SERVICE OPTIONS
(STATIONS, TRUNKS, DIAL PULSE REGISTER, CENTRAL OFFICE ALARM, NIGHT CONNECTIONS, REGISTERS, POWER PLANT, ETC) METHOD OF PROVIDING 756A PBX

GENERAL

.01 The information in this section covers the most generally used features and options ...pplements information on circuit drawings. ... diagrams (CAD) for the 756A PBX are ...d in SD-65746-01 and SD-66920-01.

.02 This section is reissued to include option letter codes and to revise information to ... with current drawing information. Since ...eissue covers a general revision, arrows ...arily used to indicate changes have been ...d.

.03 Features and options are provided, in most cases, by strapping at various terminal strips ... the switching cabinet.

Note: Methods for applying the options are covered by text, tables, and figures which when required must be used together to determine the necessary procedure. Some show the specific wiring that is furnished and give information for removing or adding wiring to change a feature. Others are shown as ***typical examples*** and a specific arrangement must be determined locally to meet job requirements.

.04 Table A lists the service options or features covered in this section and cross references ... equipment at which the options are applied.

.05 Wire wrapping and unwrapping tools supplied with the PBX should be used for making ... removing connections.

2. CLASS OF SERVICE FOR STATIONS

2.01 Class-of-service options that may be provided for stations are toll allowed, toll denied, restricted, and unassigned.

2.02 Options are applied by placing or removing straps on the LINE terminal strips. (See Fig. 1 and 2 and Table B.)

3. INWARD RESTRICTION OF STATIONS

3.01 The inward restriction circuit provides means whereby the attendant is prevented from completing central office class calls to a station. A maximum of ten stations can be inward restricted.

3.02 When the attendant attempts to complete a call to an inward restricted station, the call is rerouted to the attendant by way of an attendant trunk. The attendant then operates the attendant trunk pickup key and hears a single spurt of tone, indicating that the call is intercepted and that the station is inward restricted.

3.03 The inward restriction feature is applied on an optional basis at terminal strips on the inward restriction unit. To inward restrict a station, add or remove connections as follows:

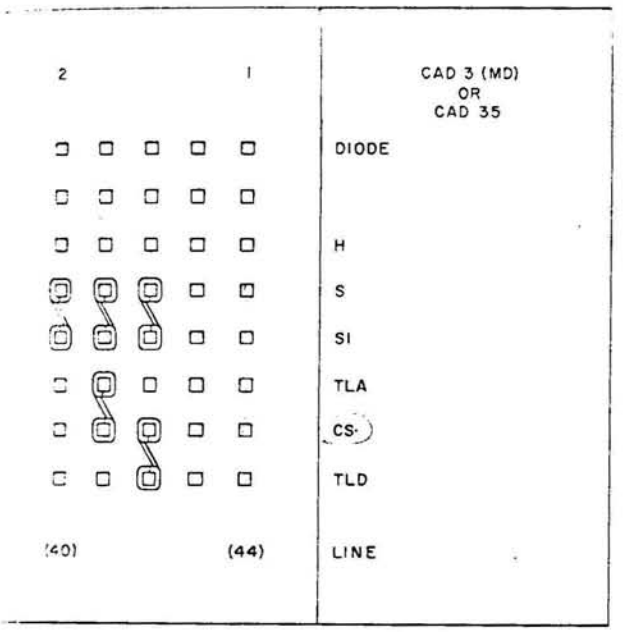
(a) At TS-C or TS-D, connect the station terminal to a nonconnected IR(A-J) terminal.

(b) At TS-A, remove the strap between terminals S and SA of the station to be restricted.

(c) Connect TS-A terminal S to terminal S on TS-B which corresponds to terminal IR(A-J) used in (a).

TABLE A — CROSS REFERENCE

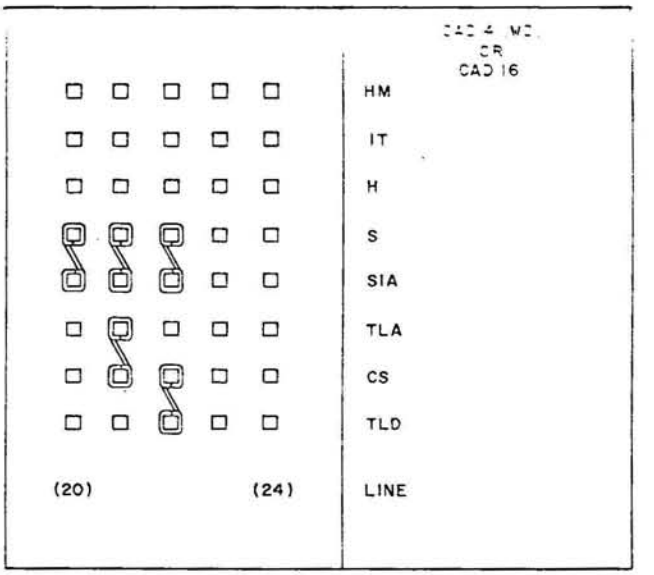
OPTION OR FEATURE	PART NO.	LINE, LINK, AND MARKER CIRCUIT	DIAL PULSE REGISTERS	TIE OR CO TRUNKS	ALARM AND REGISTER UNIT
Class of Service for Stations	2	Table B; Fig. 1, 2	Table I		
Inward Restriction of Stations	3				
Hunting for Stations	4	Fig. 3, 4, 5			
Hunting for Trunks	5	Fig. 6			
Emergency CO Connections	6				
Single-Digit Dialing for Stations and Miscellaneous Trunks	7	Table F	Table I; Fig. 7		
Universal Line Circuits	8	Tables G, H; Fig. 8	Table I		
Dial Repeating Tie Trunks	9	Table E; Fig. 8	Table I		
Central Office Trunks	10	Table H	Table I	Tables E, H; Fig. 9	
Busy Verification	11				
Attendant Trunks	12			Table G	
Ringdown Tie Trunks	13	Table K	Table I	Table I	
Indication of Camp-On	14	Table C			
Dial Pulse Registers	15		Table I		
Central Office Alarm	16				Fig. 9
Night Connections	17				
Trunk Answer From Any Station	18				
Traffic and Trouble Registers	19				Fig. 10, 11
Power Plant	20				
Conference Calling	21				
Meet-Me Conference (A&M)	22				
Attendant Conference	23				
Code Call	24				
TOUCH-TONE® Calling	25				
Recorded Telephone Dictation	26				
Paging	27				
Pad Control	28				
Station Message Register	29				



EXAMPLE

STATION 40–RESTRICTED
STATION 41–TOLL ALLOWED
STATION 42–TOLL DENIED
STATIONS 43–44–UNASSIGNED

Fig. 1—Typical Class of Service Strapping on LINE Terminal Strip (Station Lines 40 Through 44) (SD-65746, CAD 3 [MD] or CAD 35)



EXAMPLE:

STATION 20 – RESTRICTED
STATION 21 – TOLL ALLOWED
STATION 22 – TOLL DENIED
STATIONS 23 THROUGH 24 – UNASSIGNED.

Fig. 2—Typical Class of Service Strapping on LINE Terminal Strip (Station Lines 20 Through 24) (SD-65746, CAD 4 [MD] or CAD 16)

(d) Connect TS-A terminal SA to terminal SA on TS-B which corresponds to terminal IR(A-J) used in (a).

4. HUNTING FOR STATIONS

4.01 Station lines within each tens group may be arranged for one-way, 2-way, or combination hunting. Hunting is arranged by connecting straps or diodes between H- terminals on the LINE terminal strips. One LINE terminal strip and one diode are provided with the PBX for each five station lines. The diode for station lines 20 through 21 and the diode for stations 25 through 29 are shipped loose. Diodes provided for other stations are wired on the applicable LINE terminal strips. If additional diodes are required to provide the desired hunting arrangement, the diodes must be supplied locally.

