E6 REPEATER DISABLER (J99253L)

DESCRIPTION

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1. GENERAL

1.01 This section provides a general description of the J99253L relay-type disabler for E6 repeaters and of the mounting arrangements for the repeaters and disablers. In these mounting arrangements, the repeater may be used by itself or with the disabler. To add the disabler, it is necessary only to plug it into the disabler socket directly below the repeater. Wiring changes are not required.

1.02 A disabler is required whenever a repeater is set up with sufficient gain to cause singing in the idle condition or during some part of the switching cycle.

1.03 When the J99253L disabler is used in circuits containing step-by-step pulse repeaters, the optional 852A network for prolonging the disabling interval may be used to prevent short spurts of singing. Without this network, singing may occur in these circuits because of the unsuitable impedance presented to the repeater during dialing. These spurts of singing, when heard by the calling subscriber, could be mistaken for recorder warning signals. Older models of the disabler were shipped with an 832A dummy network installed; however, this network function is accomplished in newer models by tightening down the network screws. If the optional 852A network is required, it must be ordered separately and mounted in place of the dummy network on top of the disabler, where it is fastened by screw-type terminals.

1.04 The J99253L disabler is easily adapted to function with either loop or simplex signaling by operation of screw-type switches.

1.05 A contact protection network is provided to extend the life of the relay.

2. CIRCUIT DESCRIPTION

2.01 The J99253L disabler is a single-circuit, relay-type disabler that removes repeater gain from the circuit during idle and circuit-switching periods. The disabler functions by detecting the absence of supervisory current. When no supervisory current is flowing, the disabler relay is in a nonoperated condition and the ground lead to the repeater is open. When supervisory current flows, the disabler relay operates and ground is restored to the repeater. A schematic of the J99253L disabler is shown in Fig. 1.

2.02 In the circuit, the 185A network is a contact protection network across contacts 1 and 2 of the relay. The 832A network is a shorting network. This network function is replaced in newer models of the disabler by screwing down the J4 screw terminals. The 852A network is a transistor circuit used in place of the shorting network. This network keeps the repeater disabled during dial pulsing. The capacitors C9, C10, C11, and C12 are used to bypass the relay windings at voice frequency.

2.03 When the LP1 and LP2 switches are closed (tightened) and the SX1 and SX2 switches are opened (loosened), the two windings of the disabler relay are connected so that loop current in the line operates the relay. When the LP1 and LP2 switches are opened and the SX1 and SX2 switches are closed, the two windings are connected so that simplex current in the line operates the relay.

2.04 When the disabler is removed from the mounting shelf, a plug mounted on the disabler is simultaneously removed from a jack that restores ground to the repeater and connects the loop tip and ring. This circuit is shown in Fig. 2.

