

ELECTRONIC VALVE SPECIFICATIONS  
SPECIFICATION MOS/CV.5119  
ISSUE No. 1 DATED 10.2.58  
AMENDMENT No. 1.

Page 4.

a) Note in Top left hand corner.

Amend the note to read as follows:-

"Variation of angular markings must not exceed  $\pm 10'$  of arc from their theoretical positions. The spacing of any 2 adjacent markings must not vary by more than  $10'$  of arc".

b) Beneath lower left hand quadrant of face plate:-

The dimension quoted as  $10^\circ \pm 10^\circ$  amend to read:-

" $30^\circ \pm 10^\circ$ "

Royal Aircraft Establishment.

January 1960

N 12448

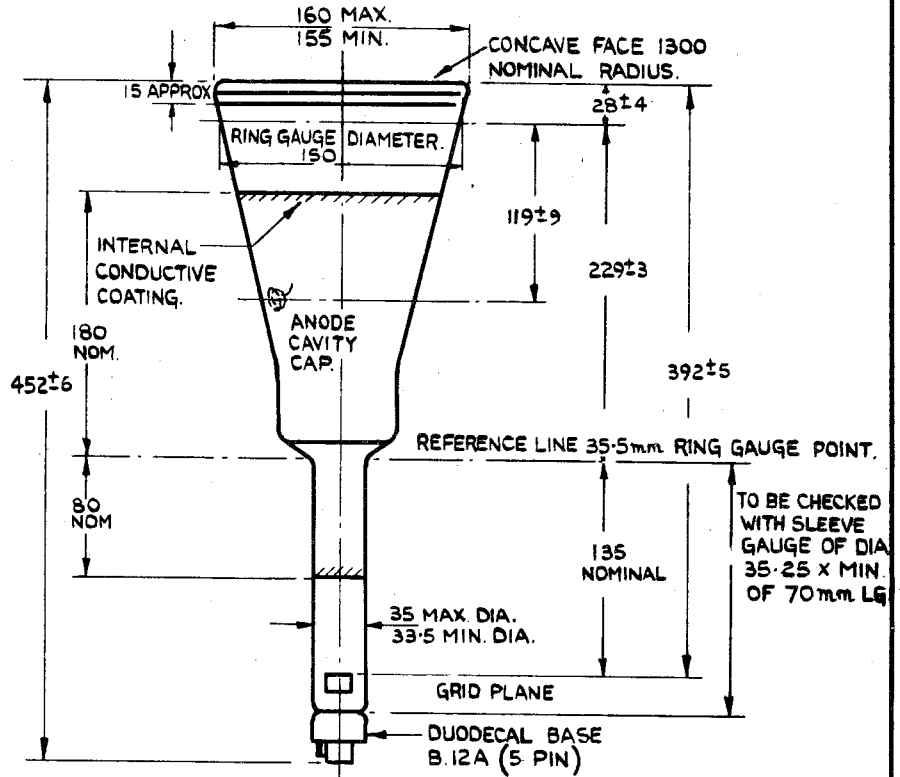
SPECIFICATION MOS/CV.5119		<u>SECURITY</u>	
ISSUE NO. 1 DATED 10.2.58		<u>SPECIFICATION</u> Unclassified	<u>VALVE</u> Unclassified
<p><u>TYPE OF VALVE:</u> Cathode Ray Tube with concave face.</p> <p><u>TYPE OF DEFLECTION:</u> Magnetic.</p> <p><u>TYPE OF FOCUS:</u> Magnetic.</p> <p><u>ENVELOPE:</u> Glass with internal conductive coating.</p> <p><u>SCREEN:</u> GG5 with aluminium backing and anti-reflection coated front face.</p> <p><u>PROTOTYPE:</u> 31G2/P1 (Mod.)</p>		<u>MARKING</u> See K.1001/4	
<u>RATING</u> (all limiting values are absolute)		<u>BASE</u> BSS.448/B12A	
<p>Heater Voltage (V) 6.3</p> <p>Heater Current (A) 0.6</p> <p>Max. Anode Voltage (KV) 12.5</p> <p>Max. Heater Cathode Voltage (V) 150</p> <p style="text-align: center;"><u>Typical Operating Conditions</u></p> <p>Anode Voltage (KV) 9.5</p> <p>Grid Voltage (cut off) (V) 68</p>		<u>CONNECTORS</u>	
		<u>PIN</u>	<u>ELECTRODE</u>
<p style="text-align: center;"><u>CAPACITANCES (pF)</u></p> <p>Cathode to all (max.) 10</p> <p>Grid to all (max.) 10</p>		1	Heater h
		2	Grid gl.
		3,4,5,6, 7,8,9	No pin NP
		10	No connection NC
		11	Cathode k
		12	Heater h
		Side Contact	Anode a
		<u>SIDE CONTACT</u> Recess Cap BS.448/GT8	
		<u>DIMENSIONS</u> See drawing on page 3	
		<u>NOTES</u>	
<p>1. Heater negative.</p> <p>2. The tube has a linear bearing scale on its inner front face as shown in drawing on page 4.</p>			