4.02 ***To provide one-way hunting,*** wire or insert a diode between each pair of H- terminals for stations in the hunting chain. The direction of hunting will be in the direction of the arrow on the diode. (See Fig. 3 and 4.)

4.03 ***To provide 2-way hunting,*** strap the H-terminals of stations in the tens group to be arranged for 2-way hunting. (See Fig. 3 and 4.)

4.04 ***To provide combined one- and 2-way hunting,*** wire or insert diodes and install straps between H- terminals of stations in the tens group as required. (See Fig. 5.)

5. HUNTING FOR TRUNKS

5.01 Trunk hunting is provided by strapping together the H terminals on the central office trunk hunting terminal strip (CO TRK HUNT). The PBX is furnished with all ten H terminals of the central office trunks strapped together.

(a) ***If one hunting group of ten or less central office trunks is to be provided*** using the

TABLE B — CLASS-OF-SERVICE OPTIONS FOR STATION LINES
(SD-65746-01, CAD 3 OR 35 AND 4 OR 16)

OPTIONS		STRAPS REQUIRED ON "LINE" TS (NOTE 1)	NOTES
Toll	Allowed	CS to TLA S to S1 or S1A	2, 6
	Denied	CS to TLD S to S1 or S1A	3, 6
Restricted		S to S1 or S1A	4, 6
Unassigned		None	5

Notes:

1. LINE terminal strips are located as follows:

   Lines 20 through 29, slide 2 mounting plate M.
   Lines 30 through 39, slide 2 mounting plate M.
   Lines 40 through 59, slide 3 mounting plate M.
   Lines 60 through 79, slide 4 mounting plate M.

2. ***The PBX is furnished with all lines strapped for toll allowed service,*** with access to all equipped trunks.

3. Toll denied service may be provided only where the central office is arranged for toll diverting.

4. Station lines are restricted from dial access to central office trunks when neither the CS to TLA or CS to TLD straps are provided. A restricted line can be connected to a central office trunk by the attendant. Restricted lines are either allowed or denied access to code 8 by strapping at the dial pulse register. (Refer to Table J.) When code 8 single-digit dialing is used to reach a toll operator via central office trunks, restricted lines are always denied access to these trunks.

5. Calls to unassigned lines are connected to an attendant trunk or busy-tone trunk. The S to S1 strap, if wired, must be removed. The CS to TLA strap, if wired, need not be removed unless associated with a universal line circuit.

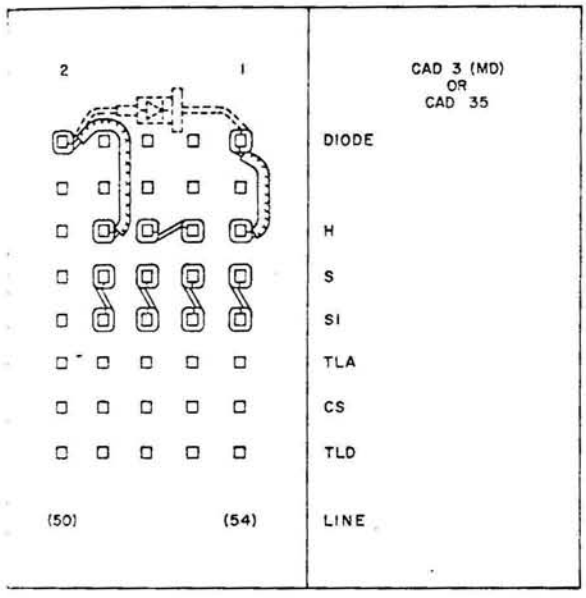
6. Station lines 20 through 29 have S1A leads on the LINE terminal strips. All other station lines have S1 leads.

single-digit code 9, the strapping as furnished should not be changed.

(b) ***If two or more hunting groups are to be provided,*** the strapping must be rearranged at the CO TRK HUNT terminal strip and in the dial pulse register. (See Fig. 6 and Tables C and D.)

6. EMERGENCY CENTRAL OFFICE CONNECTIONS

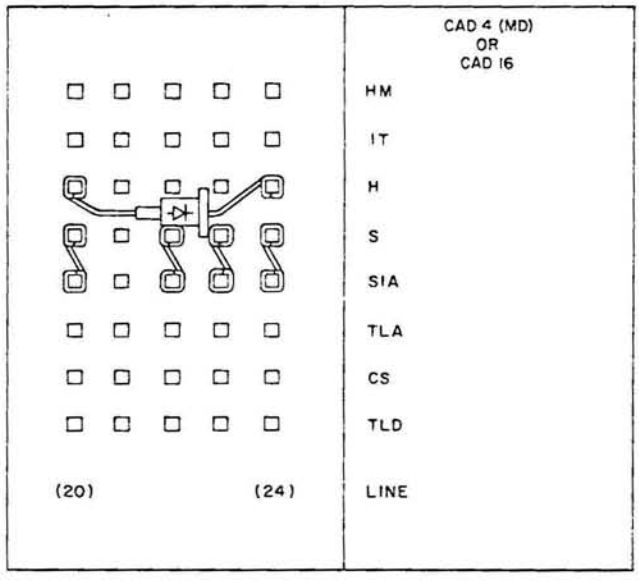
6.01 The PBX is so arranged that in the event of a power failure, all relays in the PBX



EXAMPLE

STATION 51 HUNTS TO STATION 54.
STATIONS 51 AND 54 STRAPPED FOR ONE-DIRECTION HUNTING.
STATIONS 52 AND 53 STRAPPED FOR TWO-DIRECTION HUNTING.

Fig. 3—Typical Strapping on LINE Terminal Strip Showing Straps for Station Hunting (SD-65746, CAD 3 [MD] or CAD 35)



EXAMPLE:

STATIONS 20 AND 24 STRAPPED FOR ONE-DIRECTION HUNTING.
STATION 20 HUNTS TO STATION 24.
STATIONS 22 AND 23 STRAPPED FOR TWO-DIRECTION HUNTING.

Fig. 4—Typical Strapping on LINE Terminal Strip Showing Straps for Station Hunting (Station Lines 20 Through 24) (SD-65746, CAD 4 [MD] or CAD 16)

release and either three or four central office trunks are ***automatically transferred*** to stations. In a PBX equipped with flexible night connections, trunks 0, 1, and 2 are connected to stations 30, 31, and 32. In a PBX equipped with fixed night connections (prior to list 8 or 9 of module 2), trunks 0, 1, 2, and 5 are connected to stations 30, 31, 32, and 33.

6.02 A start key (551A) is required to apply ground to the ***ring*** of the line at stations that are arranged for automatic transfer to central office trunks or for fixed night connections.

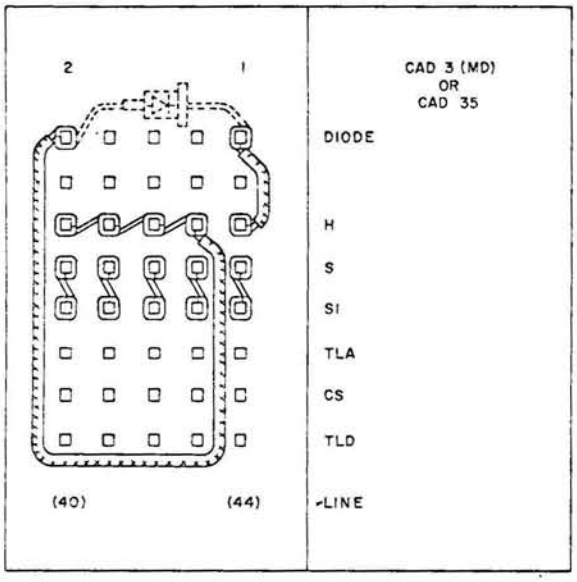
6.03 ***Start Key Connections:*** Extend an AP ground lead from the 75-pair terminal (module 1) to the station connecting block. Connect the AP ground to one side of the 551A key and the other side to the ***tip*** of the line. (This is done to prevent inadvertent grounding of the ring side until the receiver is off-hook.)