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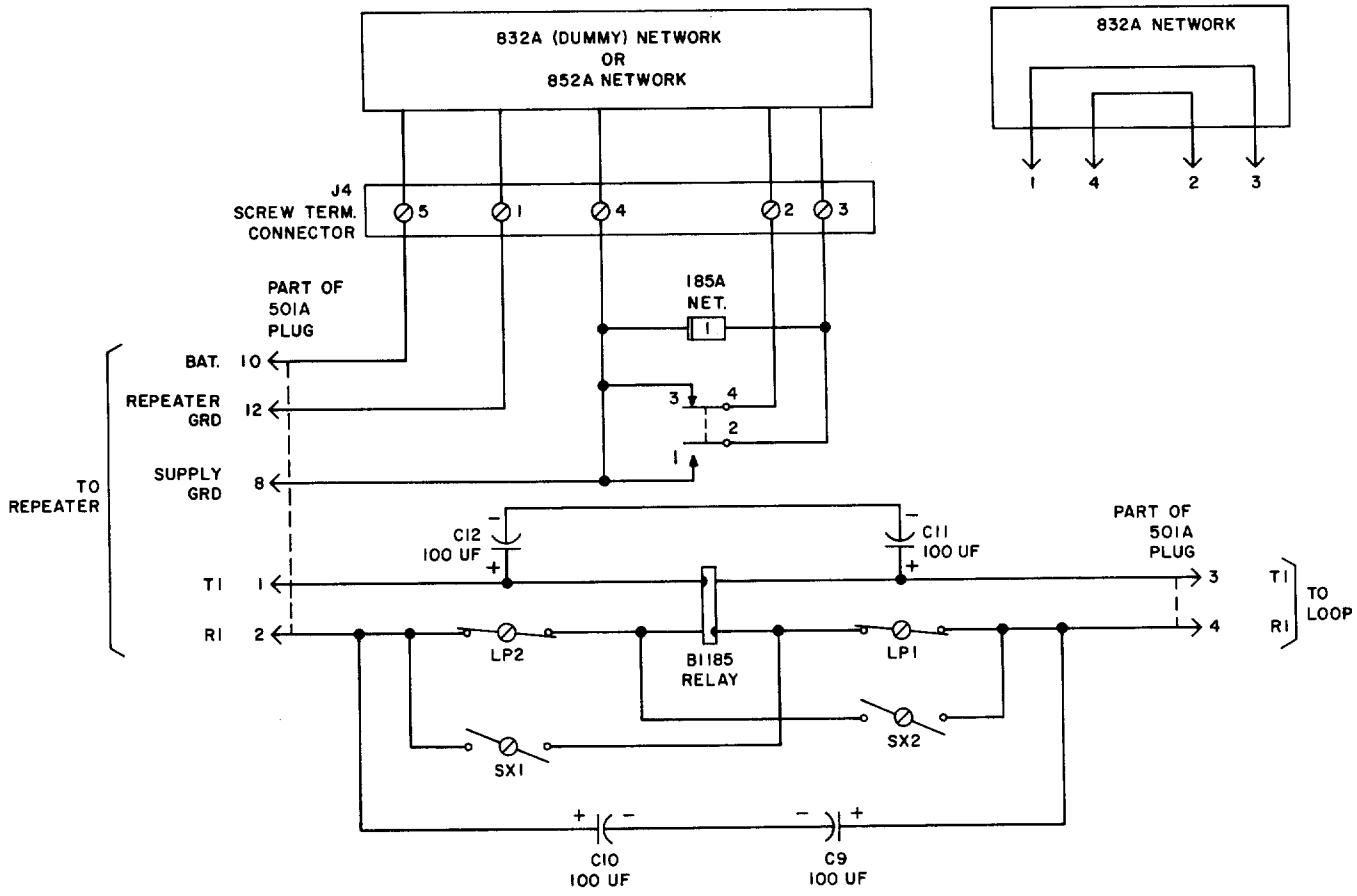

