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STEP-BY-STEP SYSTEMS
NO. 1, 350A, 355A
AUXILIARY TRUNK CIRCUIT
ARRANGED FOR INTERCEPT SERVICE
BETWEEN CONNECTOR NUMBERS
IN SXS
ANI-B TYPE OFFICES AND
AN
AUTOMATIC INTERCEPT SYSTEM

CHANGES

B. Changes in Apparatus

<u>B.01</u>	<u>Superseded</u>	<u>Superseded By</u>
	ST Diode, 458B	ST Diode, 533K
	ATB Resistor, KS-14603 L46D, 39 ohm	ATB Resistor, KS-20289 L16, 39.2 ohm

D. Description of Changes

D.01 Diode ST, 458B, option V, is changed to a 533K, option T, which has a higher breakdown voltage.

D.02 The ATB resistor, option Y, is changed from a KS-14603 L46D, 39 ohm to a KS-20289 L16, 39.2 ohm, which is a preferred standard value.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5242-DAJ

WE DEPT 45830-FAM-WEA-VK

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STEP-BY-STEP SYSTEMS
NO. 1, 350A, 355A
AUXILIARY TRUNK CKT
ARRANGED FOR INTERCEPT SERVICE
BETWEEN CONNECTOR NUMBERS
IN SXS
ANI-B TYPE OFFICES AND
AN
AUTOMATIC INTERCEPT SYSTEM

CHANGES

B. Changes in Apparatus

B.1 Added

ATB Resistor KS-14603-L4C, 39 ohms.

D. Description of Changes

D.1 FS1 has been modified to show the addition of "X" Option. Option "X" indicates wiring not required when Option "N" is applied in the Outgoing Intercept Trunk (SD-32532-01). When Option "N" is applied in the Outgoing Intercept Trunk, ground through two break of the CO relay in this trunk is no longer required. Removing the connection between 2 break of the CO relay and the Ring lead of this trunk, eliminates seizures of this trunk when the Sleeve and Ring are inadvertently shorted at the distributing frame. Also the Outgoing Intercept Trunk is prevented from locking up when this circuit is resealed before the Outgoing Trunk is released.

D.2 FS3 has been revised to show the addition of the ATB resistor. This resistor serves to reduce contact arcing of the ATB relay.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT. 5245-GFC
WECO DEPT. 2311-SAM-WEA

4STEP-BY-STEP SYSTEMS
NO. 1, 350A, 355A
AUXILIARY TRUNK CIRCUIT
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AN
AUTOMATIC INTERCEPT SYSTEMCHANGESB. Changes in Apparatus

B.1	<u>Removed</u>	<u>Replaced By</u>
	CO1 Resistor, KS-20289L3A, 365 ohms App. Fig. 1	CO1 Resistor, KS-20289L3B, 1500 ohms App. Fig. 1

D. Description of Changes

D.1 FS1 is revised to prevent the 5800 HZ ANI-B identification tone from being transmitted down the T lead toward the intercept connecting shoe. This change involved the replacement of the CO1 resistor and minor wiring revisions.

D.2 App. Fig. 1 is revised to show the utilization of the 1M contact of relay CO and the new location of contacts 11 and 12 of the ST relay. The code of the CO1 resistor has also been changed.

BELL TELEPHONE LABORATORIES, INCORPORATED

Dept 5245-GFC
WECO Dept. 5152-RTZ

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STEP-BY-STEP SYSTEMS
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AUXILIARY INTERCEPT TRUNK
ARRANGED FOR INTERCEPT SERVICE
BETWEEN CONNECTOR NUMBERS
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ANI-B TYPE OFFICES AND
AN
AUTOMATIC INTERCEPT SYSTEM

CHANGES

B. Changes in Apparatus

B.1 Added

CO1 Resistor, KS20289L3A, 365, App. Fig. 1

D. Description of Circuit Changes

D.1 Resistor CO1 was added to FS1 in order to reduce the power dissipation of the intercept shoe diode to a value below its rated wattage.

All other heading under changes, no change.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 5245-LCB
WECO DEPT 5152-DFH-WEA

STEP-BY-STEP SYSTEMS
NO. 1, 350A, 355A
AUXILIARY INTERCEPT TRUNK
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SECTION I - GENERAL DESCRIPTION1. PURPOSE OF CIRCUIT

1.01 This circuit is for use in routing regular intercept calls from a connector multiple through a trunk finder to an outgoing intercept trunk circuit.

