DATA-PHONE® INTERCONNECTION ARRANGEMENT FOR LINE SIDE OF 10-TYPE DATA LINE CONCENTRATOR (DATREX*) MAINTENANCE PROCEDURES

1. GENERAL

1.01 This section describes the maintenance procedures to be followed when troubleshooting the DATA-PHONE interconnection arrangement used on the line side of the 10-type Data Line concentrator and is intended to be used in conjunction with the section entitled DATA-PHONE® Interconnection Arrangement for Line Side of 10-Type Data Line Concentrator (DATREX*)—Test Procedures (591-811-503).

1.02 One such arrangement (Fig. 1) consists of a Data Set 109D- or E-type (concentrator side data set), a Data Set 103G- or 113B-type (line side data set), an AR270 circuit pack, a 208B adapter, and a 28A1 Data Mounting. The 28A1 Data Mounting is capable of accommodating the Data Sets 109-type and AR270 circuit packs for up to eight of these arrangements.

1.03 If more than four arrangements are to be installed in a data mounting, two 208B adapters are required. Installations of six or less arrangements use the Data Set 103G-type as the line side data sets. For installations of more than six arrangements, the 113-type Data Station will be used to provide the line side data sets.

1.04 For maintenance procedures on the Data Set 103G-type and 113-type Data Station, refer to the sections entitled Data Set 103G-Type—Maintenance (591-026-300) and 113-Type Data Station—Maintenance (591-814-300), respectively.

1.05 The DATA-PHONE interconnection arrangements require no routine maintenance. When a trouble condition is found to exist in an arrangement, repair is achieved by replacement of the defective unit.

1.06 Testing procedures for arrangements suspected of being in trouble or arrangements where a defective unit has been replaced should be performed in accordance with the section entitled DATA-PHONE® Interconnection Arrangement for Line Side of 10-Type Data Line Concentrator (DATREX*)—Test Procedures (591-811-503).

1.07 Before installing a replacement data set, ensure that it is equipped with the proper options as described in the section entitled DATA-PHONE® Interconnection Arrangement for

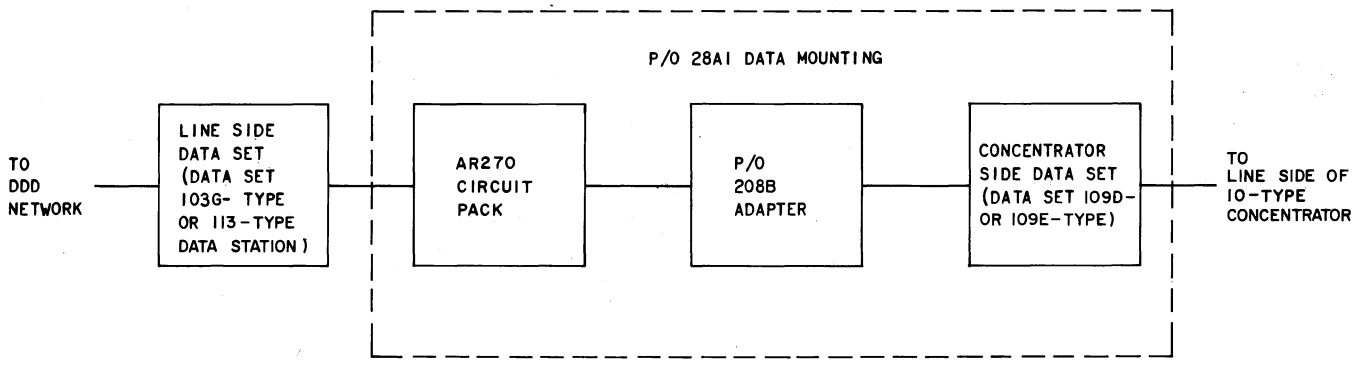

Fig. 1—Block Diagram of DATA-PHONE Interconnection Arrangement for Line Side of 10-Type Data Line Concentrator

Line Side of 10-Type Data Line Concentrator (DATREX*)—Installation and Connections (591-811-203). The preinstallation adjustments and output level adjustments of replacement data sets should also be made in accordance with this section.

