

ABRIDGED DATA

Television Camera Viewfinder or Picture Monitor tube with 7-inch diagonal flat faceplate and high light output screen.

Deflection Angle	65	Degrees
Deflection Method		Magnetic
Focus Method		Electrostatic
E.H.T. Voltage	14	kV

GENERAL

Electrical and General

Cathode	Indirectly Heated, Oxide Coated
Heater Voltage (<i>See Note 1</i>)	11.5 V
Heater Current	0.15 ± 10% A
Faceplate	Flat, clear glass
Screen	Aluminised
Fluorescent Colour	White
Persistence	Short
Inter-electrode Capacitances:	
Grid to all other electrodes, less than	10 pF
Cathode to all other electrodes, less than	8.0 pF
Final Anode to external conductive coating	350 pF Approx

Mechanical

Overall Length	9.291 inches (236 mm)	Max
Faceplate Diagonal	6.929 inches (176 mm)	Max
Neck Diameter	1.157 inches (29.4 mm)	Max
Net Weight	2 pounds (0.9 kg)	Approx
Base (<i>See Note 2</i>)		B8H
Final Anode Connection		B.S.448-CT8
Mounting Position		<i>See Note 3</i>



MAXIMUM AND MINIMUM RATINGS
(Absolute Values)

(All voltages with respect to cathode)

	<i>Min</i>	<i>Max</i>	
Anode 2 and Anode 4 Voltage	10	16	kV
Anode 3 Voltage:			
positive value	—	800	V
negative value	—	500	V
Anode 1 Voltage	250	500	V
Anode 1 Supply Source Impedance	—	1.5	MΩ
Grid Voltage, negative value (<i>See Note 4</i>)	0	200	V
Grid to Cathode Resistance	—	1.5	MΩ
Grid to Cathode Impedance (at 50c/s)	—	0.5	MΩ
Cathode Current (Mean)	—	150	μA
Heater to Cathode Voltage (<i>See Note 5</i>)	—	200	V
Peak Heater to Cathode Voltage:			
Cathode positive (<i>See Note 6</i>)	—	400	V
Heater to Cathode Resistance			<i>See Note 7</i>

TYPICAL OPERATING CONDITIONS

Anode 2 and Anode 4 Voltage	14	kV
Anode 3 Voltage (<i>See Note 8</i>)	0 to +1400	V
Anode 3 Current	-15 to +15	μA
Anode 1 Voltage	400	V
Grid Voltage for cut-off	-30 to -80	V
Resolution		<i>See Note 9</i>

BEAM CENTRING

In order to obtain maximum brightness and the best focus spot size, stray magnetic fields must be minimised over the length of the gun structure. This may be achieved by using a tubular mumetal shield over the neck.

Where optimum performance is required, a small magnet should be used for centring the beam in the defining aperture. The magnet should be located in the region of the grid and its position and strength adjusted to give maximum brightness.

