DATA SET 202D-TYPE
TRANSMITTER–RECEIVER
CONNECTIONS

1. GENERAL

1.01 This section describes the connections required for typical service applications using Data Set 202D-type. Connection information for this section was obtained from CD- and SD-1D061-01.

1.02 This section is reissued to:

- Add connections for 2-wire private line without Data Auxiliary Set 804A-type with reverse channel capabilities using a dry line (Fig. 3).
- Add connections for 2-wire private line using Data Auxiliary Set 804A1 and only 200-type key telephone units (Fig. 18).
- Add connections for 2-wire private line using Data Auxiliary Set 804A1, with an alternate switched network line and using only 200-type key telephone units (Fig. 19).
- Remove color by using option M for illustrating "Locked-In" signaling and option N for illustrating "Interrupted" signaling.
- Add Table B to show wiring changes to Data Auxiliary Set 804A2 for ZF option and additional KTU straps.
- Add Table C to show additional connections required to use a 232B Key Telephone Unit for "Locked-In" signaling.
- Add mounting cord replacement procedures.

Due to extensive changes, the use of marginal arrows has been omitted.

1.03 Cover removal and replacement procedures are described in the section entitled Data Set 202D-Type, Transmitter-Receiver, Description and Operation (592-016-100).

1.04 This section does not include all option wiring information for the associated Data Auxiliary Set 804A-type. See section entitled Data Auxiliary Set 804A-Type, Identification and Connections (598-030-100).

Note: Data Auxiliary Set 804A2 requires a special option (ZF) when Data Set 202D-type operates over 4-wire private lines ***and*** is equipped with alternate switched network line(s). This option is ***not*** covered in the above section. Refer to Part 3 of this section for ZF option wiring of Data Auxiliary Set 804A2 and additional KTU straps.

1.05 When Data Auxiliary Set 804A-Type is used with Data Set 202D-Type, the applicable options to be installed in the data auxiliary set and the specific connection figure are summarized in the following table.

OPTION	CONNECTION FIGURE NO.	QUANTITY
Z	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	*1 PER CKT
Y	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	
X	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	
W	5,6,8,17	1 PER CKT
V	7,9,10,11,12,13,14,15,16,18,19	
U	10,13,14,17	1 PER CKT
T	5,6	†1 PER CKT
Q	5,6	1 PER CKT
N	7,8,9,10,11,12,13,14,15,16,17,19	
M	9,11,12,15,16	1 PER CKT
B	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	†1 PER CKT
J	5,6,7,8,18,19	1 PER CKT
H	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	1 PER CKT
G	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	†1 PER CKT
E	5,6,7,8,9,10,11,12,13,14,15,16,17,18,19	†1 PER CKT

*Tone level to be set as required by location

†To be used ***only*** as required

1.06 Some service applications of the data set require additional service features provided by use of key telephone circuitry. These features are shown as a part of the appropriate connection figure.

> ***Note:*** The type of power supply and the related fusing requirement are not shown as a part of the connection figures. For this information, refer to the Section entitled, 1A1 Key Telephone System, Power Supply Connections to Key Telephone Units, Connection Data (518-114-400).

1.07 When the Dial Selective Signaling System (SD-98093-01) is used, the data station ground must be connected to the Dial Selective Signaling System ground. The method of connecting this ground should be in accordance with local regulations.

2. CONNECTIONS

To eliminate possible damage to electronic components, do not connect power to the data station until all connections have been completed.

2.01 Connect data set options as shown in Table A. Locations of TB1, TB2, TB3, and TB4 are shown in Fig. 1.

TABLE A — OPTIONS AND CONNECTIONS

NUMBER OF OPTIONS REQUIRED PER CIRCUIT	FEATURE OR OPTION DESCRIPTION		APP OR WIRING DESIG	TB1 CONNECT AS SHOWN	TB2 CONNECT AS SHOWN	TB3 CONNECT AS SHOWN	TB4 CONNECT AS SHOWN	1A1 DATA UNIT WHEN PROVIDED (REVERSE CHAN)
1	2-WIRE OPERATION		Z		61–62, 64–65			
	4-WIRE OPERATION		Y*		62–63–64			
1	600-OHM TERMINATION		X*		32–33, 37–38			
	900-OHM TERMINATION		W		33–34, 38–39			
1	CLAMP ON DEMOD OUTPUT WHEN NOISE PROTECTION IS REQUIRED		V*		20–21			
	CLAMP OFF DEMOD OUTPUT WHEN NOISE PROTECTION IS NOT REQUIRED		U		21–22			
1	REVERSE CHANNEL IN		T*			1–2, 6–7		
	REVERSE CHANNEL OUT		S			2–3, 7–8		
1	SQUELCH IN		R		35–36 (REMOVE ZL WIRING)			
	SQUELCH OUT		ZL*§		25–35			
1	AUTOMATIC ANSWERING		Q*		59–60			
	NO AUTOMATIC ANSWERING		—		REMOVE Q WIRING			
1	EIA VOLTAGE INTERFACE		N*		1–2, 4–5, 6–7, 8–9			
	CONTACT INTERFACE		M		2–3, 5–6, 9–10, 12–13			
1	DATA TRANSMIT POWER LEVELS	0 DBM	K		11–12			
		– 3 DBM	J		24–25			
		– 6 DBM	H*		22–23			
		– 9 DBM	G		23–24			
1	EQUALIZERS FOR SWITCHED NETWORK OPERATION	AMPLITUDE EQUALIZER IN	F*		18–19			
		AMPLITUDE EQUALIZER OUT	E		17–18			
1		DELAY EQUALIZER IN	B*		27–28, 30–31			
		DELAY EQUALIZER OUT	A		28–29–30			
1	BIT RATE	900 BITS PER SECOND OR LESS	ZA		14–15			
		OVER 900 BITS PER SECOND	ZB*		15–16			
1	ENABLES DATA SET TEST KEY		ZE*		44–45, 47–48, 50–51			
	DISABLES DATA SET TEST KEY (REQUIRES TEST KEY IN DATA AUXILIARY SET 804A)		ZF		45–46, 48–49, 51–52			
1‡	2 – WIRE OPERATION		ZG		53–54			
	4- WIRE OPERATION WITH 1 DDD BACK UP		—		REMOVE ZH WIRING			
	4–WIRE OPERATION WITHOUT BACK UP OR 2 DDD BACK UP		ZH*		54–55			
1	WHEN DATA SET IS USED WITH A 6017AP KEY ONLY		—	19–25	57–58, 40–41			
	WHEN DATA SET IS NOT USED WITH DATA AUXILIARY SET 804A OR A 6017AP KEY		ZJ*	19–23	57–58, 40–41			
	WHEN DATA SET IS USED WITH DATA AUXILIARY SET 804, WITH OR WITHOUT A 6017AP KEY		—	19–25	56–57, 42–43			
1	REVERSE CHANNEL TRANSMIT POWER LEVELS	– 3 DBM	ZK				1–(W)	
		– 6 DBM	ZM†				2–(W)	
		– 9 DBM	ZN				3–(W)	
				TERMINAL NUMBERS		TERMINAL BOARD		
1‡	CARRIER SOFT TURN OFF	IN	ZY*	1–2		ON CIRCUIT PACK AS 39		
		OUT	ZZ	3–4		ON CIRCUIT PACK AS 39		

* WIRING FURNISHED BY MANUFACTURER.