Fig. 1—J99253L Disabler Circuit

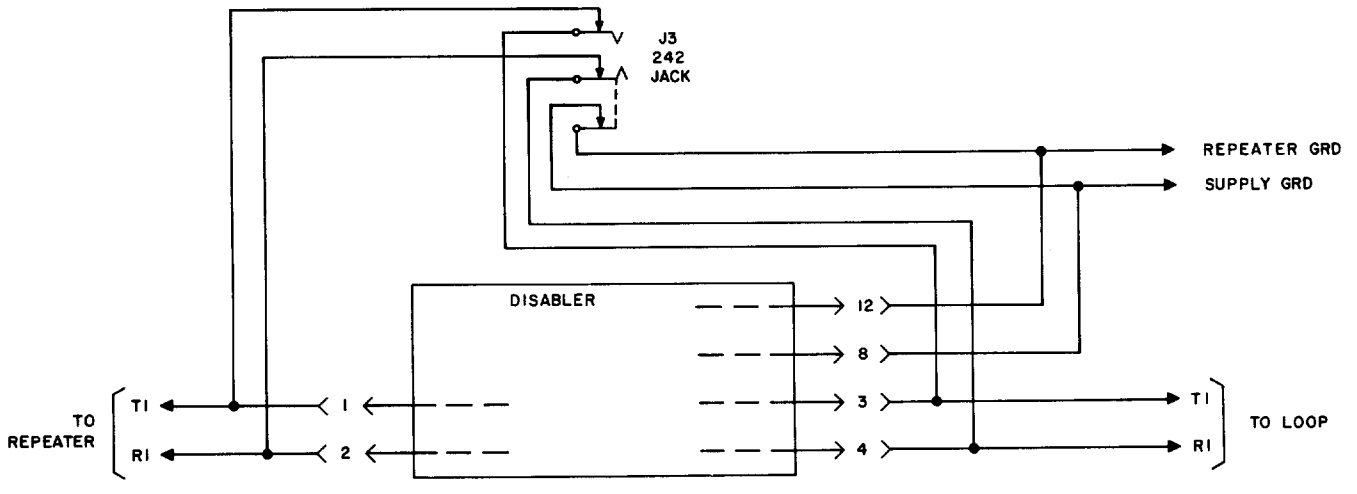

Fig. 2—Disabler Shelf Jack Circuit

3. EQUIPMENT DESCRIPTION

3.01 The J99253K mounting shelf is provided for mounting E6 repeaters and J99253L disablers. The mounting shelf fits into a 23-inch relay rack and has a capacity of six repeaters, which are mounted on the top surface of the shelf, and six disablers, which are mounted on the bottom surface of the shelf. Each shelf, when equipped with disablers, requires four 1-3/4 inch mounting-plate spaces. The arrangement is shown in Fig. 3. A 23-inch relay rack, 11 feet 6 inches high, has a capacity of 16 shelves (96 repeaters and disablers) without test jacks, or 15 shelves (90 repeaters and disablers) with test jacks. A 23-inch relay rack, 9 feet high, has a capacity of 12 shelves (72 repeaters and disablers) without test jacks or 11 shelves (66 repeaters and disablers) with test jacks.

3.02 Guides are provided on the top and bottom surfaces of the J99253K mounting shelf for repeaters and disablers. Each disabler guide is fitted with a jack and a connector. The connector is a duplicate of the connector on the corresponding repeater guide located directly above. The connectors and jacks are interwired in such a manner that the disabler may be added to or removed from the circuit simply by inserting or removing it from its position in the shelf.

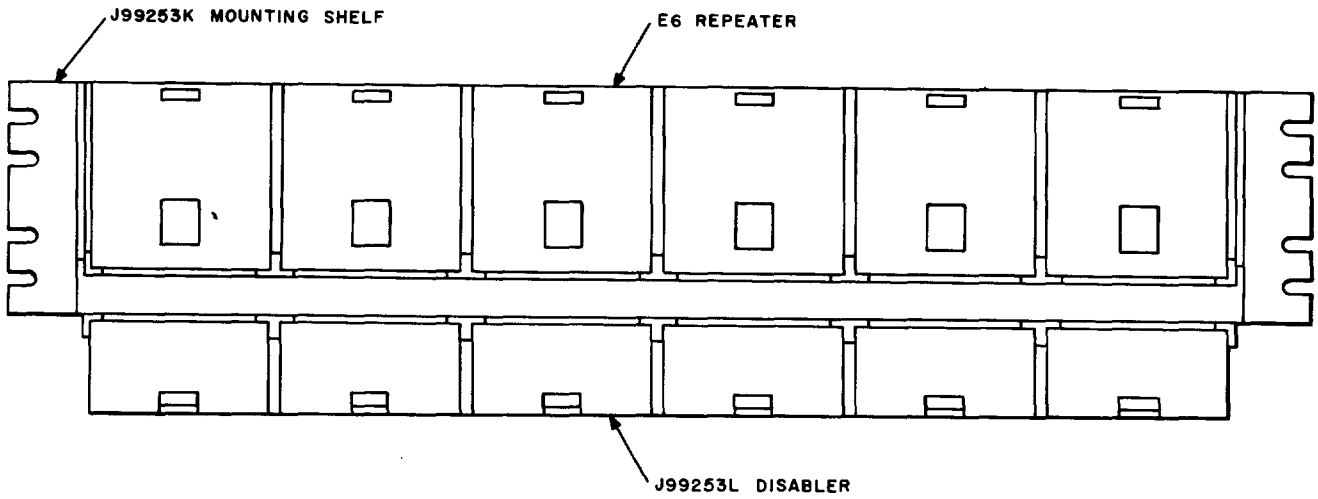

Fig. 3—E6 Repeaters with J99253L Disablers—Mounting Arrangement