

**BELL SYSTEM PRACTICES  
Plant Series**

**REPLACING PAGE ADDENDUM**

***Filing Instructions:***

- 1. REMOVE FROM THE SECTION THE PAGES NUMBERED THE SAME AS THOSE ATTACHED TO THIS PINK SHEET.**
- 2. INSERT THE ATTACHED PAGES INTO THE SECTION IN THEIR PLACE.**
- 3. PLACE THIS PINK SHEET AHEAD OF PAGE 1 OF THE SECTION.**

**ADDENDUM 591-811-200  
Issue 1, March 1971  
AT&TCo Standard**

**10A DATA LINE CONCENTRATOR  
INSTALLATION**

**1. GENERAL**

**1.001** This addendum supplements Section 591-811-200, Issue 1. The attached pages must be inserted in the section in accordance with the filing instructions above.

**1.002** This addendum is issued to:

- (a) Add a note to 3.03, Step 19.
- (b) Delete the caution following 4.01.
- (c) Correct 4.05, Step 1.

Attached:

Page 13 dated March 1971—revised  
Page 14 dated March 1971—revised  
Page 15 dated March 1971—reissued  
Page 16 dated March 1971—revised.

STEP	PROCEDURE
11	<p>If more than two switch modules are required, perform the following steps (using 16-gauge solid wire). Otherwise, proceed to Step 12.</p> <p>(a) Connect the + and - terminals of the second rectifier to the + and - terminals, respectively, of the third 18A1, 19A1, or 20A1 Data Mounting. Use a single length of wire to connect the GRD terminal of the third 18A1, 19A1, or 20A1 Data Mounting to both the GRD and COM terminals of the second rectifier.</p> <p>(b) If a fourth 18A1, 19A1, or 20A1 Data Mounting is required, connect its power in series with the third 18A1, 19A1, or 20A1 Data Mounting.</p> <p>(c) Connect a wire from the - terminal on the third rectifier to TB1-P (terminal 5) of the 23A1 Data Mounting. Connect one end of a wire to both the + and GRD terminals of the third rectifier, then connect the other end of this wire to the GRD terminal of the 23A1 Data Mounting. Proceed to Step 13.</p>
12	<p>If no more than two switch modules are provided, connect a 16-gauge solid wire between the - terminal of TB1 and TB1-P (terminal 5) on the 23A1 Data Mounting.</p>
13	<p>Using 16-gauge BG wire (or equivalent), connect TB1-M (terminal 1) of the 23A1 Data Mounting to TB2-M (terminal 1) of the 21A1 or 22A1 Data Mounting.</p> <p><b>Caution: This lead carries 750-volt (peak) pulses of approximately 400-<math>\mu</math>sec duration each time a matrix connection is made. Care should be exercised to avoid exposure of the bare conductor and it should be dressed with care to prevent damage to the insulation. Place protective covers over terminal strips, if furnished.</b></p>
14	<p>Plug power strip into ac outlet. Plug power units into power strip.</p>
15	<p>Check voltages and polarities at all data mounting power terminal strips, and verify that they are correct by using a KS-16979-L1 (or equivalent) meter. The dc voltages measured between the + and GRD terminals or - and GRD terminals of the data mountings shall be <math>+25 \pm 1.5V</math> dc or <math>-25 \pm 1.5V</math> dc, respectively. If a third rectifier is used, the voltage measured between the P terminal (1) of the 23A1 Data Mounting and GRD terminal shall be <math>-50 \pm 3V</math> dc.</p>
16	<p>Disconnect ac power.</p>
17	<p>Dress cords neatly along sides of cabinet using clips provided. Magnetic cable retainers (such as KS-20093-L8) should also be used in all but the smallest installations.</p>
18	<p>Verify proper camp-on duration option strap is installed in AR384 circuit pack. The strap should be set to correspond to the speed of the station terminals; that is, 150 for 150 baud or 75 for 75 to 110 baud terminals.</p>
19	<p>Plug control circuit packs (AR379, AR372, and AR373 are not used) into the 23A1 Data Mounting as indicated on the card nests. Line pairs are brought out on J7A and J7B of the 18A1, 19A1, or 20A1 Data Mounting, and trunk pairs are brought out on J4A of the 21A1 Data Mounting and J4A and J4B of the 22A1 Data Mounting. Pin assignments for</p>

STEP	PROCEDURE
	<p>line and trunk circuit equipment positions are given in Tables B and C, respectively. These appearances are compatible with key telephone wiring practices using 25-pair cables. Insert line and trunk circuit packs (AR365 and AR368) into the appropriate equipment locations. Each AR365 circuit pack provides two line circuits, so that the total used will be only half the number of lines to be served. Each AR368 circuit pack contains one trunk circuit, so that the number required will be equal to the number of trunks to be served.</p> <p><b>Note:</b> ♦When the 18A1 Data Mounting is used to provide the line and switch module, the AR368 circuit packs must be inserted in slots 9 through 16 of the trunk module.♦</p>
20	Connect the Data Auxiliary Set 803E1 to the AR464 circuit pack in the control module via the 11-foot cord which is provided as a part of the circuit pack. The DAS 803E1 is provided with a clip so that it may be stored on the left side of one of the 18A1, 19A1, or 20A1 Data Mountings.
21	Apply power to concentrator.
22	Repeat Step 15 using $+24 \pm 2V$ dc, $-24 \pm 2V$ dc, and $-48 \pm 4V$ dc as the required voltages. The $+24$ and $-24$ volt readings must be within 2 volts of each other.

