

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



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

ISSUE 1 SEPTEMBER 1984

TELEPHONE 01-302-0271

TELEX 896215

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

Outline and dimensions

MANUFACTURER'S TYPE NUMBER

R3141-L1

R3142-L1

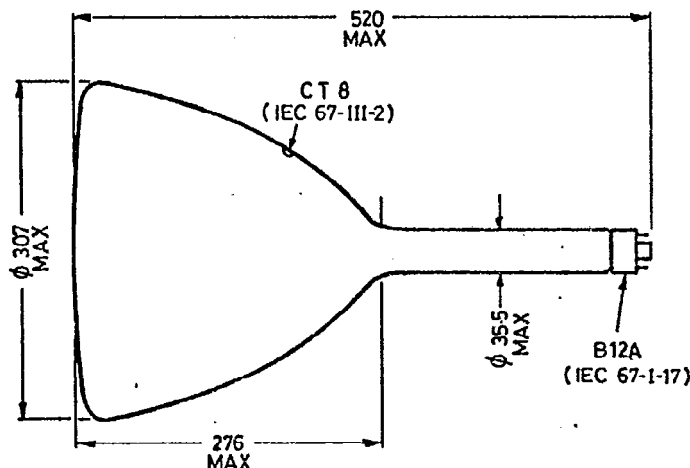
NATO Stock No.

R3141-L1 5960-99-037-5771

R3142-L1 5960-99-037-5772

SEE PD 9002 and CECC 00 200

For ordering information
 see Clause 4.



RADAR DISPLAY CATHODE
 RAY RUBE

DEFLECTION : MAGNETIC
 (50° total angle)

FOCUS : MAGNETIC

SCREEN : 265 mm DIA.

PHOSPHOR : L1 (JEDEC P26)

(COLOUR : ORANGE)
 (x 0.573, y 0.426)

PERSISTENCE: VERY LONG

INTERNAL SERIES RESISTOR
 FOR TRANSISTOR PROTECTION

All dimensions in mm

For detail dimensions and base connections see
 Appendix B.

Marking information see Clause 3.

FULL ASSESSMENT
 (ADDITIONAL)

1. DATA (not for inspection purposes)

Mechanical

Mounting position : Restricted (see additional information)

Mass (weight) 7.0 kg max.

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		200	V
Heater to cathode, negative voltage		200	V
Intensity modulator electrode negative voltage	1	200	-V
Intensity modulator electrode positive voltage	Must never become positive		V
Final anode voltage	9	18	kV
Second grid voltage	250	600	V
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 = 15 kV

Focus coil: Cintel type GA 7023B or equivalent.

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	Dependent on coil used		
Voltage required on the intensity modulator electrode for cut-off (negative)	30	90	-V
Useful screen dimensions	265 dia.		mm
Resolution (line width) measured to 20 % peak luminance at 15 kV final anode voltage.	R3141 0.3 R3142 -	0.6 0.3	mm 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 11 001-025
- (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 11 001-025 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.