6.04 To originate a central office call, the start key is pressed momentarily with the receiver off-hook until dial tone is heard, and then the call is placed normally.

7. SINGLE-DIGIT DIALING FOR STATIONS AND MISCELLANEOUS TRUNKS

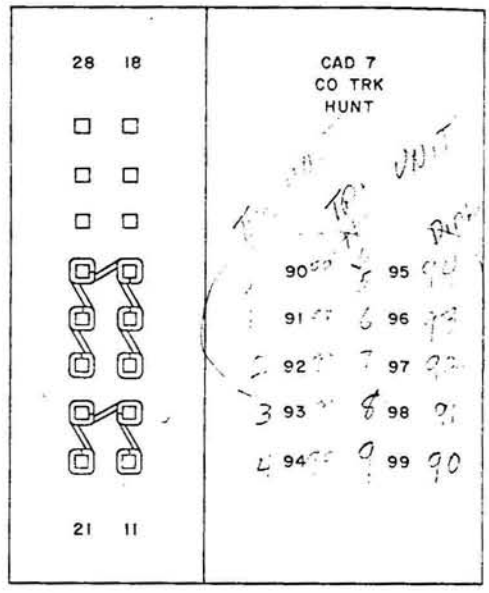
7.01 Stations 20, 30, 40, 50, 60, and 70 may be arranged for single-digit access. With this arrangement, it will be necessary to dial only the first, or tens digit, to reach the stations. If the second, or units digit, does not follow within 3 seconds, the register will complete the call as if the 0 units digit had been dialed.

7.02 If digit 8 is used for single-digit access to a long distance operator, digit 2 (for single-digit access) or station 20 may be assigned. If digit 8 is used for 2-digit access to a trunk, digit 2 (for single-digit access) or station 20 cannot be assigned. Central office trunks arranged for single-digit 8 access to a long distance operator



STATIONS 40, 41, 42, 43, AND 44 STRAPPED FOR ONE AND TWO DIRECTION HUNTING. STATIONS 40, 41, 42 AND 43 ARE TWO DIRECTION AND CAN HUNT TO STATION 44 BUT STATION 44 CANNOT HUNT TO STATIONS 40, 41, 42 AND 43.

Fig. 5—Typical Strapping on LINE Terminal Strip Showing Combination Hunting (SD-65746, CAD 3 [MD] or CAD 35)



NOTE:
THIS TERMINAL STRIP IS LOCATED AT SLIDE 4, POSITION Z.

EXAMPLE:
HUNTING ON TRUNK GROUP 0, 1, 2, 5, 6, AND 7
HUNTING ON TRUNK GROUP 3, 4, 8, AND 9

Fig. 6—Typical Strapping on Central Office Trunk Hunting Terminal Strip Showing Strapping for Trunk Hunting (SD-65746, CAD 7)

must be in the same hunting group. (Refer to Table E.)

7.03 Additional equipment required for each station arranged for single-digit access consists of the following:

(a) Two J58829J, List 4 (KS-15724, List 2) diodes for installation in the dial pulse registers 0 and 1.

(b) A 6017-B key and a 15E-3 lamp indicator, or equivalent, for installation at the station when the station make-busy feature is to be provided. When operated, the key provides a visual busy indication and directs any incoming calls to intercept.

7.04 ***To arrange a station for single-digit access,*** a diode must be connected in each dial pulse register as follows: At the right rear of each dial pulse register (slide 6, positions A through F) connect a KS-15724, List 2 diode between SDT terminal and the ST(-) terminal corresponding to the tens group of the station to be arranged for single-digit dialing. (See Fig. 7.)

7.05. ***When the station make-busy feature is provided,*** remove strap S to S1 on LIN terminal strip for station arranged for single-d access. (Refer to Table B.)

7.06 Connections for the key and lamp associat with one of the six stations that may used for single-digit access are shown in Table

8. UNIVERSAL LINE CIRCUITS

8.01 A line circuit in the 20 through 29 gr may be used for connection to a station (20 through 29), dial repeating tie trunk, conference circuit, recorded telephone dictat trunk, loudspeaker paging trunk, auxiliary posi circuit, or either the calling or answering end of 3A code call circuit. When a universal line circ is assigned to a station or the answering end of 3A code call circuit, it is reached by dialing corresponding number in the 20 through 29 seri

TABLE C — CENTRAL OFFICE TRUNK OPTIONS

FEATURE	OPTION			STRAPS ON CENTRAL OFFICE TRUNK UNIT TERMINAL STRIP SLIDE 5 (SD-65746-01, CAD 6)			REQUIRED STRAPS ON SUPPLEMENTARY TRUNK UNIT J58829M LIST 5 (A & M)		REMOVE STRAPS ON TRUNK CONN UNIT TERM. STRIP (SD-65746-01 CAD 7)
				REQUIRED	FURNISHED	REMOVE	TS(A)	TS(B)	
Central Office Trunks 0 through 9	CO Battery Voltage	40 Volts or More	S	16 to 26	16 to 26				
		39 Volts or Less or Panel CO	R	26 to 27					
	2-way 18-14 ?	Make-Busy and Busy Display Provided	YP	11 to 18	11 to 18				
			YQ	14 to 28	14 to 28				
		Make-Busy and Busy Display Not Provided	J(MD)	18 to 28					
	2-way Assigned Service Equipped for Night Connection With Cord Switchboard	Make-Busy and Busy Display Provided	YP	11 to 18	11 to 18				
			YQ		14 to 28	14 to 28			
		Make-Busy and Busy Display Not Provided	ZQ(MD)	14 to 28	14 to 28				
	One-way (Incoming) Unassigned	Make-Busy and Busy Display Not Provided	K	17 to 18		18 to 28			
		Make-Busy and Busy Display Provided	K	17 to 18		11 to 18 14 to 28			

PLUG IN TRUNKS BUILT/ISSUE 22D OR LATER—ADDED TO [illegible] THAT DO NOT HAVE (MAKE BUSY DISPLAY) ADD OPTION XH— (14—11)

TABLE C — CENTRAL OFFICE TRUNK OPTIONS (Cont)

FEATURE	OPTION			STRAPS ON CENTRAL OFFICE TRUNK UNIT TERMINAL STRIP SLIDE 5 (SD-65746-01, CAD 6)			REQUIRED STRAPS ON SUPPLEMENTARY TRUNK UNIT J58829M LIST 5 (A & M)		REMOVE STRAPS ON TRUNK CONN UNIT TERM. STRIP (SD-65746-01 CAD 7)
				REQUIRED	FURNISHED	REMOVE	TS(A)	TS(B)	
Central Office Trunk Appearance at Cord Switchboard	556A Switchboard	ZE	CO Trunks						
			0				11 to 21		
			1				12 to 22		
			2				13 to 23		
			3				14 to 24		
			4				15 to 25		
			5					11 to 21	
			6					12 to 22	
			7					13 to 23	
			8					14 to 24	
			9					15 to 25	
	608A or 608D Switchboard	ZF	CO Trunks						
			0				21 to 31		
			1				22 to 32		
			2				23 to 33		
			3				24 to 34		
			4				25 to 35		
			5					21 to 31	
			6					22 to 32	
			7					23 to 33	
			8					24 to 34	
			9					25 to 35	
				If provided, disconnect local cable lead from 1L of the R1 relay and connect to 1 of the CT relay.					

