VALVE ELECTRONIC

CV2192

GENERAL POST OFFICE: E-IN-C (S)

Specification: G.P.O./CV2192/Issue 1 Dated: September, 1954. To be read in conjunction with K 1001	SECURITY Specification: Unclassified Valve: Unclassified

→ indicates a change

TYPE OF VALVE - Cathode Ray Tube

TYPE OF DEFLECTION - Magnetic

TYPE OF FOCUS - Magnetic

SCREEN - WW5

PROTOTYPE - C102B

MARKING

See K1001/4

BASE

I.0

Rating			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.1	
Max Final Anode Voltage	(kV)	17.0	
Max Heater-Cathode Voltage	(V)	± 200	
Capacitances	(pF)		
Cc - all (max)		9.0	
Cg - all (max)		8.0	

Connexions

Pin	Electrode
1	No connection
2	Heater
3	No pin
4	No pin
5	Grid
6	No pin
7	Heater
8	Cathode
S.C.	Anode

Side Contact

See K1001/A1/D5.1

Dimensions

See Drawing. Page 4

CV2192

TESTS

To be performed in addition to those applicable in K.1001

	TEST CONDITIONS				TEST	Limits		No. Tested	Note
	Vh (V)	Va (kV)	Vg (V)	Ib (μA)		Min.	Max.		
(a)	See K 1001/5A.13.				Capacitances (pF) (i) Grid to all other electrodes (ii) Cathode to all other electrodes	 5 6	 8 9	 5% (5)	
(b)	4.0	-	-	-	Ih (A)	0.9	1.1	100%	
(c)	4.0	15.0	Adjust for cut-off	-	Vg (V)	-55	-105	100%	
(d)	4.0	15.0	Adjust	100	(i) Change in Vg from value in Test (C) (V) (ii) Line Width (mm) (iii) Focus Coil Current (mA) (iv) Within the range of Vg from cut-off to that for Ib-100 A, the beam current shall increase continuously	25 - 18	40 0.3 22	100% 100% 100%	1
	Deflecting fields to give an optimum focused closed raster 17 cm x 12.75 cm.								
(e)	4.0	15.0	Value Obtained in test (C)	-	Grid Insulation (i) Leakage current (μA) (ii) Increase in Voltmeter Reading	- -	5 100%	100%	
	Recommended Method see K1001/5A.3.2 Resister = 50 Megohms								
(f)	4.0	15.0	Any convenient value		Useful Screen Area Raster size (cm)	-	17 X 12.75	100%	
	Adj. for optimum focus. Deflection to cover stated rectangle aligned so that the short sides of the raster are parallel, with a tolerance of ± 30° to the radius passing through the anode arm.								
(g)	4.0	15.0	Adjust	100	(i) Screen blemishes have to be not worse than an agreed standard (ii) Visual Brightness (ft. lamberts)	- 64	- -	100% 100%	2
	Raster size 17 cm x 12.75 cm Optimum focus 25 Frames/405 Lines Sec.								
(h)	4.0	15.0	Near Cut-off	-	Deviation of unfocused spot from centre of screen (mm)	-	12	100%	
	No focus coil energisation and no deflecting fields shall be present.								

CV2192

TESTS

To be performed in addition to those applicable in K.1001

	TEST CONDITIONS				TEST	Limits		No. Tested	Note
	Vh (V)	Va (kV)	Vg (V)	Ib (μA)		Min.	Max.		
								100%	
j					No bubbles or non-transparent blemishes in the glass face of the tube shall be greater than 0.04" (1mm) Dia. and the maximum number of bubbles and blemishes permissible shall be according to the following:- With the anode arm of the tube vertical, the area of the tube face covered by a centred 17 cm x 12.75 cm rectangle, with its short sides aligned with the radius passing through the anode arm, to within limits of $\pm$ 30°, shall be subject to bubble and blemish concentration limits of a mean density of 4 per sq. inch (4 per 6.25 sq. cm) This refers to bubbles in the size range 0.006" to 0.040" Dia. Bubbles below 0.006" are neglected, unless in sufficient concentration to produce "cloudiness".				

