

837B NETWORK DESCRIPTION

1. GENERAL

1.01 This section describes the 837B network, which is designed for use as an impedance compensator to improve return loss in loaded E6-repeated links.

1.02 The impedance compensator is installed at the far end (PBX or toll connecting trunk) to build out the impedance of D88 and H88 loaded cable end sections to match the office termination of 900 ohms in series with 2.16 μ F.

1.03 The 837B also provides drop building-out capacitors (DBOC) for equalizing office capacitance at 2-wire switching points and line building-out resistors (LBOR) to improve return losses by permitting a better impedance match between the cable and network. Cable end sections up to 5000 feet can be accommodated.

2. EQUIPMENT DESCRIPTION

2.01 The 837B network (Fig. 1) fits into an aluminum can approximately 1.7 inches wide, 3.3 inches high, and 4.3 inches deep. The network is stud-mounted and equipped for solderless wrapped connections that extend from the rear of the network. The front of the network incorporates screw switches for line and drop building-out capacitance, line building-out resistance, and low-frequency correction. A 239C jack is provided for test purposes, and pin jacks are provided so that external DBOC may be used during lineup.

3. CIRCUIT DESCRIPTION

3.01 The circuit arrangement of the 837B network is shown in Fig. 2. Terminals 1 and 2 connect to the cable, and terminals 3 and 4 connect to the trunk circuit.

3.02 The 837B network is a passive network and consists of a low-frequency corrector, a high-frequency corrector, a DBOC, and an LBOR.

3.03 Transformer T1, resistor R7, and capacitor C8 provide high-frequency correction and aid in improving input impedance.

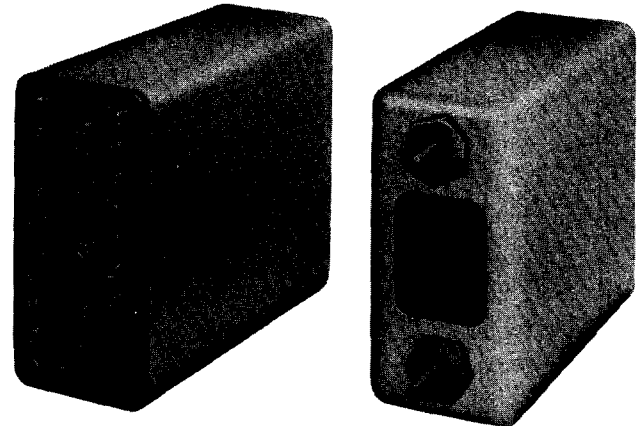


Fig. 1—837B Network

3.04 The low-frequency corrector should be set for the particular cable gauge used. If the end section contains mixed gauge cable or differs from the predominant gauge of the line, the low-frequency corrector must be set by means of return loss measurements.

3.05 The in-service loss of the 837B network at 1 kHz is approximately 0.5 dB; the LBOR resistance may increase the loss to approximately 1.4 dB, depending upon the amount of resistance being used.

3.06 Prescription settings and lineup procedures are described in Sections 332-206-252 and 311-100-55X.

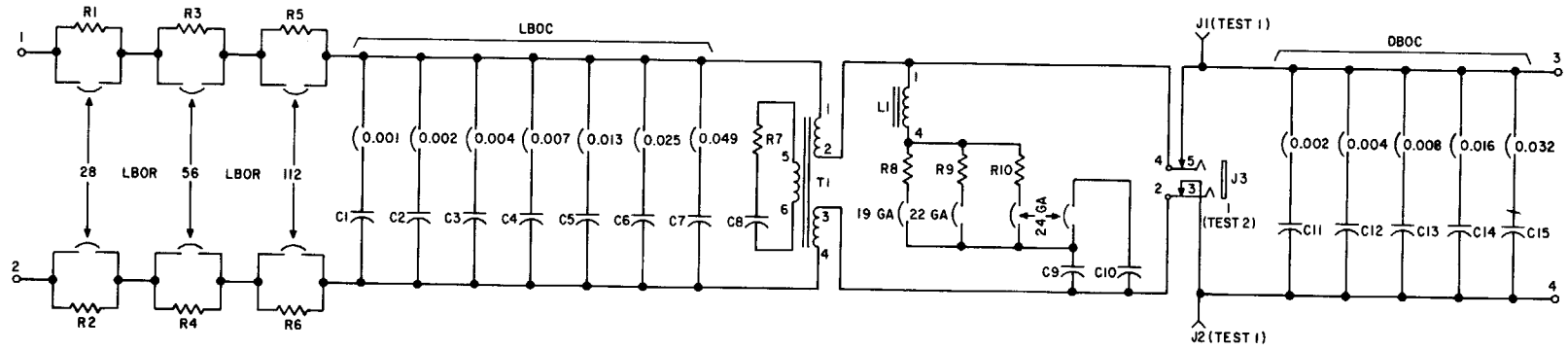


Fig. 2-837B Network—Schematic