

DATA-PHONE® INTERCONNECTION ARRANGEMENT
FOR TRUNK SIDE OF
10B DATA LINE CONCENTRATOR (DLCS*)
MAINTENANCE

1. GENERAL

1.01 This section covers the maintenance procedures for the interconnection arrangement used on the trunk side of a 10B Data Line Concentrator.

* Data Line Concentrator Service, formerly known as DATREX

1.02 Each interconnection arrangement consists of four individual circuit packs which include two appropriate data sets, the appropriate Interface circuit pack, and a Logic circuit pack. An FSK data set (Data Set 108D-L1) faces the telephone facility and either a Data Set 109D or 109E terminates the concentrator trunk circuit. The arrangement is equipped to work with either rotary dialing (Interface circuit pack AR73, option Z) or TOUCH-TONE signaling (Interface circuit pack AR74, option Y) from the local DLCS station. The functions of the interconnection arrangement are monitored and controlled by logic circuits of circuit pack AR72. The circuit packs and data sets are all housed in a 28A1 Data Mounting and interconnected through a special 209A adapter cord. The 28A1 Data Mounting is capable of accommodating two complete interconnection arrangements.

1.03 The data sets, circuit packs, 209A adapter cord, and 28A1 Data Mounting require no routine maintenance. When a trouble condition is found to exist in an interconnection arrangement, the trouble source is isolated using test procedures. If replacement of individual circuit packs or data sets suggested by the test procedures fail to isolate the trouble, the complete interconnection arrangement should be replaced to achieve repair and restore service.

1.04 Testing procedures for interconnection arrangements suspected of causing trouble, or where a defective unit has been isolated and replaced, should be performed in accordance with

DATA-PHONE® Interconnection Arrangement for Trunk Side of 10B Data Line Concentrator (DLCS*), Test Procedures (Section 591-811-504).

1.05 Installation of options and output level adjustments of replacement units should be made in accordance with DATA-PHONE® Interconnection Arrangement for Trunk Side of 10B Data Line Concentrator (DLCS*), Installation and Connections (Section 591-811-204).

1.06 Care should be used in handling and transporting circuit packs and data sets. If possible, use the original cartons to store, transport, or ship them.

2. DATA SET AND CIRCUIT PACK REMOVAL AND INSTALLATION

2.01 To remove a data set or circuit pack from the 28A1 Data Mounting, attach an extracting tool to the faceplate, grasp the handle, and pull forward.

2.02 To install a data set or circuit pack in the 28A1 Data Mounting, position the unit in the proper slot. Firmly and carefully push the unit into the locking position.

3. TROUBLESHOOTING PROCEDURES

3.01 This part describes the procedures to be followed when trying to isolate a trouble condition in the system using an interconnection arrangement. The troubleshooting flowcharts are recommended for an organized trouble investigation with a minimum amount of time spent in locating the cause of trouble.

3.02 When the data sets and circuit packs associated with slots 1 through 8 or 9 through 16 (or both) are inoperative, the indicated trouble is a dc power source failure. Check that the

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power source has the required input voltage and that the fuses are not blown. Then perform the Power Source (Loaded) Test (Test A) provided in DATA-PHONE® Interconnection Arrangement for Trunk Side of 10B Data Line Concentrator (DLCS*), Test Procedures (Section 591-811-504). If the power source does not meet the requirements of Test A, then perform the Power Source (Unloaded) Test (Test B) provided in the section referenced above.

Note: When a limited output power supply, such as the KS-20575 rectifier, is used for the dc power source, an overload (eg, a short circuit) on the source output will cause the source output to drop to zero and the current will be limited to a safe value.

3.03 If the power source does not meet the requirements of Test B, replace it with one that is known to be operating properly.

3.04 If the power source *does* meet the requirements of Test B but not those of Test A, proceed as follows:

- (a) Monitor the power source output voltage using a test meter, such as a KS-16979-L1 or equivalent.
- (b) Remove all data sets and circuit packs from the 28A1 Data Mounting.
- (c) If the power source output returns to normal, return the data sets and circuit packs to their respective slots one at a time until the trouble returns. Replace the unit causing the trouble with one that is known to be operating properly.

- (d) If the power source output is still incorrect with all of the data sets and circuit packs removed, replace the 28A1 Data Mounting with one known to be operating properly.

Interconnection Arrangement Troubles

3.05 When an interconnection arrangement is suspected of causing a system malfunction, use the troubleshooting flowcharts in Fig. 1 through Fig. 3 and the following general procedures to find the trouble condition:

- (a) If possible, obtain the cooperation of the customer reporting trouble to use his station equipment to make a complete circuit loop.
- (b) Force a connection from the local station through the dual-access concentrator to the interconnection arrangement suspected of causing trouble.
- (c) Using separate telephones, establish voice contact with both the local station and/or the serving data test center. Be sure the interconnection arrangement has the proper options to be compatible with the type of signaling ability (ie, rotary dial or TOUCH-TONE).
- (d) Request the local station to call the DDD access station or serving data test center number.