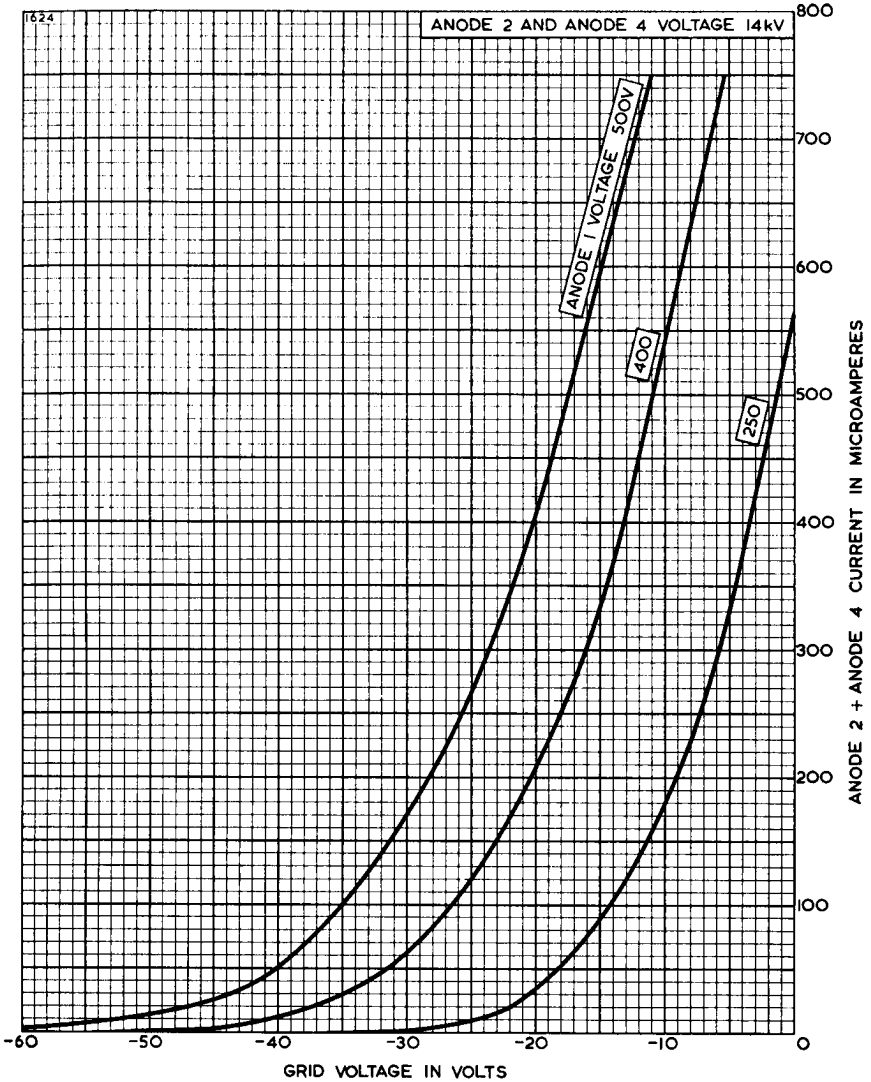
→ Indicates a change

NOTES

1. The heater is suitable for series or parallel operation. In series operation the surge heater voltage must not exceed $16V_{r.m.s.}$ when the supply is switched on and a current limiting device may be necessary in the circuit to ensure that this voltage is not exceeded.
2. The tube should not be supported by the base alone and under no circumstances should the socket be used for support purposes.
3. The tube may be mounted in any position except with the screen down and the axis of the tube making an angle of less than 20° with the vertical.
4. The d.c. value of grid bias must not be allowed to become positive with respect to the cathode except during the period immediately after switching the equipment on or off when it may be allowed to rise to $+1V$. The maximum positive grid excursion may reach $2V$ and at this voltage the grid current may be expected to be approximately $2mA$.
5. To avoid excessive hum, the a.c. component of the heater to cathode voltage should be as low as possible, preferably less than $20V_{r.m.s.}$
6. During a warming-up period not exceeding 45 seconds.
7. When the heater is in a series chain or earthed, the impedance between the cathode and earth at $50c/s$ must not exceed $100k\Omega$. When the heater is supplied from a separate transformer, the heater to cathode resistance must not exceed $1M\Omega$.
8. An acceptable focus quality will be obtained with an anode 3 voltage range of 0 to $+400V$. If it is required to pass through the point of focus a voltage range of at least -100 to $+500V$ will be required.
9. The resolution at the centre of the screen (measured at an anode 2 and anode 4 voltage of $14kV$ and anode 1 voltage of $400V$) is equal to or better than 625 lines. The tube will resolve a minimum of 625 lines based on a picture height of 99mm and measured at a brightness of 200ft-lamberts with the anode 3 voltage adjusted to give the smallest and roundest spot.



