830B NETWORK

DESCRIPTION

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1. GENERAL

1.01 This section describes the 830B network (Fig. 1). The network is used to build out the input impedance of low-capacitance, 19- or 24-gauge cable with H88 loading or of high-capacitance, 19-, 22-, or 24-gauge cable with D88 loading to match the image impedance of the E6 gain unit (900 ohms in series with 2.16 μF).

1.02 The 830B network can be used in a terminal or an intermediate repeater.

2. EQUIPMENT DESCRIPTION

2.01 The 830B network is housed in a plastic case, which measures 3.2 inches wide, 1.3 inches high, and 4.9 inches deep. It is mounted on the line side of the E6 repeater chassis and is secured by four screws on the chassis connector block. These screws also make the required electrical connections to insert the network between the line and the gain unit. The face of the network contains the screw switches for the building-out resistance (BOR), the building-out capacitance (BOC), and the low-frequency (LF) corrector section.

3. CIRCUIT DESCRIPTION

3.01 The schematic diagram of the 830B network is given in Fig. 2. The network contains passive circuit elements and is similar in function to an impedance compensator.

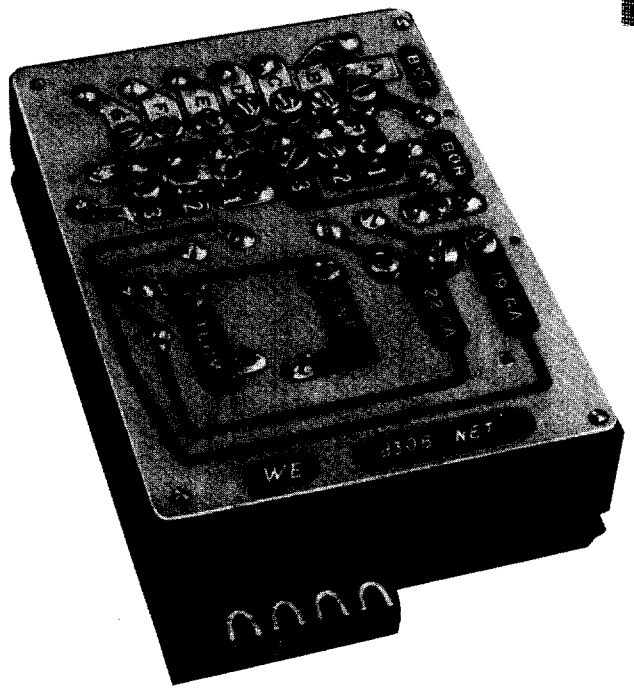


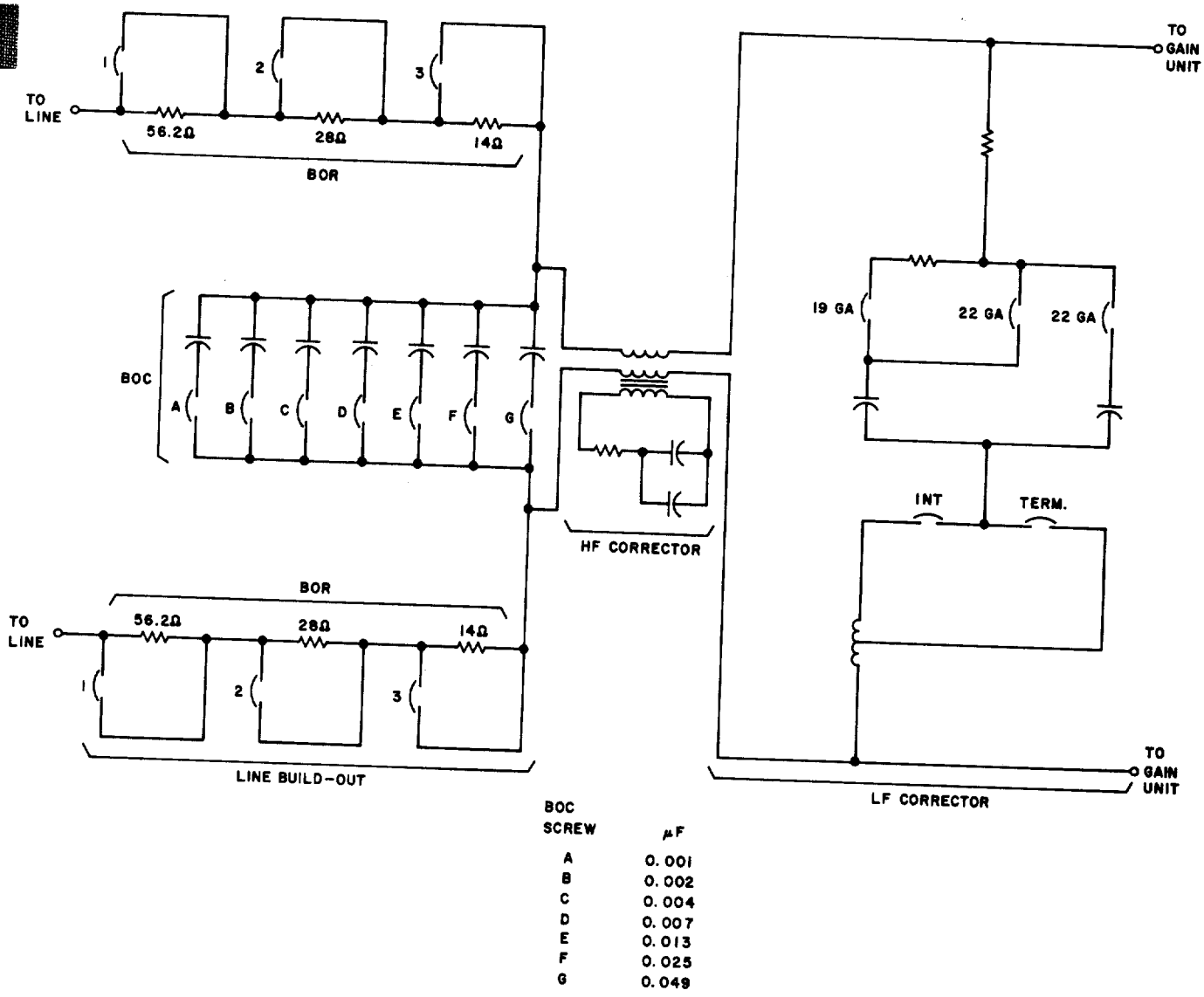
Fig. 1—830B Network

3.02 The line building-out section has the following adjustments:

(a) BOR: 0 to 196 ohms in 28-ohm steps

(b) BOC: 0 to 0.101 μF in 0.001-μF steps.

3.03 The LF corrector section has separate screw switches for the following: 19-gauge cable, 22-gauge cable, intermediate repeater, and terminal repeater. When using 24- gauge cable, the 22-gauge screws should be down.



BOC SCREW	μF
A	0.001
B	0.002
C	0.004
D	0.007
E	0.013
F	0.025
G	0.049

Fig. 2—830B Network—Schematic Diagram

3.04 The high-frequency (HF) corrector section contains preset components that provide a resistive termination above the cable cutoff frequency where the full-section cable impedance becomes very low. It also corrects the reactance of the cable impedance at and just below the cutoff frequency.

3.05 Prescription settings and lineup procedures are described in Section 332-206-222 and Section 311-100-55X, respectively.