

ADMIRALTY SIGNAL ESTABLISHMENT

Specification AD/CV961/Issue 3. Dated 1.2.46. To be read in conjunction with K1003.	<u>SECURITY</u> <u>Specification</u> Restricted	<u>Valve</u> Restricted
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<u>TYPE OF TUBE:-</u>	Compass Tube.	<u>MARKING</u> See K1003/7
<u>TYPE OF DEFLECTION & FOCUS:-</u>	Electrostatic.	
<u>BULB:-</u>	Coated partially internally with graphite.	
<u>SCREEN:-</u>	GGN53 Green, medium persistence, special markings as specified. See Note A.	
<u>PROTOTYPE:-</u>	V1047.	

<u>RATING</u>		Note	<u>BASE CONNECTIONS</u>	
Heater Voltage	(V) 4.0		12 Contact key base	
Heater Current	(A) 0.715	→ 0.425	Pin	Electrode
Max. Va1	(V) 500		1	Modulator
Max. Va2	(kV) 1.0		2	Cathode
Max. Va3	(kV) 4.0		3	Heater
X-plate sensitivity	(mm/V/Va3) 520		4	Heater
Y-plate sensitivity	(mm/V/Va3) 520		5	Anode 1
<u>TYPICAL OPERATING CONDITIONS</u>			6	Anode 2
Va1	(V) 450		7	Blank
Va2 (Focussing)	(V) 380-500		8	Y-aft.
Va3	(kV) 2.2		9	Y-fore
Vmod for beam cut-off	(V) 30-90		10	Anode 3
<u>CAPACITANCES (pF.)</u>			11	X-starboard
Xs - Xp	4.5		12	X-port
Xs - Rest	14.6	<u>DIMENSIONS</u>		
Xp - Rest	14.0	See drawing page 3.		
Yf - Ya	4.4			
Yf - Rest	14.9			
Ya - Rest	13.8			
(Xs + Xp) - (Ya + Yf)	2.7			
Mod - Rest	8.6			

NOTE

- A. The screen calibration markings shall be made by sticking on an approved transparent material (e.g. celluloid) printed with the markings shown on Page 4. The calibration must be sufficiently accurate to pass the relevant tests given. At Type Approval the scale will be subjected to mechanical and tropical tests.

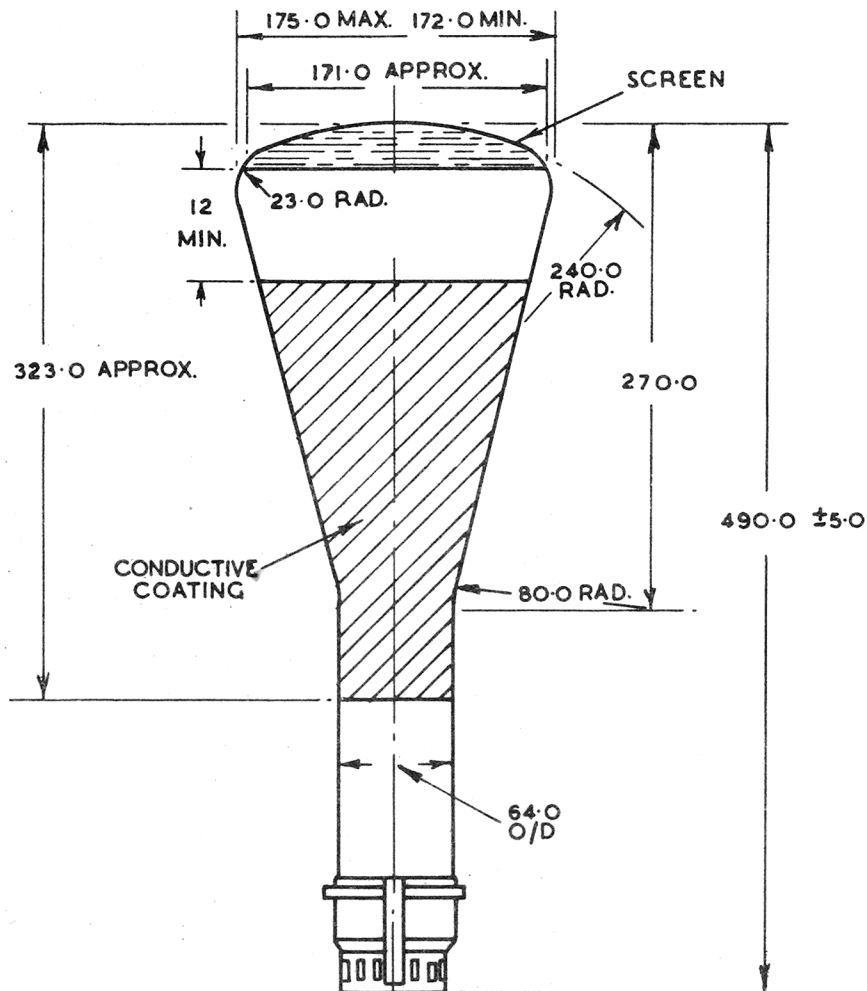
TESTS

To be performed in addition to those applicable in K1003.

