

MINISTRY OF SUPPLY/R.R.E.

VALVE ELECTRONIC

CV2436-43

Specification MOS/CV2436-CV2443 Issue 2, dated:- August, 1958. To be read in conjunction with K1001 and BS448		<u>Security</u> <u>Specification</u> <u>Valve</u> Unclassified Unclassified																									
← Indicates a change																											
<u>TYPE OF VALVE:-</u> Monoscope <u>TYPE OF DEFLECTION:-</u> Magnetic <u>TYPE OF FOCUS</u> Electrostatic <u>BULB:-</u> Glass, internally and externally coated with a conductive coating. <u>PROTOTYPE:-</u> VCRX389 <u>PATTERNS:-</u> See note A		<u>MARKING</u> See K1001/4 <u>BASE</u> BS-0 See BS 448 <u>CONNECTIONS</u>																									
<u>RATING</u>		<u>PIN</u> 1 2 3 4 5 6 7 8 Side contact End terminal	Int. Connection a ₁ 2 Int. Connection g. k. h. h. a ₃ sig. plate																								
<table border="1"> <tr> <td>Heater Voltage</td> <td>(V)</td> <td>4.0</td> </tr> <tr> <td>Heater Current</td> <td>(A)</td> <td>1.0</td> </tr> <tr> <td>Max. Va3</td> <td>(kV)</td> <td>7</td> </tr> <tr> <td>Max. Va1</td> <td>(kV)</td> <td>1.4</td> </tr> <tr> <td>Max. Va3 - sig. plate</td> <td>(V)</td> <td>200</td> </tr> <tr> <td>Min. Va3 - sig. plate</td> <td>(V)</td> <td>50</td> </tr> <tr> <td>Max. Beam current.</td> <td>(uA)</td> <td>250</td> </tr> </table>		Heater Voltage	(V)	4.0	Heater Current	(A)	1.0	Max. Va3	(kV)	7	Max. Va1	(kV)	1.4	Max. Va3 - sig. plate	(V)	200	Min. Va3 - sig. plate	(V)	50	Max. Beam current.	(uA)	250					
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<u>TYPICAL OPERATING CONDITIONS</u>		<u>SIDE CONTACT</u> CT7. See BS 448 or adapted to CT7 from CT8, using adaptor on Page 6																									
<table border="1"> <tr> <td>Va3</td> <td>(kV)</td> <td>5</td> </tr> <tr> <td>Va2</td> <td>(V)</td> <td>830</td> </tr> <tr> <td>Va1</td> <td>(V)</td> <td>1250</td> </tr> <tr> <td>Sig. plate to a3</td> <td>(V)</td> <td>-100</td> </tr> <tr> <td>Vg for cut off</td> <td>(V)</td> <td>-70</td> </tr> <tr> <td>RL</td> <td>(kohms)</td> <td>1 to 5</td> </tr> <tr> <td>I_b</td> <td>(uA)</td> <td>5</td> </tr> <tr> <td>Peak to Peak I sig.</td> <td>(uA)</td> <td>I_b to I_b 4 2</td> </tr> </table>		Va3	(kV)	5	Va2	(V)	830	Va1	(V)	1250	Sig. plate to a3	(V)	-100	Vg for cut off	(V)	-70	RL	(kohms)	1 to 5	I _b	(uA)	5	Peak to Peak I sig.	(uA)	I _b to I _b 4 2	<u>END TERMINAL</u> OBA Stud	
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<u>CAPACITANCES</u>		<u>DIMENSIONS</u> See drawing Page 5																									
<table border="1"> <tr> <td>Max Cg - all</td> <td>(pf)</td> <td>20</td> </tr> <tr> <td>Max Ck - all</td> <td>(pf)</td> <td>15</td> </tr> <tr> <td>Max C sig. p. - all</td> <td>(pf)</td> <td>10</td> </tr> </table>		Max Cg - all	(pf)	20	Max Ck - all	(pf)	15	Max C sig. p. - all	(pf)	10																	
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<u>Notes</u> A. CV2436 to CV2443 identical monoscopes except for the patterns illustrated on Page 4.																											