1.08 Exercise care when handling and transporting data sets, circuit packs, and data mountings. If possible, use original cartons to store, transport, or ship these units.

1.09 There are no special tools or equipment required for the performance of these maintenance procedures.

2. TROUBLESHOOTING PROCEDURES

2.01 This part describes the procedures to be followed when trying to isolate a trouble condition in a DATA-PHONE interconnection arrangement. The troubleshooting procedures for the Data Set 103G-type (or 113-type Data Station) portion of the arrangement are given in the sections referenced in 1.04.

2.02 The troubleshooting flowchart (Fig. 2) is recommended for an organized trouble investigation to reduce the amount of time spent in locating the source of trouble. The tests referenced in this part and Fig. 2 should be made in accordance with the section referenced in 1.06.

Multiple Arrangement Troubles

2.03 When all of the interconnection arrangements in either slots 1 through 8, 9 through 16, or both are inoperative, a dc power source failure is indicated. In this case, verify that the power source is properly powered (fuse not blown) and then perform the power source (Full Load) Test (Test A). If the power source does not meet the requirements of Test A, perform the power source (No-Load) Test (Test B).

> ***Note:*** When a limited output power source such as the KS-20575-L1 rectifier is used, an overload (eg, short circuit) on the source output will cause the output voltage to drop to zero and the current will be held to a safe value.

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

2.05 If the power source does meet the requirements of Test B but not those of Test A, proceed as follows.

(1) Use a KS-14510-L1 volt-ohm-milliammeter (VOM), or equivalent, to monitor the output voltage of the power source.

(2) Remove all of the inoperative data sets and circuit packs from the 28A1 Data Mounting.

(3) If the power source output returns to normal, reinstall the data sets and circuit packs in their slots one at a time until the trouble returns. Then replace that data set or circuit pack with one that is known to be operating properly.

(4) Install the rest (if any) of the data sets and circuit packs in their slots and repeat Test A.

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

(6) Install all of the data sets and circuit packs and repeat Test A.

Single Arrangement Troubles

2.06 When only one interconnection arrangement is in trouble, troubleshooting should be in accordance with Fig. 2. If a data set or circuit pack fails a test, it should be replaced with one that is known to be operating properly and the test(s) should be repeated.

2.07 Tables A and B are to be used in conjunction with the Data Set 109-Type Test using 914B DTS (Test C) or Data Set 109-Type using Interface Test Adapter (Test D), respectively, of the section referenced in 1.06. In both tables it is assumed that the test equipment is set up and operating properly.

