

TROUBLE INDICATOR ALARM ROUTINE PANEL OFFICES

1. GENERAL

1.01 This section outlines the procedure to be followed when responding to a trouble indicator alarm and covers the interpretation of the record displayed by the trouble indicator lamps.

1.02 This practice is reissued to add various trouble lamp displays and interpretations. Since this reissue covers a general revision, the arrows ordinarily used to indicate changes have been omitted.

1.03 The purpose of the trouble indicator is to take a record of the decoders, decoder connectors and senders involved in decoder failures and to give an indication of the code dialed into the sender and of conditions within the decoder and on its connecting paths, in order to facilitate the locating and clearing of troubles.

2. APPARATUS

2.01 No. 184 (Make-Busy) Plugs as required.

3. METHOD

3.01 If, in response to a minor intermittent or major alarm, a lighted TI (trouble indicator) lamp is found at the trouble indicator, operate the LP (lamp) key and obtain a record of the trouble being indicated by the lamps listed in Paragraph 3.03.

Note: An accurate record of the trouble should be obtained, since in some cases it may be necessary to have records of repeated indications in order to locate the trouble.

3.02 Restore the LP key and momentarily operate the RL (release) key to restore the trouble indicator to normal. Should a decoder attempt to connect to the trouble indicator while the latter is holding the record of a previous failure, the alarm bell changes from a tapping to a vibrating alarm and the second decoder is identified by the DL- lamp as indicated in Paragraph 3.03.

Caution: Release the trouble indicator as soon as possible, since a second trouble indicator record can not be obtained as long as the trouble indicator is busy.

3.03 The various lamps associated with the trouble indicator circuit appearing on the trouble indicator frame are listed below with the general information to be obtained from each lamp:

<u>Lamp</u>	<u>Indication</u>
DR GR 0, 100	Decoder group registering a trouble
DR 1 to 6	No. of decoder in a group
CONN FR 1 to 17	No. of decoder connector frame
CONN A to E	Specific connector on frame
SENDER A to K	Specific sender in group
SDR FR HS, LS	High or low sender frame
DL G-0 1 to 6)	No. of decoder which has attempted to seize trouble indicator while it is busy
DL G-100 1 to 6)	
TDK	Toll diverting call; extra charge
XTD	False ground on TD lead
EA	Extended area code dialed
LA	Local area code dialed
Z01	Zero operator routing
PS	Permanent signal routing
PS1, PS2	Permanent signal routing receiving leads
KS	Key pulsing "A" sender
SK	"A" sender (Keyset or dial)
S	Subscriber sender
S 1 to 8	Subscriber service class
H 0 to 9	First digit)
T 0 to 9	Second digit) Code dialed
U 0 to 9	Third digit)
A 1, 2, 4, 5	First digit receive-)
	ing leads)
B 1, 2, 4, 5	Second digit receive-)
	ing leads) Code dialed
C 1, 2, 4, 5	Third digit receive-)
	ing leads)
D 1, 2, 3	Subscriber service class receiving leads
CIA, B, C	Class of call)
CRA, B, C	Compensating)
	resistance)
DBA, B, C	District brush)
DGA, B, C, D	District group)
OBA, B, C, D	Office brush)
O3A, B, C, D	Office group)
ZCA (or TSB), ZCB	Zone)
X	Cross or ground check
RL	Decoder release chain path check

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3.04 Fig. 1 illustrates a typical chart which could be made up locally from known trouble indications in a particular office as an aid in identifying or locating decoder troubles as they take place. The accompanying notes list typical trouble lamp indications and some of their possible causes.

3.05 To prevent seizure of the trouble indicator by a decoder, insert a 184 plug into the associated TIDR jack at the trouble indicator frame.

3.06 The procedures outlined in Bell System Practices Section 215-141-303 will be found helpful in locating decoder, decoder connector, or sender troubles.

4. REPORTS

4.01 The required record should be entered on the proper form. This record will usually consist of an entry of the decoder, decoder connector and sender involved, the code dialed and class of subscriber, if registered, and any other information given by the display, together with a report of any trouble found or action taken as a result of such alarms.

LAMP INTERPRETATION - TROUBLE INDICATOR

CODE	ROUTE RELAY	CL			CR			DB			DG				OB				OG				
		A	B	C	A	B	C	A	B	C	A	B	C	D	A	B	C	D	A	B	C		
0	113		3			4	3					5	1		SD-1	SD					SO		
211	112		3			4						4			SD-1	SD					SO		
281	119					4	3	TS	2	3					SD-1	SD					SO		
321	37							TS							SD-1	SD	2				4		
391	44							TS							SD-1	SD	1				2		
411	17		3			4		TS	1			4			SD-1	SD	1				2	1	
481	51							TS	1			4			SD-1	SD					5		
521	106					5	4	3	TS	1	3	5			SD-1	SD					SO		
591	110		3			4	3	TS							SD-1	SD	1				5	4	
611	19		3			4	3	TS							SD-1	SD					5	2	
681	27							TS							SD-1	SD					1		
731	55							TS	1			4			SD-1	SD						2	
791	36							TS	1						SD-1	SD	1				5		
831	CG-RC																						
891	49							TS	1			4			SD-1	SD					5	2	
931	CG-A																						
991	58							TS							SD-1	SD	1				5	2	
RS	115		3			4	3					5	4		SD-1	SD					SO		
CG 9-VAC CODE (SUB)	SG-2		3			4	3								SD-1	SD	4				5	2	1
RO-RESTR CODE (SUB)	SG-1		1			4	3					5	1		SD-1	SD					SO		
CG-A WE-1 (SUB)	60		1			4	3	TS	1			4			SD-1	SD	4				5	2	

Fig. 1 - Illustration of Suggested Chart to be Made Up Locally

NOTES

INDICATIONS

1. All receiving lead lamps lighted.
2. All but one receiving lead lamps lighted.
3. Receiving lead lamps lighted but not transmitting lead lamps.
4. CRC lamp lighted.
5. Any other transmitting lead lamp lighted.

POSSIBLE CAUSES

- Falsely grounded receiving lead or CK1 or CK2 lead from sender to decoder.
- Open receiving lead.
- Open CK1 lead in decoder-sender path.
- Failure of R, SG, or CRC relay to operate.
- Failure of HA and HB relays to operate. Failure of TA and TB relays to operate.
- Transmitting relay failed to operate in decoder.
- Open ground on one of used transmitting leads (see above chart for hypothetical examples of leads used for certain codes and route relays).

NOTES (CONT'D)INDICATIONSPOSSIBLE CAUSES

6. RL lamp lighted.

Open RL lead. Failure of sender RL relays to open ST lead.

7. X lamp lighted.

Two R relays operated. Primary and secondary windings of transmitting relays crossed. Other cross or ground in decoder or on unused transmitting lead.