

BSM # 821B

**LINE CONCENTRATOR NO. 1A
WITH MF SIGNALING
CUT-OVER PROCEDURES AND
ADDITION AND DELETION OF
INDIVIDUAL LINES**

1. GENERAL

1.01 This section covers the general procedure to be followed when cutting a line concentrator into service, when adding lines to or disconnecting lines from an in-service concentrator, or when adding new concentrator facilities to existing systems.

1.02 This section is intended to outline general cut-over procedures, to establish a definite order of cut over, and to make use of normal features of the line concentrator as an aid to cut over.

1.03 Prior to cut over, the following assignments must be complete.

- (a) Concentrator line terminal assignments for all lines.
- (b) Central office line equipment for all lines at control end.
- (c) Pair assignments for all lines at remote end.

1.04 Prior to cut over, the following must be assigned and connected.

- (a) All signal leads.
- (b) All trunk pairs.

2. APPARATUS

All Procedures

2.01 Test receiver, 716C receiver, attached to a W2AB cord equipped with two 360A tools (2W21A cord), one KS-6278 connecting clip, and one 411A (test pick) tool (for use in checking the absence or presence of battery or ground).

2.02 Battery, 4.5 volt (KS-6570 or equivalent).

2.03 Handset (dial hand test set).

2.04 Blocking tools (KS-16887, L1) as required.

2.05 Insulating tools and test leads as required.

3. CUT-OVER PROCEDURE

STEP	CONTROL UNIT	REMOTE UNIT
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A. Line at a Time, 100-Line Remote Unit

Note: Prior to application of this section, the procedures outlined in Section 067-106-501 for line concentrator No. 1A with MF signaling should have been completed.

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| 1 | Establish nonconcentrated talking path between remote and control concentrator units. |
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STEP	CONTROL UNIT	REMOTE UNIT
2	Place, but do not terminate, all line cross connections between concentrator terminal strip on distributing frame and line equipment appearances on distributing frame in accordance with SD-96536-01, SD-96557-01, and line assignment.	At distributing frame — Place, but do not terminate, all line cross connections between concentrator terminal strip and assigned feeder cable appearances in accordance with SD-96537-01, CAD. 1, SD-96557-01, and line assignments.
3	Block nonoperated all SL relays.	Electrically release all CO relays. <i>Note:</i> CO relays are to be released by the following method: (a) connect positive terminal of a 4.5-volt battery to ground on the remote unit, and (b) connect negative terminal to terminal 1 of each CO relay momentarily. Using test receiver and high-resistance ground, check for absence of ground on terminal 2 of each CO relay. Repeat, checking for absence of battery on terminal 5 of each CO relay.
4	At distributing frame — Terminate cross connection between concentrator terminal strip and line equipment appearance for the first customer to be concentrated.	At distributing frame — Terminate cross connection between concentrator terminal strip and assigned pair appearance for first customer. <i>Note:</i> If line being cut over is a working line, remove existing cross connection before beginning this step.
<i>Note:</i> Ensure that corresponding concentrator line terminals are used at both units.		
5		At distributing frame — Place handset in monitor condition and connect across line terminals of line just placed on concentrator.
6	Unblock SL- relay and place a terminating call to the line.	When ringing is heard — Place handset in talking condition.
7	Verify by conversation that proper directory number has been reached.	
8	Place a disconnect call to the line.	Place handset in monitor condition.
9		Place handset in talking condition. When dial tone is received — Dial one digit to break dial tone. Return handset to on-hook condition.
<i>Note:</i> At time of station cut over, verify that customer station is connected to proper line terminal.		

STEP	CONTROL UNIT	REMOTE UNIT
10	Repeat Steps 4 through 8 for all remaining lines to be cut over.	

Note: Do not remove blocks from SL- relays or reoperate CO- relays for any line terminals not being placed in service.

B. Line at a Time, 50-Line Remote Unit

Note: This procedure is identical with that for 100-line remote units. Instead of SD-96537-01, references are to SD-95957-01. Prior to cut over, proper internal strapping should have been completed. When cutting 50-line remote units into operation, it is necessary to determine in which group the remote unit will operate, and to ensure that proper connections are made.

C. Addition of Lines to an In-Service Concentrator

1	<p>At distributing frame — Place and terminate cross connection between customer line equipment appearance and concentrator terminal strip on distributing frame in accordance with SD-96536-01 and SD-96557-01, ensuring that proper terminals are selected. If added line is a working line — Remove existing cross connection at distributing frame before beginning this step.</p>	<p>At distributing frame — Place and terminate cross connection between concentrator terminal strip and assigned pair appearance corresponding to customer line in accordance with SD-96537-01 or SD-95957-01 and SD-96557-01. If added line is a working line — Remove existing cross connection before beginning this step.</p>
2		<p>At distributing frame — Place handset in monitor condition and connect across line terminals of line just placed on concentrator.</p>
3	<p>Unblock SL- relay and place terminating call to line.</p>	<p>When ringing is heard — Place handset in talking condition.</p>
4	<p>Verify by conversation that proper directory number has been reached.</p>	
5	<p>Place a disconnect call to line.</p>	<p>Place handset in monitor condition.</p>
6		<p>Place handset in talking condition. When dial tone is received — Dial one digit to break dial tone. Return handset to on-hook condition.</p>

Note: At time of station cut over, verify that customer station is connected to proper line terminal.

STEP	CONTROL UNIT	REMOTE UNIT
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D. Deletion of Lines From an In-Service Concentrator

- 1 Check to determine if customer line is connected to a trunk.

Note: If customer line is connected to a trunk, ensure that TB- relay is nonoperated before proceeding with Step 2. If customer line is not connected to a trunk, proceed with Step 4.

- 2 Block nonoperated TB- relay.
- 3 If trunk does not disconnect after Step 2 — Operate DP- relay momentarily for the group in which the line appears. Repeat until the proper trunk disconnects.
- 4 Insulate proper break contact of DIS- relay appearing on sleeve lead of line being disconnected.
- 5 Block nonoperated SRP0, SRP1, DP0, DP1 relays.
- 6 Cross connect terminal A69 on control unit terminal strip to contact 3 of CO- relay corresponding to line being disconnected.
- 7 Operate and hold operated T- key corresponding to group in which line to be disconnected appears until COK lamp lights. When this lamp lights — Release key.

Note: Always ensure that concentrator is idle prior to operating T- key. Observe that SL- relay releases prior to operation of COK lamp; proper sequence indicates that line under test has been disconnected.

If SL- relay fails to release before operation of COK lamp —
Line has been denied service falsely due to operation of SL- relay of lower preference.

STEP	CONTROL UNIT	REMOTE UNIT
8	Block nonoperated SL- relay for the line disconnected.	
9	Remove blocks from SRP0, SRP1, DP0, DP1, TB- relays.	
10	Remove insulation from contact of DIS- relay insulated in Step 4.	
11	Remove cross connection between concentrator terminal strip and line equipment on distributing frame for permanent disconnect. Also remove connection between terminal A69 and CO- relay.	At distributing frame — Remove cross connection between assigned pair and concentrator terminal strip for line disconnected for permanent disconnect.