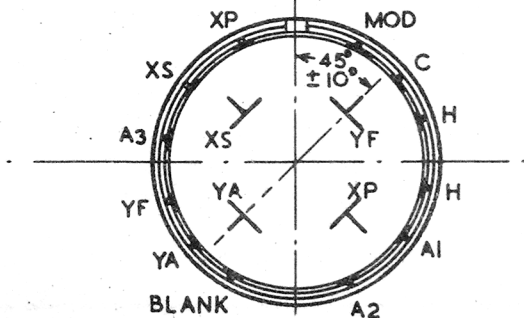
	Test Conditions					Test	Limits		No. Tested
	Vh (V)	V mod (V)	Va1 (V)	Va2 (V)	Va3 (kV)		Min.	Max.	
a	4.0	-	-	-	-	Ih (A)	0.34	0.79	100%
b	4.0		450	read	2.2	Va2 (V)	380	500	100%
	V mod. adjusted for working brightness, Va2 for optimum focus.								
c	4.0	read	450	as in b	2.2	V mod. for cut-off (V)	30	90	100%
	V mod. adjusted for Ib cut-off								
d	Conditions as in "b". Suitable deflection voltages applied to give 3-in. line deflection.					Sensitivity: (i) Of less sensitive pair of plates (nm/V) (ii) Of more sensitive pair of plates.	± 75 Va3	$\frac{565}{Va3}$	100%
							To be within 6% of value for d (i)		
e	Conditions as in "b". Deflection voltages applied to X and Y plates successively, the pair of plates not in use being earthed.					Angle between X-axis (P-S) and Y-axis (F-A)	89°	91°	100%
f	Conditions as in "b". Tube screened from external field.					Distance of spot at rest from mechanical centre of screen (mm)	-	8	100%
g	Conditions as in "b". X and Y deflecting voltages, calculated to give bearings at every 22.5° applied. Bearing checked if trace is non-linear by laying cursor along straight part of the scan.					Calibration. (Angular divergence of scan line from calibration for every 22.5° of scale).	-	1°	100%
h	Conditions as in "b". X and Y deflections applied independently and successively.					Calibration (Angular divergence of scan line from F.A.P.S. markings).	-	0.25°	100%
j	Conditions as in "b". Line width measured by approved method at 45° intervals.					Line width (mm)	-	1.0	100%
k	Conditions as in "b". Trace F-A applied.					Basing. Measure angle between F-A trace and diameter of base thro' centre of key.	35°	55°	100%
l	Conditions as in "b". Current flowing in modulator circuit measured.					Modulator leakage current (μA)	-	3.0	100%

OUTLINE DIMENSIONS

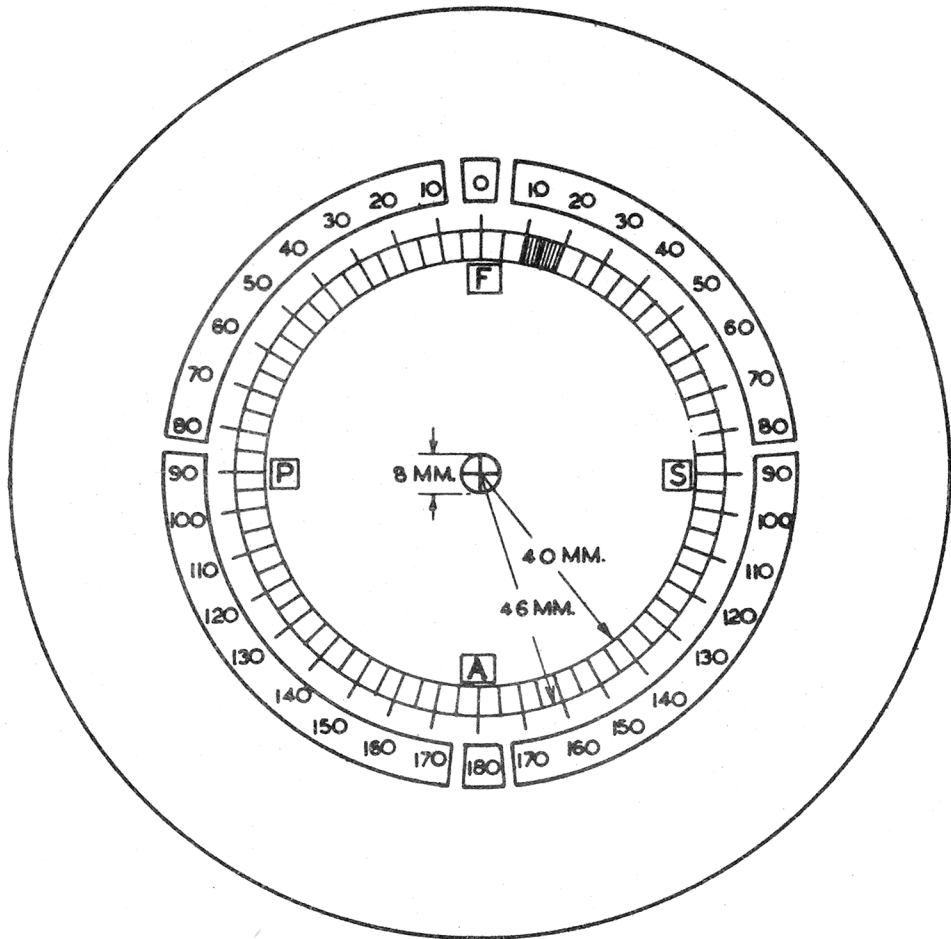
CV961



VIEW OF FREE END.



ALL DIMENSIONS IN MILLIMETRES.

ARRANGEMENT OF SCALE.COLOUR CODE OF SCALE

BLACK. (O) 180 (⊕) F A DEGREE SCALE.

RED (PORT SIDE) P FIGURES 10-170.

GREEN (STARBOARD SIDE) S FIGURES 10-170.

ALL DIMENSIONS GIVEN ARE NOMINAL.

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV961, ISSUE 3, DATED 1.2.46

AMENDMENT NO.1.

1. Page 1. Rating

Against value of Heater Current, "0.715" add
"or 0.425"

2. Page 2 Test Clause (a)

Amend Limits Min. "0.64" to read "0.38"

January, 1967
N.445742

TVC for ASWE

ASB
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