

DATA SET 201A
TRANSMITTER - RECEIVER
MAINTENANCE

1. INTRODUCTION

1.01 This section covers data set 201A. Information in this section was formerly covered in Section 592-011-200, Issue 1.

2. MAINTENANCE

- 2.01 No routine maintenance is required on the data set 201A.
- 2.02 For general information concerning maintenance of the telephone set (if used), refer to standard practices covering 500-type telephone sets, maintenance.
- 2.03 Data sets suspected of trouble should be tested as outlined in Section 592-011-500.



Check for strap between terminals 7-15 on terminal strip L1. When the new sync terminal is not used, this strap must be placed in the data set.

- If the set meets test requirements:
 - (a) Confirm that the business machine and associated cords test satisfactorily.
 - (b) Check for cord and connector defects.

(c) Check for intermittent trouble in drop, inside wire, protector, etc.

- Sets failing to pass test requirements should be replaced. If desired, the following methods may be used to identify a defective wiring board or boards.

2.04 If either or both power supply tests fail, remove the power supply from the data set chassis (see Fig. 1). Connect power supply to a 117-volt 60 cps ac source. Measure + supply between pins 4 (GRD) and 3 (+12) on power supply socket. Reading should be more positive than +12.8 volts dc. Measure - supply between pins 4 (GRD) and 5 (-12). Reading should be more negative than -12.3 volts dc.

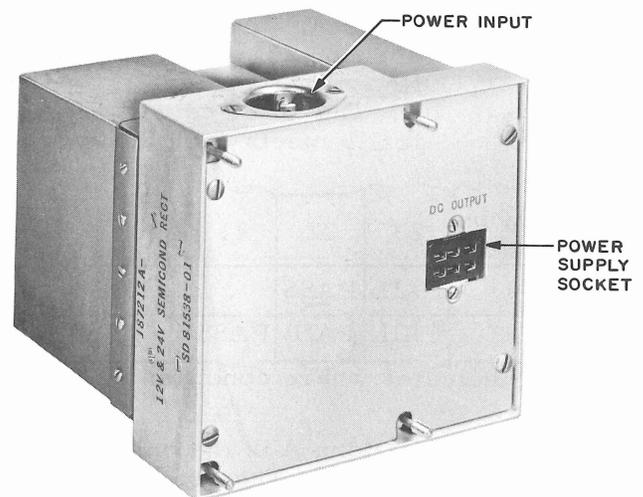


Fig. 1 - Data Set 201A Power Supply (Removed from Set)

2.05 Make tests according to Section 592-011-500 as appropriate, recording readings as PASS or FAIL on a work sheet. For example, a completed work sheet might look like this:

DATA SET 201A WORK SHEET

B Test Position	A Test Position							Line Reading	
	23	22	21	20	19	18	17		
3	dc	FAIL	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
	ac	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	
4	dc				PASS				
	ac				PASS				
5	dc				PASS				
	ac				PASS				
6	dc				PASS	PASS	PASS		PASS
	ac				PASS	PASS	PASS		
8	dc			PASS	PASS	PASS	PASS	PASS	PASS
	ac			PASS	PASS	PASS	PASS	PASS	
9	dc			PASS	PASS			PASS	
	ac			PASS	PASS			PASS	
Summary*		FAIL	PASS	PASS	PASS	FAIL	PASS	PASS	PASS

* The summary totals become the significant analysis data.

Compare the summary with trouble patterns A through M in Table A. In this example the first failure occurs under test position 23. Check Table A for failures listed under 23. Note that there are two possibilities: trouble patterns A and B. One of these will apply, but only the pattern which specifically meets each designated condition(PASS or FAIL).

Trouble Pattern	23	22	21	20	19	18	17	First Choice	Second Choice
A	FAIL	PASS						T3 or T5	T2
B	FAIL	FAIL	PASS					T1	T2

○ Indicates where condition was not met.

Pattern A is the only one which meets the first failure condition 23. The probable solution to the trouble therefore shows under first choice opposite pattern A, or T3 or T5. Since in the example a further failure condition appears on the work sheet which does not appear in pattern A, a second case of trouble is indicated. Proceed to the column in which this second failure occurs. In the example this column is position 19, and three possibilities exist: patterns F, G, and K.

