CIRCUIT DESCRIPTION
SYSTEMS DEVELOPMENT DEPARTMENT

PANEL SYSTEMS
EXERCISE TEST CIRCUIT
FOR LINE FINDERS AND ASSOCIATED CIRCUITS
OF ORIGINATING EQUIPMENT

CHANGES

A. CHANGED AND ADDED FUNCTIONS
   A.1 Circuit is changed to operate with battery cut-off on conversion from ground cut-off.

B. CHANGES IN APPARATUS
   B.1 Added
       R1556 (CO) relay (Fig. E)

D. DESCRIPTION OF CIRCUIT CHANGES
   D.1 Figure E is added to provide for operation when ground cut-off is converted to battery cut-off.
   D.2 Circuit note 103 is revised to cover application of Fig. E.

All other headings, No change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3340-LBS-PJS
CIRCUIT DESCRIPTION
BELL TELEPHONE LABORATORIES, INC.,
SYSTEMS DEVELOPMENT DEPT., NEW YORK,
PRINTED IN U.S.A.

PANEL SYSTEMS
EXERCISE TEST CIRCUIT
FOR LINE FINDERS AND ASSOCIATED CIRCUITS
OR ORIGINATING EQUIPMENT.

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Rating is changed from A & M Only to Mfr. Disc.

All other headings - No change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 332-A

LBS) BA

WHM) BA
CIRCUIT DESCRIPTION
BELL TELEPHONE LABORATORIES, INC.
SYSTEMS DEVELOPMENT DEPT., NEW YORK.
PRINTED IN U.S.A.

CD-21035-01
Issue 1
Appendix 1-D
February 16, 1929
(2 Pages) Page 1

PANEL MACHINE SWITCHING SYSTEM
EXERCISE TEST CIRCUIT
FOR LINE FINDERS AND ASSOCIATED CIRCUITS
OF ORIGINATING EQUIPMENT

CHANGES

A. CHANGED AND ADDED FUNCTIONS

A.1 None.

B. CHANGES IN APPARATUS

B.1 Provision made for additional (ET) relays and fuses for Fig. 2.

C. CHANGES IN CIRCUIT REQUIREMENTS OTHER THAN THOSE APPLYING TO ADDED OR REMOVED APPARATUS

C.1 None.

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Straps shown at windings of (ET) relay, to allow for additional (ET) relays in case 2 or more central offices are located in same building.

D.2 Fusing note 102 changed to allow one fuse for relays and 1st lead "B" and one for each additional lead "B" to avoid overloading fuse, in case circuit is used for more than one office.

D.3 Circuit note 108 added.

DEVELOPMENT

1. PURPOSE OF CIRCUIT

1.1 No change.

2. WORKING LIMITS

2.1 No change.
OPERATION

3. FUNCTIONS

3.1 No change.

4. CONNECTING CIRCUITS

4.1 No change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 332-A-1

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WHM}XL
CIRCUIT DESCRIPTION
BELL TELEPHONE LABORATORIES, INC.,
SYSTEMS DEVELOPMENT DEPT., NEW YORK
PRINTED IN U.S.A.

CD-21035-01,
Issue 1
December 15, 1926
(3 Pages) Page 1

DEVELOPMENT
1. PURPOSE OF CIRCUIT

1.1 This circuit is for use in making exercise tests of originating equipment in both sender selector and link type line finder offices. It is arranged to test all line finder groups simultaneously, so that the originating equipment for an entire office may be routined in a short space of time and troubles cleared each morning, before the load picks up.

2. WORKING LIMITS

2.1 None.

OPERATION

3. FUNCTIONS

3.1 Causes line finders in succession in all "A" or "B" sub-groups simultaneously to hunt the line terminals to which these circuits are wired and wipe out.

3.2 Indicates by flashing of lamp whether test is proceeding satisfactorily in each group of 400 lines in the office.

3.3 Indicates by steady lamp signal if test is blocked in any one of the 400 line groups in the office, due to trouble in trip or start circuits, line finders, links or senders.

3.4 Arranged for cutting off any line group on which it is not desired to make tests.
ARMSMENT OF设备 — DETAILED DESCRIPTION

5. ARRANGEMENT OF GROUNTS: A jack (C), the lamp (ET), and relay (TA) is provided for each line group. When a make-busy plug is inserted in the jack (C), the lamp indicates that the line is busy, and the relay (TA) is set. When the line is released, the lamp goes out, and the relay (TA) is cleared. The line is then ready for another operation. If the line is still busy, the lamp will remain lit, and the relay (TA) will remain set.

6. TRIP AND START CIRCUITS: The operation of the various line/relay circuits is connected in the usual manner, as shown in the diagram. The circuit is arranged so that only one of the trip circuits can be operated at a time. The operation of the trip circuits is controlled by the selector switch, which is located on the wall of the office. The selector switch is used to set the trip circuits for each line group. When the selector switch is set, the trip circuits are activated, and the line is ready for use. The operation of the trip circuits is controlled by the selector switch, which is located on the wall of the office. The selector switch is used to set the trip circuits for each line group. When the selector switch is set, the trip circuits are activated, and the line is ready for use.
7. TEST OF "B" SUB-GROUPS To originate calls in all the "B" sub-groups simultaneously, a make-busy plug is inserted in jack (B). This causes the same sequence of operations as the insertion of a plug in jack (A) except that the (TA) relays are not operated and line finders in the "B" sub-groups are started, since each test line, being at the top of the bank is so wired as to start line finders in the "B" sub-group.

8. INDICATIONS OF TROUBLES The flashing of the (ET) lamps associated with the line groups indicates that the test is progressing satisfactorily, while a steady light indicates failure to find the test line, failure of the (CO) relay to operate or other troubles. Also a failure to wipe out after the line is found will be indicated by the (ET) lamp being extinguished and not re-lighting. Troubles may also be indicated by trip circuit alarms, start circuit alarms, link alarms or stuck sender alarms.

9. MEANS OF PREVENTING TESTS OF BOTH "A" AND "B" SUB-GROUPS SIMULTANEOUSLY Jacks (A) and (B) are so wired that if plugs are in both jacks, the (ET) relay is operated, lighting the (ET) lamps, but the circuit for operating the (L) and (TA) relays is opened, so that no line finders can be started in either the "A" or the "B" sub-groups.

10. MEANS OF PREVENTING TEST OF ANY GROUP In case it is desired to cancel the test on any particular group, a plug is inserted in the corresponding jack "C" of this group. This opens the circuit to the (L) relay of the test line, preventing the (L) relay from operating and starting line finders in this group, and also opens the circuit to the (ET) lamp and the "ET" lead to the start circuit of the group affected.

11. RESTORING CIRCUIT TO NORMAL Removal of the plug from the "A" or "B" jack causes the release of the (ET) relay, and the (TA) relays if operated, and all (L) relays, restoring the circuit to normal.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 332-A
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