ELECTROLYTIC CAPACITORS

1. GENERAL

1.01 This section describes precautions to be taken by Illinois Bell Telephone Company personnel when working on teletypewriter equipment equipped with electrolytic capacitors.

1.02 There are three general types of electrolytic capacitors, polarized, nonpolarized, and motor starting types:

(a) The polarity of polarized electrolytic capacitors is identified by stamping the positive and negative terminals with POS and NEG or a (+) and (-) symbol by painting the positive terminal red and/or the negative terminal black or white, or by designating the terminals by numbers or symbols which can be interpreted by referring to information on the capacitor case, or in the circuit schematic. Any capacitor with polarity markings must be connected (+) to positive of the power and (-) to negative of the power as shown on the circuits.

CAUTION: When making connections to a polarized electrolytic capacitor, or to any circuit containing a polarized electrolytic capacitor, extreme care should be used to see that the connections are correctly made with respect to the polarity of the capacitor. Reversal of the polarity, or application of ringing or AC will not only damage the capacitor, but also may cause injury to personnel or damage the equipment if the capacitor should explode. In every case, the proper manner of connection should be determined before power is connected to the capacitor or circuit containing a capacitor.

(b) Nonpolarized capacitors have no polarity marking nor are designated "Nonpolarized" or "NP" on the container.

(c) Motor starting types are used on AC circuits where they are subjected to brief intervals of AC voltages during motor starting periods. They have no polarity markings and there is usually an AC voltage rating stamped on the container.

(d) Capacitors may retain their charge for some time after being disconnected from power. The terminals and the metal container may be above ground potential. Therefore, care should be exercised when replacing capacitors or working near them to avoid electrical shock or short circuits.