

BRITISH STANDARDS INSTITUTION
2, PARK STREET, LONDON W1A 2BS

Specification available from:- AS SHOWN IN PD 9002,
CECC 00 200, AND

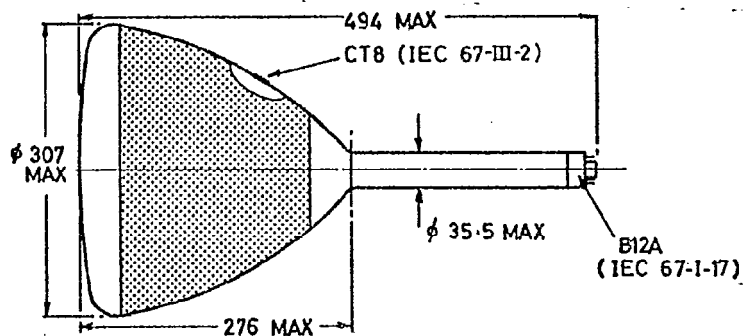
RANK ELECTRONIC TUBES LIMITED,
SIDCUP BY-PASS,
SIDCUP, KENT. DA14 6LZ.

TELEPHONE 01-302-0271

TELEX 896215

ELECTRONIC COMPONENTS OF ASSESSED QUALITY : DETAIL
SPECIFICATION IN ACCORDANCE WITH CECC 11 000 : 1980

Outline and dimensions



All dimensions in mm

For detail dimensions and base connections
see Appendix B.

Marking information see Clause 3.

BS CECC 11 001-028



ISSUE 1 SEPTEMBER 1984

Page 1 of 15

MANUFACTURER'S TYPE NUMBER
R 3111-L2

NATO Stock No.
5960-99-037-2902

SEE PD 9002 and CECC 00 200

For ordering information
see Clause 4.

RADAR DISPLAY CATHODE
RAY RUPE

DEFLECTION : MAGNETIC
(50° total angle)

FOCUS : ELECTROSTATIC

SCREEN : 265 mm DIA.

PHOSPHOR : L2 (JEDEC P33)

(COLOUR : ORANGE)
(x 0.559, y 0.440)

PERSISTENCE: VERY LONG

EXTERNAL CONDUCTIVE COATING

FULL ASSESSMENT
(ADDITIONAL)

1. DATA (not for inspection purposes)

Mechanical

Mounting position : Restricted (see additional information)

Mass (weight) 5.5 kg

Environmental

Not applicable

Electrical - Limiting values (absolute maximum rating system - IEC 134)

	Min.	Max.	Units
Heater voltage	5.7	6.9	V
Heater to cathode, positive voltage		150	V
Heater to cathode, negative voltage		150	-V
Intensity modulator electrode negative voltage	1	200	-V
Intensity modulator electrode positive voltage	Must never become positive		V
Final anode voltage	8	18	kV
Focus electrode voltage	-500	500	A
Second grid voltage	200	500	A
Intensity modulator electrode cathode circuit resistance		1.5	MΩ

Refer to Qualified Products List PD 9002 and/or CECC 00 200 for details of manufacturers approved to this specification.

2. OPERATING CONDITIONS AND TYPICAL CHARACTERISTICS

When the tube is operated under the conditions given below, the characteristic values which follow them are attainable:

Vh = 6.3 Vac ; Vg2 = 300 V ; Vg3 + g5 = 12 kV ; Vg4 = 0 V.

Deflector coil: Cintel type GAA 5130 or equivalent.

	Min.	Max.	Units
Heater current at Vh = 6.3 V	0.270	0.330	A
Focusing requirements		0	V
Voltage required on the intensity modulator electrode for cut-off (negative)	30	70	-V
Useful screen dimensions	265 dia.		mm
Resolution (line width) measured to 20 % peak luminance at 12 kV final anode voltage.		0.4	mm

3. MARKING

Each tube and package shall bear the following markings:

- (a) Manufacturer's type number.
- (b) NATO Stock Number if applicable.
- (c) Special marking relating to hazards. Each tube and/or package contains a warning of hazards with respect to handling, implosion and X-rays.
- (d) Factory Identification Code.
- (e) Date Code.
- (f) To BS CECC 11 001-028
- (g) Manufacturer's serial number.

4. ORDERING INFORMATION

Orders for components to this specification shall include the following minimum information:

- (1) Quantity
- (2) Manufacturer's type number.
- (3) NATO Stock Number if applicable.
- (4) Specification BS CECC 11 001-028 Issue 1
- (5) Any special requirements and packaging instructions shall be included in the order.

5. RELATED DOCUMENTS

BS 6001	Sampling procedures and tables for inspection by attributes.
BS 9000	General requirements for a system for electronic components of assessed quality.
BS CECC 11 000	Generic specifications : Cathode ray tubes.
CECC 00 200	CECC Qualified Products List.
IEC 67	Dimensions of electronic tubes and valves.
IEC 68	Basic environmental testing procedures.
IEC 100	Methods for the measurement of direct interelectrode capacitances of electronic tubes and valves.
IEC 134	Rating systems for electronic tubes and valves and analogous semiconductor devices.
PD 9002	BS 9000 Component Selection Guide.

