

837E AND J99380AB IMPEDANCE COMPENSATOR NETWORKS DESCRIPTION

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2. EQUIPMENT DESCRIPTION

A. 837E Network

2.01 The 837E network components are mounted in an aluminum can which is approximately 1.7 inches wide, 3.3 inches high, and 4.3 inches deep.

2.02 The 837E network is mounted on a mounting plate or panel such as the J99380B mounting panel and connections are made directly on the rear of the network.

2.03 The front of the network (Fig. 1) contains seven screw type switches for adjusting the build-out capacitance (BOC) and a 239C jack for test purposes.

1. INTRODUCTION

1.01 This section describes the 837E and the J99380AB impedance compensator networks. The J99380AB is a circuit pack which is electrically identical to two separate 837E networks.

1.02 This section is reissued to include the new J99380AB circuit pack which is part of the Customer Premises Facility Terminal (CPFT) family. Due to the extensive changes in this section, change arrows normally used have been omitted.

1.03 These networks are used at the customer premise end (normally a PBX) of circuits requiring terminal balance. The networks are inserted between the facility, 19-, 22-, 24-gauge H88 or D88 loaded cable, and the customer equipment. The networks match the impedance of the facility to 600-ohm equipment and furnish loss equalization in the voice frequency band.

1.04 The J99380AB circuit pack was designed to replace the 837E network. Being of plug-in design instead of hard wired, the J99380AB circuit pack affords increased flexibility and better use of mounting space.

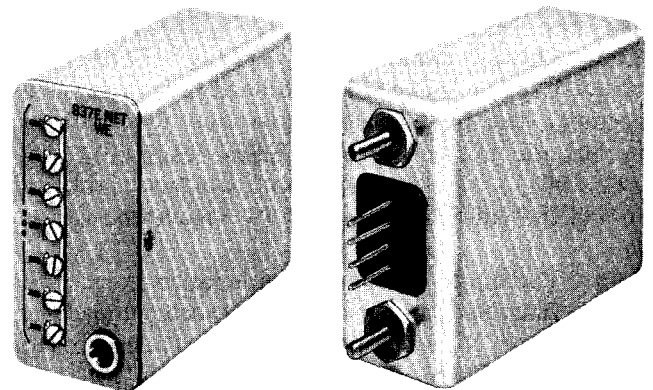


Fig. 1—837E Network

B. J99380AB Network

2.04 The J99380AB impedance compensating network circuit pack components are mounted

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on 8-inch by 6-inch KTU format printed wiring boards with two circuits per board.

2.05 These plug-in networks (Fig. 2) have a test jack for each circuit on the faceplate. Seven screw type switches are mounted on the printed wiring board for adjustment of the BOC.

2.06 The J99380AB plug-in circuit packs are designed to be mounted in standard KTU mountings or the J99380C mounting shelf described in Section 332-610-100.

3. CIRCUIT DESCRIPTION

3.01 Each half of the J99380AB network is electrically identical to one 837E network. The following description is applicable to the 837E network as well as both halves of the J99380AB circuit pack. (See Fig. 3.)

3.02 These are passive networks which consist of BOC, a low frequency impedance corrector, and a high frequency corrector. No adjustments except for BOC are made in the field.

3.03 The BOC, made up of capacitors C1 through C7, builds out any end section to a full end section. The BOC is adjustable from 0 to .101 μF in .001 μF steps. Screw switches designated .001, .002, .004, .007, .013, .025, and .049 are tightened to add the value and loosened to remove the value.

3.04 The high frequency impedance correction function is supplied by the reflected impedance of resistor R1 and capacitor C8 through the transformer T1.

3.05 Low frequency impedance correction is accomplished by the impedance of capacitor C9 and resistor R2 resonating with the inductance of transformer T2.

3.06 The resultant impedance of the BOC, low frequency corrector, and high frequency corrector is 600 ohms + 2.15 μF at the test jack J1.