TABLE C — CENTRAL OFFICE TRUNK OPTIONS (Cont)

FEATURE	OPTION				STRAPS ON CENTRAL OFFICE TRUNK UNIT TERMINAL STRIP SLIDE 5 (SD-65746-01, CAD 6)			REQUIRED STRAPS ON SUPPLEMENTARY TRUNK UNIT J58829M LIST 5 (A & M)		REMOVE STRAPS ON TRUNK CONN UNIT TERM. STRIP (SD-65746-01 CAD 7)	
					REQUIRED	FURNISHED	REMOVE	TS(A)	TS(B)		
Central Office Trunks 6 through 9	Single Digit Access to Toll	CO Trunks 6 and 7	Make-Busy and Busy Display Not Provided	ZP(MD)	24 to 28						
			Make-Busy and Busy Display Provided	YP		11 to 18	11 to 18				
				YQ	14 to 28	14 to 28					✓
				YS	11 to 24						
		CO Trunks 8 and 9 (Plug-In)	Make-Busy and Busy Display Not Provided	ZN(MD)	24 to 28						
			Make-Busy and Busy Display Provided	YP		11 to 18	11 to 18				
				YQ	14 to 28	14 to 28					
				YS	11 to 24						
Plug-In Central Office Trunks	CO Trunk 3									16 to 17	
	CO Trunk 4									17 to 18	
	CO Trunk 8									26 to 27	
	CO Trunk 9									27 to 28	
Hunting	See Part 4										
Emergency CO Conn	See Part 6										
Attendant Service	With Lockout					21 to 22	21 to 22				○
	Without Lockout			Z	21 to 22	21 to 22					
	With Secrecy			W	15 to 25						
	Without Secrecy										
	With Restriction			X	12 to 13		21 to 22				
	Without Restriction			Y	13 to 23	13 to 23					✓

TABLE C — CENTRAL OFFICE TRUNK OPTIONS (Cont)

FEATURE	OPTION	STRAPS ON CENTRAL OFFICE TRUNK UNIT TERMINAL STRIP SLIDE 5 (SD-65746-01, CAD 6)			REQUIRED STRAPS ON SUPPLEMENTARY TRUNK UNIT J58829M LIST 5 (A & M)		REMOVE STRAPS ON TRUNK CONN UNIT TERM. STRIP (SD-65746-01 CAD 7)[1]
		REQUIRED	FURNISHED	REMOVE	TS(A)	TS(B)	
Camp-On Not Required	WJ	Prior to Issue 33D of the line, link, and marker circuit, when camp-on is not required, option WJ straps 2M of the COS relay to 6B of the NT relay.					
		After Issue 33D of the line, link, and marker circuit, when camp-on is not required, option WJ straps 4M of relay COAA to 6B of the NT relay.					
Indication of Camp-On	YK	When indication of camp-on is not required, remove YK option lead from L of the CS relay to 2U of the IC9 relay. (Relays located in CO trunk unit.)					
Station Dial Transfer Required		When station dial transfer is required, remove green lead from 9 of the TT relay to 9M of the TT relay; remove green lead from 11 of the TT relay to 11M of the TT relay; and add a black lead from 9B of the TT relay to 5 of the TT relay.					

Notes:

1. Lockout service prevents attendant from reentering a central office connection except on a recall signal or before the called station answers.
2. Nonlockout allows the attendant to reenter incoming calls at all times, but the attendant cannot enter dial selected outgoing calls. This option is furnished with PBX.
3. When secrecy attendant service is provided and the attendant reenters a call, the attendant can converse only with the called station.
4. Restricted attendant service prevents the attendant from making outgoing central office calls.
5. Trunks must be in the same hunting group and strapping must include terminal 11 at the trunk hunt terminal strip.
6. Lockout may be provided without secrecy, but secrecy must not be provided without lockout.

TABLE D — OPTIONS APPLIED AT RINGDOWN TIE TRUNK UNIT

	FEATURE		OPTION CODE	STRAPS REQUIRED AT UNIT TERMINAL STRIP
Incoming Ringing	Direct, through Repeating Coil or Through By-passing Capacitors	Loop 2000 Ohms or More	X	11 to 21 22 to 32
		Loop Under 2000 Ohms		No Strapping Required
	Through Blocking Capacitors	Loop 1500 Ohms or More	W	11 to 21 12 to 22 21 to 31
		Loop Under 1500 Ohms	X	11 to 21 22 to 32
Code Ringing*		Required	V	16 to 26 17 to 27 36 to 37
		Not Required	U	14 to 24 15 to 25 27 to 37 34 to 35
Trunk Equipped and Assigned as Noncode Ringing Trunk			Y	23 to 33
Trunk Equipped and Unassigned			Z	13 to 23

* When code ringing is not required, leads STT and STR should be disconnected at the house cross-connection terminals for the 100-pair cable from module 2 (SD-65746-01, CAD 1A) or at the pre-wired cable terminal section connector block D1 (SD-65746-01, CAD 33).

therwise, it is reached by dialing a number in the 80 through 89 series.

8.02 ***Universal line circuits assigned to stations 20 through 29 or the answering end of a 3A code call circuit*** may be arranged for the same hunting and class-of-service options (restricted, toll allowed, toll denied, and unassigned) as other stations. (Refer to 2.02.)

8.03 ***Universal line circuits assigned to circuits (code 8) other than station lines*** may be arranged for class-of-service and trunk hunting options by strapping at TS-A. (See Fig. 8 and Table G.) When code 8 trunks are used, the dial pulse register must be wired for code 8 operation. (Refer to Part 15.)

8.04 Refer to Table H for straps required at the line, link, and marker circuit terminal strips.

9. DIAL REPEATING TIE TRUNKS

9.01 Dial repeating tie trunks are assigned to the universal line circuits. Refer to Part 8 for service options applicable to universal line circuits.

9.02 When dial repeating tie trunks are provided, the dial pulse register must be wired for code 8 operation. (Refer to Table I.)

10. CENTRAL OFFICE TRUNKS

10.01 The PBX is furnished with six permanently wired 2-way central office trunks. Space is provided for four additional plug-in trunks. The trunks may be either central office or ringdown tie trunks. The trunk locations are given in Table E.

10.02 To single-digit dial S for the long distance operator, the tens digit S is reserved for

TABLE E — TRUNK EQUIPMENT LOCATIONS

	NO.	SLIDE 5	
		MOUNTING PLATE	TS
Permanent	0	A, B	B
	1	C, D	D
	2	E, F	F
	5	M, N	N
	6	P, Q	Q
	7	R, S	S
Plug In	3	G, H	H
	4	K, L	L
	8	T, U	U
	9	W, X	X
SUPPLEMENTARY TRUNK UNIT FOR CO TRUNK APPEARANCE AT SWITCHBOARD			
Trk 0 through 4	Located external to PBX		
Trk 5 through 9			

Note: Plug-in trunks may be either central office or ringdown tie trunks.

long distance and has access to central office trunks in positions 6, 7, 8, and 9 only.

10.03 Options for trunks are provided by placing straps on the central office trunk terminal strip located as shown in Table E and the central office trunk hunting terminal strip (CO TRK HUNT) located in slide 4, position Z. (See Fig. 6 and 9 and Table C.)

11. BUSY VERIFICATION

11.01 An optional busy verification auxiliary trunk circuit may be provided to permit the attendant to establish a monitoring connection to any busy, or busy and camped-on station, and a talking connection to any idle station. The busy verification auxiliary trunk unit is installed on a plug-in basis and is auxiliary-to-attendant trunk 2. Refer to Section 551-144-210 for installation procedures.

