

CIRCUIT DESCRIPTION
SWITCHING SYSTEMS DEVELOPMENT DEPARTMENT

CD-21271-01
Issue 7-D
Appendix 1-D
Dwg. Issue 8-D

PANEL SYSTEM
MISCELLANEOUS CIRCUIT
FOR LINE MESSAGE REGISTER RACK

CHANGES

B. CHANGES IN APPARATUS

B.1 Superseded	Superseded By
Fig. 7	Fig. 20
54J retard coil	274J retard coil
63 ind. coil	181B ind. coil
12L retard coil	274L retard coil
3A varistor -	3B varistor -
opt. "S"	opt. "U"
4A varistor -	33L varistor -
opt. "T"	opt. "V"
684C sub set -	684BA sub set -
opt. "R"	opt. "W"
684A3 sub set -	684BA sub set -
opt. "Z"	opt. "W"

B.2 Removed	Replaced By
289A plugs	52A
396A trans.	Head Telephone
528 receiver	Sets
L4R cord	

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 The options used table is added.
- D.2 Circuit notes 117, 118 and 119 are added.

D.3 Circuit notes 101, 104, 105, 107 and 110 are changed to include reference to Fig. 20.

D.4 Cross connection Figs. 1K, 3K, 4K 4L and 6K, 12K, 18K and 19K are changed.

D.5 The use of the 684A3 and 684C sub-sets are rated Mfr. Disc. and superseded by the 684BA sub set since the former are Mfr. Disc.

D.6 The use of the 3A and 4A varistors are rated Mfr. Disc. and superseded by the 3B and 33L varistors since the former are Mfr. Disc.

D.7 The use of Fig. 7 is rated Mfr. Disc. and superseded by Fig. 20 which uses a 181B induction coil. This induction coil is used universally to replace all previous type induction coils in telephone circuits.

All other headings no change.

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DEPT. 3360-BSA-CGM-F1

FOR LINE MESSAGE REGISTER PAGE
MISCELLANEOUS CIRCUIT
PANEL SYSTEM

CHANGES

B. CHANGES IN APPARATUS

Superseded by	Superseded
Fig. 20	Fig. 7
27A4 record coil	2A4 record coil
1818 ind. coil	63 ind. coil
27A4 record coil	118 record coil
3B vibrator -	3A vibrator -
opt. "W"	opt. "W"
3B vibrator -	AA vibrator -
opt. "W"	opt. "W"
681A and set -	681C and set -
opt. "W"	opt. "W"
681A and set -	681A and set -
opt. "W"	opt. "W"
Replaced by	Replaced
22A	280A plug
Head Telephone	190A trans.
Set	228 receiver
	1A8 cord

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 The options used table is added.
D.2 Circuit notes 117, 118 and 119 are added.

All other headings no change.

- D.3 Circuit notes 101, 10A, 102, 103 and 110 are changed to include reference to Fig. 20.
D.4 Cross connection Figs. 1K, 1N, 1J, 1I and 6K, 12K, 18K and 19K are changed.
D.5 The use of the 681A and 681C and sets are rated Mr. Disc. and superseded by the 681A and set since the former are Mr. Disc.
D.6 The use of the 3A and AA vibrators are rated Mr. Disc. and superseded by the 3B and 3A vibrators since the former are Mr. Disc.
D.7 The use of Fig. 7 is rated Mr. Disc. and superseded by Fig. 20 which uses a 1818 induction coil. This induction coil is used universally to replace all previous type induction coils in telephone circuits.

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DEPT. 1180-2BA-COM-71

PANEL SYSTEM
MISCELLANEOUS CIRCUIT
FOR LINE MESSAGE REGISTER RACK

CHANGES

B. CHANGES IN APPARATUS

B.1	Added	Superseded	Superseded By
1	223 Type Jack (P) Fig. 18	4HB3 Dial (Fig. 16) 201C3 hand tel. set (Fig. 17)	5HB3 Dial 211C3F hand tel. set
1	246 Type Jack (+48 V) Fig. 19	146C ind. coil (Fig. 9)	101A ind. coil

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 Fig. 18 added, to provide a single wire tie line between the message register rack and the 2 party message register relay frame for testing message register relays of 2 party lines arranged for remote control zone, or non-zone over-time registration.
- D.2 Fig. 19 added, to provide a positive 48 volt battery supply jack for supplying positive 48 volt battery for testing 2 party message register relays.
- D.3 Note 116 added to record apparatus changes.

All other headings under "Changes", no change.

1. PURPOSE OF CIRCUIT

- 1.1 To provide test battery, recorders talking lines and miscellaneous jacks for the line message register rack.

2. WORKING LIMITS

- 2.1 Maximum resistance of direct line between Figs. 7 and 8 or Figs. 7 and 15 is 750 ohms.

3. FUNCTIONS

- 3.1 To provide a frame line for talking between frames and to the "A" switchboard or sender make busy frame.

- 3.2 To provide miscellaneous jacks and circuits for testing as specified on the drawing.
- 3.3 To provide a talking line between the register rack and the recorder's desk.

4. CONNECTING CIRCUITS

- 4.1 Local frame line circuit.
- 4.2 Miscellaneous circuit for I.D.F.
- 4.3 Subscriber line circuit.
- 4.4 Miscellaneous circuit for 2 party message register relay.

DESCRIPTION OF OPERATION

5. BATTERY FEED JACK (FIG. 1)

Ground and negative 48 volt battery are connected to jack (BAT), in which the plug of a test set cord may be inserted.