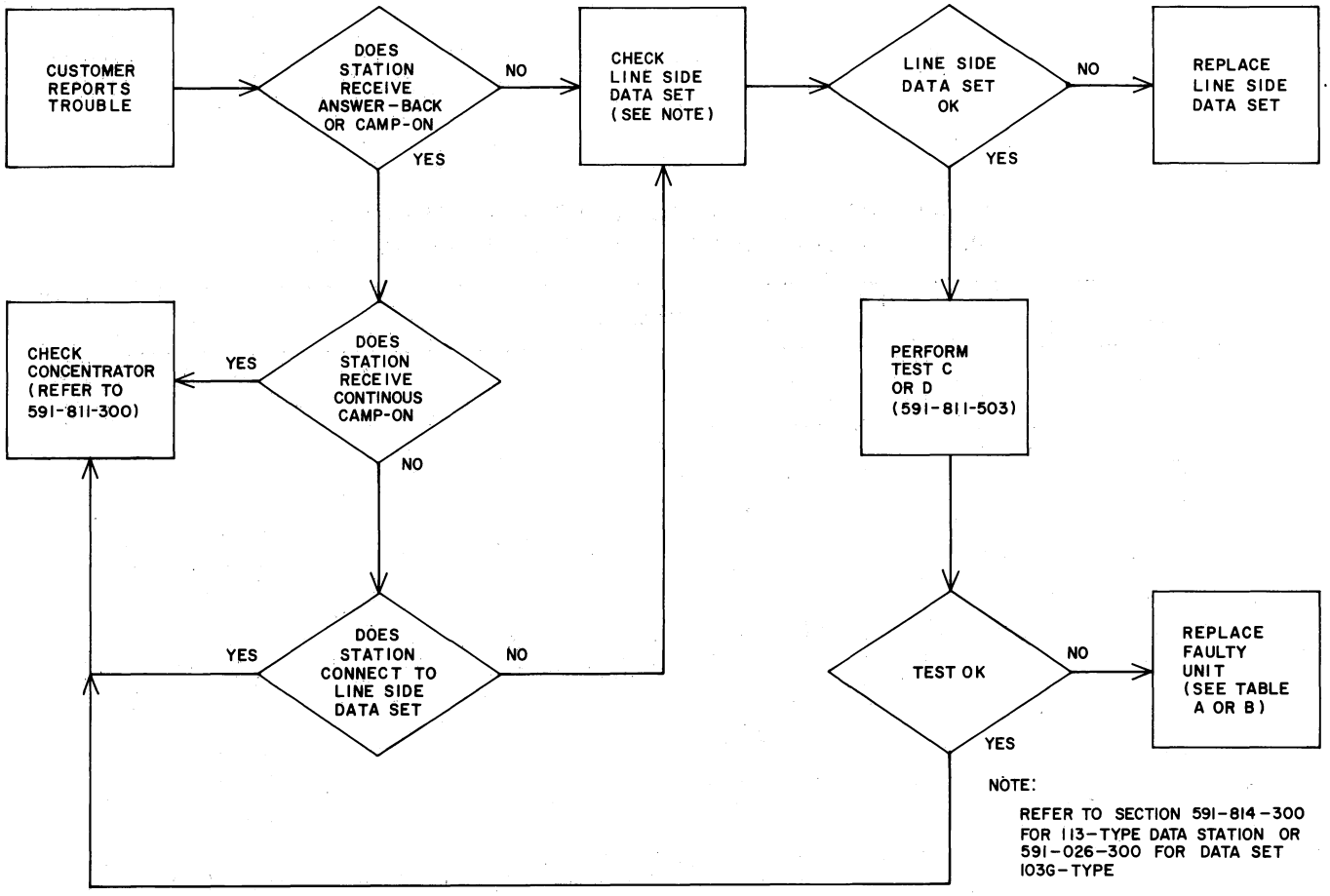

Fig. 2—Troubleshooting Flowchart for DATA-PHONE Interconnection Arrangement Used With 10-Type Data LIne Concentrator

TABLE A

TROUBLE INDICATIONS FOR ARRANGEMENTS TESTED WITH 914B DATA TEST SET (TEST C OF SECTION 591-811-503)

TEST C	TROUBLE INDICATION	REMEDY
7	POWER lamp does not light	Check 914B DTS
7, 14	DS3 lamp does not light	
7	DS4 lamp does not light	Replace AR270 circuit pack
9	TP2 FIRST lamp lights	
	Counter indicates less than 5	
9, 14	DS4 lamp extinguishes	
10, 15	DS3 lamp lights	Check 914B DTS
14	TP1 FIRST lamp lights	Replace AR270 circuit pack
	Counter indicates less than —	
16	Lamp on faceplate of data set extinguished	Check lamp See Step 22
22	Verification is not met	Check lamp Replace AR270 circuit pack
	Verification for this step is met; verification for Step 16 is not met	Replace Data Set 109-type
23	Verification is not met	Replace AR270 circuit pack
24, 25		Replace Data Set 109-type
29, 30		Replace AR270 circuit pack
31, 32, 35		Replace Data Set 109-type

TABLE B

TROUBLE INDICATIONS FOR ARRANGEMENTS TESTED WITH INTERFACE TEST ADAPTER (TEST D OF SECTION 591-811-503)

TEST D, STEP NO.	TROUBLE INDICATION	REMEDY
8	Verification is not met	Replace AR270 circuit pack
10, 12		Check line side data set per appropriate BSP
11	Verification for this step is not met; verification for Step 15 is met	Replace AR270 circuit pack
13	Verification for this step is not met; verification for Step 10 is met	
14	Verification for this step is not met; verification for Step 12 is met	
15, 17	Verification is not met	Replace Data Set 109-type
21a, 24a	Verification for this step is not met; verification for Step 26 is met	
26	Verification is not met	Check line side data set per appropriate BSP
27		Replace AR270 circuit pack