RADAR TUBE

T958Z

ENGLISH ELECTRIC

ABRIDGED DATA

16-inch diameter radar tube.

Neck Diameter	1·378 inches (35mm)
Deflection Angle	50 Degrees
Deflection Method	Magnetic
Focus Method	Electrostatic
E.H.T. Voltage	12 kV

GENERAL

Electrical and General

Cathode	Indirectly Heated, Oxide Coated
Heater Voltage (*See Note* 1)	6·3 V
Heater Current	0·3 A
Screen (*See Notes* 2 *and* 3)	Aluminised
Fluorescent Colour	Orange
Persistence	Very Long
Inter-electrode Capacitances:	
Grid to all other electrodes	8·0 pF Max
Cathode to all other electrodes	8·0 pF Max
Anode 2+Anode 4 to external conductive coating	1200 pF Approx

Mechanical

Overall Length	24·02 inches (610 mm) Max
Overall Diameter	16·14 inches (410 mm) Max
Neck Diameter	1·398 inches (35·5 mm) Max
Net Weight	24 pounds (11 kg) Approx
Base	B.S.448–B12A
Anode 2 and Anode 4 Connection	B.S.448–CT8 Cavity Cap
Mounting Position	Any, except vertical with the screen downwards and the axis of the tube making an angle of less than 20° with the vertical.

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Printed in England

MAXIMUM AND MINIMUM RATINGS

(Absolute Values. *See Note* 4)

	Min	*Max*	
Anode 2 and Anode 4 Voltage	8·0	18	kV
Anode 3 Voltage:			
Positive value	—	500	V
Negative value	—	500	V
Anode 1 Voltage	200	500	V
Grid Voltage (negative value)	1·0	200	V
Grid to Cathode Impedance (at 50Hz) ..	—	0·5	MΩ
Grid to Cathode Resistance	—	1·5	MΩ
Heater to Cathode Voltage:			
Heater positive with respect to cathode ..	—	150	V
Heater negative with respect to cathode ..	—	150	V
Heater to Cathode Resistance		*See Note* 5	

TYPICAL OPERATING CONDITIONS

Anode 2 and Anode 4 Voltage	12	kV
Anode 3 Voltage (*See Note* 6)	−200 to +200	V
Anode 1 Voltage	300	V
Anode 3 Current	−15 to +15	μA
Grid Voltage for cut-off	−30 to −70	V

NOTES

1. The heater is suitable for either series or parallel operation.
2. The T958 is supplied with an EEV Z Screen which has very long persistence and satisfies the requirements of E.V.S. 009 screen specification. It can also be manufactured with other screens, and customers' enquiries are invited.
3. The fluoride screen is sensitive to burn and should not be operated with slow moving spots.

4. All voltages are with respect to the cathode.

5. When the heater is in a series chain or earthed, the impedance between the cathode and earth at 50Hz must not exceed 100kΩ. When the heater is supplied from a separate transformer, the heater to cathode resistance must not exceed 1·0MΩ.

6. An acceptable focus quality is obtained with an anode 3 voltage range of −200 to +200V. If it is required to pass through the point of focus a voltage range of at least −300 to +300V will be required.

X-RAY WARNING

X-rays are produced when T958Z is operated with anode voltages above 16kV (absolute value). These rays can constitute a health hazard unless the tube is adequately shielded for X-ray radiation. This is entirely a function of high voltage devices and does not reflect on the design of the tube.

