Safety Precautions (I) For Receiving Tubes

High voltage rectifier and shunt regulator receiving tubes operate at potentials which may result in the production of X-Radiation.

Precautions must be exercised during the servicing of equipment employing these devices to assure that the high voltage is adjusted to the recommended value and that any shielding components are replaced to their intended positions before the equipment is operated.

NOTE: For additional Safety Precautions, refer to sheet *Safety Precautions (II) For Receiving Tubes* which follows.

Safety Precautions (II) For Receiving Tubes

SHOCK HAZARD WARNING

Most electron tubes present a shock hazard in use because of the voltages at which they operate. This hazard applies to all applications and is not restricted to high-voltage circuits. Therefore, precautions should be taken when servicing equipment in which electron tubes are used.

Some electron tubes such as high-voltage rectifiers and shunt regulators operate with very high electrode voltages. Extreme care should be taken during testing or adjustment of circuits in which such tubes are employed. Precautions must be exercised during the replacement or servicing of these tubes in equipment to assure that the high-voltage output terminal is properly grounded while inserting or removing the tube from its socket or while connecting or disconnecting the top cap connector. The tube and its associated apparatus, especially all parts which may be at high-potential with respect to ground,should be housed in a protective enclosure. The protective housing should be designed with interlocks so that personnel cannot possibly come in contact with any high-potential point in the electrical system.

It should be noted that high voltages may appear at normally low-potentials points in the circuit as a result of capacitor breakdown or incorrect circuit connections. Therefore, before any part of the circuit is touched, the power supply switch should be turned off and both terminals of any capacitor should be grounded.

X-RADIATION WARNING

High-voltage rectifier and shunt regulator receiving tubes operate at potentials which may result in the production of X-Radiation. Types covered in the HB-3 Handbook which fall into these categories and which have EIA published values for X-Radiation are tested for an X-Radiation characteristic as specified in their published data.

X-Radiation is measured in accordance with JEDEC Publication No. 67 A, "Recommended Practice for Measurement of X-Radiation from Receiving Tubes", and controlled in accordance with JEDEC Publications No. 73 A, "Recommended Practice for Quality Control of X-Radiation from High Voltage Rectifier and Shunt Regulator Receiving Tubes". These publications are available from the Electronic Industries Association, 2001 Eye St. N. W., Washington, D. C. 20006.

Safety Precautions (II) For Receiving Tubes

Operation of these devices above the design-maximum values indicated in their Maximum Ratings may result in either temporary or permanent changes in the X-Radiation characteristic of the tube. Equipment design must be such that these absolute values are not exceeded.

The high voltages associated with these devices result in production of X-Radiation which may constitute a health hazard on prolonged exposure at close range unless the tube is adequately shielded. Equipment design must provide for this shielding.

Precautions must be exercised during the servicing of equipment employing these devices to assure that the high-voltage is adjusted to the recommended value and that any shielding components are replaced to their intended positions before the equipment is operated.

THE EQUIPMENT MANUFACTURER SHOULD PROVIDE A WARNING LABEL IN AN APPROPRIATE POSITION ON THE EQUIPMENT TO ADVISE THE SERVICEMAN OF ALL PRECAUTIONS HEREIN.