CROSSBAR SYSTEMS
NO. 3
MISCELLANEOUS CIRCUIT
FOR ALL FRAMES

CHANGES

D. Description of Changes

D.1 The following new frames have been added in Note 102:

(a) extension incoming register frame,

(b) trunk frame 3,

(c) trunk frame 4,

(d) trunk frame 5,

(e) trunk frame 6, and

(f) trunk frame 7.

D.2 The following frames have changed figures and quantities in Note 102:

(a) line link - line block 0 frame,

(b) miscellaneous 0-1 frame,

(c) miscellaneous 2-3 frame, and

(d) trunk frame 1.

D.3 Equipment Note 207 is added to record the change listed in D.2.

D.4 Circuit Note 101 is changed as follows:

(a) Fusing of Fig. 2 and 11, equipped on miscellaneous 0-1 frame, is changed from miscellaneous 2-3 frame to miscellaneous 0-1 frame.

(b) The TBS, -48 talk, 1-1/3A fuse required for each trunk frame 3, 4, 5, 6, and 7 is added.

D.5 Figure 110 is added to show MJ lead terminations for Fig. 14 and 16 located on LL-LB 0 frame.

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5

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TABLE OF CONTENTS

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SECTION I - GENERAL DESCRIPTION

1. PURPOSE OF CIRCUIT

1.01 This provides miscellaneous circuits and apparatus for associated frames.

2. GENERAL DESCRIPTION OF OPERATION

2.01 General description of operation is described in each figure listed in SECTION II.

SECTION II - DETAILED DESCRIPTION

1. TEST JACK CIRCUIT - FIG. 1

1.01 The TST jack is used with the test frame test circuit. When a patch cord is plugged into the jack, it removes the originating test line location 000 from the test path and permits selection of any other line location.

2. -48 VOLT FRAME TEST BATTERY CIRCUIT - FIG. 2

2.01 Test terminals are provided on each side of the frame to supply -48 volt battery, ground, and ground through 12,000-ohm resistance for testing purposes.

2.02 The -48 volt jack furnishes battery and ground for the portable test set.

3. SPARE JACK CIRCUIT - FIG. 3

3.01 The spare (SP) jack is provided to meet possible future requirements. It multiples to similar jacks and may be used for a variety of purposes.

4. FRAME LINE TELEPHONE JACK CIRCUIT - FIG. 4

4.01 Communication between two or more frames may be established by plugging attendant telephone sets into the TEL jacks.

4.02 No signaling is provided.

4.03 Operation of the TALK key, on the test frame test circuit, provides access to the frame line multiple at each jack equipped frame. With TEL key of the test circuit operated, test personnel can talk to the "outside" via the frame line multiple.

5. TEST FRAME REMOTE CONTROL JACK CIRCUIT - FIG. 5

5.01 The RC jack is used with the test frame test circuit. By plugging a 32-type test set into the jack, the advance of the test circuit may be controlled by the operation of the test set.

6. INCOMING TRUNK TEST JACK CIRCUIT - FIG. 6

6.01 Jack ITT is used to patch the trunk circuit under test to the test frame test circuit.

7. TROUBLE RECORDER TIMING AND TIME ALARM LAMP CIRCUIT - FIG. 7

7.01 Time alarm (TA) lamp lights when the marker overall time alarm functions. Trouble recorder timing lamp TRT is provided to give a visual signal when the marker fails to get satisfactory response after summoning the trouble recorder. Either lamp may be extinguished by operating the AR key, Fig. 9 or by remote control at the alarm receiving circuit.

8. FUSE GUARD LAMP CIRCUIT - FIG. 8

8.01 When a fuse is operated on the marker frame, it causes the operation of the fuse alarm relay in the marker circuit which makes that circuit busy. This fuse alarm make-busy arrangement in the marker locks up through the AR key, Fig. 9. When the operated fuse is removed the fuse alarm relay releases and extinguishes the FA lamp, Fig. 18, and silences the major audible alarm. The marker remains busy and the FG lamp is lighted as a reminder that an operated fuse has been removed but not yet replaced. After the fuse is replaced the AR key shall be operated. This releases the make-busy condition and causes the marker to be restored to service which in turn extinguishes lamp FG.

8.02 The 301-ohm resistance affords protection in case of trouble ground. The 562-ohm resistance provides an operating path in case the lamp is burned out or removed.

9. ALARM RELEASE KEY CIRCUIT - FIG. 9

9.01 The alarm release (AR) key is provided on each marker frame. Ground

for this circuit is obtained from the alarm circuit over the AR1 lead. The operation of the AR key will release the make-busy condition of the associated marker circuit and restore it into service after an operated fuse has been replaced. The operation of this key will also extinguish the TA and TRT lamps, Fig. 7, and the FG lamp, Fig. 8.

10. HEAD TELEPHONE SET - FIG. 10

10.01 The handset or an attendant telephone set plugged into TEL jacks may be used to test communications. When the telephone set is used the handset is automatically cut off.

11. -48 VOLT TRAFFIC USAGE RECORDER BATTERY SUPPLY JACK CIRCUIT - FIG. 11

11.01 A -48 volt TUR jack furnishes -48 volt battery for use with portable traffic usage recorder.

12. +130 VOLT FRAME TEST BATTERY JACK CIRCUIT - FIG. 12

12.01 Jack +130 volt furnishes +130 volt battery and ground for test purposes.

13. -130 VOLT FRAME TEST BATTERY JACK CIRCUIT - FIG. 13

13.01 Jack -130 volt furnishes -130 volt battery and ground for test purposes.

14. -48 VOLT SIGNAL FUSE CIRCUIT - FIG. 14

14.01 The operation of any -48 volt circuit fuse, or the operation of the 20-amp feeder fuse followed by the operation of the parallel 1-1/3 amp alarm fuse, connects -48 volt signal battery either to the fuse alarm stud or to the alarm bar. The 301-ohm resistance PF affords protection in case of trouble ground. The diode TP provides protection of apparatus on the frame from inductive surges which may result from fuse operation.