#### 4. INSTALLATION TESTS (Before Lines are Connected)

**4.01** Two test procedures are described in the following text. The first utilizes the manual test equipment and the second utilizes a test jig (Fig. 11) that may be built from standard parts. Using the manual test set, about 30 seconds will be required to test each crosspoint. (The total number of crosspoints is equal to the product of the number of lines and the number of trunks.) The second test fixture allows testing of each crosspoint in about three seconds.

##### Tests Using Manual Test Equipment

**4.02** After the concentrator installation is complete, it may be tested for proper line to trunk connections by using the manual test equipment (DAS 803E1 and AR464 circuit pack). A meter, such as the KS-16979-L1 (or equivalent) is also required.

**4.03** Maintenance personnel at the concentrator can establish any desired line-to-trunk connection through the concentrator switching network by using the manual test equipment.

**4.04** The manual test equipment connects the line and trunk circuits through the use of two cords—a line cord from the Data Auxiliary Set (DAS) 803E1 and a trunk cord from the AR464 circuit pack. The line and trunk codes connect to the line circuit packs (AR365) and trunk circuit packs (AR368) corresponding to the line and trunk to be tested.

**4.05** Initial installation tests consist of checking every crosspoint in the switching matrix. For small concentrators, these tests may be performed by using the following procedure.

**TABLE B**  
**LINE CONNECTIONS TO**  
**LINE AND SWITCH MODULES**

CKT PACK	LINE NO.	PIN NO.		JACK
		TIP	RING	
1	1	1	26	J7A
	2	2	27	
2	3	3	28	
	4	4	29	
3	5	5	30	
	6	6	31	
4	7	7	32	
	8	8	33	
5	9	9	34	
	10	10	35	
6	11	11	36	
	12	12	37	
7	13	13	38	
	14	14	39	
8	15	15	40	
	16	16	41	
9	17	1	26	J7B
	18	2	27	
10	19	3	28	
	20	4	29	
11	21	5	30	
	22	6	31	
12	23	7	32	
	24	8	33	
13	25	9	34	
	26	10	35	
14	27	11	36	
	28	12	37	
15	29	13	38	
	30	14	39	
16	31	15	40	
	32	16	41	

**TABLE C**  
**TRUNK CONNECTIONS TO**  
**TRUNK MODULE**

TRUNK NO.	PIN NO.		JACK
	TIP	RING	
1	26	1	J4A
2	27	2	
3	28	3	
4	29	4	
5	30	5	
6	31	6	
7	32	7	
8	33	8	
9	34	9	
10	35	10	
11	36	11	
12	37	12	
13	38	13	
14	39	14	
15	40	15	
16	41	16	
17	26	1	J4B
18	27	2	
19	28	3	
20	29	4	
21	30	5	
22	31	6	
23	32	7	
24	33	8	
25	34	9	
26	35	10	
27	36	11	
28	37	12	
29	38	13	
30	39	14	
31	40	15	
32	41	16	

STEP	PROCEDURE
1	<p>Place switch on DAS 803E1 (Fig. 10) in OFF position. Since each AR365 circuit pack contains two complete line circuits, two groups of test points are brought out on the card. On each red test clip of the line cord, two numbers are imprinted. On the back test clip of the line cord, four numbers are imprinted. Disregard numbers 1 and 9 on this test clip. The numbers 2, 3, 4, 5, and 6 correspond to test points TP2, TP3, TP4, TP5, and TP6, and the numbers 10, 11, 12, 13, and 14 correspond to test points TP10, TP11, TP12, TP13, and TP14 on the AR365 circuit pack. On each black test clip of the trunk cord, a single number is imprinted corresponding to a test point on the AR368 circuit pack.</p> <div data-bbox="454 714 1096 1449" style="text-align: center;"> </div>
2	Connect line cord to the test points of the line circuit pack corresponding to line number 1 on the first line and switch module (connected directly to the trunk module).
3	Connect trunk cord from AR464 circuit pack to the test points of the trunk circuit pack corresponding to trunk No. 1 on the trunk module (TP1, TP2, TP9, TP10, TP11, TP12, TP13, and TP14).

Fig. 10—Data Auxiliary Set 803E1