† WIRING FURNISHED BY MANUFACTURER WHEN REVERSE CHANNEL IS SPECIFIED.

‡ WHEN DATA AUXILIARY SET 804A IS USED TO SWITCH FROM 2- TO 4-WIRE OR 4- TO 2-WIRE OPERATION, REMOVE BOTH ZG AND ZH OPTION WIRING.

§ A P-43N572 CONNECTOR LEAD ASSEMBLY, OR EQUIVALENT IS REQUIRED TO CONNECT TERMINALS 25 AND 35.

+ OPTION IS PERMANENTLY WIRED IN ON TRASMITTER CIRCUIT PACK AS22.

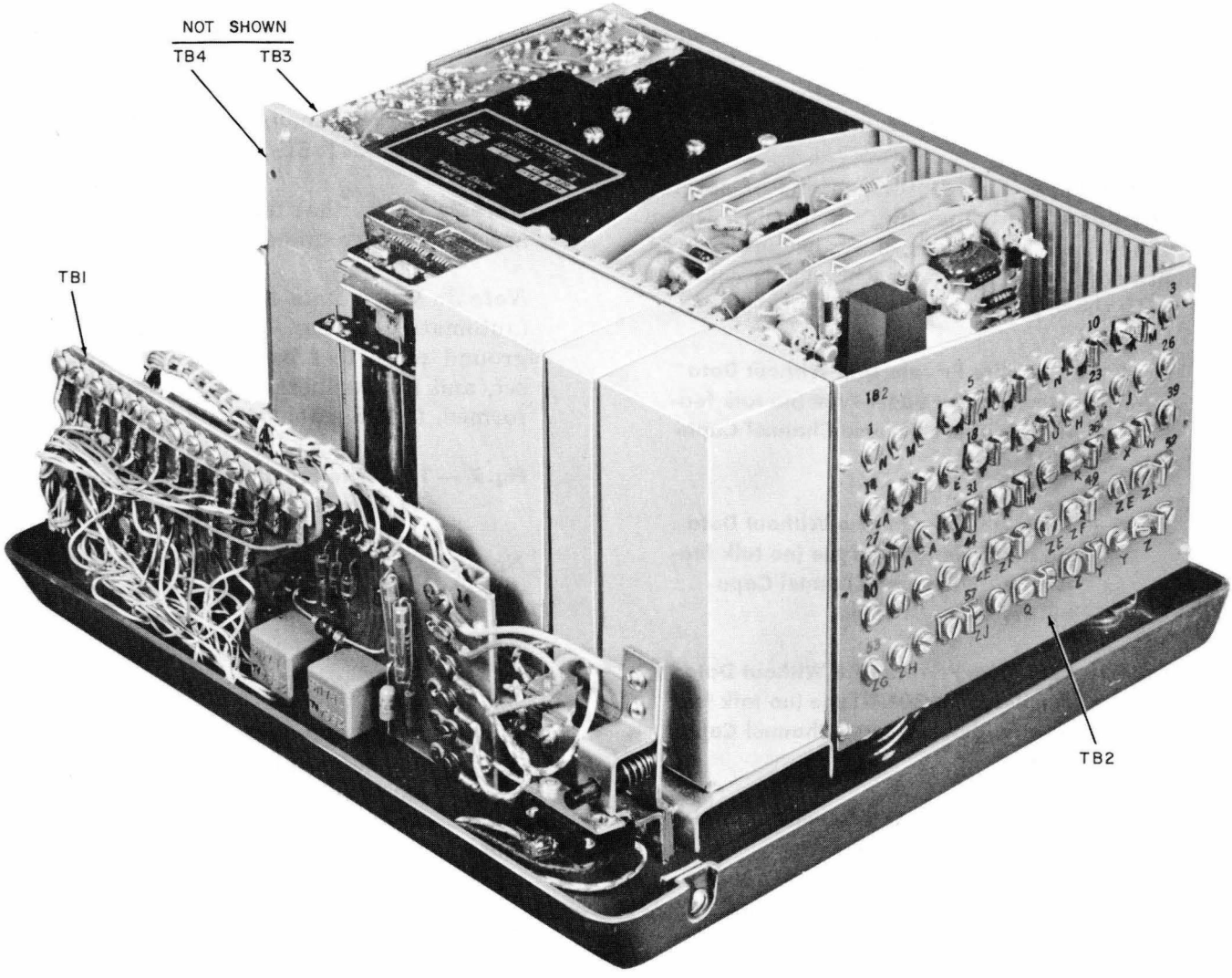


Fig. 1 — Data Set 202D-Type — Location of Terminal Blocks

2.02 To facilitate key telephone unit identification on the connection drawings, stencil or otherwise designate each unit as shown on the selected figure.

2.03 When a louder ring is required, substitute an external high impedance ringer for the data auxiliary set ringer as follows:

(a) Disconnect red and black ringer wires (Data Auxiliary Set 804A-type), tape and store.

(b) Connect external ringer to 66E3 connecting block associated with the Data Auxiliary Set 804A-type.

(1) On 2-wire switched network applications, connect external ringer to 66E3 connecting block at block 1, punchings 1 and 2.

(2) On all other service applications, connect external ringer to 66E3 connecting block at block 3, punchings 21 and 22.

2.04 Interconnecting arrangements for the data set and all associated control circuitry are shown in the following figures. Select the appropriate figure and wire as shown.

Note: These figures furnish one of several possible interconnecting methods. Other connection apparatus may be substituted provided the interconnecting leads coincide with those shown on the figures furnished.