CV2436-CV2443/2/1

To be performed in addition to those applicable in K1001

CLAUSE	Test Conditions	Test	Limits		No. Tested
			Min.	Max.	
a	See K1001/5A.13	<u>Capacitances</u> (pf) 1. Grid to all other electrodes 2. Cathode to all other electrodes 3. Sig. plate to all other electrodes		20 15 10	5(5)
FOR ALL TESTS BELOW $V_h = 4.0$ VOLTS					
b		<u>Heater Current</u> (A)	0.8	1.2	100%
FOR ALL TESTS BELOW $V_{a1} = 1250V$, $V_{a3} = 5$ KV, $V_{a3} - \text{sig. p.} = 100V$					
c	With a raster scan of convenient size, adjust V_{a2} for optimum focus and V_g for $I_b = 0.1$ uA.	<u>Grid Base</u> $- V_g$ (V)	40	80	100%
d	As in "c" but $I_b = 20$ uA	1. <u>Grid Drive</u> Change in V_g from that in test c. (V) 2. V_{a2} (V)	700	30 1000	100% 100%
e	As in "c" but $I_b = 5$ uA and output coupled to a suitable amplifier and monitor, using deflection coils positioned as shown in drawing Page 5.	1. <u>Definition</u> No lines or marking other than the symbols on the photographic negative shall appear on the signal plate. Any blemishes on the signal plate shall not cause any ambiguity of signals or cause visible marks outside symbols greater than 1/6 of a symbol height in size. 2. <u>Scan Area</u> The scan shall cover the whole of the signal plate.			100% 100%
f	(i) $V_g = -80V$ or (ii) See K100/5A.3.2. Resistor 10 megohms	<u>Grid Insulation</u> (i) Leakage Current (uA) or (ii) Increase in voltmeter reading.		8 100%	100%
g	K1001/10.1	The external coating shall show no signs of blistering or flaking			T.A.

NOTESY. Signal plate patterns

The pattern shall be centred on the signal plate.

<u>Dimension of pattern</u>				<u>R.R.E. Ref. No.</u>
CV2436	75	mm x	5.5 mm	R5595
CV2437	56.5	mm x	3.5 mm	R5596
CV2438	65	mm x	~~73~~ mm 63	R5597
CV2439	65.5	mm x	71.5 mm	R6128
CV2440	76.5	mm x	98.5 mm	R5600
CV2441	67.25	mm x	86.5 mm	R5711
CV2442	65	mm x	87 mm	R6059
CV2443	46	mm x	3.5 mm	R6060

In the manufacture of these signal plates, a "Contact Print" from a master negative issued by R.R.E. must be used and not scaled reproduction from the illustrations on page 4, because of possible size distortion.

- Z. The vertical axis of the signal plate shall be within $\pm 10^\circ$ of the axis through the side contact and the axis of the tube. The top of the signal plate shall be on the same side of the tube as the side contact.

CV 2436

○ U F H E F I M X

CV 2438

○ I I S I E I F I Z I D I V I B I
○ I S S S S S F S Z S D S V S B S
○ I F S F E F F F Z F D F V F B F
○ I Z S Z E Z F Z Z Z D Z V Z B Z
○ I V S V E V F V Z V D V V V B V
○ I B S B E B F B Z B D B V B B B
○ I A S A E A F A Z A D A V A B A
○ I B S B E B F B Z B D B V B B B

CV 2440

○ I I S I E I F I Z I D I V I B I 9 I
○ I S S S S S F S Z S D S V S B S 9 S
○ I E S E E E F E Z E D E V E B E 9 E
○ I F S F E F F F Z F D F V F B F 9 F
○ I Z S Z E Z F Z Z Z D Z V Z B Z 9 Z
○ I D S D E D F D Z D D D V D B D 9 D

CV 2442

○ I A S A E A F A Z A D A V A B A
○ I B S B E B F B Z B D B V B B B
○ I I S I E I F I Z I D I V I B I
○ I S S S S S F S Z S D S V S B S
○ I E S E E E F E Z E D E V E B E
○ I F S F E F F F Z F D F V F B F
○ I Z S Z E Z F Z Z Z D Z V Z B Z
○ I D S D E D F D Z D D D V D B D
○ I V S V E V F V Z V D V V V B V
○ I B S B E B F B Z B D B V B B B
○ I R S R E R F R Z R D R V R B R

