13

COMMON SYSTEMS
TRUNK CIRCUIT
MDF LOUDSPEAKER
CABLE TEST DESK NO. 3
LOCAL TEST DESK NO. 14
OR
LOCAL TEST DESK NO. 16

SECTION I - GENERAL DESCRIPTION

1. PURPOSE OF CIRCUIT

1.1 This circuit provides the test desk end of a loudspeaker communications system between the Cable Test Desk No. 3, Local Test Desk No. 16 and the distributing frames in the central office.

2. GENERAL DESCRIPTION OF OPERATION

2.1 Operation of the loudspeaker trunk key at the Local Test Desk, causes the lamp to light steady in all Local Test Desk positions as a busy indications and flashes all lamps at the distributing frame end at 120 IPM. When the frame man answers at one of the talking stations, the lamp of that station will flash at 60 IPM and all other station lamps will light steady. A two-way communication path is then established between the distributing end and the desk.

SECTION II - DETAILED DESCRIPTION

1. OUTGOING CALL

1.1 Key LS operated:

(a) Connects ground to lead LS1 to prepare the telephone circuit for loudspeaker operation.

(b) Closes in part, the operating path for relay CT.

(c) Bridges resistance 'A across the T and R conductors to signal the central office circuit.

(d) Operates relay BY .

1.2 Relay "BY" operated:

(a) Lights lamp LS steadily as a busy signal.

(b) Closes, in part, its own holding path.

(c) Closes, in part, the operating path for relay CT .

1.3 When the central office circuit responds to the signaling, a bridge is placed across the T1 and R1 conductors, to operate relays L and L1.

1.4 Relay L1 operated:

(a) Completes the holding path for relay BY.

(b) Operates relay CT.

1.5 Relay CT operated:

(a) Closes its holding path to the telephone circuit via lead LS.

(b) Provides an additional bridge across the T and R conductors.

(c) Closes the path in both directions, to the telephone circuit.

2. INCOMING CALL

2.1 Seizure at the central office places a bridge across the T1 and R1 conductors to operate relays L and L1.

2.2 Relay L1 operated:

(1) Connects 60 IPM battery from the flashing circuit to lamp LS.

(2) Operates the auxiliary signal circuit (C.T.D. No. 3 or L.T.D. No. 14) or the Aux. Sig. Ckt. in the Pri. and Sec. Test Ckt. (No. 16 LTD).

(3) Closes, in part, the holding path for relay BY.

Key LS operated:

(1) Connects ground to lead LS1 to prepare the telephone circuit for loudspeaker operation.

(2) Closes, in part, the operating path for relay CT.

(3) Provides an additional bridge across the T and R conductors.

(4) Operates relay BY.

2.3 Relay BY operated:

(1) Lights lamp LS steadily as a busy signal.

(2) Completes its holding path under control of relay L1.

(3) Disconnects the auxiliary signal circuit (C.T.D. No. 3 or L.T.D. No. 14) or the auxiliary signal circuit in the Pri. and Sec. Test Ckt. (No. 16 L.T.D.)

(4) Operates relay CT .

2.4 Relay CT operated:

(1) Closes its holding path to the telephone circuit (Lead LS)

(2) Provides an additional bridge across the T and R conductors.

(3) Closes the talking path, in both directions, to the telephone ckt.

3. DISCONNECT

3.1 Key LS restored:

(1) Opens the operating path of relays BY and CT.

(2) Opens its bridge across the T and R conductors.

(3) Disconnects ground from lead LS1 to restore the telephone to normal condition.

3.2 Telephone circuit restored to normal condition:

(1) Ground is removed from lead LS and relay CT. releases.

3.3 Relay CT released:

(1) Opens the talking path in both directions.

(2) Opens the bridge across the T and R conductors to release the central office circuit.

3.4 Central office circuit released:

(1) The bridge is removed from the T1 and R1 conductors.

(2) Relays L , L1 , and BY release.

(3) Lamp LS is extinguished.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

Relay L
Max. ext. ckt. res. 3,000 ohms
Min. ins. res. 30,000 ohms

2. FUNCTIONAL DESIGNATIONS

None

3. FUNCTIONS

3.1 Provides two-way loop signaling between this circuit and a loudspeaker telephone circuit at the central office.

3.2 Provides for connection to a two-way speech transmission amplifier in the central office circuit.

3.3 Side tone at the desk is controlled by a voice operated relay in the amplifier circuit.

4. CONNECTING CIRCUITS

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

4.1 Loudspeaker telephone circuit - SD-90222-01 or SD-96471-01.

4.2 Telephone circuits

(1) Cable Test Desk No. 3 - SD-95783-01.

(2) Local Test Desk No. 14 - SD-95754-01.

(3) Local Test Desk No. 16 - SD-1C380-01.

4.3 Flashing circuits

(1) Cable Test Desk No. 3 and Local Test Desk No. 14 - SD-95725-01.

(2) Local Test Desk No. 16 - SD-1C401-01.

4.4 Auxiliary Signal Circuits

(1) Cable Test Desk No. 3 - SD-95785-01.

(2) Local Test Desk No. 14 - SD-95735-01.

(3) Local Test Desk No. 16 - part of Pri. & Sec. Test Ckt. - SD-1C379-01.

Printed in U.S.A.

4.5 Interrupter Circuit

(1) Panel-misc. circuits for misc. int. frame SD-21666-01 or SD-21667-01.

(2) Crossbar-interrupter frame circuit - SD-25062-01.

SECTION IV - REASONS FOR REISSUE

B. Changes in Apparatus

B.1 Added

647C5 Key, Fig. 5
LS Resistor 390 ohms KS-19151-L1, Fig. 5

D. Description of Changes

D.1 The title of the drawing is changed to add "No. 16 Local Test Desk."

D.2 Figure 5 is added for use with the No. 16 L.T.D.

D.3 Option Y is changed to read option Y, X to bring the SD drawing into agreement with the manufacturing drawings.

D.4 All circuit notes are updated to reflect changed made on this issue.

D.5 Option ZA is rated manufacture discontinued.

D.6 The lead designation off relay L1, contact ZB, is modified to "F or "FA" in Fig. 1.

D.7 In Fig. 1, connecting circuit information is added for lead A or A1, off of relay BY, contact 3.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5225-LCB
WECo DEPT 5155-WEK-WEA