SECTION II - DETAILED DESCRIPTION1. SEIZURE

OTHER THAN LEVEL HUNTING CONNECTOR - FS1

1.01 When this circuit is seized by one of 20 sleeves associated with the lines being intercepted, relay ST operates from ground through the 125 ohm K relay winding in the connector. Detection is through a high resistance battery which will not allow relay K in the connector to operate. This, in turn, connects ground to the G lead from a break on CO to the trunk finder circuit. The ground on the G lead starts the trunk finder for this trunk. Battery through the CO resistor on the S lead of the trunk finder indicates the terminal for which the finder will be hunting. When the finder locates this terminal, battery on the sleeve lead stops the finder and operates the F relay in the finder. The F relay cuts tip and ring through from the outgoing trunk to the auxiliary trunk, thereby operating the CO relay.

LEVEL HUNTING CONNECTOR - FS5

1.02 When this circuit is seized by the sleeve associated with the line being intercepted, relay H in the connector operates from battery through the 2450 ohm ST relay winding and through 1000 ohm ST1 resistor in series with ATB lamp. The H relay operating places direct ground on S lead and operates ST relay of this circuit. The ST relay operating breaks off R and T leads and connects ground to the G lead. The ground on the G lead starts the trunk finder for this trunk. Battery through the CO resistor on the S lead of the trunk finder indicates the terminal for which the finder will be hunting. When the finder locates this terminal, battery on the sleeve

lead stops the finder and operates the F relay in the finder. The F relay cuts tip and ring through from the outgoing trunk to the auxiliary trunk, thereby operating the CO relay.

1.03 The CO relay operating (FS1 or FS5):

- (a) Removes ground from the G lead to prevent other finders from starting for this trunk.
- (b) Closes a locking path for itself under control of the ST relay.
- (c) Places ground on the TS1 lead in order to disable the automatic timed disconnect feature.
- (d) Connects the incoming sleeve to the tip.

1.04 This circuit remains in this state until the outgoing trunk releases ST upon completion of identification.

OTHER THAN LEVEL HUNTING CONNECTOR FS1

1.05 The released ST places the CO resistor in parallel with the CO relay on the sleeve lead. The resulting resistance value operates the K relay in the connector switch which extends ringing into the outgoing trunk.

LEVEL HUNTING CONNECTOR - FS5

1.06 The released ST relay reconnects tip and ring leads from the connector to the trunk finder. ST extends ringing into the outgoing trunk.

2. RELEASE

2.01 Relay CO remains operated until ground is removed from the sleeve upon calling party disconnect. This prevents a reseizure by another trunk finder should the called end disconnect first. Upon release of the CO relay, the circuit is restored to normal.

3. AUTOMATIC DISCONNECT OF CONNECTORS ON CALLING PARTY HOLDS

3.01 When connectors are arranged to automatically disconnect on calling party holds after a predetermined time and the connector group is furnished with intercept trunks, the timing for disconnect is under control of the intercept trunks.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.01 Working Voltage Limits:

45 to 52 volts

2. FUNCTIONAL DESIGNATIONS

None

3. FUNCTIONS

3.01 To ground the G lead to the trunk finder when **seized** in order to start a trunk finder hunting for this trunk.

3.02 To connect -48V to the S lead from the trunk finder to stop the finder on the proper terminal.

3.03 To prevent another trunk finder from seizing this trunk should the AIS disconnect before the calling end.

3.04 To disable the automatic timed disconnect feature on intercepted calls.

4. CONNECTING CIRCUITS

4.01 When this circuit is listed on a key-sheet, the connecting information thereon is to be followed:

- (a) Trunk Finder Circuit - SD-33053-01
- (b) Connector Circuit - SD-30220-01 (Typical)
- (c) Toll Connector Circuit Level Hunting - SD-31527-01 (Typical)
- (d) Connector Circuit Local Level Hunting - SD-31088-01 (Typical)
- (e) Group and Alarm Relay Circuit - SD-32194-01
- (f) Switch Trouble Alarm Circuit - SD-32045-01

5. MANUFACTURING TESTING REQUIREMENTS

5.01 This circuit shall be capable of performing in accordance with the requirements of 3. Functions and the Circuit Requirements Table.

SECTION IV - REASON FOR REISSUE

D. Description of Changes

D.1 Auxiliary intercept trunk circuit FS1 was redesigned and designated FS5 to enable the compability between AIS and Step by Step level hunting connectors.

BELL TELEPHONE LABORATORIES INCORPORATED

DEPT 5245-LCB
WECO DEPT 5152-DFH-WEA