6. FRAME LINE BETWEEN FRAMES (FIG. 2)

Communication may be established with the "A" switchboard by inserting the plug of an "A" board cord in the "A" board jack and plugging an operator telephone set into the (TEL) jacks. Communication may be established with the sender make busy frame by operating the (TALK) key at the sender make busy frame and plugging an operator telephone set into the (TEL) jacks. Connection may be made between two or more frames or racks by plugging operator telephone sets into the frame line jacks at the frames or racks. Talking battery is supplied to the line thru the connecting circuit. No signaling is provided.

7. TEST CIRCUIT BUZZER AND JACK FOR CHECKING MESSAGE REGISTERS (FIGS. 3, 4 AND 6)

These figures are used in connection with the message register checking circuit of the I.D.F. for making check tests for transpositions or opens in I.D.F. cross-connections, transpositions or opens in the leads between the I.D.F. and message register rack, and for grounded leads. Jack (BUZ 2) is multiplied with corresponding jacks at the I.D.F. and buzzer (MR) operates when the corresponding buzzer at the I.D.F. operates. To check the leads between the I.D.F. and the line message register rack, a patching cord, shown on the miscellaneous circuit for I.D.F., is plugged into jack (BUZ 2) and the clip end of the cord is attached to the terminal of the register associated with the lead to be tested. The plug of the other patching cord is inserted in

jack (BUZ 1) at the V.I.D.F. and the clip end is attached to the I.D.F. terminal associated with the register lead. If the register is properly cross-connected and the lead is free from ground, relay (MR) will operate, operating buzzer (MR) and the buzzer at the I.D.F.

8. TEST LINE FOR TESTING MESSAGE REGISTERS (FIG. 5)

Jacks (T) and (T1) are used for patching the test line to the message register test set at the message register rack. Jacks (T) and (T1) are patched to associated jacks in the test set, and corresponding jacks at the I.D.F. are patched to the terminals of the line to be tested.

9. TEL. SETS FOR DIRECT RECORDER'S TALKING LINE (FIGS. 7 AND 8 OR 15)

When a direct talking line is specified, Fig. 7 is furnished at the register rack and Fig. 8 or 15 or a standard subset, is furnished at the recorder's desk. Communication is established between the sets of Figs. 7 and 8 or 15 by plugging operator telephone sets into the jacks. Multiple jacks are furnished at the register rack when specified. No signaling is provided.

10. TEL SETS FOR DIALING RECORDER'S TALKING LINE (FIGS. 9, 10 OR 16 AND 14 OR 17)

When a dialing talking line is specified, Figs. 9 and 14 or 17 are furnished at the register rack and Fig. 10 or 16, or a standard subset arranged for dialing, is furnished at the recorder's desk. Communication is established between the sets by dialing from either set. Multiple jacks are furnished at the register rack when specified. The recorder may be called by dialing from the register rack subset. An operator telephone set may then be plugged into a pair of (RCDR) jacks associated with that subset before the subset receiver is restored, or the recorder may dial the register rack subset. In the latter case, the register rack operator telephone set may be moved from one pair of (RCDR) jacks to another pair on the same line without releasing the connection.

11. OPERATOR TEL. SET (FIG. 11)

The operator telephone set for use with Figs. 7, 8, 9, 10, 15 and 16 is shown in this figure.

12. CALL THRU TEST LINE JACKS FOR TESTING MESSAGE REGISTERS (FIGS. 12 AND 13)

These figures are used in connection with Fig. 5 for testing message registers by dialing an official line. I.D.F.

jacks, associated with Fig. 5, are patched to the terminals of the line to be tested. In the case of a two-party line, the jacks are patched to either the tip party or the ring party terminals, for testing the corresponding register. A hand test set is connected to jack (HS). The switchman then monitors on the line and, if the line is found idle, the hand test set key is released, connecting the transmitter, receiver and dial across the tip and ring of the line.

If the register is associated with the tip party of a two-party line, a 184 plug is inserted in jack (GRD). The switchman then dials the number of some central office line associated with a nearby telephone. This line would previously have been assigned to these tests, and the "R" terminal of this line would be connected to Fig. 12. When ringing induction is heard, or when the telephone bell rings, the 184 plug is transferred from jack (GRD) to jack (ANS). This closes ground thru resistance (D) to the ring of the line, thus setting up the condition of an answered call.

If a ring party register, or an individual line register is to be tested, the 184 plug is not connected to the (GRD) jack, but is connected to the (ANS) jack on receipt of ringing induction, to set up the condition of an answered call.

If the register associated with a trunk from a dial PBX is to be tested, where ground is not connected to the tip of the line thru the back contact of the cut-off relay, a 184 plug is inserted in the (GRD) jack after the line is found to be idle. This connects ground thru resistance (C) to the line to operate the line relay. As soon as dial tone is heard, the 184 plug is removed from the (GRD) jack and, on receipt of ringing induction after completion of dialing, is inserted in the (ANS) jack.

If a 32A test set is used instead of the 184 plug, the test set is connected to the (GRD) jack, and the application of resistances (C) and (D) is controlled by the keys of the test set.

13. TIE LINE, SINGLE WIRE, BETWEEN MESSAGE REGISTER RACK AND RELAY FRAME (FIG. 18)

This figure connects to a similar circuit at the 2 party message register relay frame, and provides for connection of test set for making tests at the message register rack of the message register relays of 2 party lines arranged for remote control zone, or non-zone overtime, registration.

14. +48 V BATTERY SUPPLY JACK (FIG. 19)

Positive 48 volt battery is connected to jack (+48 V) to provide for testing 2 party message register relays with positive battery from the message register rack.

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14. +48 V BATTERY SUPPLY JACK (FIG. 19)

Positive 48 volt battery is connected to Jack (+48 V) to provide for testing 2 party message register relays with positive battery from the message register rack.

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