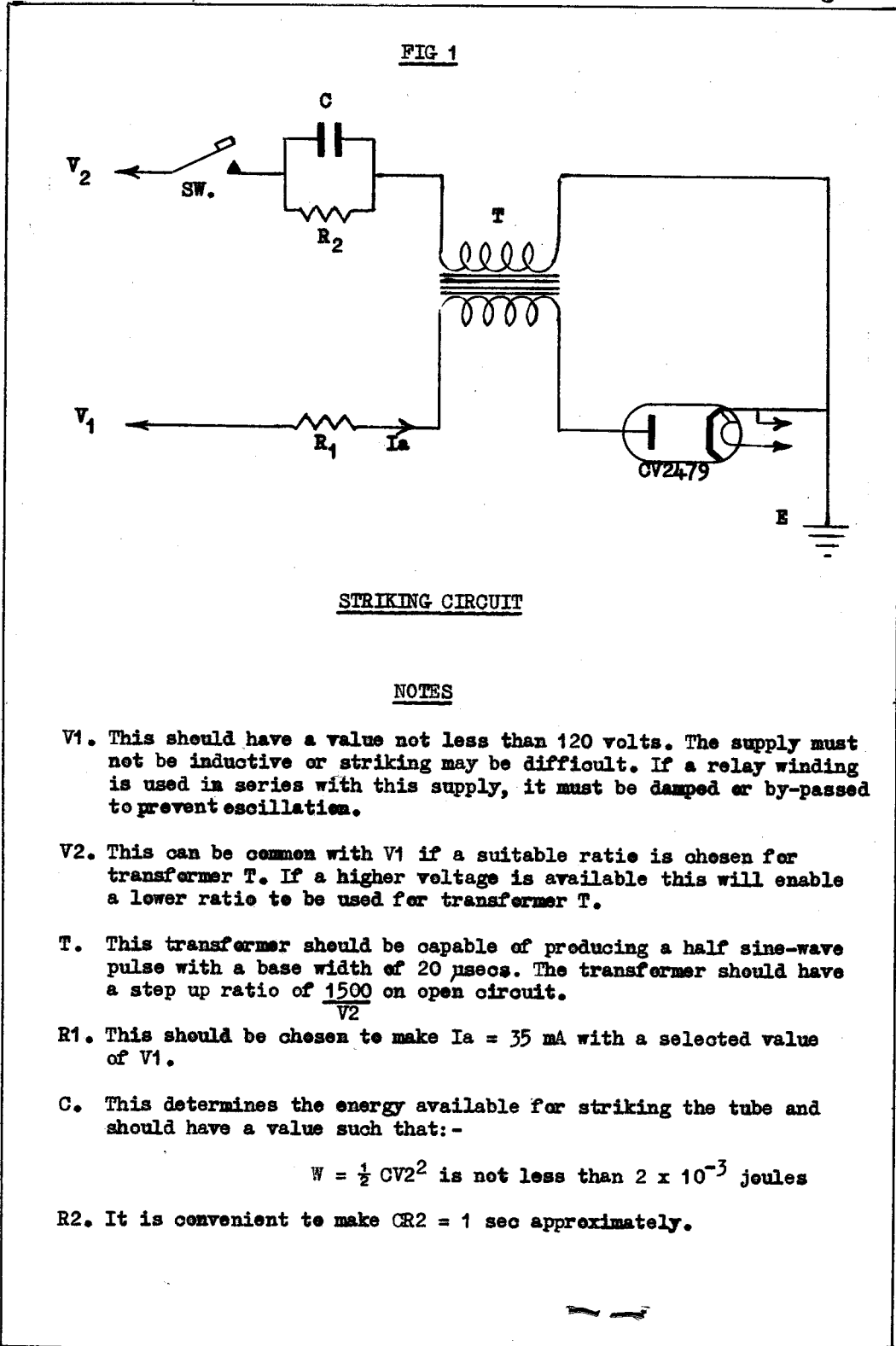| Specification MOA/CV2479	SECURITY	
Issue 1B Dated 19th July 1964	**Specification**	**Valve**
To be used in conjunction with BS448, BS1409 and K1001, excluding clauses 5.2, 5.3, 5.5, 5.7, 5.9	UNCLASSIFIED	UNCLASSIFIED

