

CIRCUIT DESCRIPTION
SWITCHING SYSTEMS DEVELOPMENT DEPARTMENT

CD-21824-01
Issue -6D
Appendix -3D
Dwg. Issue -12D

PANEL SYSTEMS
DISTRICT RELEASE CIRCUIT
FOR USE WITH DISTRICT SELECTORS
ARRANGED FOR TIMED RELEASE

CHANGES

B. CHANGES IN APPARATUS

B.1	<u>Superseded</u>	<u>Superseded By</u>	<u>Designation</u>	<u>Fig.</u>
	R1267 Relay	R1378 Relay	T02, T03, T04, or T06, T07, T08	2
	B419 Relay	B412 Relay	T1 or T2	2
	5AF M.R.	12C M.R.	DT	4

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 The use of relays R1267, B419 and 5AF M.R. is rated "Mfr. Disc." and is superseded by R1378, B412 and 12C M.R.

to show realistic ratings for obsolescent apparatus.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3040-BSP-CGM-G7

CIRCUIT DESCRIPTION
SYSTEMS DEVELOPMENT DEPARTMENT
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CD-21824-01
Issue 6-D
Appendix 2-D
Dwg. Iss. 11-D

PANEL SYSTEMS
DISTRICT RELEASE CIRCUIT
FOR USE WITH DISTRICT SELECTORS
ARRANGED FOR TIMED RELEASE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Note 104 is rated "Mfr. Disc." and is superseded by added Note 109 which provides for use of X option with all districts on a frame where only part of the districts on this frame

are individual message rate link type without local control zone registration or non-zone overtime.

All other headings, No change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3340 AB-FJS

CIRCUIT DESCRIPTION
SYSTEMS DEVELOPMENT DEPARTMENT

CD-21824-01
Issue 6-D
Appendix 1-D
Dwg. Iss. 10-D

PANEL SYSTEMS
DISTRICT RELEASE CIRCUIT
FOR USE WITH DISTRICT SELECTORS
ARRANGED FOR TIMED RELEASE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 In Note 104 "zone and overtime registration" is changed to read "local control zone registration or non-zone overtime". This change provides for application of interrupters,

when link type districts are arranged for remote control zone registration or non-zone overtime.

D.2 Table of options used is added.

All other headings, No change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3340-AR-FJS

PANEL SYSTEM
DISTRICT RELEASE CIRCUIT
FOR USE WITH DISTRICT SELECTORS
ARRANGED FOR TIMED RELEASE

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

- D.1 Rating of Figs. 5 and 6, and "S" wiring changed from "Special" to "Mfr. Disc."
- D.2 Interrupter intervals for a 2 minute (TA) interrupter shown in circuit note 102 are designated "Fig. A." Fig. B is added, showing interrupter intervals for a one minute (TA) interrupter as optional standard. The new one minute (TA) interrupter closes contact (B) for 3.1 sec. to insure at least one closure of (TA) interrupter while contact (B) of (TA) interrupter is closed.
- D.3 Circuit note 107 rated "Mfr. Disc." and circuit note 108 added to record circuit changes.

All other headings under "Changes", no change.

1. PURPOSE OF CIRCUIT

- 1.1 To provide means for releasing districts which are awaiting calling subscriber's disconnect, so that subscriber's lines will not be held out of service due to failure of the calling subscriber to disconnect, and it will not be necessary to restore districts manually.

2. WORKING LIMITS

- 2.1 None.

3. FUNCTIONS

- 3.1 To release any districts of a group of half the districts on a side of a frame, which may be awaiting calling subscriber disconnect at the end of the interrupter cycle if any district of the group remains in this position during the entire interrupter cycle.
- 3.2 Operates the selector time alarm in case of failure to advance districts from the time alarm position, or failure of this circuit to restore to normal.

- 3.3 Operates a district time out register, to record the number of times the district release circuit functions to release a district.

4. CONNECTING CIRCUITS

- 4.1 Any district circuit arranged for release from the time alarm position.
- 4.2 Selector time alarm circuit.
- 4.3 Miscellaneous circuit for miscellaneous interrupter frame.

DESCRIPTION OF OPERATION

5. TIME RELEASE OF DISTRICTS AWAITING CALLING SUBSCRIBER'S DISCONNECT

- 5.1 When interrupter (TA) or (TB) closes contact "F", relay (F) operates, connecting the (T1) and (T2) relays thru the (A) resistances to the district release leads. There is one (T1) relay for the first 15 districts and one (T2) relay for the second 15 districts per side of district frame. Ground on lead 1, from any one of the district circuits on a frame, due to the calling subscriber failing to disconnect or to the district failing to restore for any reason, will cause relay (T1) or (T2) to operate when relay (F) operates. Operation of relay (T1) or (T2) operates relay (TO1) or (TO5), which closes a circuit for locking the (T1) or (T2) relay to the ground in the district, independent of relay (F). There are two sets of (T1), (T2), (TO1) and (TO5) relays per district frame, or one set per side of frame.

With "W" wiring, or "S" wiring and Fig. 5, when interrupter (TA) or (TB) closes contact (B), relay (B) operates. When "X" wiring or "S" wiring with Fig. 6 is furnished, closure of (TA) or (TB) interrupter contact (B), in series with (TA1) or (TB1) interrupter contact (B) operates relay (B). (TA1) or (TB1) interrupter contact (B) closes every 1.3 seconds, while (TA) or (TB) interrupter contact (B) remains closed, thereby insuring at least one closure for operating relay (B). If a ground remains on any district release lead 1 during the complete cycle of the interrupter (TA) or (TB), the corresponding (T1) or (T2) and (TO1) or (TO5) relays remain locked up, causing the associated (TO2), (TO3) and (TO4), or (TO6), (TO7) and (TO8) relays to operate in multiple when relay (B) operates. These relays connect together district leads 1 and 2 for each of the districts associated with one (T1) or (T2) relay, thereby advancing any district in the group which has ground on its release lead 1. When interrupter contact (B) opens, relay (B) releases. The release of either the (B) relay or the associated (T1) and (TO1) or (T2) and (TO5) relays causes the (TO2), (TO3) and (TO4), or the (TO6), (TO7) and (TO8) relays to release, restoring the circuit to normal.

6. OPERATION OF TIME ALARM

Operation of relay (T01) or (T05) also grounds lead 3, which operates the selector time alarm in case of failure of a district to advance when timed out. When "Z" wiring is furnished, operation of relay (T03) or (T07) also grounds lead 3 to operate the selector time alarm in case of failure of the district release circuit to restore to normal.

7. OPERATION OF DISTRICT TIME OUT REGISTER

Operation of relays (T02), (T04), (T06) or (T08) or, with "Y" wiring, of additional relays (T03) or (T07), connects ground to lead "DT", operating relay (L) which locks up until the contact of the register closes, thus insuring complete operation of the register. When the register is fully operated, it short-circuits the winding of relay (L), which releases. If ground has been disconnected from lead "DT", the register releases.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3340

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