

TELEVISION TUBE

MW43-69Z

Direct viewing television tube with 17-in. diagonal rectangular metal-backed grey-glass screen. This tube has magnetic focusing and 70° magnetic deflection.

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS—CATHODE RAY TUBES

HEATER

Suitable for series or parallel operation.

V_h	6.3	V
I_h	300	mA

Note: (applies to series operation only). The surge heater voltage must not exceed 9.5V_{r.m.s.} when the supply is switched on. When used in a series heater chain a current limiting device may be necessary in the circuit to ensure that this voltage is not exceeded.

EXTERNAL CONDUCTIVE COATING

This tube has an external conductive coating, M, and the capacitance of this to the final anode may be used to provide smoothing for the e.h.t. supply. The tube marking and warning labels are on the side of the cone opposite the final anode connector and this side should not be used for making contact to the external conductive coating.

CAPACITANCES

C_{g-a11}	<8	pF
C_{k-a11}	<6	pF
$C_{k+a2-a11}$	<11	pF
C_{a3-M}	1100	pF

SCREEN

Metal-backed		
Fluorescent colour	White	
Light transmission	66	%
Useful screen area	See drawing on p. 3	

FOCUSING

Magnetic

DEFLECTION

Double magnetic

ION TRAP

This tube does not use an external ion trap magnet. When used as a replacement for ion trap types, the ion trap magnet and any lead connected to it should be discarded.

REFERENCE LINE GAUGE

See 'General operational recommendations—cathode ray tubes'.

MOUNTING POSITION

Any The tube socket should not be rigidly mounted but should have flexible leads and be allowed to move freely. The bottom circumference of the base shell will fall within a circle having a diameter of 55mm which is centred upon the perpendicular from the centre of the face.

PREFOCUSING

The spot size and uniformity of focus depend upon V_{a2} . At V_{a2} zero or negative with respect to cathode the spot size at the centre of the screen and the width of the electron beam are such that optimum uniformity of focus is obtained over the whole screen. If V_{a2} is increased, the spot size at the centre of the screen is reduced but the width of the electron beam is increased, resulting in inferior focus at the edges of the screen.

With increased V_{a2} , the power of the external focusing magnet has to be increased.

TYPICAL OPERATING CONDITIONS

V_{a3}	14	kV
V_{a2}	0	V
V_{a1}	300	V
* V_g for cut-off	-40 to -86	V

LIMITING VALUES (Design centre ratings)

** V_{a3} max.	16	kV
V_{a3} min.	10	kV
V_{a2} max.	410	V
V_{a2} min.	-100	V
V_{a1} max.	410	V
V_{a1} min.	200	V
* $-V_g$ max.	150	V
† V_{h-k} max. (cathode negative)	125	V
† V_{h-k} max. (cathode positive)	200	V
†† $V_{h-k(pk)}$ max. (cathode positive)	410	V
R_{g-k} max.	1.5	M Ω
Z_{g-k} max. ($f=50\text{Hz}$)	500	k Ω
R_{h-k} max.	See note §	
Max. a_1 supply source impedance	1.5	M Ω
Max. a_2 supply source impedance	1.5	M Ω

*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 receiver on or off when it may be allowed to rise to +1V. The maximum positive grid excursion of the video signal may reach 2V and at this voltage the grid current may be expected to be approximately 2mA.

**The product of V_{a2} and I_t (average value for the whole screen) must not exceed 6W.

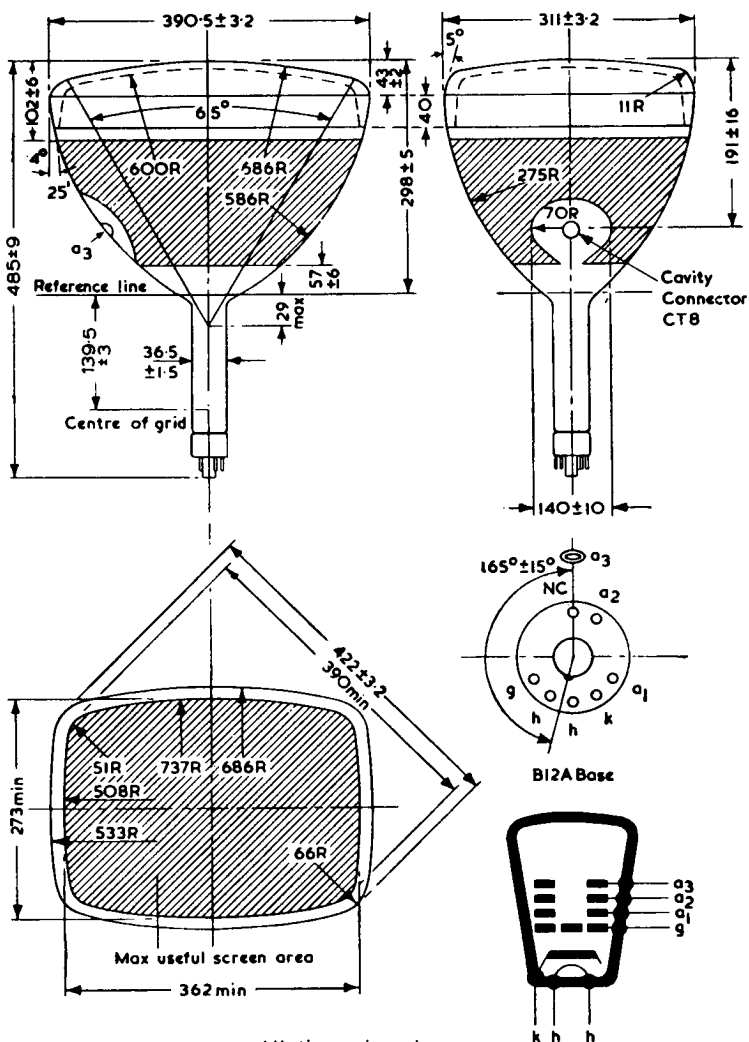
†In order to avoid excessive hum the a.c. component of V_{h-k} should be as low as possible (<20V_{r.m.s.}).

††During a warming-up period not exceeding 45 sec.

§When the heater is in a series chain, or earthed, Z_k max. is 100k Ω where Z_k is the 50Hz impedance between earth and the cathode. When the heater is supplied from a separate transformer R_{h-k} max is 1.0M Ω .

WEIGHT Tube alone

{ 7.5 kg
17 lb



All dimensions in mm

The indicated radius of faceplate curvature is not an exact but an average value.