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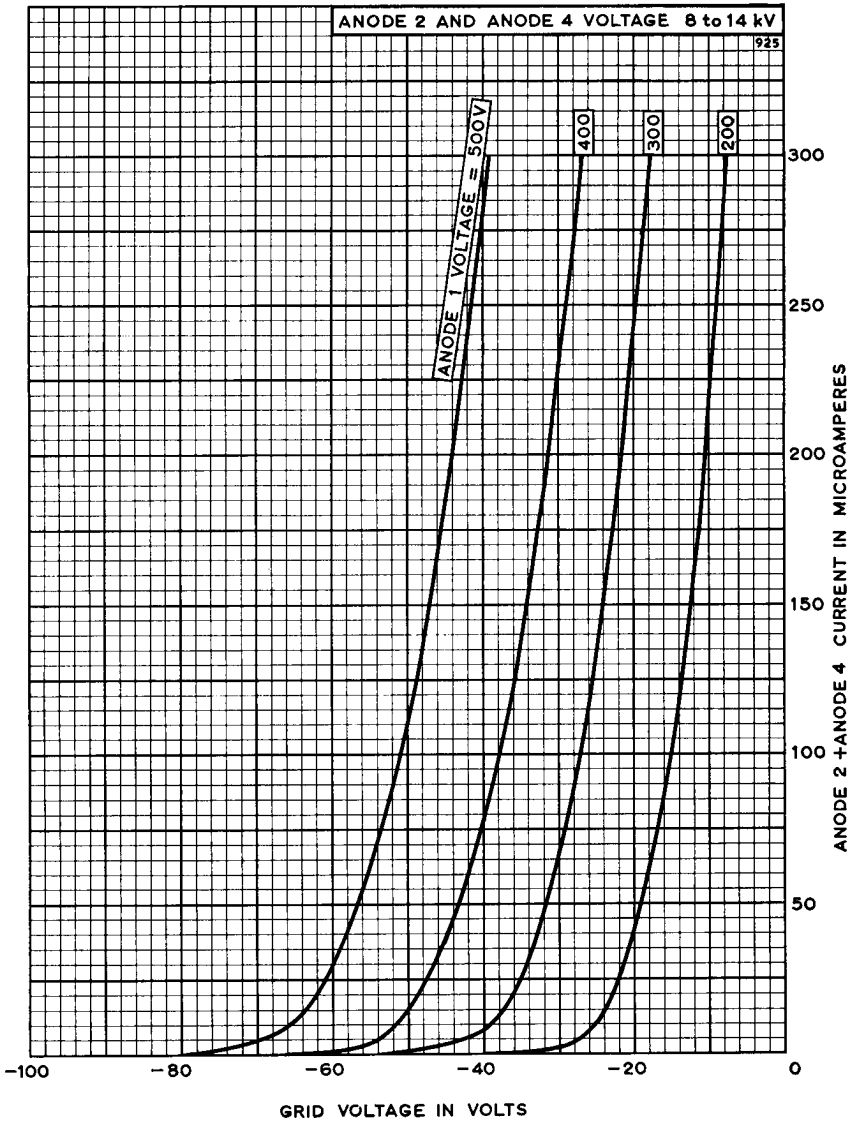
GRID VOLTAGE CHARACTERISTICS



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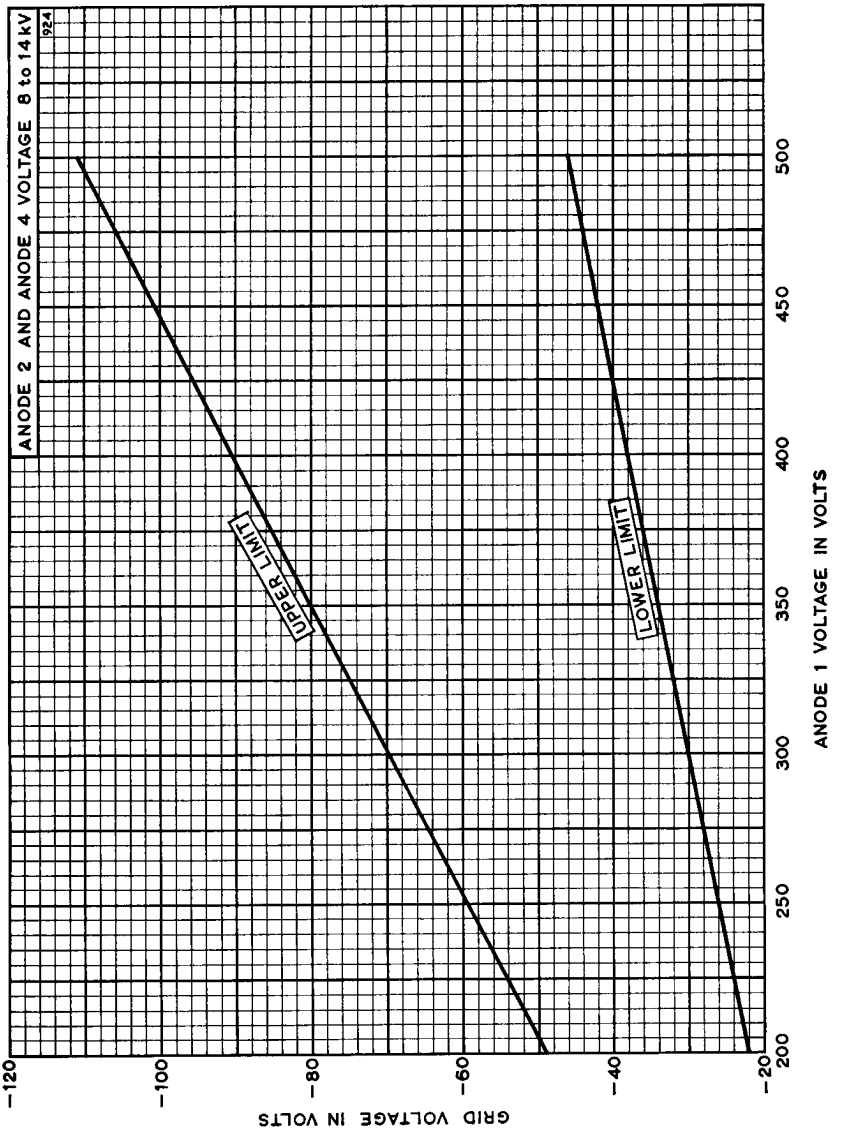
GRID CUT-OFF VOLTAGE LIMITS