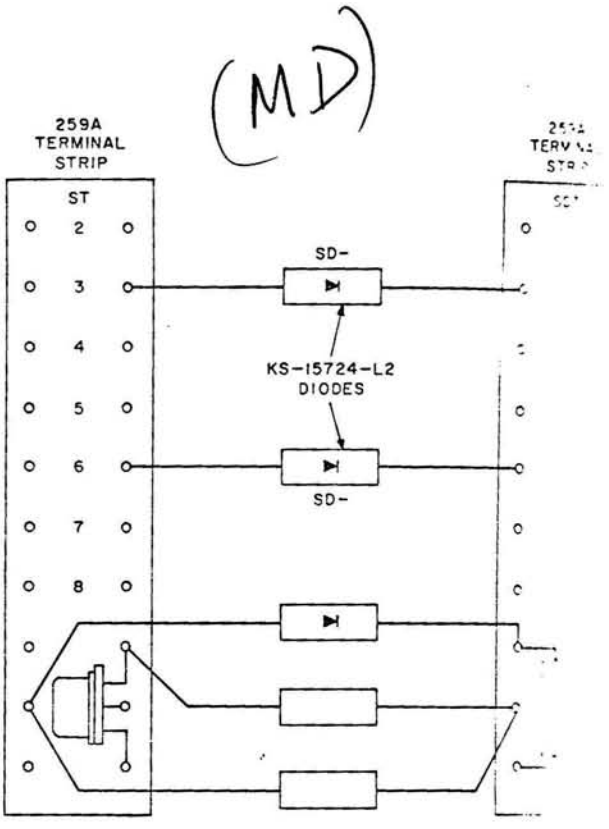


Fig. 7—Typical Diode Connections for Single [illegible] Dialing (Stations 30 and 60)

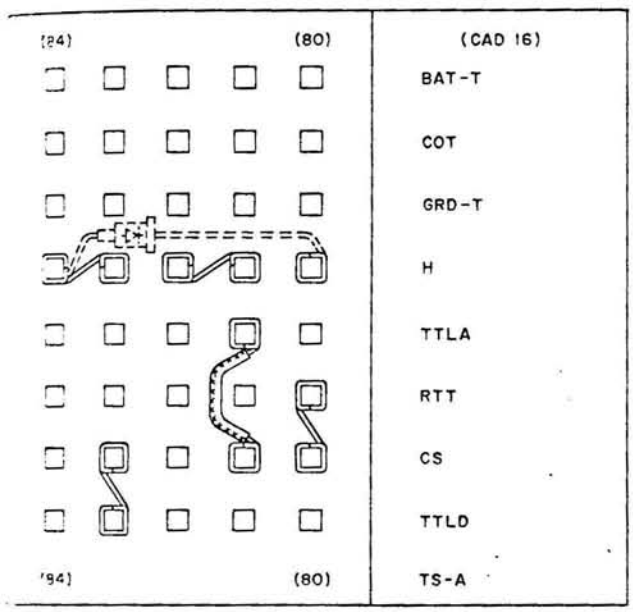
TABLE F — KEY AND LAMP CONNECTIONS FOR STATIONS ARRANGED FOR SINGLE DIGIT ACCESS

CONNECT		TO						
		100-PAIR DSS AND SINGLE-DIGIT DIALING TERMINAL* (SD-65746-01, CAD 241)						
			TERM. NO. FOR STATION					
KEY PCHG	LAMP PCHG	LEAD	2	3	4	5	6	7
1		S1	1T	3T	21T	23T	41T	43T
2		S	1R	3R	21R	23R	41R	43R
6		L BAT.	2T	4T	22T	24T	42T	44T
5		L GRD	2R	4R	22R	24R	42R	44R

* If prewired cable terminal section is [illegible] S, S1, L- BAT, and L- GRD leads are [illegible] at D3 connector block.

12. ATTENDANT TRUNKS

12.01 The PBX is furnished with three [illegible] trunk units located in slide 5, [illegible]



NOTE:
TS-A IS LOCATED AT SLIDE 2, POSITION N OR P OR AT SLIDE 3, POSITION V.

EXAMPLES:
TRUNK 80 RESTRICTED
TRUNK 81 TOLL ALLOWED
TRUNK 83 TOLL DENIED
TRUNK 83 HUNTS TO STATION 80
TRUNKS 83 AND 80 STRAPPED FOR ONE-DIRECTION HUNTING
TRUNKS 81 AND 82 STRAPPED FOR TWO-DIRECTION HUNTING

Fig. 8—Typical Strapping on TS-A Terminal Strip for Code 8 Class-of-Service and Trunk Hunting Options (SD-65746, CAD 16)

Z. and AA. These units are wired for operation of the PBX with a cordless attendant position or cord switchboard.

12.02 Refer to Table J for strapping required when the PBX is to be operated without an attendant.

13. RINGDOWN TIE TRUNKS

13.01 Ringdown tie trunks are located at slide 5 in space which may be used for either central office trunks 3, 4, 8, and 9 or ringdown tie trunks. (Refer to Table E.)

13.02 Tie trunk options which may be provided at the terminal strip on the trunk unit are listed in Table D.

13.03 The CO TRK HUNT terminal strip is wired for unequipped trunks 3, 4, 8, and 9 and provides one hunting group for trunks 0 through 9. When trunks 3, 4, 8, and 9 are assigned, straps must be removed at the trunk connector unit terminal strip. If trunks 3, 4, 8, and 9 are ringdown tie trunks, the tie trunks must be arranged in one hunting group. (See Fig. 5 and Table K.)

13.04 Applicable class-of-service options which may be provided by strapping at the dial pulse register are shown in Table I.

14. INDICATION OF CAMP-ON

14.01 On an incoming trunk call, there are visual and audible signals at the PBX attendant console. The call is picked up by pressing the corresponding trunk key. The attendant then operates the hold key and dials the requested station line number or operates the proper direct station selection key and the trunk is automatically connected. If the station line is busy, the trunk camps on the line and indicates by a momentary signal to the busy party that another central office trunk is waiting. This signal is transmitted to the busy line after the calling party has camped on and the attendant has released. The camped-on trunk will cut through as soon as the line is idle. Subsequent calls from other trunks to the busy line will not camp on until the first camped-on trunk has cut through.

14.02 Refer to Table C for applicable service option.

15. DIAL PULSE REGISTERS

15.01 The PBX is furnished with two dial pulse registers located in mounting plate spaces A to C and D to F in slide 6.

15.02 The dial pulse register must be arranged, by means of strapping on the dial pulse register terminal strip (DP REG 0 and DP REG 1), to receive originating class-of-service and/or class-of-call information as shown in Table I.

16. CENTRAL OFFICE ALARM

16.01 If the PBX alarms are to be extended to the central office, strapping must be placed on the terminal strip on the fuse panel alarm and register unit located in slide 1, position X.

TABLE G — CLASS-OF-SERVICE OPTIONS FOR CODE 8 CIRCUITS
(SD-65746-01, CAD 16)

OPTIONS		STRAPS REQUIRED AT TS-A (NOTE 1)	NOTES
Toll	Allowed	CS to TTLA	2
	Denied	CS to TTLD	3
Restricted		CS to RTT	4

Notes:

1. TS-A is located on tie trunk adapter unit at slide 2, mounting plate position N or P.
2. Toll allowed trunks can dial all calls.
3. Toll denied trunk can dial intracentral office and extended area central office calls but not toll calls.
4. When establishing a connection from a restricted code 8 tie trunk to a central office trunk, the attendant cannot use the dial back feature. Instead, the restricted code 8 tie trunk must be asked by the attendant to go on-hook to be called back later on a central office or ringdown tie trunk to code 8 tie trunk connection basis.

(a) To arrange the alarm circuit to function with a marginal alarm system at the central office, strap terminal 47 to terminal 48 (Z option).