Fig. 2 — Two-Wire Private Line Without Data Auxiliary Set 804A-Type (no talk feature) Without Reverse Channel Capabilities

Fig. 3 — Two-Wire Private Line Without Data Auxiliary Set 804A-Type (no talk feature) With Reverse Channel Capabilities Using Dry Line

Fig. 4 — Four-Wire Private Line Without Data Auxiliary Set 804A-Type (no talk feature) Without Reverse Channel Capabilities

Fig. 5 — Two-Wire Switched Network With Data Auxiliary Set 804A1

Note: Data set mounting cord must be replaced with D34B-61.

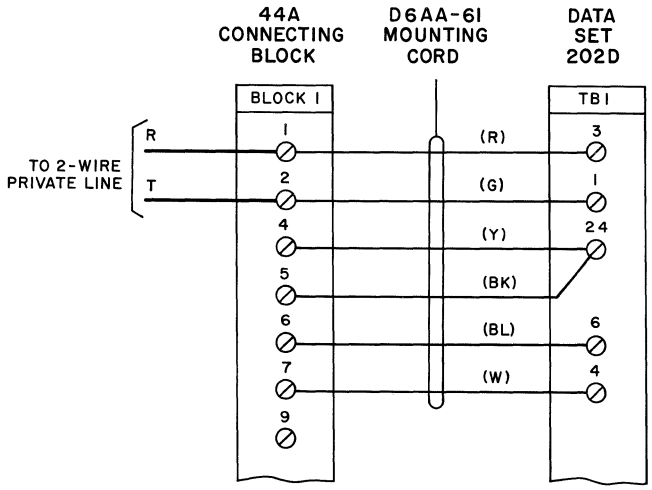


Fig. 2 — Two-Wire Private Line Without Data Auxiliary Set 804A-Type (No Talk Feature) Without Reverse Channel Capabilities

Fig. 6 — Two-Wire Switched Network With Data Auxiliary Sets 804A1 and 801-Type

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Verify that telephone (data) line is arranged for ground start operation.

Note 3: When Data Auxiliary Set 801-type (automatic calling unit) is installed, a ground noise test between the ACU, data set, and the business machine must be performed. (See Section 592-016-500.)

Fig. 7 — Two-Wire Private Line With Data Auxiliary Set 804A1

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 8 — Two-Wire Private Line With Data Auxiliary Set 804A1 And With Alternate Switched Network Line

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 9 — Four-Wire Private Line With Data Auxiliary Set 804A1

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 10 — Four-Wire Private Line With Data Auxiliary Set 804A2 And With One Alternate Switched Network Line

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Note 3: Data Auxiliary Set 804A2 must be wired for ZF Option (See Table B).

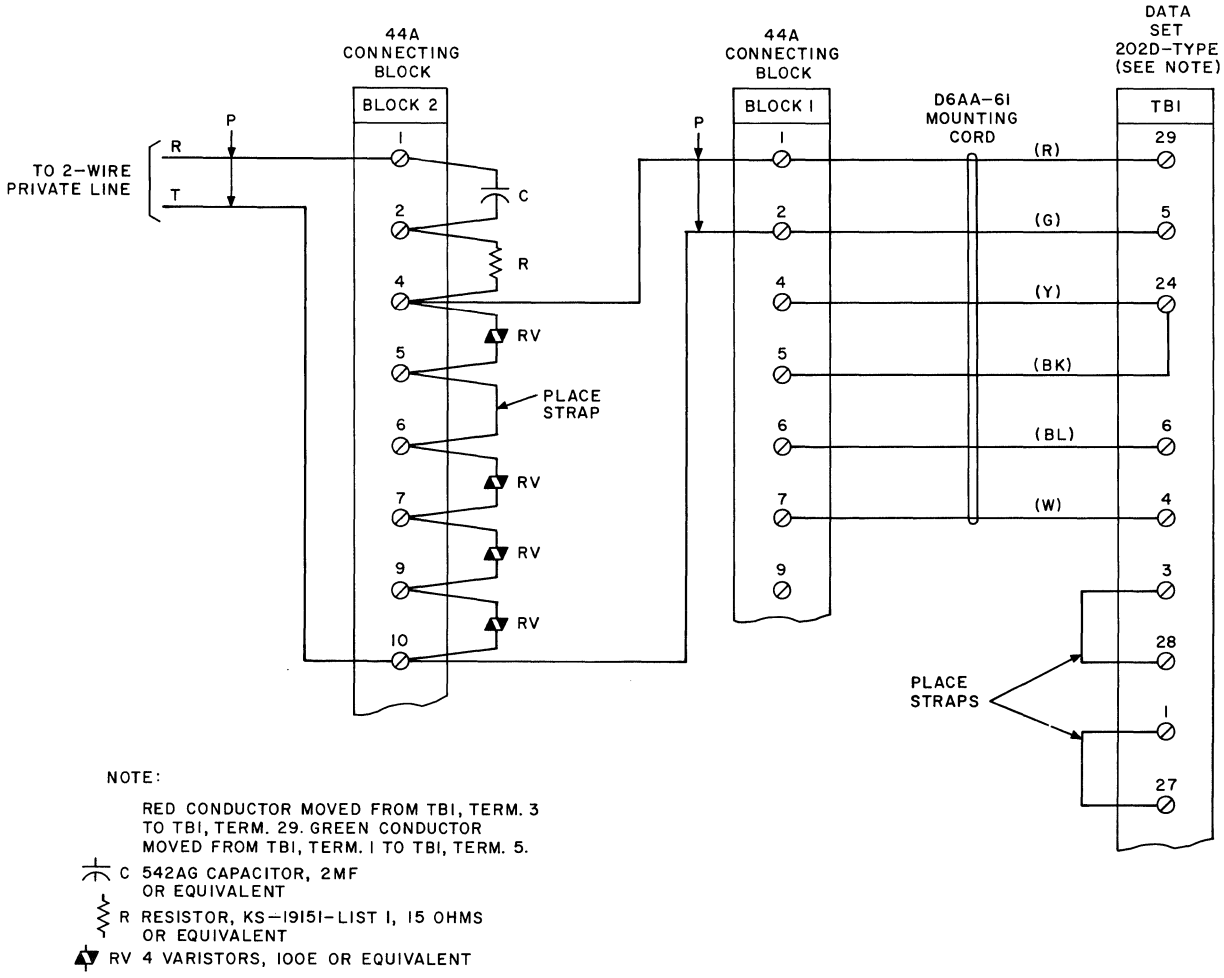


Fig. 3 — Two-Wire Private Line Without Data Auxiliary Set 804A-Type (No Talk Feature) With Reverse Channel Capabilities Using Dry Line

Fig. 11 — Four-Wire Switched Network With Data Auxiliary Set 804A1 (Common Battery Signaling)

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 12 — Four-Wire Switched Network With Data Auxiliary Set 804A1 (With E and M Signaling)

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 13 — Four-Wire Private Line With Data Auxiliary Set 804A2 And With Two Alternate Switched Network Lines

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Note 3: Data Auxiliary Set 804A2 must be wired for ZF Option with additional KTU straps (See Table B).