3.06 Although the flowcharts only indicate a few of the possible troubles which may occur, a malfunction may be isolated using logic similar to the flowcharts and the arrangement circuit sketch shown in Fig. 4. The circuit sketch illustrates the location of various test points within the arrangement.

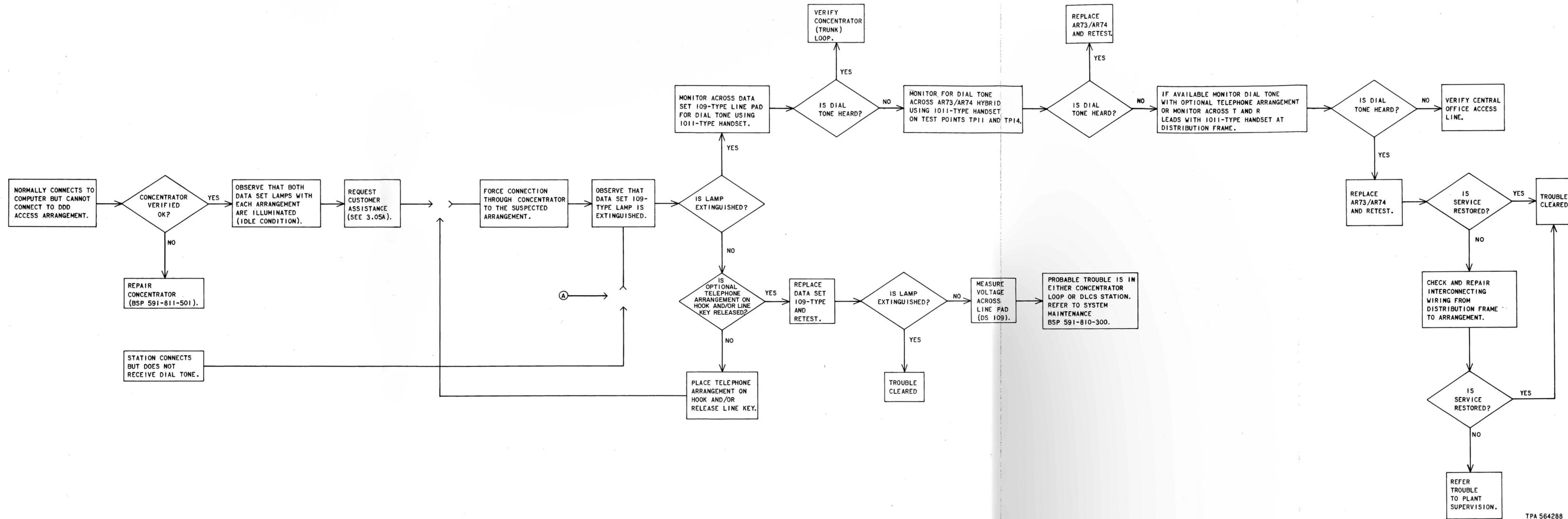


Fig. 1—Troubleshooting Flowchart

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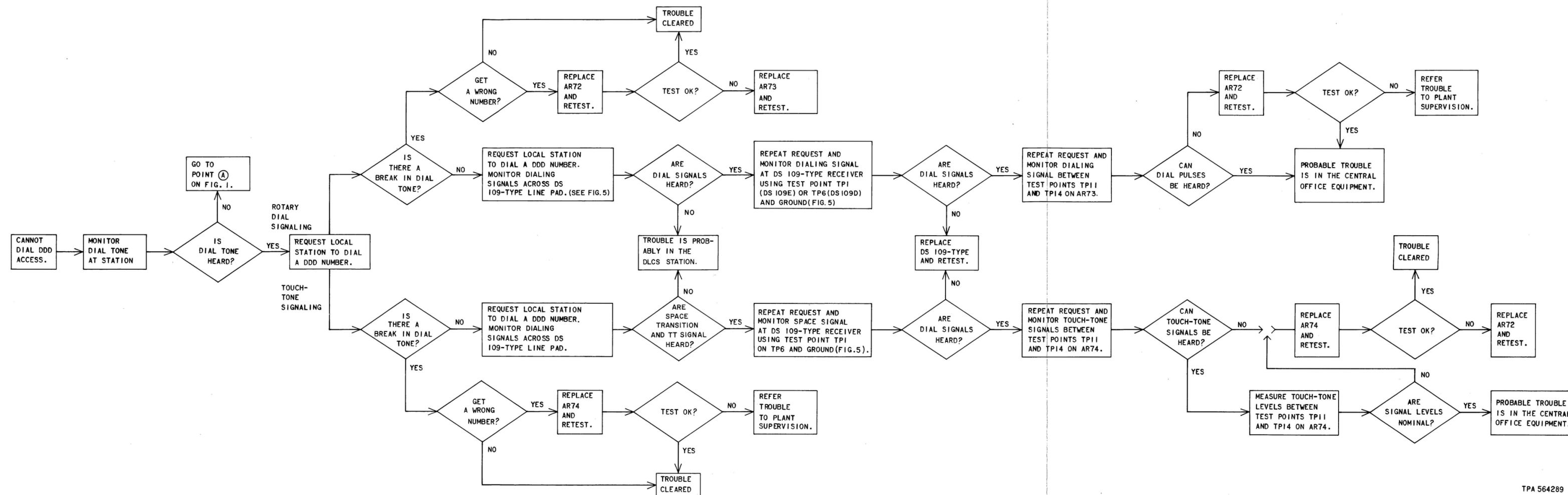