5. RELATED DOCUMENTS (cont'd)

- 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

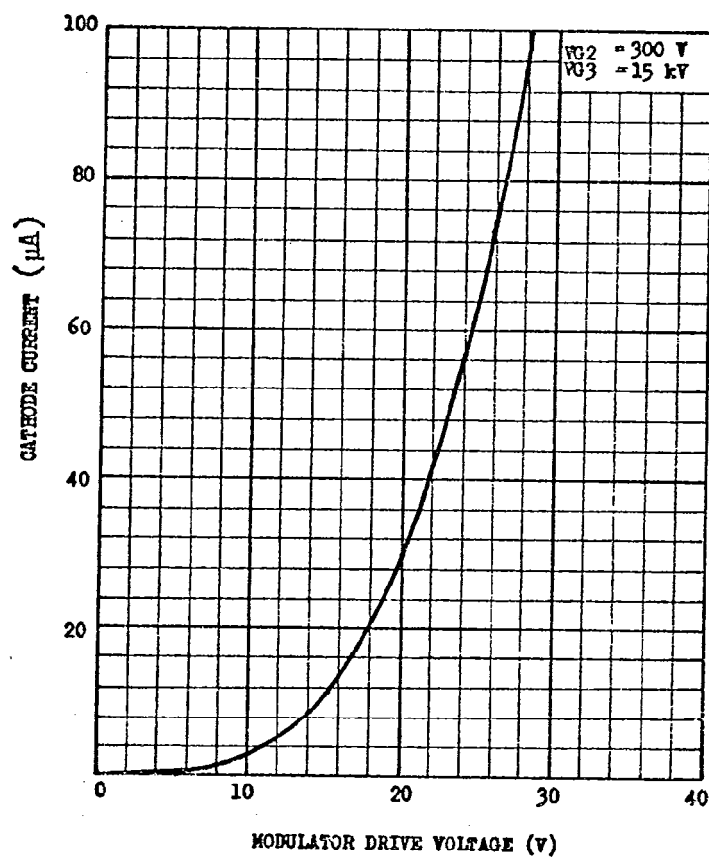
7. X-RADIATION

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

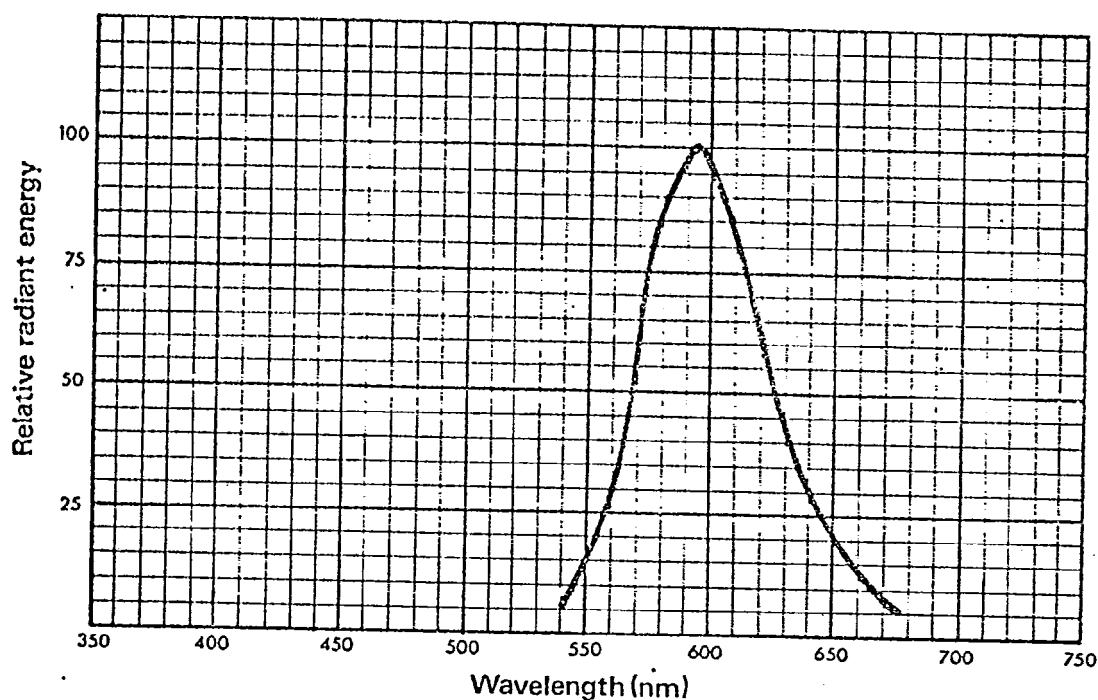
8. ADDITIONAL INFORMATION

- 8.1 The tube incorporates a transistor protection device (TPD)/ surge limiter (SL), which is an internal resistance in series with the final anode. The purpose is to limit surge discharge current in the event of a flashover.
- 8.2 The precautions taken in manufacture reduce the possibility of spontaneous implosion to a minimum, but any additional stress due to mishandling considerably increases 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.
- 8.3 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.
- 8.4 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.
- 8.5 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.
- 8.6 The tube should be shielded from magnetic fields which can be detrimental to its performance.
- 8.7 In systems where high frequency character writing is required, the deflector coil assembly should not extend over the metallic electrodes, supports, or getters, otherwise there may be undesirable interaction with the tube gun.

TYPICAL MODULATOR DRIVE CHARACTERISTIC



TYPICAL RELATIVE SPECTRAL ENERGY DISTRIBUTION CURVE



TYPICAL PERSISTENCE CHARACTERISTIC

