TOLL SYSTEMS
SIGNALING
SIGNALING CONVERTER CIRCUIT
FOR CONNECTING
N OR O CARRIER OR
SINGLE FREQUENCY SIGNALING CIRCUIT
TO 20 CYCLE RINGDOWN CIRCUITS

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Note 102 formerly provided "For ringing directly into the drop of a No. 1 Type Toll Switchboard, Fig. 2, 1 per 5 Figs. 1, and Fig. 3, V option, 1 per Fig. 1." This note now includes connection to #2, 9C, 9D or 10 toll switchboards and 3C, 3CF, or 3CL inter-toll trunk ckts.

D.2 Prior to Iss. 6-D the 400E varistor now designated (B) was designated (A).

All other headings, no change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 2325-SBC-FSE-LS

TOLL SYSTEMS
SIGNALING
SIGNALING CONVERTER CIRCUIT
FOR CONNECTING
N OR O CARRIER OR
SINGLE FREQUENCY SIGNALING CIRCUIT
TO 20 CYCLE RINGDOWN CIRCUITS

CHANGES

B. CHANGES IN APPARATUS

B.1 Added

400E Varistor - Fig. 1

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 A 400E Varistor was added to Fig. 1 to increase the release time of the "R" relay.

D.2 "N or O Carrier or" was added as the fifth line of the title.

D.3 Note 104 was reworded.

D.4 Circuit note 101 has been changed to conform with similar drawings to provide 1-1/3 amp. fuses in "T" and "R" leads of Fig. 4 the low voltage 20 cycle supply resistances.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3320-AJC-FSE-J2

CD-56163-01
Issue 2-D
Appendix 1-D
Dwg. Issue 4-D

TOLL SYSTEMS
SIGNALING
SIGNALING CONVERTER CIRCUIT FOR CONNECTING SINGLE FREQUENCY SIGNALING CIRCUIT TO 20 CYCLE RINGDOWN CIRCUITS

CHANGES

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Straps are added to figure 4 and figure 3.

D.2 Reference to figure 2 is added in the feature or option note for ringing directly into the drop of a No. 1 type toll swbd.

All other headings, no change.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3310-MKS-RLL-ZO

TOLL SYSTEMS
SIGNALING
SIGNALING CONVERTER CIRCUIT
FOR CONNECTING
SINGLE FREQUENCY SIGNALING CIRCUIT
TO 20 CYCLE RINGDOWN CIRCUITS

CHANGES

B. CHANGES IN APPARATUS

B.1 Added

Fig. 3 (D) 19GE and (C) 19JS resistances
Fig. 4 (F) & (E) 18U resistances

D. DESCRIPTION OF CIRCUIT CHANGES

D.1 Figures 3 and 4 and options T and V are added to the options used table and notes 102 and 103.

D.2 Circuit note 104 is added.

D.3 Prior to this issue Figure 2 was shown in note 102 as provided for the feature "ringing lamp".

D.4 Equipment note 201 is added.

D.5 Rating is changed from "AT&TCo Provisional" to "AT&TCo Standard".

E. CHANGES IN TRANSMISSION REQUIREMENTS

E.1 The transmission test requirements are added.

All other headings under Changes, no change.

1. PURPOSE OF CIRCUIT

1.1 This circuit is for use as an auxiliary signaling circuit to connect single frequency signaling circuits to 20 cycle ringdown circuits.

2. WORKING LIMITS

2.1 None.

3. FUNCTIONS

3.1 Receives signals from a ringdown circuit and retransmits them over an "M" lead to a single frequency signaling circuit.

3.2 Transmits 20 cycle signals to a ringdown circuit in response to signals over an "E" lead from a single frequency signaling circuit.

4. CONNECTING CIRCUITS

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

4.1 Patching Jack Ckt. - SD-64724-01.

4.2 Single Frequency Signaling Ckt. - SD-55954-01.

4.3 20 Cycle Ringing Supply Ckt. - Low Voltage - SD-62180-03.

DESCRIPTION OF OPERATION

5. SIGNALING FROM RINGDOWN CIRCUIT

5.1 When the circuit is idle, there is no 20 cycle current in the "T" and "R" leads, the (A) relay is released sending current from negative 48 volt battery over the "M" lead to the single frequency signaling circuit, and the single frequency signaling circuit sends no tone over the line.

5.2 When a 20 cycle ringing current is sent from the ringdown circuit, the 20 cycle current flows over the "T" and "R" leads thru the (A) retard coil and the (A) condenser to the (A) varistor where it is rectified. The rectified current operates the (A) relay which removes negative 48 volt battery from the "M" lead and connects ground. This causes the single frequency signaling circuit to send tone over the line for the duration of the ring.

5.3 During the talking period the conditions are the same as for the idle period.

6. SIGNALING FROM THE LINE TO THE RINGDOWN CIRCUIT

6.1 When the circuit is idle ground is applied to the "E" lead by the

single frequency signaling circuit. The (R) relay is operated.

6.2 When a ring is sent from a distant point, the single frequency signaling circuit changes the condition on the "E" lead from ground to negative 48 volts causing the (R) relay to release. The release of the (R) relay splits the "T" and "R" leads, sends 20 cycle current toward the ringdown circuit and terminates the "T" and "R" leads toward the line.

6.3 During the talking period the conditions are the same as for the idle period.

BELL TELEPHONE LABORATORIES, INC.

DEPT. 3310-MHK-RLL-KM