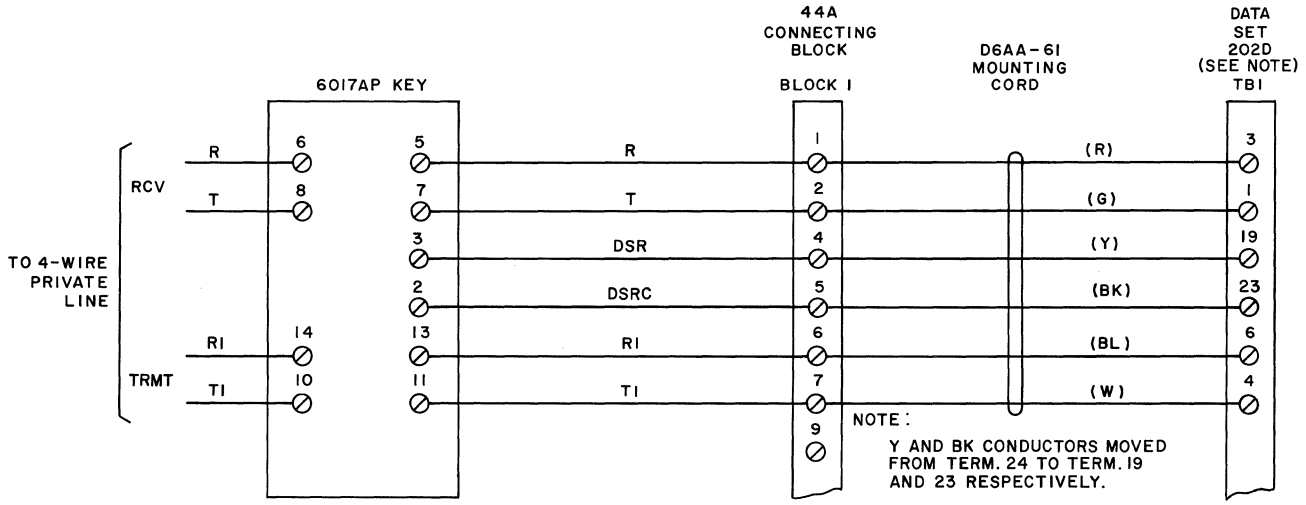


Fig. 4 — Four-Wire Private Line Without Data Auxiliary Set 804A-Type (No Talk Feature) Without Reverse Channel Capabilities

Fig. 14 — Additional Key Telephone Unit Strapping Information to be Used With Fig. 13

Fig. 15 — Four-Wire Private Line With Data Auxiliary Set 804A1 With Reverse Channel

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 16 — Additional Key Telephone Unit Strapping Information to be Used With Fig. 15

Fig. 17 — Two Switched Network Lines With Data Auxiliary Set 804A2

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Note 3: Data Auxiliary Set 804A2 must be wired for ZF Option with additional KTU straps (See Table B).

Fig. 18 — Two-Wire Private Line With Data Auxiliary Set 804A1 Using Only 200-Type Key Telephone Units

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

Fig. 19 — Two-Wire Private Line With Data Auxiliary Set 804A1 and With Alternate Switched Network Line Using Only 200-Type Key Telephone Units

Note 1: Data set mounting cord must be replaced with D34B-61.

Note 2: Additional key telephone circuitry is required for control purposes.

2.05 The new figures (Fig. 18 and 19) should be used as replacement circuits for Fig. 7 and 8 respectively. These new figures reflect a cost and hardware savings by using only 200-type Key Telephone Units.

3. DATA AUXILIARY SET 804A2 WIRING CHANGES FOR ZF OPTION AND ADDITIONAL KTU STRAPS

3.01 When 4-wire private line stations are equipped with alternate switched network lines, ZF option is required to insure proper data to talk transfer when operation is over the switched network lines. Table B shows the additional wiring required to provide ZF option.

Note: Earlier systems using alternate switched network lines were wired for ZE option.

TABLE B

WIRING FOR ZF OPTION

DATA AUXILIARY SET 804A2		
REMOVE TAPE ON STORED LEAD	CONNECT TO	
	TERM STRIP	TERM.
R-S (pin 35)	TB2	6
O (SWHK)	TB2	6
BL (SWHK)	4010B NET	L2
STRAP FROM	4010B NET	L2
TO	TB2	1

ADDITIONAL KTU STRAPS*				
	FROM		TO	
REMOVE	KTU	TERM	KTU	TERM
	7	19	12	20
CONNECT	7	19	8	13
	8	23	12	20

*KTU straps required for Fig. 13 and 17 only.

4. KTU SUBSTITUTIONS

4.01 When limited space is available for a new installation and the angle mounting type KTU presents a space problem, a 251A KTU may be substituted for the 15D KTU and the 232B KTU may replace the 30A KTU.

4.02 The following table shows the terminals of the 15D KTU and the corresponding terminals for the 251A KTU.

15D KTU TERM	251A KTU TERM
7	3
9	4
10	15
12	5
3	16
5	19
13	8
14	18

Note: A strap is also required between terminals 6 and 9 on the 251A KTU.

4.03 When the 232B KTU replaces the 30A KTU and the customer requests "Locked-In" signaling, connect the 232B KTU per the appropriate application figure and provide N option (Interrupted Audible and Visual Signaling). Table C shows the additional straps required to furnish M option (Locked-In Audible and Visual Signaling).

Note: The KS-15900, List 1 Interrupter Unit and the 10-volt ac power supply to the 232B KTU are not required for this application (M option).

TABLE C

ADDITIONAL STRAPPING TO

232B KTU FOR M OPTION

CONNECT	
FROM	TO
21	29
33	34
10	1

5. MOUNTING CORD REPLACEMENT PROCEDURES

5.01 When the furnished D6AA-61 mounting cord is to be replaced, proceed as follows.

Before attempting to replace the mounting cord, verify that the power cord has been disconnected.

(1) Remove data set cover. Refer to the section entitled Data Set 202D-Type, Transmitter-Receiver, Description and Operation (592-016-100).

(2) Loosen terminal screws on TB1 and remove the spade-tipped leads of the D6AA-61 mounting cord.