GRID VOLTAGE CHARACTERISTICS

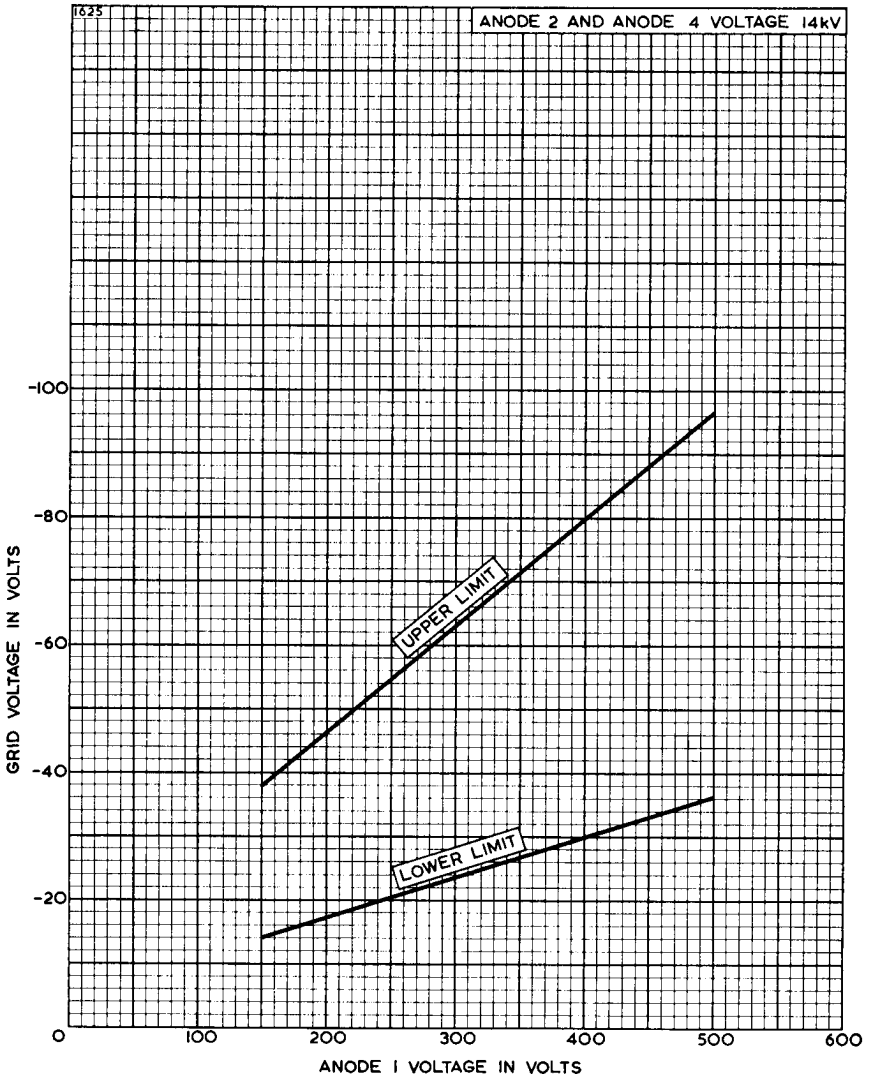


ENGLISH ELECTRIC VALVE CO. LTD.

