

CABLE INSULATION ALARM CIRCUIT SD-96348-01

OPERATION AND ALARM ROUTINE

COMMON SYSTEMS

1. GENERAL

1.01 This section covers the method of operating the cable insulation alarm circuit and the procedures to be followed when responding to alarms.

1.02 This section is reissued primarily to revise the identification tables in Part 3 for clarity, and to add a new table to conform with a drawing change on Issue 11-D.

2. METHOD

Selection of Each Terminal — Automatic Operation

2.01 To start the circuit, simultaneously operate the MT (manual test) and ST (start) keys and then restore the MT key.

2.02 To stop testing, restore the ST key.

Selection of Particular Terminal — Manual Control

2.03 Simultaneously operate the MT and ST keys.

2.04 Where a crossbar switch is used for connecting to the test terminals, operate and release the SEL key as required to step the S selector until it is in the position corresponding to the terminal to be tested. Operate and release the HLD key as required to step the H selector until it is in the position corresponding with the terminal to be tested. The identification table indicates the terminals under test corresponding to the positions of the H and S selectors.

2.05 Where relays are used for connecting to the test terminals, operate and release the HLD key as required to step the H selector until it and the TR relay are in the required position. The identification table indicates the terminals under test corresponding to the position of the

H selector and the operated or nonoperated position of the TR relay. It may be necessary in some cases to step the H selector more than one complete revolution in order that the TR relay may be in the operated or nonoperated position as required. While stepping the H selector in this manner, momentarily restore the ST key every time positions 11 and 22 of the selector are reached.

2.06 When the required test position has been reached, restore the ST key.

2.07 Observe the CI1 sensitrol relay and the CI2 sensitrol relay where provided. If the pointer of the relay is not at the extreme left, the indication is that the insulation resistance of the terminal under test is above the lowest allowable value.

2.08 If the pointer of the relay is at the extreme left, the indication is that the insulation resistance of the terminal under test is below the lowest allowable value. Repeat the test if desired by momentarily operating the RS key.

2.09 To select other terminals, operate the ST key and repeat 2.04 or 2.05. If the CI1 or CI2 relay is operated as a result of a test previously made on another terminal, momentarily operate the RS key. Proceed as in 2.06 to 2.08.

2.10 Restore the MT key.

3. ALARM ROUTINE

3.01 When the audible alarm sounds and the aisle pilot lamp (where provided) and the red MP lamp in the cable insulation alarm circuit light, it indicates that the insulation resistance of one of the cable test terminals is too low, or, in the case of step-by-step dial offices, that there is an excessive number of permanent signals in the office.

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- 3.02** Momentarily operate the AL (alarm) key to silence the audible alarm.
- 3.03** Observe the CI1 sensitrol relay and the CI2 sensitrol relay where provided and, in the case of step-by-step offices, the SR sensitrol relay if provided. If the pointer is at the extreme left, indicating that the relay is operated, proceed as in 3.04, 3.05 or 3.06.
- 3.04** If a crossbar switch is provided in the cable insulation alarm circuit, observe the position in which the S and H selectors have stopped to identify the cable test terminal under test. The relationship of the selector positions to the terminals is shown in the identification table. The CI1 relay is associated with test terminals 0 to 99 and the CI2 relay where provided is associated with terminals 100 to 199.
- 3.05** Where relays are used to connect to the terminals, check whether the TR relay is operated or released and observe the position of the H selector to identify the terminal under test. The relationship of the position of the TR relay and the H selector to the test terminals is shown in the identification table.
- 3.06** If, in step-by-step offices, the SR relay in the permanent signal alarm circuit is operated, it is an indication of an excess number of permanent signals, in which case proceed as described in Section A304.429 covering alarm routines for the cable insulation alarm and permanent signal alarm circuits.
- 3.07** Make a record of the cable test terminal or of the permanent signal condition which brought in the alarm, then momentarily operate the RS (restore) key. This will cause the circuit to recheck the alarm condition.
- 3.08** If the MP lamp is extinguished and the audible alarm is silenced, no further action is required at this time.
- 3.09** If the MP lamp remains lighted and the audible alarm continues to sound, silence the audible alarm by momentarily operating the AL (alarm) key. Disconnect all of the cable conductor pairs from the cable test terminal under test and proceed in accordance with local instructions.
- 3.10** Momentarily operate the RS key to retire the alarm.