(3) Disconnect stay hook of mounting cord from chassis and remove cord.

(4) Attach stay hook of D34B-61 mounting cord to chassis.

(5) Connect spade-tipped leads of D34B-61 mounting cord to TB1 as shown on the selected application figure.

6. POWER CONNECTIONS

6.01 Connect power cord between the data set power cord connector and the standard 3-wire power outlet. Secure the power outlet end of the power cord with an approved type clamp (where local regulations permit).

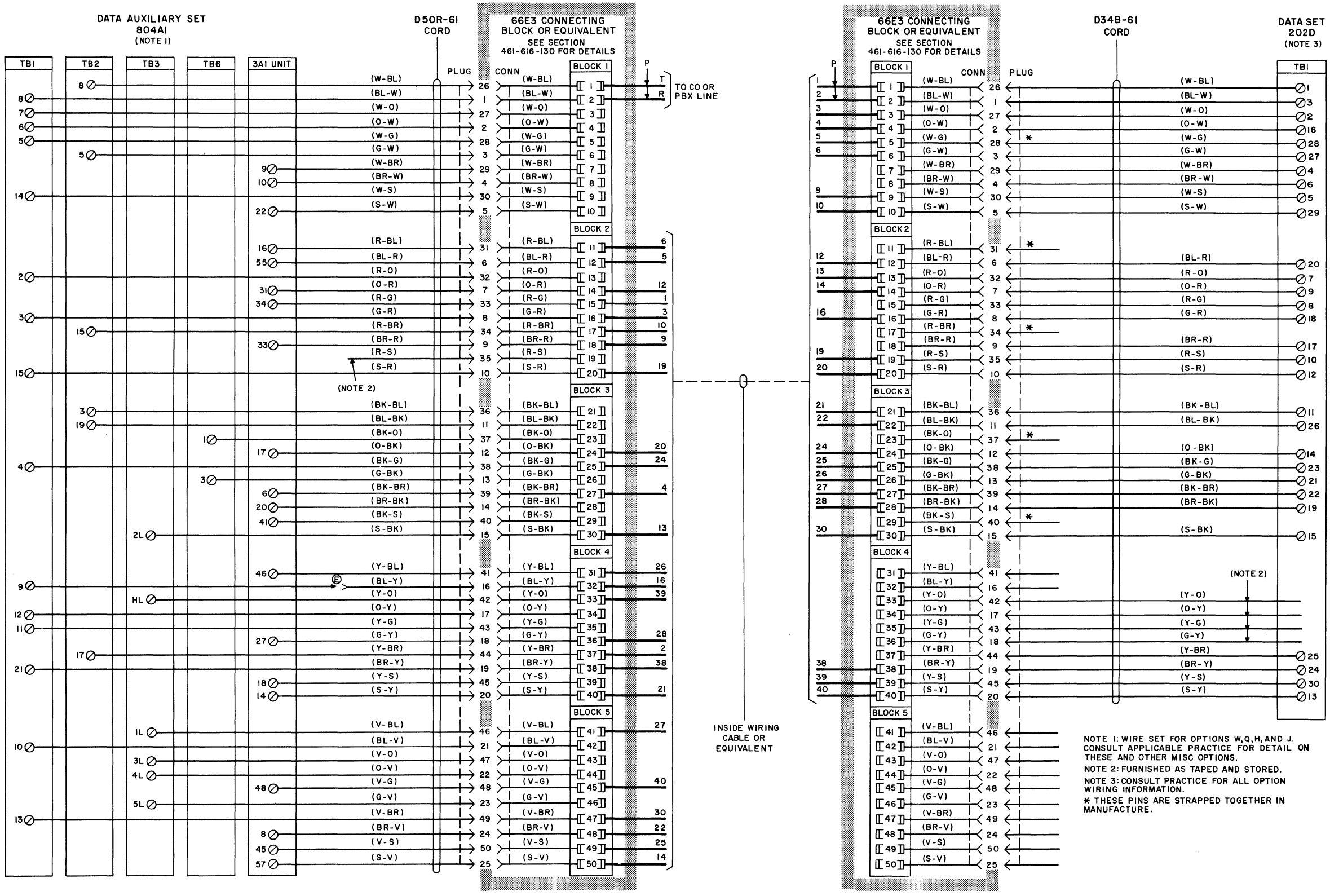


Fig. 5 — Two-Wire Switched Network With Data Auxiliary Set 804A1

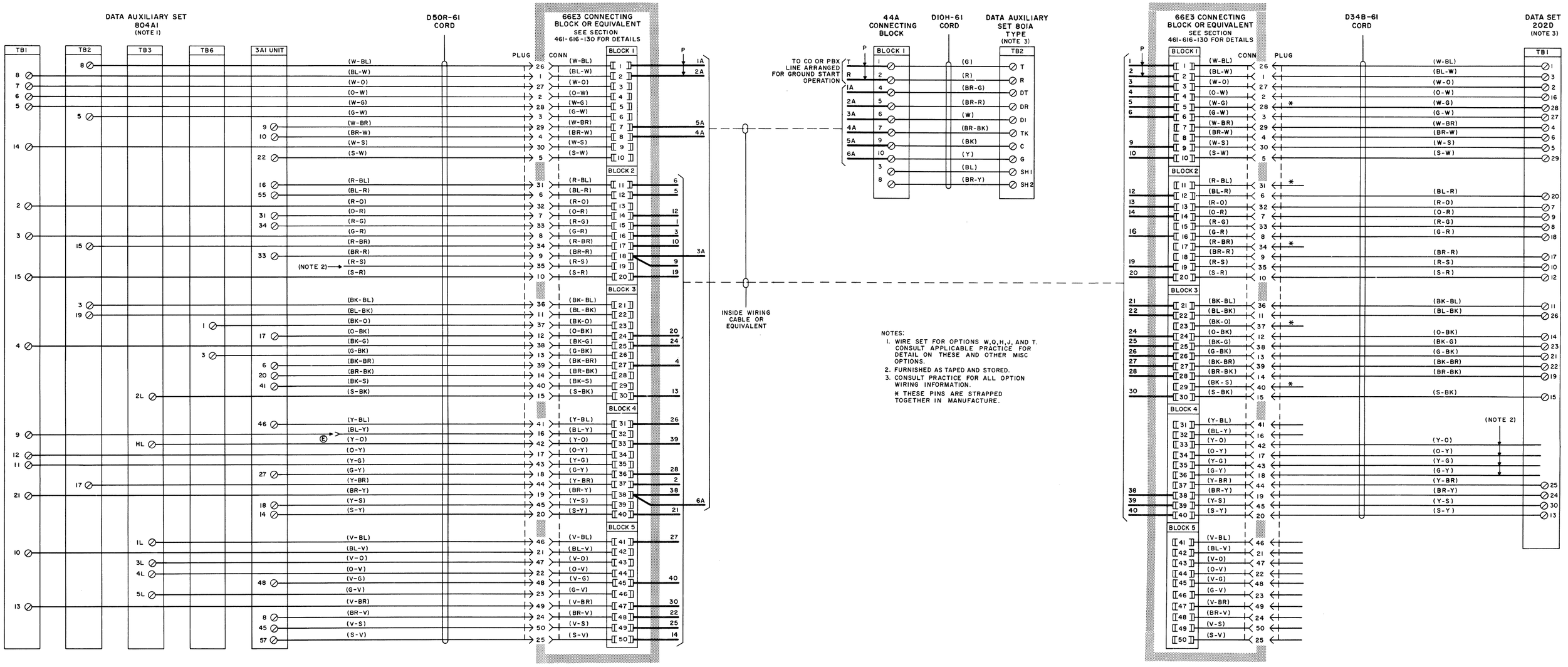
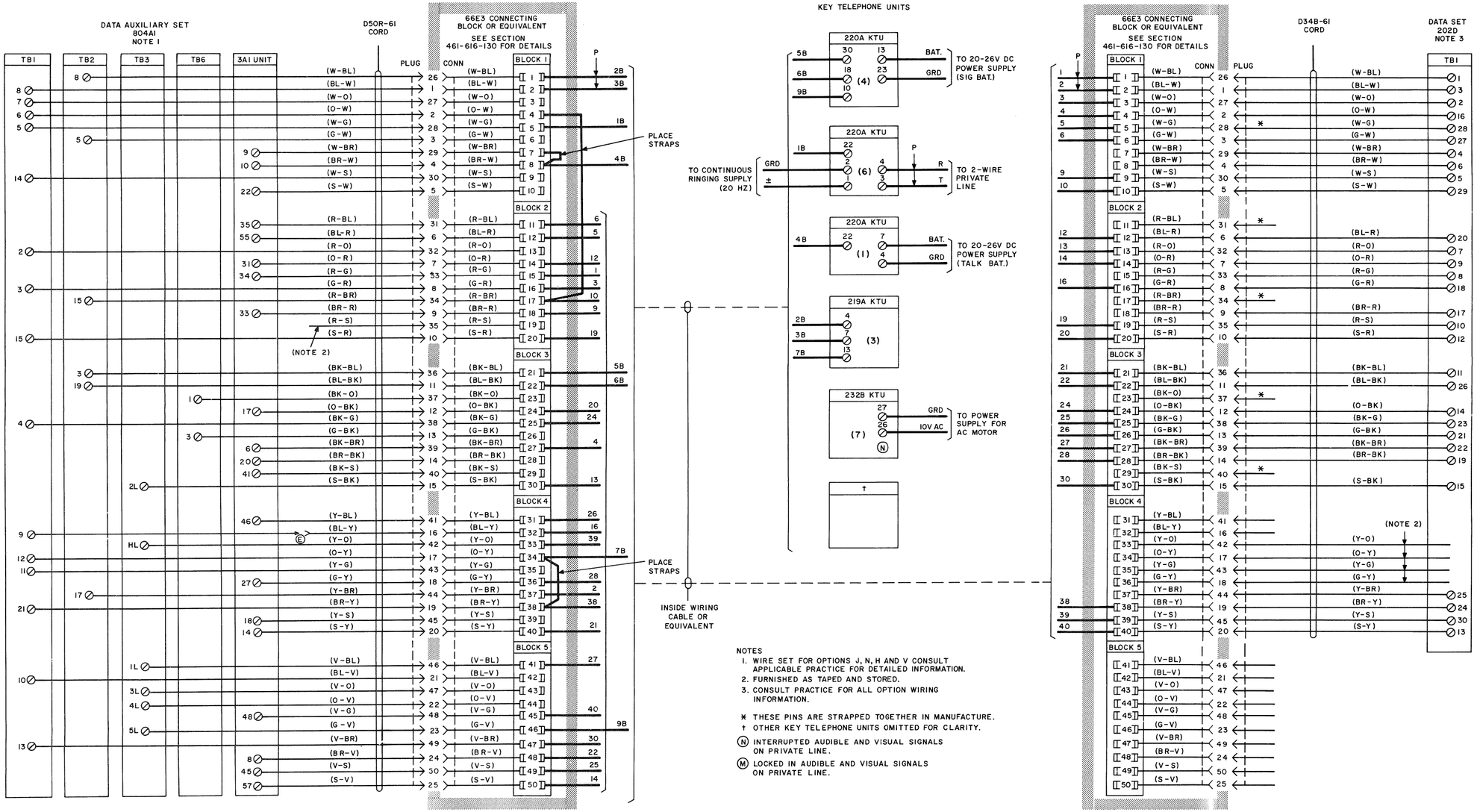