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ENGLAND

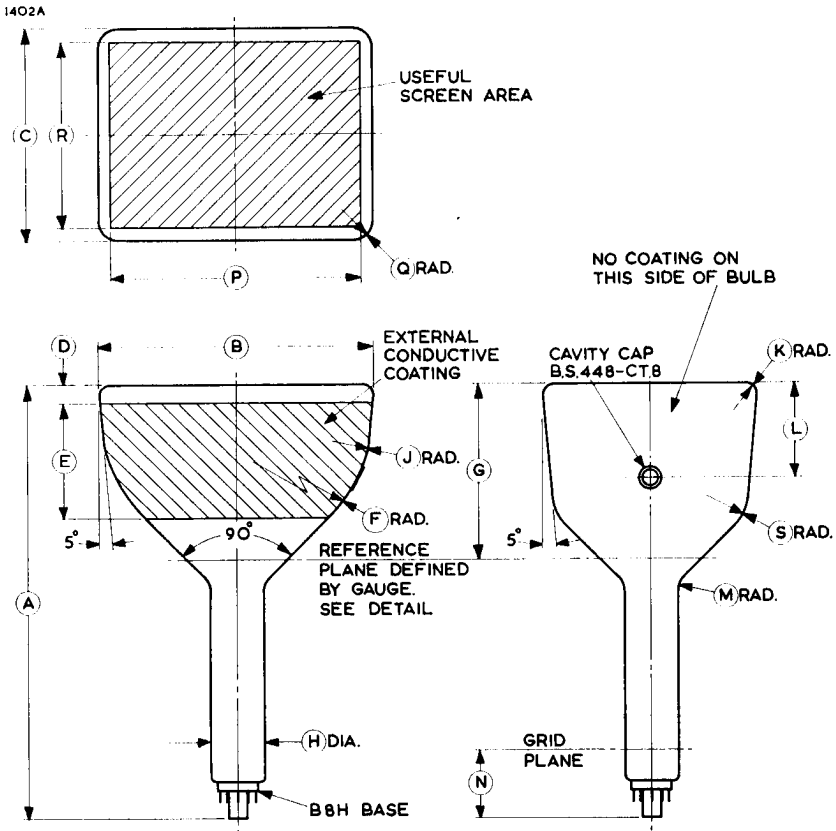


GRID CUT-OFF VOLTAGE LIMITS





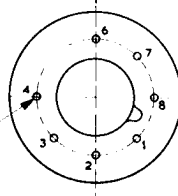
OUTLINE



OUTLINE DETAILS

1407

CAVITY CAP WILL
LIE ON PLANE
OF PINS 4 & 8
WITHIN 15°



PINS (AA) DIA.

ON (AB) P.C.DIA.

Pin	Connection
1	Heater
2	Internal Connection
3	Anode 1
4	Anode 3
5	No Pin
6	Grid
7	Cathode
8	Heater
Cap	Anode 2 & Anode 4

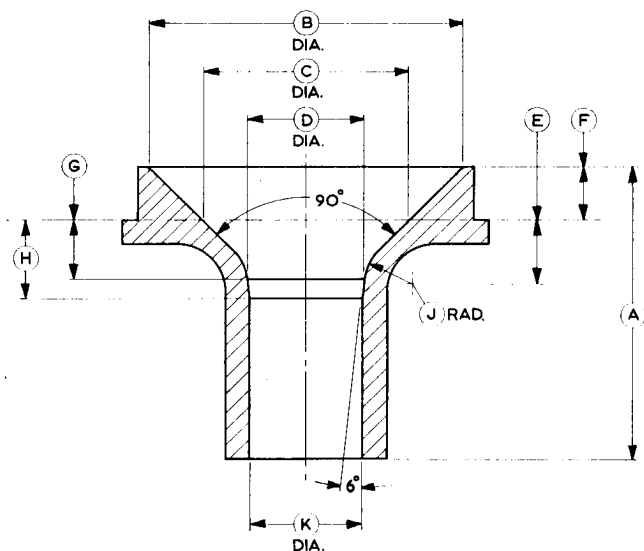
OUTLINE DIMENSIONS

Ref.	Inches	Millimetres	Ref.	Inches	Millimetres
A	9.055 ± 0.236	230.0 ± 6.0	L	1.969 ± 0.236	50.0 ± 6.0
B	5.709 ± 0.118	145.0 ± 3.0	M	0.394	10.0
C	4.409 ± 0.118	112.0 ± 3.0	N	1.417	36.0
D	0.394 ± 0.118	10.0 ± 3.0	P	5.197 Min	132.0 Min
E	2.402 ± 0.118	61.0 ± 3.0	Q	0.394	10.0
F	3.150	80.0	R	3.898 Min	99.0 Min
G	3.661 ± 0.157	93.0 ± 4.0	S	0.984	25.0
H	1.126 ± 0.031	28.6 ± 0.8	AA*	0.040	1.02
J	1.024	26.0	AB*	0.600	15.24
K	0.236	6.0			

Inch dimensions have been derived from millimetres except where indicated thus*.

REFERENCE LINE GAUGE

1406



Ref.	Inches	Millimetres	Ref.	Inches	Millimetres
A	3.063 ± 0.016	77.80 ± 0.40	G	0.613 ± 0.004	15.57 ± 0.10
B	3.248 ± 0.004	82.50 ± 0.10	H	0.815 ± 0.004	20.70 ± 0.10
C	2.122 ± 0.002	53.90 ± 0.05	J	0.500 ± 0.004	12.70 ± 0.10
D	1.211 ± 0.003	30.75 ± 0.07	K	$1.168 \begin{smallmatrix} +0.003 \\ -0.000 \end{smallmatrix}$	$29.67 \begin{smallmatrix} +0.07 \\ -0.00 \end{smallmatrix}$
E	0.665 ± 0.004	16.90 ± 0.10			
F	0.563 ± 0.004	14.30 ± 0.10			

Inch dimensions have been derived from millimetres.