RADAR TUBES

Miniaturised rectangular faced Display Tube designed for use in airborne radar equipments with transistor circuitry. The narrow neck diameter and narrow scan angle ensure full deflection with low scan power. The high modulation slope and the phosphor permit displays of conventional brightness with drive of the order of a few volts. With higher drive voltage, the high slope feature provides displays of high intensity for use in conditions of high ambient lighting.

FOCUS ... ... ... Low Voltage Electrostatic.
DEFLECTION ... ... ... Magnetic.
SCREEN. *Phosphor ... ... ... Type 'L'.
Fluorescence ... ... ... Orange.
Afterglow ... ... ... Orange.
Persistence ... ... ... Long.

PHYSICAL DETAILS.
Base ... ... ... 89A/D
Anode Cap ... ... ... CT8 Cavity Type.
Max. Overall Length ... ... 257 mm.
Neck Diameter ... ... 23 mm. (nom.)
Mounting Position ... ... Any.

BASE CONNECTION.
Pin 1—Grid Pin 6—I.C.
Pin 2—I.C. Pin 7—3rd Anode.
Pin 3—Cathode. Pin 8—I.C.
Pin 4—Heater. Pin 9—1st Anode.
Pin 5—Heater. Side Contact—2nd & 4th Anodes.

HEATER.
5 x 3/94 LM. 5 x 3/95 LM.
Heater Voltage ... ... 6.3 19.0 volts
Heater Current ... ... 0.3 0.1 amp.

RATING & CHARACTERISTICS
Max. A1 voltage ... ... 70 volts.
Max. A2 + A4 voltage ... ... 18 kV.
Min. A3 + A5 voltage ... ... 8 kV.
Max. Neg. A1 voltage ... ... -500 volts.
Max. Vh - k ... ... 200 volts.
A3 voltage for focus ... ... 0 to -300 volts.

TYPICAL OPERATION.
It is essential to employ cathode modulation, i.e., the grid should be operated at earth or some other fixed potential and all other voltages applied with reference to this point. This type of tube is inefficient under grid modulation conditions unless drive is also applied to A1 in the same sense as that applied to the grid.

1. Short grid base conditions, where Vh is approx. +10v.
   for visual cut-off.
   Final Anode Voltage Va2 + a4 15 kV.
   Va1 for focus ... ... -150 volts.
Under these conditions the zero bias beam current is approx. 150 microamperes.

2. For high brightness applications with a conventional drive range, where Vh is approximately +60 volts for visual cut off.
   Final Anode Voltage Va2 + 4 15 kV.
   Va1 ... ... 0 volts.
Under these conditions the beam current at zero bias is approx. 2.5 mA.

Versions with flying leads and encapsulated base and anode contact are also available.

*This phosphor is liable to burn if operated with a spot which is stationary or slow moving, and tubes should not be operated under such conditions, even at low beam current. Alternative phosphors for this application can be supplied on request.

†All potentials are referred to grid.
DIMENSIONS ARE IN MILLIMETRES.