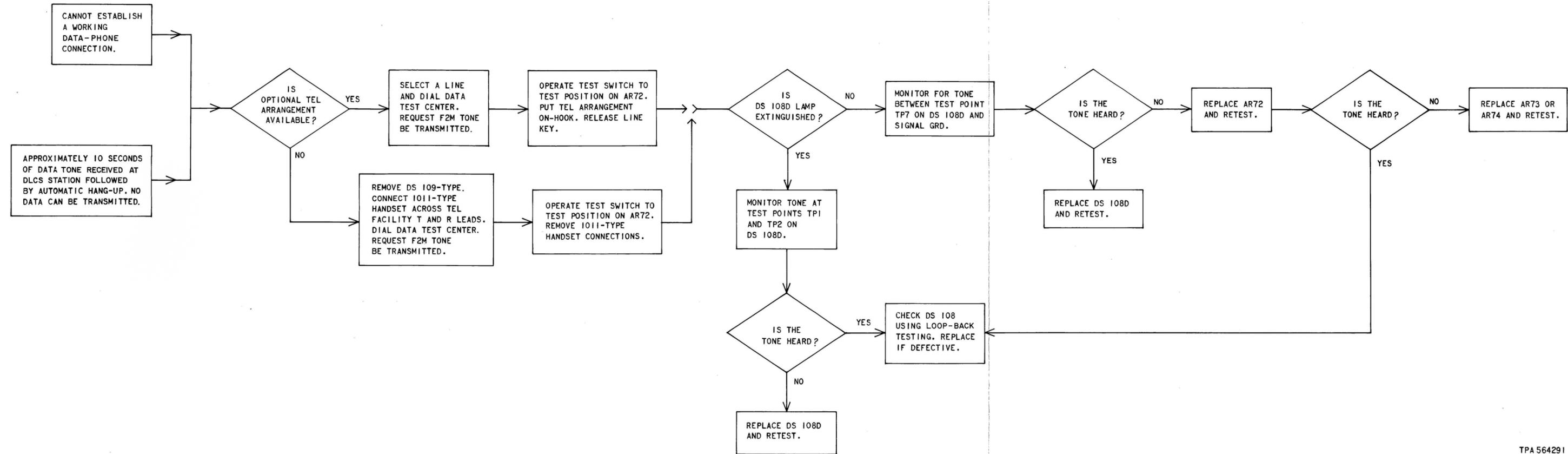


Fig. 2—Troubleshooting Flowchart for a Case When DLCS Station Cannot Dial DDD Access

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Fig. 3—Troubleshooting Flowchart for a Case When DLCS Station Cannot Establish a Working DATA-PHONE Connection

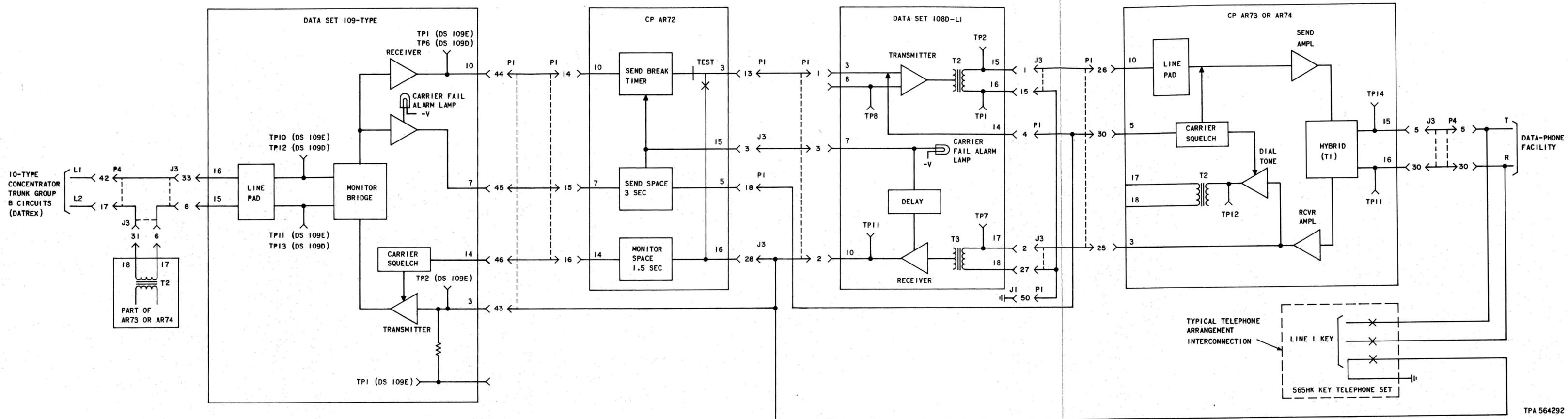


Fig. 4—Interconnection Arrangement, Circuit Sketch

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