CV 2437

○ U F H E F I M S

CV 2439

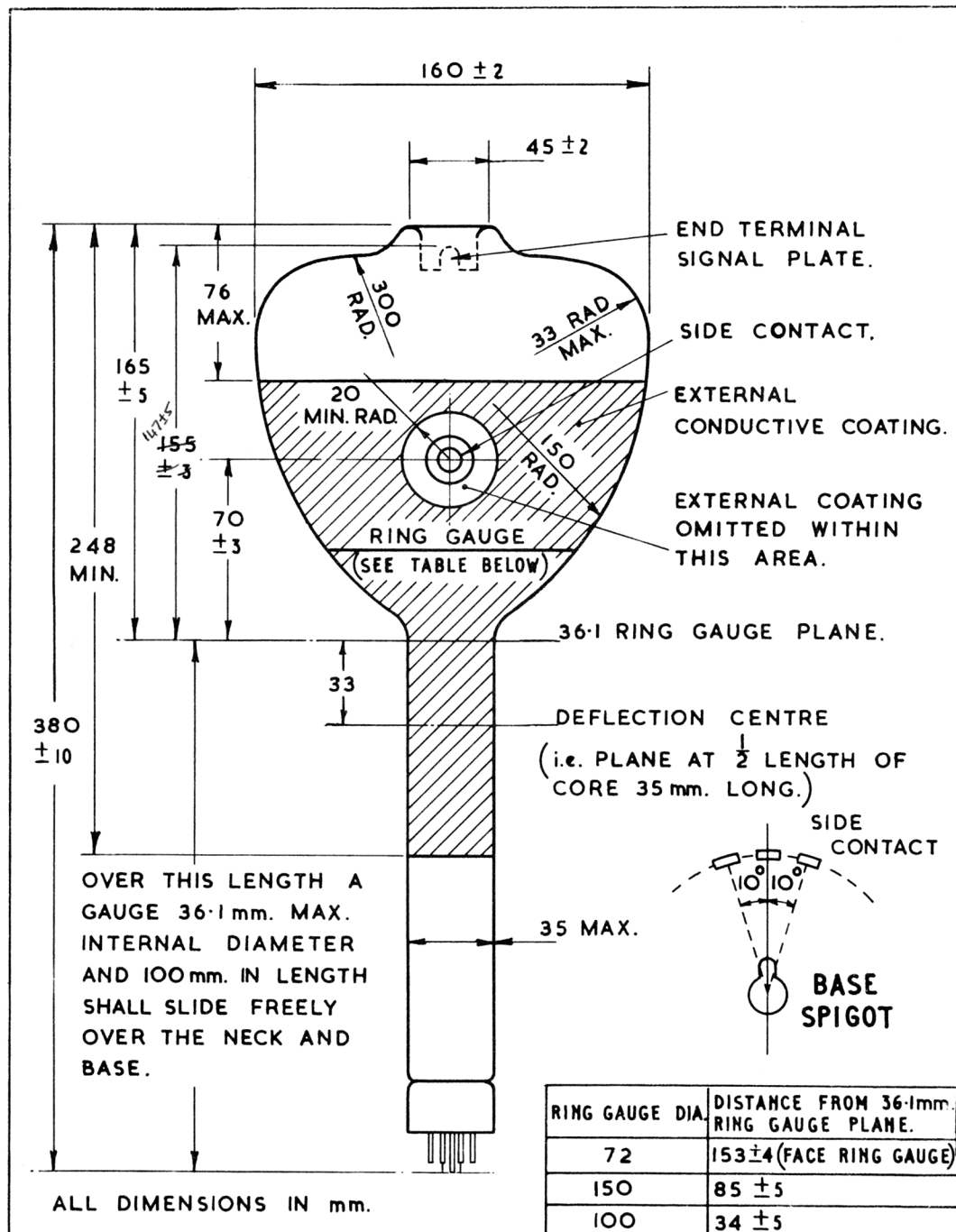
○ I I S I E I F I Z I D I V I B I
○ I S S S S S F S Z S D S V S B S
○ I E S E E E F E Z E D E V E B E
○ I F S F E F F F Z F D F V F B F
○ I Z S Z E Z F Z Z Z D Z V Z B Z
○ I V S V E V F V Z V D V V V B V
○ I B S B E B F B Z B D B V B B B
○ I A S A E A F A Z A D A V A B A
○ I B S B E B F B Z B D B V B B B