◄──── Indicates change

	MARKING
TYPE OF VALVE: Noise Tube, Gas Filled, Low Current	
CATHODE: Indirectly heated	See K1001/4
ENVELOPE: Glass	Cathode connection indicated by white spot on base
PROTOTYPE: VX1036	

ABSOLUTE NON-SIMULTANEOUS RATINGS
(Not for inspection purposes)

BASE AND CONNECTIONS

See Drawing Page 4

			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	1.0	
Max. Striking Voltage (in mount)	(V)	1,150	C
Normal Voltage Drop across tube	(V)	50	A
Preferred Operating Current	(mA)	35	
Min. Operating Current	(mA)	25	
Max. Operating Current	(mA)	50	
Min. Series Resistance	(Ω)	1,500	
Nominal noise power available	(dB)	15.25	B
Nominal noise power output charge with current	(dB/mA)	0.03	
Useful frequency range	(Mc/s)	9,000 to 18,000	

NOTES

A. The value quoted is that which is obtained with I_a = 35mA. In order to ensure adequate performance of the tube the circuit and notes given on page 2 may be used. It is essential that the energy available for striking the tube exceeds the minimum value of 2×10^{-3} joules.

B. Given as a reference to thermal noise at 17°C. The figure quoted is that which is obtained with the tube fitted in a mount conforming to the dimensions given on Fig. 3, and which is terminated with a matched load.

C. In order to avoid the presence of High d.c. voltages a striking circuit as given in Fig. 1 may be used.

FIG 1

STRIKING CIRCUIT

NOTES

V1. This should have a value not less than 120 volts. The supply must not be inductive or striking may be difficult. If a relay winding is used in series with this supply, it must be damped or by-passed to prevent oscillation.

V2. This can be common with V1 if a suitable ratio is chosen for transformer T. If a higher voltage is available this will enable a lower ratio to be used for transformer T.

T. This transformer should be capable of producing a half sine-wave pulse with a base width of 20 μsecs. The transformer should have a step up ratio of $\frac{1500}{V2}$ on open circuit.

R1. This should be chosen to make Ia = 35 mA with a selected value of V1.

C. This determines the energy available for striking the tube and should have a value such that:-

$$W = \tfrac{1}{2} CV2^2 \text{ is not less than } 2 \times 10^{-3} \text{ joules}$$

R2. It is convenient to make CR2 = 1 sec approximately.

<u>TESTS</u>

<u>To be performed in addition to those applicable in K1001</u>

Test shall be performed in the specification order unless otherwise agreed with the inspecting authority.

K1001 Ref.	Test	Test Conditions	AQL %	Insp. level	Sym-bol	Limits Min.	Limits Max.	Units
		Test condition - unless otherwise specified Vf = 6.3V Ia = 35 mA						
	Filament Current	Note 1		100%	If	0.9	1.1	A
	v.s.w.r. (1)	F = 9375 ± 25 Mc/s Note 2		100%		—	1.06	Ratio
	v.s.w.r. (2)	F = Over the range 9025 to 9726 Mc/s Note 2		10%		—	1.25	Ratio
	Noise Output	Note 3		10%		15.0	15.5	dB

<u>NOTES</u>

1. The heater voltage should be applied 30 seconds before performing the test.

2. The diode is inserted in the approved 15° E-plane mount in No. WG16 waveguide which is terminated in a matched load, and the mount is screw tuned with diode struck to give a v.s.w.r. at 9375 Mc/s of less than 1.03.

3. The diode is inserted in the approved 15° E-plane mount in No. WG16 waveguide which is terminated in a matched load.

FIG. 2

NOISE DIODE OUTLINE DRAWING

(THIRD ANGLE PROJECTION)

FIG. 3

OUTLINE DRAWING OF APPROVED MOUNT