

TOLL SYSTEMS
SIGNALING
MISCELLANEOUS JACK CIRCUIT
1600 or 2000 CYCLE SIGNALING
FOR SIGNALING TEST CIRCUIT

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Fig. 13 which was rated "Mfr Disc."
is now rated "Standard."

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 2166-JOT-OLW

CIRCUIT DESCRIPTION
TELEGRAPH, SIGNALING, AND
SPECIAL SYSTEMS DEVELOPMENT DEPARTMENT

CD-56137-01
Issue 6-D
Appendix 1-D
Dwg. Issue 10-D

TOLL SYSTEMS
SIGNALING
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FOR SIGNALING TEST CIRCUIT

CHANGES

A. CHANGED AND ADDED FUNCTIONS

A.1 All figures except Fig. 9, Fig. 15 and
Fig. 53 are rated Mfr. Disc.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 2722-JMW-FSE-VO

TOLL SYSTEMS
SIGNALING
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CHANGES

B. CHANGES IN APPARATUS

B.1 The 70K fuse replaced the 70J fuse in Fig 15 in "N" carrier installations.

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 The use of filament or signal battery was made optional in figures 3, 14, E and F.

D.2 The multiples of the jacks in Fig. 8 were extended to include the blocking amplifier bays as well as all types of Single Frequency Signaling bays.

D.3 The cross connection leads of Fig. 10 were redesignated to remove reference to "B1" and to include "B1" or BR3".

D.4 The multiplying of jacks in Figs. 2 and 9 was rated "MO". The circuit now calls for one Fig. 14 or 15 per 5 bays, as well as one Fig. 12 per 5 bays. In its latest form each test position is both independent and complete.

D.5 Notes 101, 102 and 202 were changed.

All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

1.1 To provide miscellaneous bay mounted jack circuits, fixed and variable pad circuits, a frequency keyer, a mixing circuit and a V1 or V3 amplifier for use in testing V.F. signaling circuits in conjunction with the portable V.F. signaling test circuit.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 To provide test jacks, frame line jacks, E and M lead split jacks, test battery and ground jack and 60 and 120 I.P.M. jacks for the portable test set in every fifth bay in a line up of signaling bays.

3.2 To provide an attenuator so that signals from a local source, either signal sending keyer or local oscillator may be connected to a signal receiver at the correct level for that office.

3.3 To provide a mixing pad permitting standard signaling frequencies to be mixed with other frequencies (1000 cycles) at various levels, set by the attenuator to test the guard action in the receiver.

3.4 To provide a V3 amplifier for installation with input and output jacks in every fifth bay.

3.5 To provide a source of signals for testing the receiving elements of a signaling circuit, the source to be similar to the signaling circuit, sending element.

4. CONNECTING CIRCUITS

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

4.1 1600 or 2000 cycle Signaling Circuit - SD-55954-01 or SD-56202-01.

4.2 Signaling Test Circuit - SD-56134-01 or SD-56134-02.

4.3 Sending Jack Circuits (one milliwatt) - SD-95101-01.

4.4 Transmission Measuring Test Trunks - SD-95100-01.

4.5 IR Tube Testing Circuit - SD-64031-01.

4.6 Frame Line Circuit - SD-96379-01.

4.7 Interrupter Frame Circuit - SD-68058-01.

4.8 Relay Interrupter Ckt. - SD-95036-01.

DESCRIPTION OF OPERATION

5. GENERAL

5.1 Fig. 1 provides both fixed pads and a variable attenuator with jacks

so that either may be used separately. This makes it possible to supply signals from a local source, either signal sending keyer or local oscillator, to a signal receiver at the correct level for the particular office 26 db of fixed pad is supplied in offices where transmission level point (TLP) levels are +4 and -13 dbm and 20 db in offices where levels are +7 and -16 dbm. In an office where a single Fig. 1 is used to test both +4 and +7 receivers, patch "PAD IN A" Jacks to test "KEYER OUT" Jacks Fig. 11 and connect "KEYER IN" Jacks to -11.8 "TEST TONE" Jacks for +4 receiver tests or patch "PAD IN B" Jacks to test "KEYER OUT" Jacks and connect "KEYER IN" Jacks to -14.8 "TEST TONE" Jacks for +7 receiver tests.

5.2 Fig 2 provides for an appearance of the input and output jacks of the voice amplifier, Fig. 3 in every fifth bay of a signaling equipment lineup.

5.3 Fig. 4 is a mixing pad, 6 db loss, permitting standard signaling frequencies to be mixed with other levels as set by the attenuator to test the guard action in the receiver.

5.4 Fig. 5 provides a means of talking from one testing position to another. Transmitter battery is supplied from the frame line circuit.

5.5 Fig. 6 provides test lines to I.D.F. which by multiple connection at that point provides interbay testing trunks.

5.6 Fig. 7 makes it possible by a patch to the E and M jacks of the signaling circuit to split these leads so that paths to both signaling unit and to trunk circuit are available.

5.7 Fig. 8 provides a means of trunking to various testboards or measuring bays.

5.8 Figs. 9, 14, 15 and 10 provide battery supply and 60 and 120 IPM pulses to the portable signaling test set. Only one test set should be used per lineup. If option A is used otherwise no restrictions.

5.9 Fig. 11 provides a source of testing signals similar to that in the signaling circuit sending element. This figure is arranged for patching to either 1600~ or 2000~ supply jacks as required. An M lead jack is provided for connection to a pulsing test set. The P1 Potentiometer is provided for adjusting the output to exactly -19 or -22 dbm as required for inputs of -11.5 or -14.6 dbm respectively.

5.10 Fig. 12 provides an amplifier used in testing the signaling circuit by providing amplification when required.

5.11 Fig. 13 provides a jack for supplying -48 volt battery and ground for use with 35C test set and with 1A signal test set.

BELL TELEPHONE LABORATORIES, INC.

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