Fig. 6 — Two-Wire Switched Network With Data Auxiliary Sets 804A1 and 801-Type



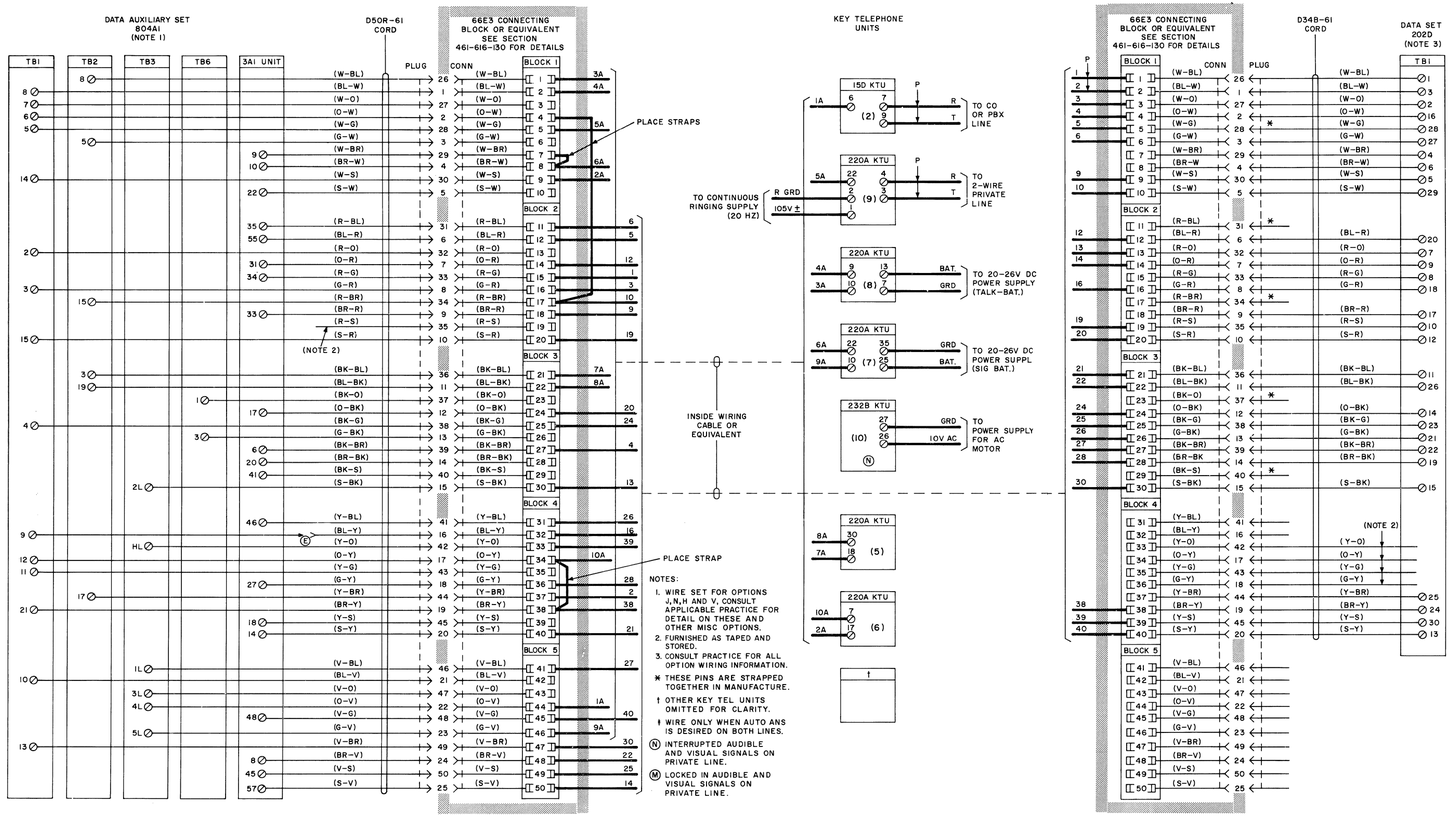
NOTES
1. WIRE SET FOR OPTIONS J, N, H AND V CONSULT APPLICABLE PRACTICE FOR DETAILED INFORMATION.
2. FURNISHED AS TAPED AND STORED.
3. CONSULT PRACTICE FOR ALL OPTION WIRING INFORMATION.

* THESE PINS ARE STRAPPED TOGETHER IN MANUFACTURE.
† OTHER KEY TELEPHONE UNITS OMITTED FOR CLARITY.
(N) INTERRUPTED AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE.
(M) LOCKED IN AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE.

KEY TELEPHONE UNIT STRAPPING INFORMATION

KEY TELEPHONE UNITS							
220A (1)	17B (2)	219A (3)	220A (4)	15D (5)	220A (6)	232B (7) (N)	30A (8) (M)
	3		13				
4	9	5 13	23	3 13			
7 13					13		
		9		7	5		
		12		9	6		
5				12			
2	1						
3		6 14					
		1 11					
		2 10					
					8 7		
			22	10			
	4			5			
			40		2		
OPTION (M) — LOCKED IN AUDIBLE AND VISUAL SIGNALS							
			13				3 4 9
				14			7
			16		13		2 5
	5						8
	7						1
			30 40				
					11 8		
OPTION (N) — INTERRUPTED AUDIBLE AND VISUAL SIGNALS							
			13			24	
				13		25	
				14		36 35	
	7					37	
	5					38	
			30			34	
			40			33	
			16			1	
			11			21	
					8	29	
					13	10	
(1) 220W	(2) 17B	(3) 219A	(4) 220A	(5) 15D	(6) 220A	(7) (N) 232B	(8) (M) 30A
KEY TELEPHONE UNITS							

Fig. 7 — Two-Wire Private Line With Data Auxiliary Set 804A1



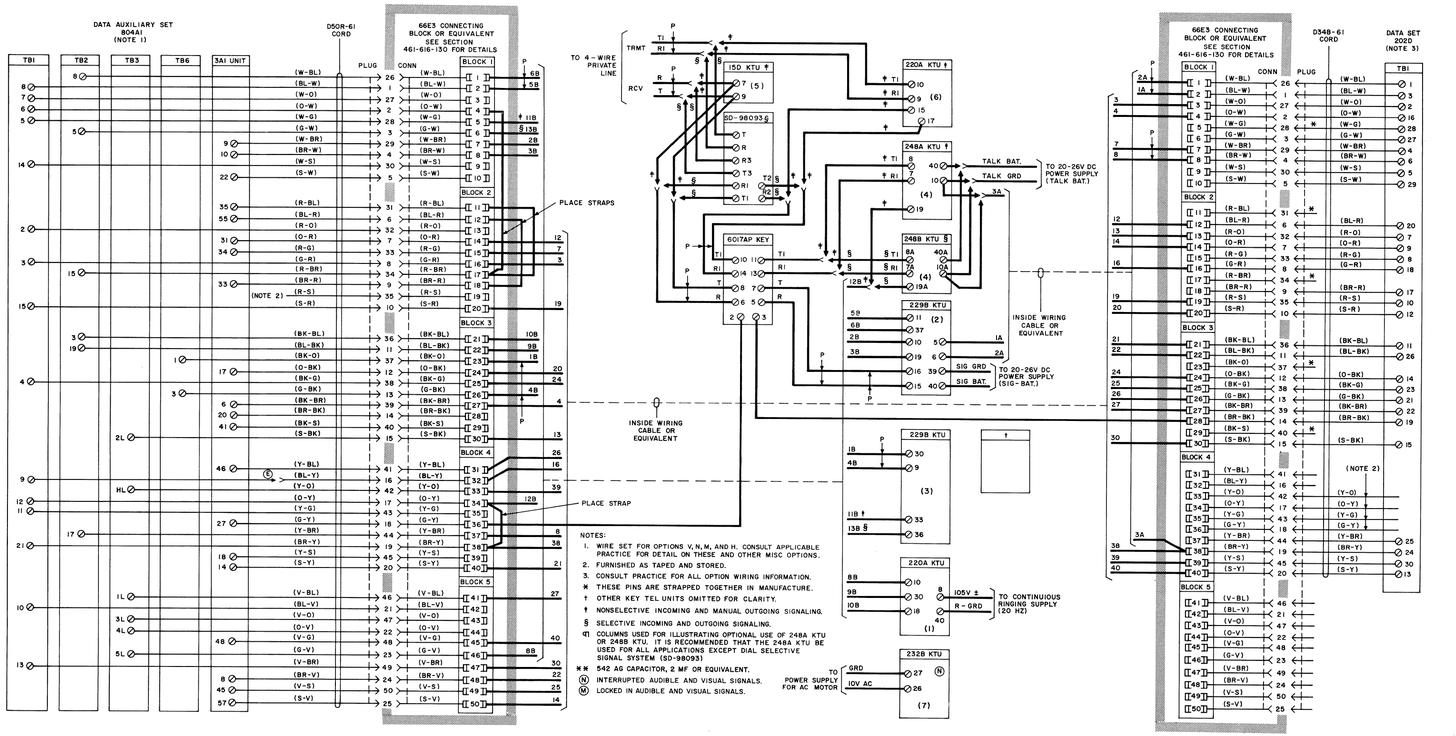
KEY TELEPHONE UNIT STRAPPING INFORMATION