TABLE A
TROUBLE PATTERN ANALYSIS

Trouble Pattern	A Test Position							Line Reading	Replace Board No.	
	23	22	21	20	19	18	17		First Choice	Second Choice
A	FAIL	PASS							T3 or T5	T2
B	FAIL	FAIL	PASS						T1	T2 or T3
C			FAIL					FAIL	T9	T5
D	PASS	FAIL							T3	T5
E			PASS					FAIL	T5, L2	T9 - T12
F				FAIL	FAIL	FAIL	FAIL	PASS	R1, R2, or R3*	R12
G					FAIL	FAIL	PASS	PASS	R13-R16†	R11, R12
H				PASS	PASS	PASS	FAIL		R12	R3
J					PASS	FAIL	PASS		R11	
K					FAIL	PASS	PASS		R11	R10
L				FAIL	PASS	PASS	PASS	PASS	R7, R9	R4, R5‡, R6, R8, R10, R12
M				PASS			FAIL		R12	

* If trouble is found in R1, R2, or R3, all three boards must be replaced.

† If trouble is found in R13, R14, R15, or R16, all four boards must be replaced.

‡ Boards R4 and R5 are mechanically connected together.

Trouble Pattern	23	22	21	20	19	18	17	Line Reading	First Choice	Second Choice
F				FAIL	FAIL	FAIL	FAIL	PASS	R1, R2, or R3*	R12
G					FAIL	FAIL	PASS	PASS	R13-R16†	R11, R12
H				PASS	PASS	PASS	FAIL		R12	R3
J					PASS	FAIL	PASS		R11	
K					FAIL	PASS	PASS		R11	R10

Pattern K is the only one which meets the second failure condition 19. The probable solution to the second case of trouble is replacement of board R11.



Some failure patterns will not completely match Table A. Failure conditions which do match should be corrected first. For example, all eight tests fail. Pattern C is the only one which matches, but does not include all failures. Replace board T9 as indicated, and perform the tests again. The new failure pattern should now be used with Table A as previously described.

SECTION 592-011-300

2.06 In all patterns where blank spaces appear in Table A, the PASS or FAIL condition of the test position can be disregarded in analyzing the trouble. For example, a FAIL at position 23 and a PASS at position 22 indicates replacement of board T3 or T5 regardless of the PASS or FAIL condition of the remaining six readings.

2.07 When clearing trouble by exchanging boards between sets, follow the order specified on Table A. Determine, if possible, the specific board causing the trouble. If boards are to be ordered, include both first- and second-choice boards.

2.08 Ordering information for replacement boards is as follows. This list includes replacement boards for each list number covered in Section 592-011-102.

List 1

(Quantity) ED-1D037-30 G1 Printed Board Assembly, L1
" ED-1D038-30 G1 Printed Board Assembly, L2
" 360A Equalizer, L3
" J87212A 12v & 24v Semi Cond Rectifier (Power Supply)

List 2

(Quantity) ED-1D028-30 G1 Printed Board Assembly T4
" ED-1D030-30 G1 Printed Board Assembly T6
" ED-1D031-30 G1 Printed Board Assembly T7
" ED-1D033-30 G2 Printed Board Assembly T9
" ED-1D034-30 G2 Printed Board Assembly T10
" ED-1D035-30 G1 Printed Board Assembly T11
" ED-1D036-30 G1 Printed Board Assembly T12

List 3

(Quantity) ED-1D025-30 G1 Printed Board Assembly T1
" ED-1D026-30 G3 Printed Board Assembly T2

(Quantity) ED-1D027-30 G1 Printed Board Assembly T3
" ED-1D029-30 G1 Printed Board Assembly T5
" ED-1D032-30 G1 Printed Board Assembly T8

List 4

(Quantity) ED-1D057-30 G1 Printed Board Assembly T1
" 604C Filter T2
" ED-1D058-30 G1 Printed Board Assembly T3
" ED-1D059-30 G1 Printed Board Assembly T5
" ED-1D032-30 G1 Printed Board Assembly T8

List 6

(Quantity) ED-1D013-30 G1 Printed Board Assembly R1
" ED-1D014-30 G1 Printed Board Assembly R2
" ED-1D015-30 G1 Printed Board Assembly R3
" 844A Network R4 and R5
" ED-1D016-30 G1 Printed Board Assembly R6, R8
" ED-1D017-30 G1 Printed Board Assembly R7
" ED-1D018-30 G1 Printed Board Assembly R9
" ED-1D019-30 G1 Printed Board Assembly R10
" ED-1D020-30 G1 Printed Board Assembly R11
" ED-1D021-30 G1 Printed Board Assembly R12
" 604A Filter R13
" ED-1D022-30 G1 Printed Board Assembly R14
" ED-1D023-30 G1 Printed Board Assembly R15
" ED-1D024-30 G1 Printed Board Assembly R16

(Quantity) Set, Telephone 569NB-61