

1A LINE CONCENTRATOR INSTALLATION PROCEDURES

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1. GENERAL

1.1 This section outlines the procedures to follow when installing 1A Line Concentrators SD-96536-01, SD-96537-01, SD-95957-01 and SD-96549.

1.2 The 1A Line Concentrator consists of three major parts. They are, the Remote unit, the Control unit and the frame on which the Control unit is mounted.

1.3 The Remote Unit will ordinarily be mounted and connected by Telephone Company plant forces since its location will usually be on poles or other places where Western installers do not work. Testing at the Remote unit involves a through test to the Central Office Control unit. This test will normally be performed by Telephone Company plant people. When the Remote unit is installed at locations where Western installers are accustomed to work, that is, in buildings, not on poles or in manholes, the Western installer may do the installation work and with special authorization from the Telephone Company, who will provide instructions, may perform the through tests to the associated Control unit.

1.4 The Frame on which the Control unit is mounted will be installed in the Central Offices where the work will be performed by Western installers who will also run, connect and verify the wiring between the frame terminals and the Central Office equipment.

1.5 The Control Unit will ordinarily be mounted on the frame by Western installers who will then run and verify the jumpers between the Control unit terminals and the frame terminals. The installer will also verify, visually, that the unit has no apparent physical defects. Normally no testing will be required, but if the Telephone Company authorizes it and furnishes the instructions and facilities the Western installer may also test the Control unit.

2. ERECTING FRAME AND MOUNTING CONTROL UNIT

2.1 Erecting the frame on which the Control unit is mounted requires no special procedures and should be done in the standard manner for this type frame.

2.2 Mounting the Control unit requires special procedures to prevent damage to the equipment. The instructions for mounting this unit are in Handbook 30, Temporary Instruction, Section T.I. - 50G.

3. CABLING AND WIRING

3.1 No special methods are required for cabling and wiring the frame on which the Control unit is mounted. Standard methods should be followed in doing this work.

3.2 Connections from the frame terminal strip to the unit terminal strip are made by individual jumper wires between like numbered terminals in the standard manner.

3.3 Tables 1, 2 and 3 provide information for verifying the wiring between the frame terminal strip and other assigned locations in No. 1 Crossbar, No. 5 Crossbar and Step-by-Step systems respectively. When the Control unit is installed and connected at the same time as the frame this verification may be made from the unit terminal strip so as to include the jumpers between the unit and frame terminal strips.

3.4 Table 4 lists the various options that may be specified for each system and the terminals that must be strapped to provide these options. Check that the options furnished are those specified in job specification.

4. TESTING

4.1 Supplementary Tests from Frame or Unit Terminal Strip

4.11 Make the following tests from the frame terminal strip if the Control unit is not installed, otherwise make these tests from the unit terminal strip.

4.12 Using a test receiver check for presence of 48V battery on terminals 100 to 112 and 119. Also check for the presence of ground on terminals 79 to 86 and 23.

TABLE 1

Lead Verification for 1A Concentrator in No. 1 Crossbar System

Frame	Term. Strip	Terminals	To	Terminals	Term. Strip	Frame	Lead Desig.		
Line Concentrator	Frame	00-09 10-19		TB- TB-		HMDF or CTUR	TB00-09 TB10-19		
		*23 (Y-OPTION)		13(A&M) 534(STD)	G UNIT	ALM Trans RR Frame	AR		
		25 26		RO R1		HMDF	RO R1		
		*20 *21 *22 *33		See Job Inf.		ALM SDG Unit on RR	46 47 48 A4		
		*24				LIT	TO		
		*30		See Job Inf.	Relay Int. Unit	RR Frame	OFT		
		*34 *35 *37		See Job Inf.		Floor ALM Frame	G R DL		
		*40 *41 *50 *51		R R1 T T1		HMDF	R R1 T T1		
		42 43 52		R S T	SP JK	HMDF	R S T		
		60 61 62 63 70 71 72 73		RS0 RS1 RS2 RS3 TS0 TS1 TS2 TS3		HMDF HCDF or VMDF	RS0 RS1 RS2 RS3 TS0 TS1 TS2 TS3		
		Line Concentrator	Frame (Lines)	00-99		T		HMDF	T
				00-99		R		HMDF	R
				00-99		S		HMDF or HLDF	S
			Frame (Trunks)	00-19 00-19		T R		HMDF HCDF or VMDF	T R

NOTE: ★ indicates that lead mult. to other frames in same aisle or office.

TABLE 2

Lead Verification for 1A Concentrator in No. 5 Crossbar System

Frame	Term. Strip	Terminals	To	Terminals	Term. Strip	Frame	Lead Desig.
Line Concentrator	Frame	00-09 10-19		TB- TB-		HMDF or CTUR	TB- TB-
		*20 *21 *22 *23		See Job Inf.		ALM SDG unit on ALM Frame	48 47 46 LK
		*24				LIT	TO
		25 26		RO R1		HMDF	RO R1
		*30 *31		See Job Inf.		Office Int. Fr.	OFT ST
		*33 *39 48 49		See Job Inf.		ALM Frame	A4 MJ MN MJ

TABLE 2 (Cont'd.)

