

NO. 3 ESS
SYSTEM VERIFICATION
GENERAL INFORMATION
TEST AND TROUBLESHOOTING PROCEDURES
USING THE TRUNK AND LINE TEST PANEL
(TLTP)

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1. GENERAL INFORMATION

1.1 Description

1.11 This section describes and offers methods for testing and troubleshooting trunks, test and service circuits from the Trunk and Line Test Panel (TLTP). This section is an information section and is used to locate the failing area when a circuit fails.

The printout of the failing circuit should be used to locate the suspect circuit pack(s). If, however, the replacement of the indicated pack(s) fails to rectify the problem, then this section may be used to isolate the problem area.

1.2 Sequence

1.21 This section may be used any time after the TLTP has been tested and is verified to be operating correctly on a system basis.

1.3 References

1.31 Section 528 of this handbook and the Schematic Drawing and Circuit Description of the circuit to be tested may be used as reference material. Additionally, local office records and the Input and Output Message Manuals can be used as reference material.

2. RECORDS AND REQUIREMENTS

2.1 Records: The results of the tests of this section shall be recorded on forms SD-97-1313 and SD-97-1315. For detailed information on filling out test records, see Section 6B, Handbook 3.

2.2 Requirements: The tests in this section are based on the No. 3 ESS Performance Requirements BSP 820-650-180.

3. TEST EQUIPMENT

3.1 All tests will be performed using the facilities of the TLTP, Maintenance Center Frame and equipment found in the Test Accessory Kit (ITE-5653) as may be found necessary, i.e., clip cords, etc., or equipment that is TELCo supplied.

4. PROCEDURE

4.1 If replacing a suspected circuit pack does not clear the indicated trouble, this procedure may be used as a general method of dialing up the errant circuit on the Trunk and Line Test Panel (TLTP) and lists various possibilities to look at for the testing.

4.2 Translation Check

4.21 To verify that the circuit in question has been assigned the correct Trunk Group Number (TGN) and Member Number (MEMNO) and to partially verify its trunk group data, type the following message on the Maintenance Center TTY:

VER:GRP nnn;STD:TER mmm!*

The response will be in the following format:

VER GRP nnn STD TER mmm*

⋮

*Refer to the IM/OM for meanings of the various fields.

Cross-check the data in the printout with the Local Office Records for errors.

4.3 A Trunk, Service or Test Circuit is connected to the Trunk and Line Test Panel by keying in the correct code on the TOUCH-TONE dial. Section 528.01, Table 1 of this handbook may be used as a format for making the connection.

4.4 The EQUIPMENT STATUS lamp indicates the status of the circuit under test before the code was keyed in and will light as follows:

STEADY - selected circuit was in the idle state and connection was successful.

60 IPM - selected circuit was traffic busy. No connection was made.

120 IPM - selected circuit was maintenance busy; connection was successful.

4.41 Control is passed to the Test Select keys when a successful connection has been made.

4.6 Circuit State Tests

4.61 Set up the circuit state by setting the correct configuration up on the STATE CONTROL switches and operating the EXECUTE key.

4.611 Verify the correct state has been achieved by visually verifying the relay operation on the circuit itself. (It will be necessary to put the circuit pack in question on an extender board.)

The circuit state may also be checked by the circuit in question with the Voltmeter and/or Transmission test equipment by observing voltages or signals or continuity that should be present in any particular state.

4.7 Scan Point Operation

4.71 Verify scan point operation by displaying the ferrod row, containing the ferrod(s) of the suspect circuit, on the display lamps of the System Status Panel.

4.72 The ferrod states are displayed by connecting the circuit to the TLTP and placing it into the proper state. The Circuit Pack schematic drawing of the suspect circuit will have to be consulted to determine what state should be set up and what terminations, if any, will be necessary.

4.73 To display the ferrod row on the display lamps, the following message is typed on the TTY:

MON:SCAN sc rw!

where: sc = scanner number in decimal (0-15)

rw = row number in decimal (0-31)

4.74 The correct ferrod saturation is verified by comparing the number of the display lamp that goes out with the two digits specified as the column. (The complete ferrod scanner number is made up of two digits for the scanner, two digits for the row and two digits for the column.)

5. TROUBLESHOOTING

5.1 The success or failure of the system to carry out the order for the operation of PD or PPD points will be indicated by the state of the P&E lamp as follows:

STEADY - order was successfully executed.

MOMENTARILY OFF - request has been recognized.

60 IPM - failure due to inability of the system to carry out the order.

120 IPM - failure due to human error (invalid key combination).

5.11 If the P&E lamp flashes at 60 IPM, after the connection and during testing of the trunk, step through the TLTP program for operating or releasing PD or PPD points to make sure the POINT and PCAT Programs are being loaded correctly for this action. Verify this against the program listing.

5.12 If the P&E lamp flashes at 120 IPM, an invalid key combination has been made from the circuit under test. Recheck the order given to the system, such as specifying PD points, on the state change control, that do not exist for the circuit under test.

5.13 A steady P&E lamp indicates that the order has been sent successfully to the PD or CPD points. It does not indicate that the trunk or service circuit has responded to the activated point. A voltmeter or transmission check at the TLTP will indicate this. A steady P&E lamp and a voltmeter or transmission test failure indicates trouble in the circuit or between the PD or PPD and the trunk or service circuit. A check of the assignment of the PD and PPD points should be made along with a wiring check of the circuit.

5.2 Failure to Obtain Correct Circuit State

5.21 If the correct circuit state is not obtained, as indicated by the results of the voltmeter checks and ferrod displays, check PD and/or CPD operation, circuit wiring and ferrod assignment and operation. A visual check of the circuit's relays will quickly verify the PD point operation for any particular state.

NOTE: As a matter of convenience, the installer can make up a record sheet similar to the one shown below for his own use, to keep a list of the TGN, MEMNO and SPNs of the trunks to be tested. If such a form is made, the installer may list all trunks of a particular type and proceed with testing them all from the TTP at one time.

TRUNK AND LINE TEST PANEL
CIRCUIT TESTING RECORD FOR NO. 3 ESS

TRUNK TYPE		LOCATION						
3H---	CPS	FRAME	MTG. PLT.	CKT PACK #	TGN	MEMNO	SPN	NOTES
220-01	FB360	NW	08	03	088	003	000108	EXAMPLE

→ Arrows indicate new or changed information.

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