3.07 These networks introduce a loss of about 0.5 dB at 1 kHz.

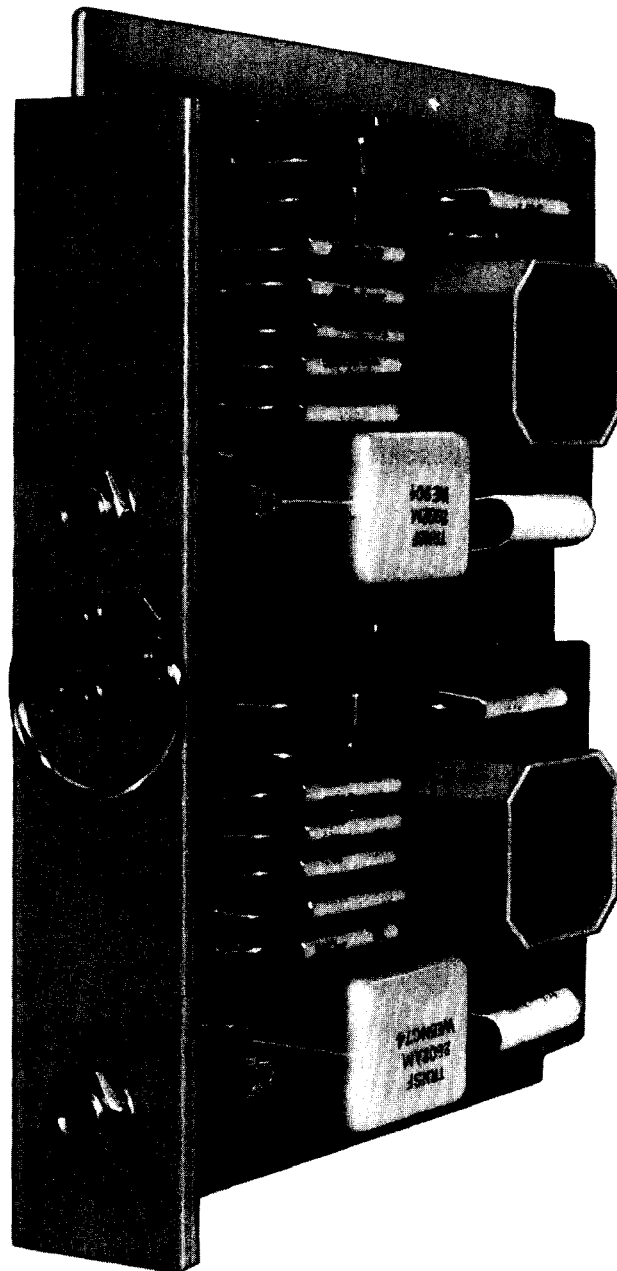
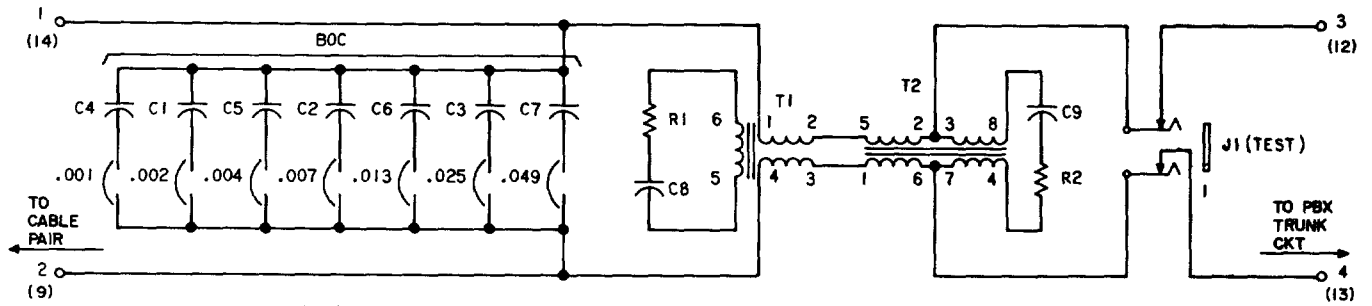


Fig. 2—J99380AB Network

4. REFERENCES

4.01 The following documents contain additional information pertaining to the 837E and J99380AB impedance compensating networks.



- NOTES:
1. MAXIMUM EXPECTED LOOP RESISTANCE OF THE 837E OR J99380 NETWORK IS 39 OHMS.
 2. THE TERMINAL NUMBERS IN PARENTHESIS ARE FOR THE J99380 NETWORK AND THOSE WITHOUT PARENTHESIS ARE FOR THE 837E NETWORK.

Fig. 3—Schematic—837E and J99380AB Networks

SECTION	TITLE
332-205-100	Impedance Compensators—Description
332-205-500	Impedance Compensators—Tests and Adjustments
332-206-255	837E and J99380AB Network—Installation and Prescription Settings
332-610-100	Customer Premises Facility Terminal—Description
332-610-200	Customer Premises Facility Terminal—Installation
332-610-500	Customer Premises Facility Terminal—Tests and Adjustments
SD-, CD-97054-01	837-Type Impedance Compensators
SD-, CD-7C010-01 (CPS 2)	Customer Premises Facility Terminal (J99380AB Circuit Pack)