6. STRUCTURAL SIMILARITY

Not applicable

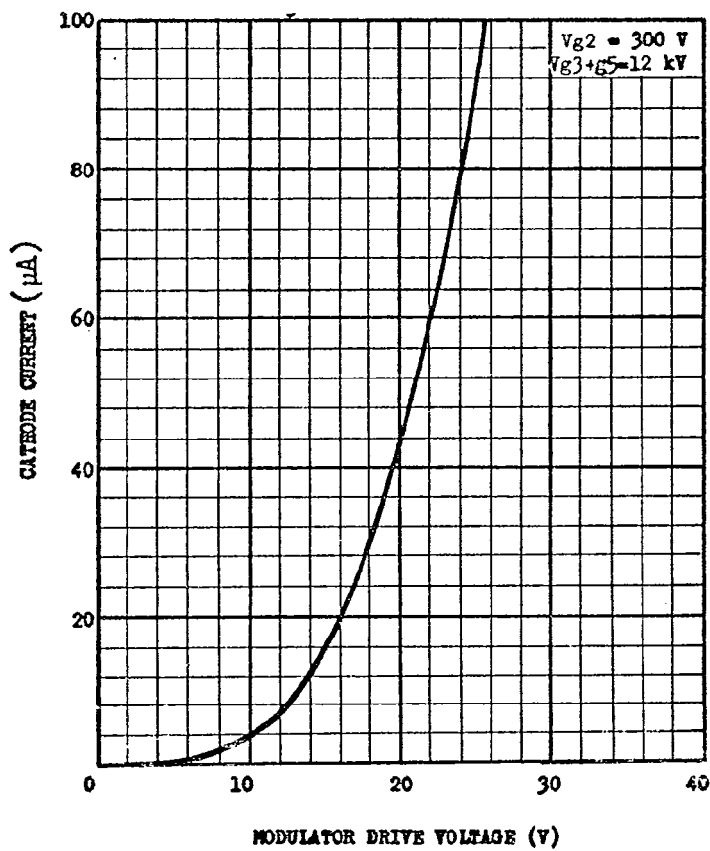
7. X-RADIATION

If this tube is operated at voltages in excess of 16 kV., X-ray shielding is adviseable to give protection against the possible danger of personal injury arising from prolonged exposure at close range.

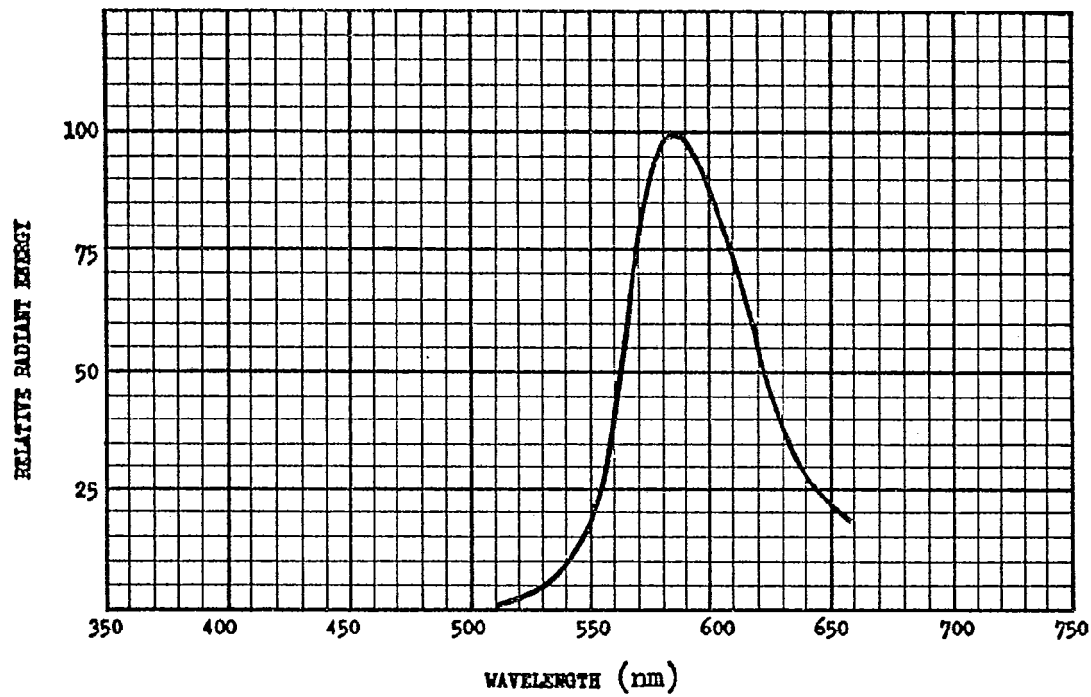
8. ADDITIONAL INFORMATION

- 8.1 The precautions taken in manufacture reduce the possibility of spontaneous implosion to a minimum, but any additional stress due to mishandling considerably increase the risk of implosion; such implosion may occur immediately or be delayed. Particular care should be taken not to scratch any part of the tube envelope especially the faceplate and the area where the faceplate and side-walls meet as this will appreciably weaken the glass and may lead to implosion of the tube.
- 8.2 The tube should be operated at its minimum useful brightness in order to prevent damage to the screen material. There is a possibility of a rapid burn on the screen if the spot is allowed to remain stationary.
- 8.3 The tube mounting should ensure that the main support is near the faceplate, and so arranged that no stresses exist between the glass envelope and the neck. Under no circumstances is the base socket to be used to support the tube.
- 8.4 The tube may be mounted in any position except with the screen down and the neck of the tube making an angle of less than 20° with the vertical.
- 8.5 The tube should be shielded from magnetic fields which can be detrimental to its performance.
- 8.6 The external conductive coating of this tube should be connected to chassis. The capacitance of this coating to final anode, typical value 1200 pF. may be used to provide smoothing for the e.h.t. supply.

TYPICAL MODULATOR DRIVE CHARACTERISTIC



TYPICAL RELATIVE SPECTRAL ENERGY DISTRIBUTION CURVE



TYPICAL PERSISTENCE CHARACTERISTIC