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OUTLINE

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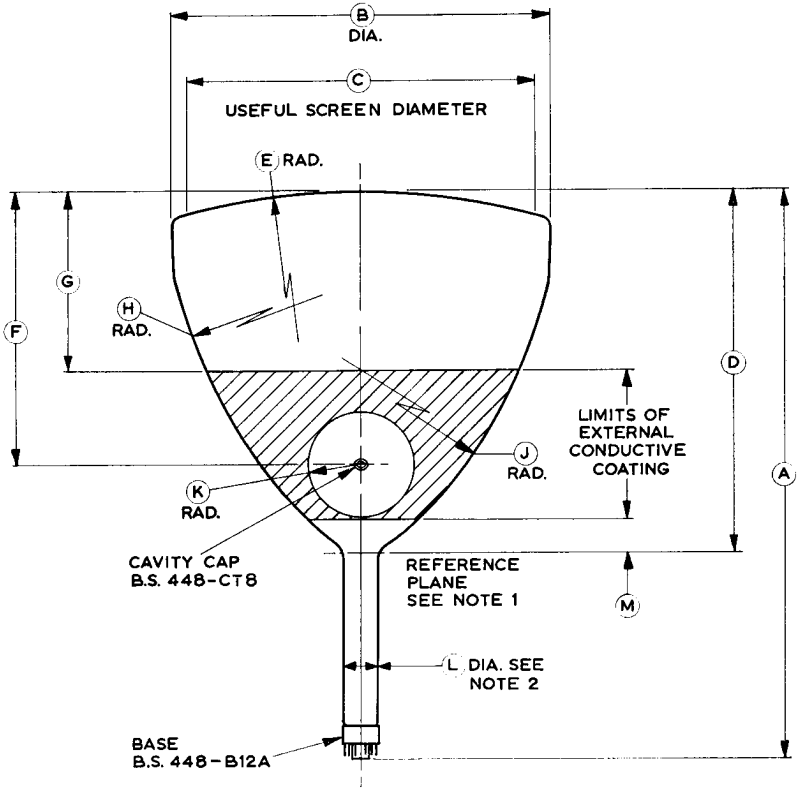

Ref.	Inches	Millimetres	Ref.	Inches	Millimetres
A	23·622 ± 0·394	600 ± 10·0	H	23·504	597·0
B	15·984 ± 0·157	406·0 ± 4·0	J	16·732	425·0
C	14·685 Min	373·0 Min	K	2·165 ± 0·197	55·0 ± 5·0
D	14·961 ± 0·157	380·0 ± 4·0	L	$1·378^{+0·020}_{-0·040}$	$35·0^{+0·5}_{-1·0}$
E	27·560	700·0	M	1·417 ± 0·236	36·0 ± 6·0
F	11·417 ± 0·394	290·0 ± 10·0			
G	7·480 ± 0·394	190·0 ± 10·0			

Inch dimensions have been derived from millimetres.

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OUTLINE DETAILS

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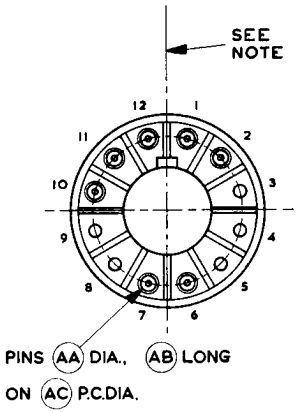

Pin	Element
1	Heater
2	Grid
3	No Pin
4	No Pin
5	No Pin
6	Anode 3
7	Internal Connection
8	No Pin
9	No Pin
10	Anode 1
11	Cathode
12	Heater
Cavity Cap	Anode 2 & Anode 4

Ref.	Inches	Millimetres
AA	0·098 ± 0·003	2·362 ± 0·076
AB	0·410 Max	10·41 Max
AC	1·063	27·00

Millimetre dimensions have been derived from inches.

Note The anode cavity cap will be in line with the base key to within 15°.

OUTLINE NOTES

1. Reference plane determined by 36·0mm diameter ring gauge.
2. A ring gauge 36·0mm diameter by 100mm long will pass over base and neck to reference plane.