14.02 The feeder fuse 20A shall be replaced before the associated alarm fuse PF is replaced.

15. -48 VOLT TALK FUSE CIRCUIT - FIG. 15

15.01 The operation of any -48 volt circuit fuse, or the operation of the 20-amp feeder fuse followed by the operation of the parallel 1-1/3 amp alarm fuse, connects -48 volt talk battery either to the fuse alarm stud or to the alarm bar. The 301-ohm resistance PF affords protection in case of trouble ground. The diode TP provides protection of apparatus on the frame from inductive surges which may result from fuse operation.

15.02 The feeder fuse 20A shall be replaced before the associated alarm fuse PF is replaced.

16. -48 VOLT FUSE ALARM CIRCUIT - FIG. 16

16.01 Connection of -48 volts to the fuse alarm stud or to the alarm bar of an associated Fig. 14 or 15, lights the FA lamp in series with a low-resistance major alarm relay, in the alarm circuit, to ground. The major alarm relay, associated with the lineup in which the blown fuse is located, operates the major audible alarm and lights the associated lineup lamp located on the test frame. The 301-ohm resistance affords protection in case of trouble ground. The 562-ohm resistance provides an operating path for the major alarm relay in case the FA lamp is burned out or removed.

17. FUSE ALARM CIRCUIT - FIG. 17

17.01 The 301-ohm resistor, FA1, provides protection in case of trouble ground for a bus bar not receiving protection from the FA resistor in Fig. 16 or 18.

18. -48 VOLT FUSE ALARM CIRCUIT FOR MARKER FRAME - FIG. 18

18.01 Connection of -48 volts to the fuse alarm stud or to the alarm bar of an associated Fig. 14, operates the fuse alarm relay in the marker circuit which makes that circuit busy and lights the FA lamp in series with a low-resistance major alarm relay, in the alarm circuit, to ground. The major alarm relay, associated with the lineup in which the blown fuse is located, operates the major audible alarm and lights the associated lineup lamp located on the test frame. The 301-ohm resistance affords protection in case of trouble ground. The 562-ohm resistance provides an operating path for the major alarm relay in case the FA lamp is burned out or removed.

19. TALK GROUND FEEDER CIRCUIT - FIG. 19

19.01 The talk ground feeder is provided to connect the fuse panel ground bar associated with talk battery to the power plant.

20. SIGNAL GROUND FEEDER CIRCUIT - FIG. 20

20.01 The signal ground feeder is provided to connect the frame ground bar associated with signal battery to the power plant.

21. PROTECTOR UNIT TEST SET - FIG. 21

21.01 This test set provides means for testing 3A, 4A, and similar type protector units.

22. TEST FRAME VOLTMETER TEST JACK CIRCUIT - FIG. 22

22.01 The VMT jacks are used with the test frame voltmeter test circuit to facilitate testing customers lines.

23. -48 VOLT TEST BATTERY CIRCUIT FOR COMBINED DISTRIBUTING MODULE 0 - FIG. 23

23.01 Test terminals are provided on the front side of the frame to supply -48 volt battery, ground, and ground through 12,000-ohm resistance for testing purposes.

23.02 The -48 volt jack furnishes battery and ground for the portable test set.

24. -48 VOLT TEST BATTERY CIRCUIT FOR MISCELLANEOUS 2-3 FRAME - FIG. 24

24.01 Test terminals are provided on the rear side of the frame to supply -48 volt battery, ground, and ground through 12,000-ohm resistance for testing purposes.

25. -48 VOLT TALK BATTERY FILTER CIRCUIT - FIG. 25

25.01 The talking battery filter is provided to eliminate noise in the talking circuits of the trunks. The operation of the 15-amp filter fuse, followed by the operation of the parallel 1-1/3 amp alarm fuse, connects -48 volt talk battery to the alarm stud and lights the FA lamp in series with a low-resistance major alarm relay, in the alarm circuit, to ground. The major alarm relay, associated with the lineup in which this circuit is located, operates the major audible alarm and lights the associated lineup lamp located on the test frame. The 301-ohm resistance affords protection in case of trouble ground. The 562-ohm resistance provides an operating path for the major alarm relay in case the FA lamp is burned out or removed. The electrolytic capacitor is capable of maintaining quiet transmission battery.

25.02 The filter fuse 15A shall be replaced before the associated alarm fuse CP is replaced.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.01 None.

2. FUNCTIONAL DESIGNATIONS

2.01 None.

3. FUNCTIONS

3.01 None.

4. CONNECTING CIRCUITS

4.01 When this circuit is listed on a keysheet, the connecting information thereon is to be followed.

(a) Marker Circuit - SD-26384-01.

(b) Alarm Circuit - SD-26393-01.

(c) Test Circuit - SD-26411-01.

(d) Line, Line Switch, and Connector Circuit - SD-26382-01.

(e) -48V Power Plant Control, Alarm, Charge, and Discharge Circuit - SD-26452-01.

5. MANUFACTURING TESTING REQUIREMENTS

5.01 This circuit shall be capable of performing all the functions listed in this Circuit Description and meeting the requirements listed in the Circuit Requirements Tables.

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