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PBX SYSTEMS NO. 701A, 701B, 701PK, 711A, 711B, OR 711PK TEST LINE CIRCUIT FOR TESTING CONNECTOR AND SELECTOR CONNECTOR CIRCUITS

CHANGES

D. Description of Changes

D.1 This circuit is rated Mfr Disc. for the 701B and 711B PBX and replaced by SD-66037-02, Issue 1.

BELL TELEPHONE LABORATORIES, INCORPORATED

DEPT 3224-RCL-FLS

PBX SYSTEMS
NO. 701A, 701B, 701PK, 711A, 711B, OR 711PK
TEST LINE CIRCUIT
FOR TESTING CONNECTOR
AND SELECTOR CONNECTOR CIRCUITS

SECTION I - GENERAL DESCRIPTION

1. PURPOSE OF CIRCUIT

1.01 This circuit is used to test connector and selector connector circuits. Test jacks and a patch cord for testing through a specific line circuit are shown.

2. GENERAL DESCRIPTION OF OPERATION

A. General

2.01 Before this circuit is used, jack TL of this circuit should be connected to jack TL of the test set by means of a patch cord. If option T is used, lead MS will be grounded, starting the ringing machine.

B. Busy Test

2.02 The test line is normally busy. Dialing the test line from the test set should cause busy tone to be returned.

C. Idle Test

2.03 By operating a key on the test set, the busy condition is removed from the connector and the test line should be redialed to see if the connector cuts through to the test line.

D. Pre-Trip Test

2.04 Ringing current from the cut through connector should cause a subset in the test set to ring. A high resistance is bridged across the line to test for premature tripping.

E. Trip Test

2.05 A low resistance is switched across the line to test the F relay in the connector for tripping.

F. Talking Condition Test

2.06 A tone is connected from the test line circuit through the connector to determine whether the switch is in the talking condition.

SECTION II - DETAILED DESCRIPTION

A. Busy

1.01 Ground is supplied through the 2-3T contacts of relay I to the sleeve of the connector. When the test line is dialed, a busy tone should be received.

B. Idle

1.02 By operating the idle key of the test set, relay I is operated placing a 1200 ohm resistance battery on the sleeve. The 4000 ohm D resistor is bridged across tip and ring through contacts 2-3T of relay TN, contacts 2-3T of relay TP and contacts 1-2B of relay I. This state approximates an idle station line.

C. Pre-Trip

1.03 The test line is redialed and when the connector or selector connector cuts through to the test line the D resistor provides a pre-trip test. Ringing current from a regular connector or selector connector will ring the R subset through the 2-3T contacts of relay TN and the 2-3T contacts of relay TP. Ringing current from an attendant connector will ring subset T through the same contacts.

D. Tripping

1.04 The trip key in the test set, when operated, operates relay TP. This connects the B resistor across the line through the 1-2T contacts of relay (TP) to test the F relay in a connector or selector connector for tripping.

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E. Talking Condition

1.05 Operation of the tone key in the test set grounds ring lead R in the test set and relay TN is operated, at the same time the ground is removed from the sleeve lead of the test set and relay TP is released. Relay TN operated connects tone across tip and ring through induction coil TL, the 1-2B contacts of relay TN and the 2-3T contacts of relay TP.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.01 None.

2. FUNCTIONS

2.01 Places conditions on the connector or selector connector banks which will test the ability of those switches to:

(a) Make a busy test.

(b) Cut through to the test line.

(c) Ring the subset in the test line.

(d) Pre-trip.

(e) Trip ringing machine.

(f) Talking condition.

2.02 Grounds motor start lead when a patching cord is plugged into the TL jack.

2.03 Checks for ringing current on the tip from attendant connectors and on the ring from other connectors.

2.04 Allows a hand test set to be patched to any line circuit on the distributing frame from anywhere in the office.

3. CONNECTING CIRCUITS

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

(a) Test set circuits such as SD-90416-01 or SD-66073-01.

(b) Connectors such as SD-66049-01 and SD-66143-01.

(c) Selector connectors such as SD-65721-01.

(d) Attendant connectors such as SD-66643-01.

(e) Power ringing circuit such as SD-80946-01.

SECTION IV - REASONS FOR REISSUE

A. Changed and Added Functions

A.1 Provides a means for seizing any line circuit by means of a patch cord connected to remotely located test jacks.

B. Changes in Apparatus

B.1

Superseded	Superseded By
B Resistor Type 18DR Fig. 1 Option ZB	B Resistor Type KS-20289,L1C 1150 ohms Fig. 1 Option ZC
A Resistor Type 18BG Fig. 1 Option ZB	
D Resistor Type 18FC Fig. 1 Option A	D Resistor Type KS-20289,L1C 4000 ohms Fig. 1 Option ZA

B.2 Added

502A Test Jack - Fig. 3
W2DE Patch Cord - Fig. 4
11C Connector Block - Fig. 4

D. Description of Changes

D.1 Option ZB is designated and rated Manufacture Discontinued. Option ZC is added and rated Standard. These two options change the A and B resistors from two 18 type to one KS-20289. This change is made to make the circuit more economical.

D.2 Option A is rated Manufacture Discontinued. Option ZA is added and rated Standard. This option changes the D resistor from an 18 type to a KS-20289 type. This change is made to make the circuit more economical.

D.3 Figs. 3 and 4 are added to give connecting data for test jacks. These jacks enable testing through specific line circuits from anywhere in the PBX system.

BELL TELEPHONE LABORATORIES, INCORPORATED

(WECo 5120HW-PJG-LKJ)
DEPT 5337-RVL