DATA SET 301B-TYPE
TRANSMITTER-RECEIVER
MAINTENANCE

1. GENERAL

1.01 This section provides aids and procedures for a maintenance policy for the Data Set 301B-type.

1.02 This section is reissued to make minor changes and to update information resulting from the rerating of the following equipment:

- Data Set (DS) 301B1 is rated Manufacture Discontinued (MD).
- DS 301B2 is rated Addition and Maintenance (A&M).
- Data Auxiliary Set (DAS) 806B5 is rated A&M.
- DAS 803A1 is rated MD.
- DAS 803A2 is rated A&M.

2. MAINTENANCE

2.01 No routine maintenance of DS 301B-type is required.

2.02 Sets to be held on company premises as spare equipment must be ready for immediate use in case of trouble. They should be tested, tagged, and placed back in their original cartons for protection.

2.03 Troubleclearing activity on the data set will normally be under the direction of a data test center.

2.04 Sets suspected of being in trouble should be tested as directed by the data test center.

(a) If the set meets requirements and trouble persists:

(1) Inspect plug connector and cable from the associated business machine and, where possible, determine that the business machine is operating properly.

(2) Check for defects in cable and in DAS 803A line and test circuit or DAS 806B5.

(3) Check for trouble in 761A cables, protector, exchange cable pairs, etc.

(4) Refer to the serving test center for further analysis and instruction.

(b) Sets failing to pass test requirements should be replaced.

When replacing set, verify that the new set is strapped for proper options.

2.05 After repairing or replacing the data set, it should be tested to verify that the trouble has been cleared. The data set should be tested in accordance with the section entitled Data Set 301B-Type, Transmitter-Receiver, Test Procedures (593-011-500).

2.06 Sets to be returned to the distributing house should be packed carefully (in original cartons, if available) to protect sets in transit. Tag defective sets or printed board assemblies and describe the nature of trouble as completely as possible.

2.07 Maintenance of the data set is limited to the substitution or replacement of the printed circuit boards which are suspected of causing trouble. For information on the test that can be used to aid in locating trouble, refer to the static test section and Table A of Section 593-011-500.

Also refer to the following paragraphs and tables of this section.

2.08 Perform the test as indicated by Steps 4 through 18 in Table A of Section 593-011-500. A record of the test results should be kept on the form shown by ▶Table A in this section.◀

Note: The headings on the worksheet correspond to the data set leads that are to be tested. A pass or fail indication will be recorded in the appropriate space when each lead is tested. More than one test is made on the CS, line, and RD leads. In the event that a failure occurs during any part of the lead testing, it will result in a fail indication recorded on the worksheet for that lead.

2.09 When the worksheet has been completed, it will look somewhat like ▶Table B. Table C◀ shows a series of pass and fail patterns that might be shown by a worksheet. By matching the worksheet pattern with one of the patterns shown by Table C, a group of circuit packs which might cause the trouble is indicated under the column marked REPLACE BOARD NO.

Note: When the patterns given by Table C are matched with the completed worksheet, it will be noticed that some spaces in Table C are blank. Where blank spaces appear, the pass or fail condition of those test conditions can be disregarded in analyzing the trouble. For example, Table B shows a pattern that matches Pattern D of Table C regardless of the pass or fail results shown in test positions 17 through 20.

2.10 The completed worksheet shown by Table B shows a fail indication recorded for the test of the COO lead and a fail indication on the DCT lead test. As just noted, the pattern of pass and fail indications shown by Table B matches Pattern D of Table C. The Table B pattern also matches Pattern G; therefore, any of the boards listed in the REPLACE BOARD NO. column of Pattern D or Pattern G may be suspected of causing the trouble and should be replaced.

2.11 If the trouble cannot be corrected by changing the printed circuit boards, the entire data set should be replaced.

TABLE A
WORKSHEET FOR DATA SET 301B-TYPE TESTING

LEAD	SCT	DCT	CS	RD	SCR	DCR	COO	LINE
A TEST POSITION	23	22	10 21	20	19	18	17	OFF
B TEST POSITION	OFF	OFF	OFF	OFF 3 THRU 5	OFF	OFF	OFF	OFF 3 THRU 5
TEST RESULTS								

TABLE B
COMPLETED WORKSHEET ON DATA SET 301B-TYPE

LEAD	SCT	DCT	CS	RD	SCR	DCR	COO	LINE
A TEST POSITION	23	22	10 21	20	19	18	17	OFF
B TEST POSITION	OFF	OFF	OFF	OFF 3 THRU 5	OFF	OFF	OFF	OFF 3 THRU 5
TEST RESULTS	PASS	FAIL	PASS	PASS	PASS	PASS	FAIL	PASS

NOTE:
WHEN MORE THAN ONE TEST SWITCH SETTING IS DESIGNATED IN A BLOCK, THIS INDICATES THAT THE LEAD IS TO BE TESTED AT EACH SWITCH SETTING LISTED.

TABLE C

TROUBLE PATTERN ANALYSIS

PATTERN	A TEST POSITION								REPLACE BOARD NO.		
	23	22	10 21	20	19	18	17	LINE	FIRST CHOICE	SECOND CHOICE	301B2 ONLY
A	Fail	Pass							T1		T6, T4
B	Fail	Fail	Pass						T1 or T2	T3 or T7	T6, T4
C		Pass	Fail						T3		
D	Pass	Fail	Pass						T7	T3	
E	Pass	Pass	Pass					Fail	T14 or T13	T4 to T12	
F				Fail	Fail	Fail	Fail	Pass	R1 or R3	R2	
G				Pass	Pass	Pass	Fail		R15	R1 or R3	
H				Pass	Fail	Fail	Pass		R10		
J				Fail	Fail	Fail	Pass		R9 or R10	R6, R7, R8	
K				Fail	Pass	Pass	Pass	Pass	R15	R10 to R14	
L					Fail	Pass	Pass		R10	R15	