CV 2441

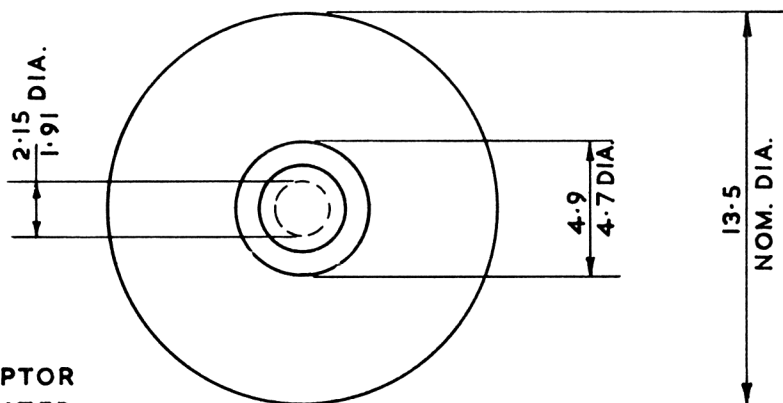
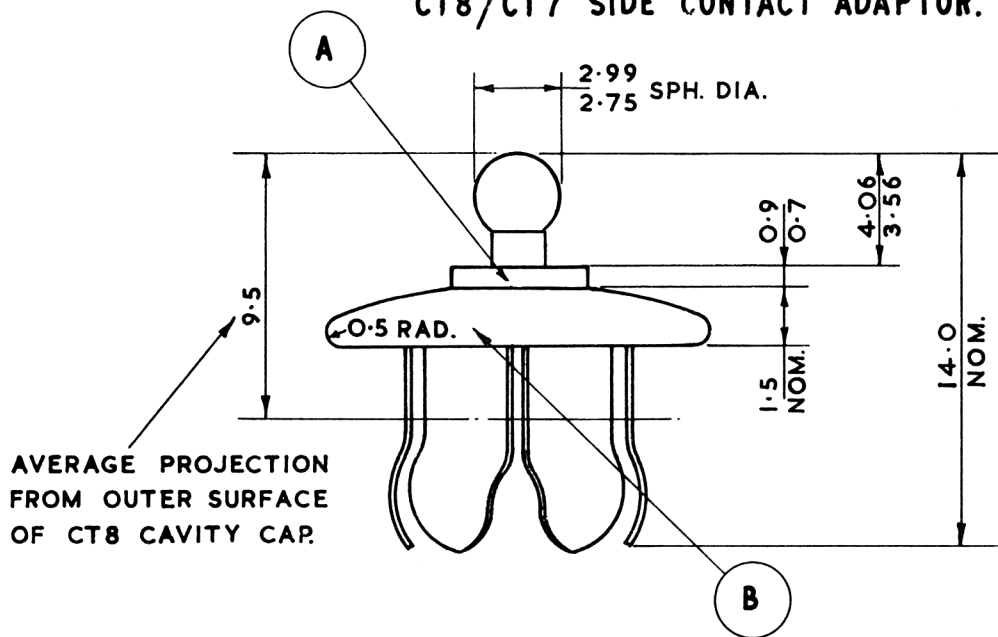
○ I I S I E I F I Z I D I V I B I 9 I
○ I S S S S S F S Z S D S V S B S 9 S
○ I E S E E E F E Z E D E V E B E 9 E
○ I F S F E F F F Z F D F V F B F 9 F
○ I Z S Z E Z F Z Z Z D Z V Z B Z 9 Z
○ I D S D E D F D Z D D D V D B D 9 D

CV 2443

○ U S F A E B



CT8/CT7 SIDE CONTACT ADAPTOR.



FINISH:— ADAPTOR
IS SILVER PLATED

MATERIAL:— (A) BRASS ROD
(B) SPRING STEEL
SHEET 0.37 THICK.

PART 'A' IS RIVETED TO PART 'B'.

SCALE 4:1

ALL DIMENSIONS IN mm.

ELECTRONIC VALVE SPECIFICATION

SPECIFICATION MOS/CV2436-43 ISSUE 2 DATED AUGUST, 1958

AMENDMENT No.1

Page 3

Note Y

Under "Dimension of Pattern", line 3:-

<u>Amend</u>	CV 2438	65mm x 73mm
to read	CV 2438	65mm x 63mm

R.R.E.

July, 1959
N.70910

✓ 11/11

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOS/CV2436-43

ISSUE 2 DATED AUGUST 1958

AMENDMENT No.2

Page 5. Amend:- Distance between the end terminal and 36.1 ring
gauge plane to read 147 ± 5 instead of 155 ± 3 .

February, 1960
N.16340

R.R.E.

✓ 26^{1/2}60