Frame	Term. Strip	Terminals	To	Terminals	Term. Strip	Frame	Lead Desig.	
Line Concentrator	Frame	48		48	Frame	Prec. Line Concent. Succ. Line Concent. or aisle pilot	MN	
		49		49			MJ	
		48		48	Frame		MN	
		49		49			MJ	
		40		R			HMDF	R
		41		R1				R1
		50		T				T
		51		T1				T1
		42		R		SP JK	HMDF	R
		43		S				S
		52		T				T
		60		RS0			HMDF	RS0
		61		RS1			HCDF	RS1
		62		RS2			or VMDF	RS2
63		RS3				RS3		
70		TS0				TS0		
71		TS1				TS1		
72		TS2				TS2		
73		TS3				TS3		
Line Concentrator	Frame (Lines)	00-99		T		HMDF	T	
		00-99		R		HMDF	R	
		00-99		S		HMDF or HLDF	S	
	Frame (Trunks)	00-19		T		HMDF	T	
		00-19		R		HCDF or VMDF	R	

NOTE: ★ indicates that lead mult. to other frames in same aisle or office.

TABLE 3

Lead Verification for 1A Concentrator in Step-by-Step System

Frame	Term. Strip	Terminals	To	Terminals	Term. Strip	Frame	Lead Desig.		
Line Concentrator	Frame	00-09		TB-		HIDF HCDF or CTUR	TB-		
		10-19		TB-			TB-		
		24		See Job Inf.			LIT	TO	
		25		RO			VIDF	RO	
		26		R1			HIDF	R1	
		30		See Job Inf.		Relay Int. Unit	RR	OFT	
		31					Frame	ST	
		34						AUD & VISUAL ALM	G
		35						AUD ALM	R
		37						DL	
		37						AB	
		35						D	
		37						AB	
		40				R		VIDF	R
41				R1			R1		
50				T			T		
51				T1			T1		
42				R	SP JK	HMDF	R		
43				S			S		
52				T			T		

TABLE 3 (Cont'd.)

Frame	Term. Strip	Terminals	To	Terminals	Term. Strip	Frame	Lead Desig.
Line Concentrator	Frame	60		RS0		HMDF HCDF or VMDF	RS0
		61		RS1			RS1
		62		RS2			RS2
		63		RS3			RS3
		70		TS0			TS0
		71		TS1			TS1
		72		TS2			TS2
		73		TS3			TS3
Line Concentrator	Frame (Lines)	00-99		T1		HIDF or HCDF	T
		00-99		R1			R
		00-99		S1			S
	Frame (Trunks)	00-19		T		HMDF HCDF or VMDF	T
	00-19		R		R		

TABLE 4

Option Straps for 1A Line Concentrator

SYSTEM	OPTION	TERMINALS ON FRAME T.S. STRAPPED
No. 1 Crossbar-Options specified W and Y or Z	W	80 & 39
	W	80 & 29
	W	38 & 37
	Z	84 & 23
	Y	23 - Cable lead AR to alarm transfer Ckt.
No. 5 Crossbar-Options Specified X and Y or Z.	X	38 & 39
	X	28 & 29
	X	33 & 34
	Z	84 & 23
	Y	23 - Cable lead to alarm sending Ckt.
No. 1 and 350A Step-by-Step-options specified W and Z with or without P	-	39 & 49 (when no transfer alarm is required.)
	W	80 & 39
	W	80 & 29
	W	38 & 37
	Z	84 & 23
355A Step-by-Step-options specified Z and W or X with or without P	P	34 & 35
	Z	84 & 23
	W	80 & 39
	W	80 & 29
	W	38 & 37
	X	38 & 39
	X	28 & 29
	X	33 & 34
P	34 & 35	

4.13 On No. 5 Crossbar or on 355A SXS installations using Misc. Alarm Circuit apply 48V through a test receiver to frame terminal strip terminal 39. Check that associated major alarm sounds and that appropriate aisle pilot lamps light.

4.14 On 355A SXS installations apply ground to terminal 35. Check that appropriate aisle pilot lamp lights. Make this test only when D load is used.

4.15 On No. 1 Crossbar, No. 1 and 350A SXS and on 355A SXS using Testing and Maintenance AUD and VIS Alarm Circuit apply ground to terminal 37. Check that Major Alarm sounds.

4.16 On No: 1 Crossbar, No. 1 and 350A SXS and on 355A SXS apply ground in turn to terminals 34 and 35. Check that associated aisle pilot lamps light.

4.17 On No. 1 and No. 5 Crossbar installations using Alarm Sending Circuit, apply ground to terminal 33. Check that relay A4 in Alarm Sending circuit operates.

4.18 On No. 1 Crossbar installations check with a test receiver that overflow tone is present on terminal 30. On No. 5 Crossbar and SXS installations check that overflow tone is present on terminal 30 only when ground is applied to terminal 31.

4.2 Operation Tests

4.21 The Engineer of Installation is not issuing testing instructions for these units because the factory tests of the Control and Remote units are designed to completely test them so that no operations testing should be required by Western installers. The units should be ready for overall testing by the Plant people when they have been installed and connected to cable pairs.

4.22 As pointed out in Paragraph 1.5 the Western installer may, when requested and authorized by the Telephone

Company, test the control unit using instructions and facilities furnished by the Telephone Company. A list of the applicable B.S.P.'s follows:

<u>B.S.P.</u>	<u>LINE CONCENTRATOR NO. 1A - SUBJECT</u>
952.502.1	General Description
A204.508	Tests and Inspections at time of Installation
A204.509	Systems Tests
A301.025	KS-15917-L3 Battery Supply
A304-543	Cutover Procedures
A304-544	Trouble Analysis
A304-546	Method of Releasing Permanent Signals
A204.539	Concentrator Trunk Usage Recorder SD-96549-01 Miscellaneous Tests.

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