(b) To arrange the alarm circuit to function with reverse battery alarm system at the central office, strap terminal 37 to terminal 38 (Y option).

(c) To arrange the alarm circuit to function with reverse battery alarm systems at the central office, connect FA GND to terminal 38 and connect FA BAT to terminal 18 (A option) when external traffic registers are provided.

17. NIGHT CONNECTIONS

17.01 Two arrangements to provide night connections for the 756A PBX have been provided.

(a) ***Fixed Night Connections (Manufacture Discontinued):*** This arrangement provided for the transfer of four trunks to stations 30, 31, 32, and 33. These are the same stations used for emergency transfer. (Refer to Part 6.) This arrangement can be modified locally in accordance with circuit drawing to provide flexible night connections.

(b) ***Flexible Night Connections:*** This arrangem permits the attendant to establish nig connections between any central office tru and any station.

18. TRUNK ANSWER FROM ANY STATION

18.01 The auxiliary position circuit for rem trunk answering permits any PBX sta to answer any incoming central office trunk This feature is activated by removing the hea at consoles and/or operating the remote answer at the 6-button key telephone set when provi An incoming central office call to the PBX activ a visual and/or audible signal. Anyone awar the signal may go to the nearest idle PBX sta set and dial the trunk answering code. This a retires the audible and/or visual signal and conn the PBX station and the incoming central of trunk. The PBX station can then transfer call once to another PBX station.

18.02 The remote trunk answering circuit one of the universal line circuits. station line capacity of the PBX is reduced by when the remote trunk answering circuit is pro Refer to Part 8 for service options applica universal line circuits.

TABLE H — UNIVERSAL LINE CIRCUIT OPTIONS
(SD-65746-01, CAD 16)

FEATURE	OPTION			OPTIONAL STRAPS APPLIED ON TERMINAL STRIPS ON TIE TRUNK ADAPTER AND STATION LINE UNIT ON SLIDE 2			
				TERM. STRIP	FURNISHED STRAPS	REQUIRED STRAPS	REMOVE STRAPS
Station Line	M			TS (Line)	S to S1A	S to S1A	
	ZD			TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
				TS (B)	T to T1-1 R to R1-1	T to T1-1 R to R1-1	
	Class of Service	Toll Allowed		TS (Line)	CS to TLA	CS to TLA	
		Toll Denied		TS (Line)	CS to TLA	CS to TLD	CS to TLA
		Restricted		TS (Line)	CS to TLA	None	CS to TLA
Recorded Telephone Dictation	ZD			TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
	ZF			TS (D)		HM-1 to HM-2 1T-1 to 1T-2	
				TS (B)	T to T1-1 R to R1-1		T to T1-1 R to R1-1
2-way Tie Trunk	ZD			TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
	ZF			TS (D)		HM-1 to HM-2 1T-1 to 1T-2	
				TS (B)	T to T1-1 R to R1-1		T to T1-1 R to R1-1
	Make-Busy and Busy Display Not Provided		WP	TS (Line)	HM to HM-2	HM to HM-2	
				TS (D)			
	Make-Busy and Busy Display Provided		WQ	TS (D)		HM-2 to MB2	
				TS (Line)		HM to MB1	HM to HM-2
				TS (D)			
2-way Tie Trunk	Class of Service	Toll Allowed	TA	TS (A)		CS to TTLA	
		Toll Denied	TD	TS (A)		CS to TTLD	
		Restricted	RS	TS (A)		CS to RTT	
Attendant Conference	Port 5		XC	TS (B)		R2 to T1-1 T2 to R1-1 S2 to S1	
	Ports 1 through 5		ZD	TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
			XC	TS (A)		CS to COT	
				TS (B)	R to R1-1 T to T1-1		R to R1-1 T to T1-1

TABLE H — UNIVERSAL LINE CIRCUIT OPTIONS (Cont)
(SD-65746-01, CAD 16)

FEATURE	OPTION		OPTIONAL STRAPS APPLIED ON TERMINAL STRIPS ON TIE TRUNK ADAPTER AND STATION LINE UNIT ON SLIDE 2			
			TERM. STRIP	FURNISHED STRAPS	REQUIRED STRAPS	REMOVE STRAPS
Conference Calling	Port 0	ZF	TS (D)		HM-1 to HM-2 1T-1 to 1T-2	
	Ports 0 through 5	ZD	TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
			TS (B)	T to T1-1 R to R1-1		T to T1-1 R to R1-1
	Port 5	XD	TS (A)		CS to COT	
			TS (B)		R2 to T1-1 T2 to R1-1 S2 to S1	
Meet-Me Conference (A&M)	N		TS (Line)		HM to 1T	
	ZD		TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
			TS (B)	T to T1-1 R to R1-1		T to T1-1 R to R1-1
Interface Trunk Circuit	Calling End	ZD	TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1 HM-3 of answering end line circuit to HM-3 of answering end line circuit 1T-1 of calling end line circuit to 1T-2 of answering end line circuit.	
		ZG	TS (D)			
	Answering End	ZE	TS (D)		HM-3 of answering end line circuit to HM-2 of calling end line circuit; 1T-2 of answering end line circuit to 1T-1 of calling end line circuit.	
			TS (B)		S2 of answering end line circuit to S2 of calling end line circuit.	
	Without Answering Feature	ZD	TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
		N	TS (Line)		HM to 1T	
Code Call	Calling End	ZD	TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
		ZG	TS (D)		HM-2 of calling end line circuit to HM-3 of answering end line circuit 1T-1 of calling end line circuit to 1T-2 of answering end line circuit.	

TABLE H — UNIVERSAL LINE CIRCUIT OPTIONS (Cont)
(SD-65746-01, CAD 16)

FEATURE	OPTION		OPTIONAL STRAPS APPLIED ON TERMINAL STRIPS ON TIE TRUNK ADAPTER AND STATION LINE UNIT ON SLIDE 2			
			TERM. STRIP	FURNISHED STRAPS	REQUIRED STRAPS	REMOVE STRAPS
Code Call	Answering End	ZE	TS (D)		HM-3 of answering end line circuit to HM-2 of calling end line circuit; 1T-2 of answering end line circuit to 1T-1 of calling end line circuit.	
			TS (B)		S2 of answering end line circuit to S2 of calling end line circuit.	
Loud-speaker Paging	ZD		TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
	ZS		TS (D)		HM-1 to HM-2 1T-1 to 1T-2	
			TS (B)	T to T1-1 R to R1-1		T to T1-1 R to R1-1
Auxiliary Position Circuit for Remote Trunk Answering	ZD		TS (C)	T1 to T1-1 R1 to R1-1	T1 to T1-1 R1 to R1-1	
	ZF		TS (D)		HM-1 to HM-2 1T-1 to 1T-2	
			TS (B)	T to T1-1 R to R1-1		T to T1-1 R to R1-1

19. TRAFFIC AND TROUBLE REGISTERS

19.01 The PBX is furnished with six registers located in slide 1 to be cross-connected as required to record traffic or troubles.

19.02 The registers may be cross-connected by placing straps between terminals on register terminal strip located in slide 1, position X. (See Fig. 10.)

19.03 External traffic registers may be provided on an optional basis in a cabinet located near the PBX attendant. When used in conjunction with ten external traffic registers, the six internal registers may be used to record the same data or additional data, or they may be temporarily removed from the circuit.

19.04 The registers may be cross-connected by placing straps between terminals on register terminal strip located in slide 1, position X. (See Fig. 11.)

20. POWER PLANT

20.01 Requirements for placing the J86464 power plant in service are covered in Section 167-480-301.

Caution: Follow the procedures in the order covered in this section. The power plant interrupter is shipped without oil in the gear train and must be filled with oil before operation.