To be performed in addition to K1001

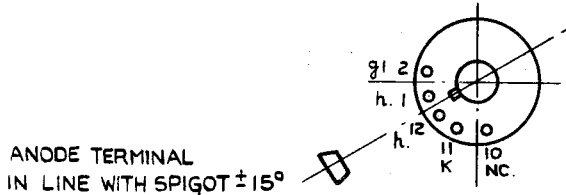
	Test Conditions			Test	Limits		No. Tested	Notes
					Min.	Max.		
a	See K.1001/5A.13 <sup>5</sup>			<u>Capacitances (pF)</u> Grid to all other electrodes - 10 Cathode to all other electrodes - 10	-	10	} 5% (5)	
b	Vh (V)	Va (KV)	Vg (V)	Heater Current (A)	.53	.67		100%
c	6.3	9.5	Adjust to cut-off	Negative Grid Volts (-V)	43	93	100%	
	Measured with a 140mm long focussed line.							
d	6.3	9.5	Adjust	1) Negative grid volts (V)	28	-	100%	
	Adjust for optimum focus.			2) Change in value of Vg from test 'C'. (V)	-	15	100%	
	Vg adjusted to give a light output of 0.15 candela.							
e	6.3	9.5	Adjust	Line width. (mm)	-	1.3	100%	1
	Adjust for optimum focus.							
	Vg adjusted to give a light output of 0.15 candela with a linear of sine wave scan of 50 c/s nom. and line of length 140mm in the X and Y directions successively. The line width to be measured at the centres.							
f	6.3	9.5	-100	<u>Grid Insulation</u>				
	For recommended method see K1001/5A.3.2			1) Leakage Current ( $\mu$ A)	-	10	100%	
	Resistance = 10 M $\Omega$			or				
				2) Increase in voltmeter reading.	-	100%	100%	
g	6.3	9.5	Any convenient values.	Deviation of Spot from centre of screen. (mm)	-	10	100%	
	See K1001/5A.11.1.							

NOTES

1. Centre of focus coil gap to be 41 mm from grid face.



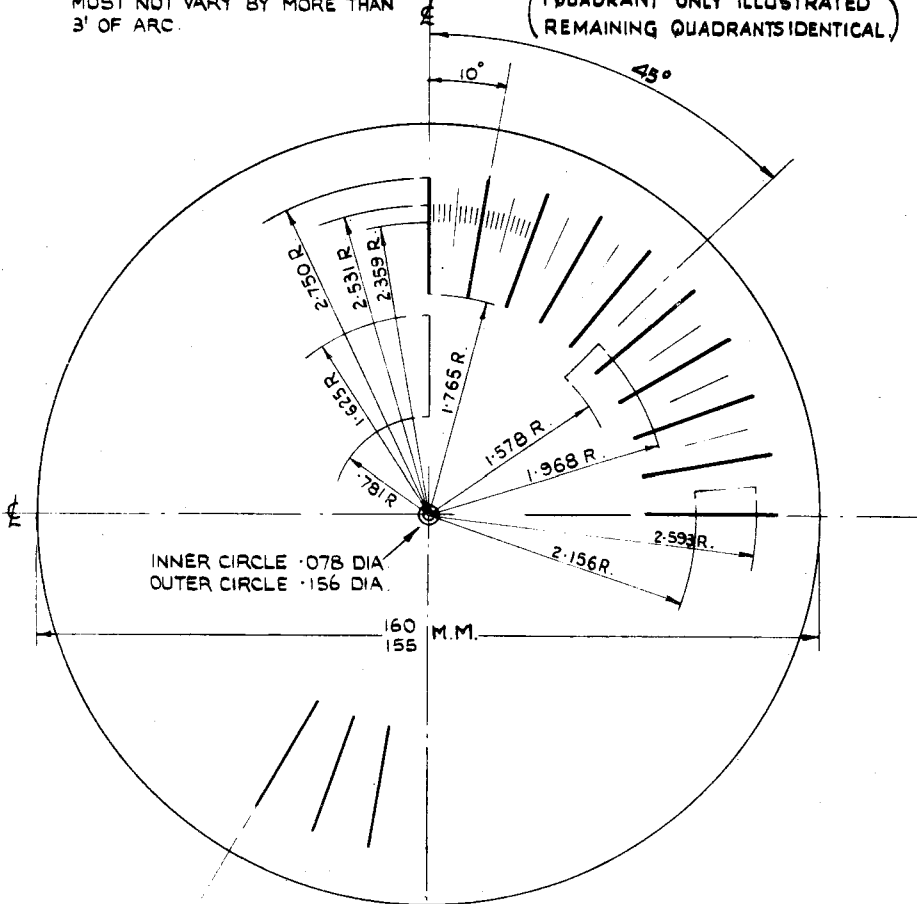
VIEW OF BASE END.



ALL DIMENSIONS IN mm.

VARIATION OF ANGULAR MARKINGS MUST NOT EXCEED  $\pm 3'$  OF ARC FROM THEIR THEORETICAL POSITIONS. THE SPACING OF ANY 2 ADJACENT MARKINGS MUST NOT VARY BY MORE THAN  $3'$  OF ARC.

SCALE TO BE LINEAR  $0/360^\circ$  WITH THE  $10^\circ$  LINES & CENTRE CIRCLES  $.012''$  THICK. THE  $1^\circ$ ,  $5^\circ$  INNER  $45^\circ$  & INNER  $90^\circ$  LINES TO BE  $.007''$  THICK. (1 QUADRANT ONLY ILLUSTRATED) (REMAINING QUADRANTS IDENTICAL)



INNER CIRCLE  $.078$  DIA  
OUTER CIRCLE  $.156$  DIA.

160 M.M.  
155

### NOTES.

- 1 MASTER SCALE SHOULD BE ENGRAVED TWICE FULL SIZE ON HARD BLACK ANODISED ALUMINIUM SHEET.
- 2 FINAL SCALE TO BE INDELIBLY MARKED AND FIRED ONTO THE INNER SURFACE OF THE SCREEN.

REQUIRED ANGULAR RELATIONSHIP BETWEEN C.R.T. ANODE CONNECTOR CAP &  $180^\circ$  RADIAL GRADUATION LINE.

### SCALE MARKING

ALL DIMENSIONS IN INCHES, EXCEPT WHERE OTHERWISE STATED.