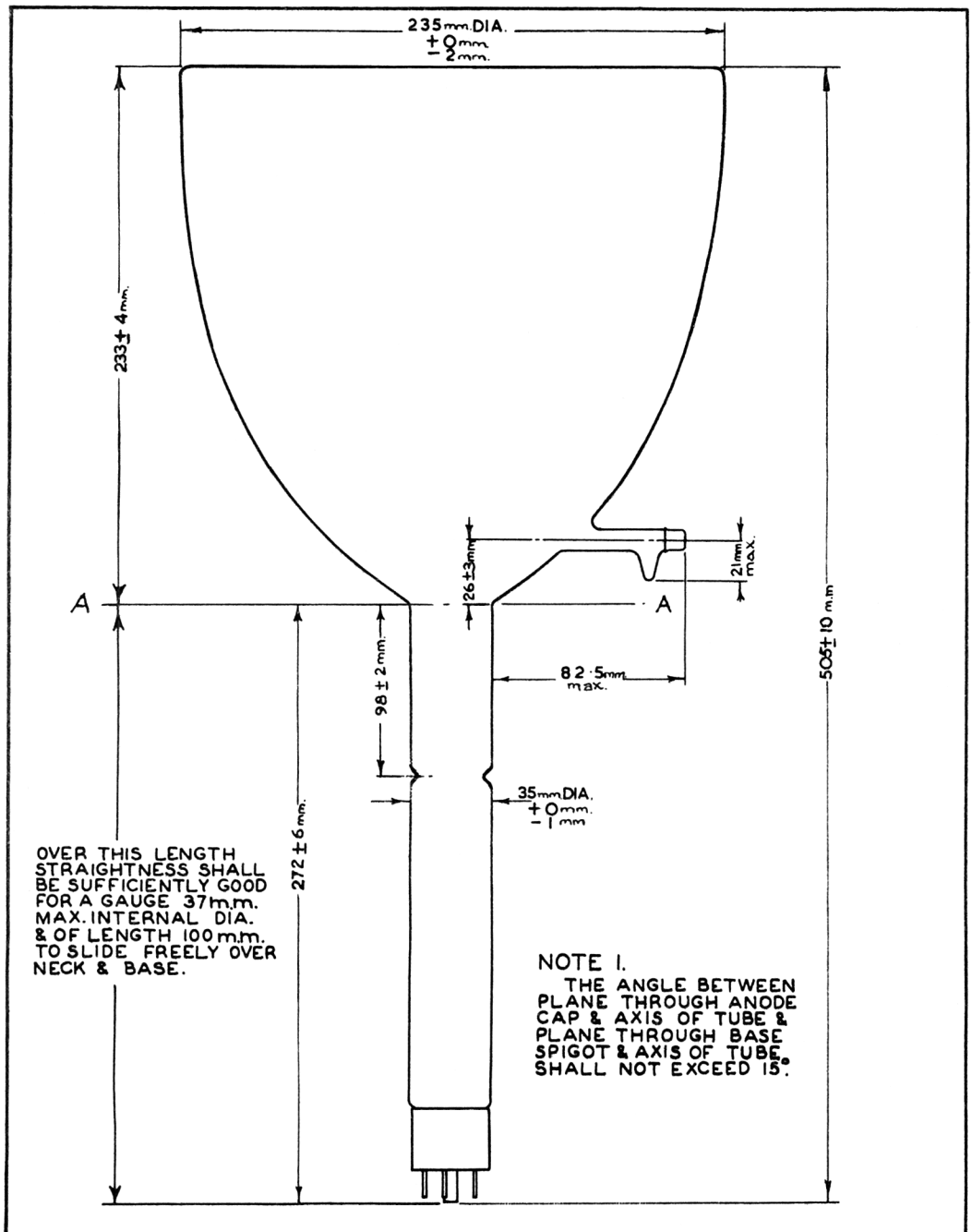
NOTES

1. The necessary focusing field is to be obtained from a coil as specified below, the centre of the coil to lie 11 cm from the AA reference line on the tube neck.

   Coil Specification outside diam. $3\frac{1}{2}$", inside diam. $1\frac{7}{8}$". Length $1\frac{1}{2}$". Windings 41,000 Turns of 42 SWG Enam. Copper. Outer edge and faces of coil shrouded with 1/16" Soft iron. Brass Core.

2. Visual Brightness measured by an EEL Type Photo cell with filter, to correct response to eye sensitivity curve, held against tube face.

   Calibration of cell to be made by means of Air Ministry Test Set 139.


235mm DIA.
+0mm
-2mm.
233±4mm.
A
A
26±3mm
21mm max.
505±10 m.m
82·5mm max.
98±2mm.
35mm DIA.
+0mm.
-1mm
272±6mm.
OVER THIS LENGTH STRAIGHTNESS SHALL BE SUFFICIENTLY GOOD FOR A GAUGE 37m.m. MAX. INTERNAL DIA. & OF LENGTH 100m.m. TO SLIDE FREELY OVER NECK & BASE.
NOTE 1.
THE ANGLE BETWEEN PLANE THROUGH ANODE CAP & AXIS OF TUBE & PLANE THROUGH BASE SPIGOT & AXIS OF TUBE SHALL NOT EXCEED 15°.