21. CONFERENCE CALLING

21.01 The station controlled circuit allows any station to set up a conference connection with any five stations or with any four stations and one central office trunk. A private consultation

feature is provided which permits the originating station to confer privately with each new conferee prior to both joining the conference bus. Stations can be added without attendant assistance; however, attendant assistance is required for the addition of a central office trunk.

21.02 The conference circuit requires the use of universal line circuits. The assignment of universal line circuits is made locally; however, if no terminals are specified, preferred terminals are 84 through 89.

21.03 A 446F diode designated SCC, provided with J58829H, List Q, must be mounted to the OT- relay of the trunk circuit assigned to port 5 of the conference circuit. OT29 relay on slide 2, position 2P is preferred; however, any of the OT relays may be assigned locally. Install SCC diode in accordance with local instructions and SD-65741-01.

22. MEET-ME CONFERENCE (A&M)

22.01 The meet-me conference circuit provides a means for setting up a conference connection with five stations or four stations and one trunk. It is possible to connect two trunks to the conference; however, this is not recommended because of resulting transmission difficulties.

22.02 The conference circuit requires use of universal line circuits. The assignment of trunk terminals to universal line circuits is made locally; however, if no terminals are specified, preferred terminals are 80 through 84 or 85 through 89.

22.03 Refer to Part 8 for service options applicable to the universal line circuits.

23. ATTENDANT CONFERENCE

23.01 The attendant controlled dial conference circuit allows the attendant to set up a conference connection with any five stations or tie trunks or with any four stations or tie trunks and one central office trunk.

23.02 The attendant controlled dial conference circuit requires the use of universal line circuits arranged as trunks. The assignment of universal line circuit terminals is made locally; however, if no terminals are specified, preferred terminals are 85 through 89.

23.03 An optional attendant lockout feature is available to provide for lockout of the attendant from the conference control circuit after the attendant releases. The attendant may be recalled to the conference by a switch hook flash at one of the stations in the conference. To provide this feature, remove straps between pins 6 and 10 and between pins 7 and 11 on the conference unit C1 connector at slide 2.

23.04 Refer to Part 8 for service options applicable to the universal line circuits.

24. CODE CALL

24.01 Two universal line circuits are required to connect to one channel of the code call circuit, one for the calling end and one for the answering end. Refer to Part 8 for universal line circuit options.

24.02 The winding of L(20-29) relay associated with the line circuit assigned to the answering end of the 3A code call circuit must be disconnected by placing a 550B tool in the 1B and 2B, 4 and 5, and 1T and 2T, or 2 and 3, contacts of the associated LHM(20-29) relay off-normal springs.

25. TOUCH-TONE® CALLING

25.01 TOUCH-TONE calling allows a PBX attendant or station to call numbers by a TOUCH-TONE dial in place of a rotary dial.

26. RECORDED TELEPHONE DICTATION

26.01 The recorded telephone dictation trunk provides a means for connecting the PBX to a customer provided dictation machine and for translating dial pulses from the PBX for the purpose of controlling the dictation machine.

26.02 Each dictation trunk uses one of the universal line circuits. The number of trunks may be provided is limited by the number of universal line circuits available. The station capacity of the PBX is reduced by one for each dictation trunk provided. Refer to Part 8 for service options applicable to universal line cir-

TABLE I — DIAL PULSE REGISTERS 0 AND 1
(SD-65746-01, CAD 51 SLIDE 6 POSITION A THROUGH F

FEATURE				OPTION CODE	STRAPPING ON DIAL PULSE REGISTER MISC TERMINAL STRIP		
					REQUIRED	FURNISHED	REMOVE
Class of Service	Tens Digits 6 and 7 Intercepted (40-Line PBX)			Z	11 to 21 12 to 22	11 to 21 12 to 22	
	Trunk Code 8	Code 8 Intercepted (Not Equipped)		W	13 to 23 23 to 24	13 to 23 23 to 24	
		Restricted Station or Dial Repeating Tie Trunks	Denied access to Code 8 and is intercepted	Y	13 to 14 23 to 24 15 to 25		
			Provided access to Code 8	X	13 to 14 24 to 25 15 to 25		
	Trunk Codes 8 and 9	CO Trunk or Ring-down Tie Trunk	Not restricted for Codes 8 and 9 (not intercepted)	J	18 to 28	18 to 28	
			Restricted for Codes 8 and 9 (intercepted)				18 to 28
		Code 9	One-digit	V	16 to 26	16 to 26	
			Two-digit	T	17 to 27	16 to 26	16 to 26
Direct Station Selection by Stations			Required	ZE		31 to 32 33 to 34	31 to 32 33 to 34
			Not required	ZD	31 to 32 33 to 34	31 to 32 33 to 34	
Single-Digit Dialing (Code 8)			Not provided or used for reaching station, tie trunk, or miscellaneous trunk	ZI	13 to 36	13 to 36	
			Used for reaching toll operator via central office trunk 6, 7, 8, or 9	ZK	35 to 36	35 to 36	
TOUCH-TONE® Calling				ZW		37 to 38	37 to 38

11-21
13-14-36-35
23-24
25-15

18-27
16-26
31-32
33-34

37-38

27. PAGING

27.01 The loudspeaker paging trunk may be dial selected and/or it may appear on a line pickup button at the attendant equipment.

27.02 The loudspeaker paging trunk uses one of the universal line circuits. The station line capacity of the PBX is reduced by one for each paging trunk provided. Refer to Part 8 for service options applicable to the universal line circuits.

27.03 An isolation amplifier, a feature of the loudspeaker paging trunk, may be provided to prevent 2-way transmission through the paging trunk.

28. PAD CONTROL

28.01 An applique unit must be provided for dial-repeating tie trunks arranged for pad control. The applique unit provides facilities for switching the pad out of the transmission path on tie trunk calls. When pad control is required for dial-repeating tie trunk to dial-repeating tie trunk calls only, the installer shall remove the following straps when provided:

(a) YQ and XC option strap between terminals 3 and 5 of KRA relay located in the dial pulse register.

(b) WK option lead from contact 9 make of relay TKB9 located in line, link, and marker.

28.02 When pad control is required on all dial repeating tie trunk calls, no strapping is required by the installer.

29. STATION MESSAGE REGISTERS

29.01 Station message registers, used primarily in hotel-motel services, may be provided on an optional basis so that the number of outgoing calls completed may be recorded on either a surcharge or a nonsurcharge basis. A separate message register may be associated with each station and central office trunk used for outgoing service. See Section 551-139-210 for identification, installation connections, and options.

21-23 -13
14-28
1-18

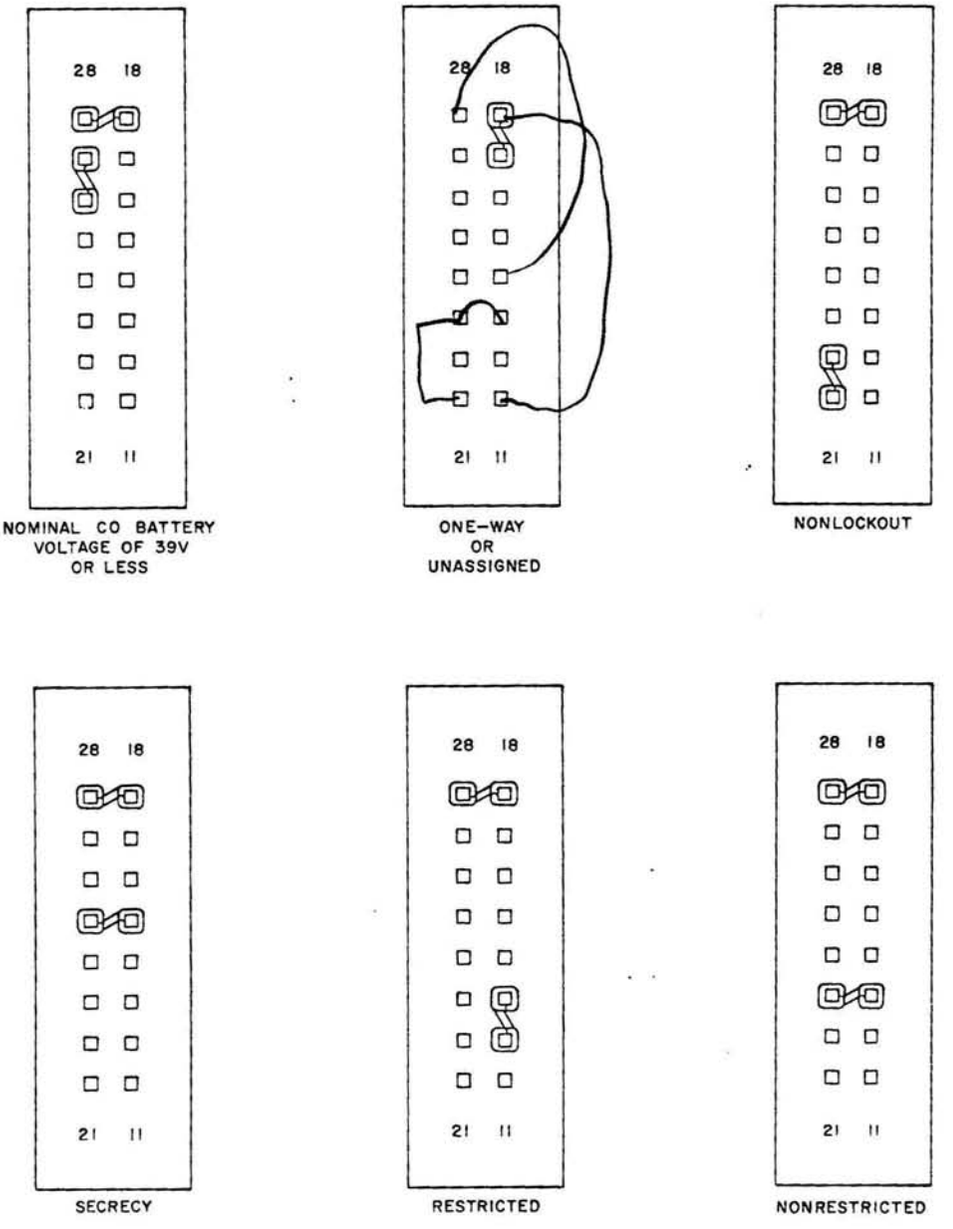


Fig. 9—Typical Strapping on Central Office Trunk Unit Terminal Strip (SD-65746, CAD 6)

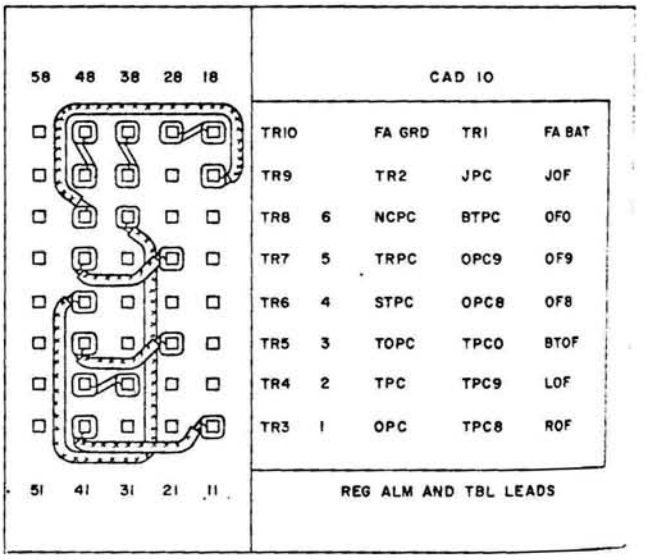
TABLE J — ATTENDANT TRUNK OPTIONS
(SD-65746-01, CAD 9)

FEATURE	OPTION	OPTIONS APPLIED ON TERMINAL STRIP ON ATTENDANT TRUNK UNITS 0, 1, AND 2 IN SLIDE 5		
		FURNISHED STRAPS	REQUIRED STRAPS	REMOVE STRAPS
With Attendant	W	11 to 21 12 to 22 15 to 25 17 to 27	11 to 21 12 to 22 15 to 25 17 to 27	
Without Attendant	X		13 to 23 16 to 26	11 to 21 12 to 22 15 to 25 17 to 27

TABLE K — OPTIONS APPLIED AT TRUNK CONNECTOR UNIT
(SD-65746-01, CAD 7)

TRUNK ASSIGNED	STRAP REMOVED
3	16 to 17
4	17 to 18
8	26 to 27
9	27 to 28

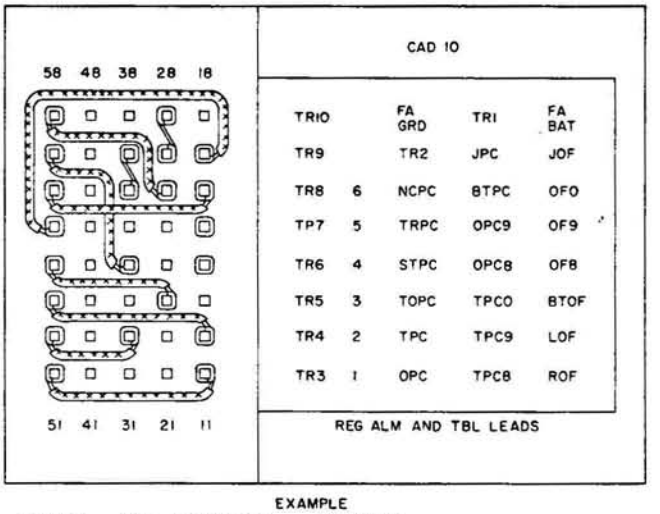
Note: The trunk connector unit is located at slide 4, position Z.



EXAMPLE

TERMINAL	REG	LEAD DESIG	FUNCTION
41–11	1	ROF	DIAL PULSE REG OVERFLOW
42–32	2	TPC	TERMINATING PEG COUNT
43–23	3	TPC0	TRK GRP 0 TERMINATING PEG CO.
44–36	4	NCPC	NO CONNECTION PEG COUNT
45–25	5	OPC9	TRK GRP 9 ORIGINATING PEG COUN
46–17	6	JOF	JUNCTOR OVERFLOW
47–48			MARGINAL ALARM
37–38			BATTERY REVERSE ALARM
18–28			

Fig. 10—Typical Strapping on Alarm and Register Unit Terminal Strip With Six Internal Registers Provided (SD-65746, CAD 10)



EXAMPLE

TERMINAL	REG	LEAD DESIG	FUNCTION
27-28	TRI	JPC	JUNCTOR PEG COUNT
36-37	TR2	NCPC	NO CONNECTION PEG COUNT
51-11	TR3	ROF	DIAL PULSE REG OVERFLOW
52-32	TR4	TPC	TERMINATING PEG COUNT
53-12	TR5	LOF	LINK OVERFLOW
54-23	TR6	TPCO	TRK GRP "0" TERMINATING PEG COUNT
55-17	TR7	JOF	JUNCTOR OVERFLOW
56-16	TR8	OFO	TRK GRP "0" OVERFLOW
57-34	TR9	STPC	SECOND TRIAL PEG COUNT
58-26	TRIO	BTPC	BUSY-TONE TRK PEG COUNT

Fig. 11—Typical Strapping on Alarm and Register Unit Terminal Strip With Ten External Traffic Registers Provided (SD-65746, CAD 10)