15D (1)	15D (2)	17B (3)	219A (4)	220A (5)	220A (6)	220A (7)	220A (8)	220A (9)	232B (10) (N)	30A (11) (M)
KEY TELEPHONE UNITS										

KEY TELEPHONE UNIT STRAPPING INFORMATION

15D (1)	15D (2)	17B (3)	219A (4)	220A (5)	220A (6)	220A (7)	220A (8)	220A (9)	232B (10) (N)	30A (11) (M)
OPTION (M)—LOCKED IN AUDIBLE AND VISUAL SIGNALS										
OPTION (N)—INTERRUPTED AUDIBLE AND VISUAL SIGNALS										
(1) 15D	(2) 15D	(3) 17B	(4) 219A	(5) 220A	(6) 220A	(7) 220A	(8) 220A	(9) 220A	(10) (N) 232B	(11) (M) 30A
KEY TELEPHONE UNITS										

Fig. 8 — Two-Wire Private Line With Data Auxiliary Set 804A1 and With Alternate Switched Network Line



NOTES:

1. WIRE SET FOR OPTIONS V, N, M, AND H. CONSULT APPLICABLE PRACTICE FOR DETAIL ON THESE AND OTHER MISC OPTIONS.
2. FURNISHED AS TAPED AND STORED.
3. CONSULT PRACTICE FOR ALL OPTION WIRING INFORMATION.

* THESE PINS ARE STRAPPED TOGETHER IN MANUFACTURE.

† OTHER KEY TEL UNITS OMITTED FOR CLARITY.

‡ NONSELECTIVE INCOMING AND MANUAL OUTGOING SIGNALING.

§ SELECTIVE INCOMING AND OUTGOING SIGNALING.

¶ COLUMNS USED FOR ILLUSTRATING OPTIONAL USE OF 248A KTU OR 248B KTU. IT IS RECOMMENDED THAT THE 248A KTU BE USED FOR ALL APPLICATIONS EXCEPT DIAL SELECTIVE SIGNAL SYSTEM (SD-98093)

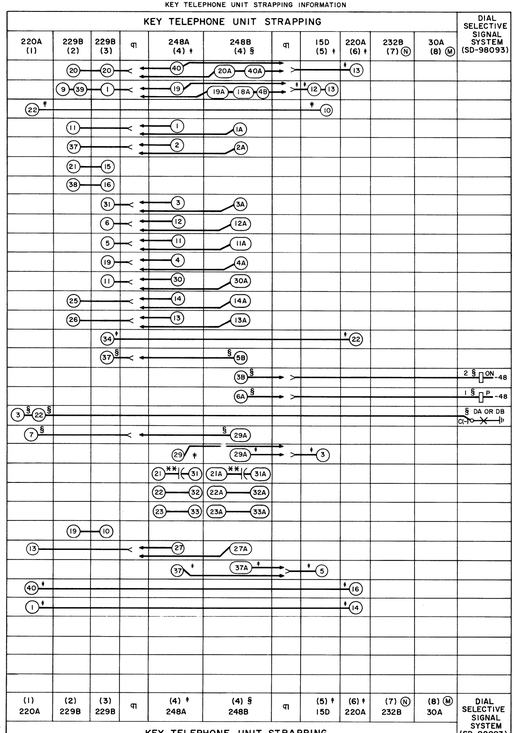
** 542 AG CAPACITOR, 2 MF OR EQUIVALENT.

(N) INTERRUPTED AUDIBLE AND VISUAL SIGNALS.

(M) LOCKED IN AUDIBLE AND VISUAL SIGNALS.

KEY TELEPHONE UNIT STRAPPING INFORMATION

220A (1)	229B (2)	229B (3)	¶	248A (4) †	248B (4) §	¶	15D (5) †	220A (6) †	232B (7) (N)	30A (8) (M)	DIAL SELECTIVE SIGNAL SYSTEM (SD-98093)
KEY TELEPHONE UNIT STRAPPING											

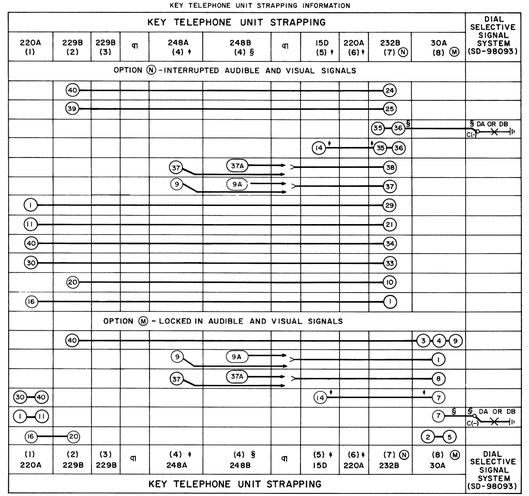


KEY TELEPHONE UNIT STRAPPING INFORMATION

220A (1)	229B (2)	229B (3)	¶	248A (4) †	248B (4) §	¶	15D (5) †	220A (6) †	232B (7) (N)	30A (8) (M)	DIAL SELECTIVE SIGNAL SYSTEM (SD-98093)
KEY TELEPHONE UNIT STRAPPING											

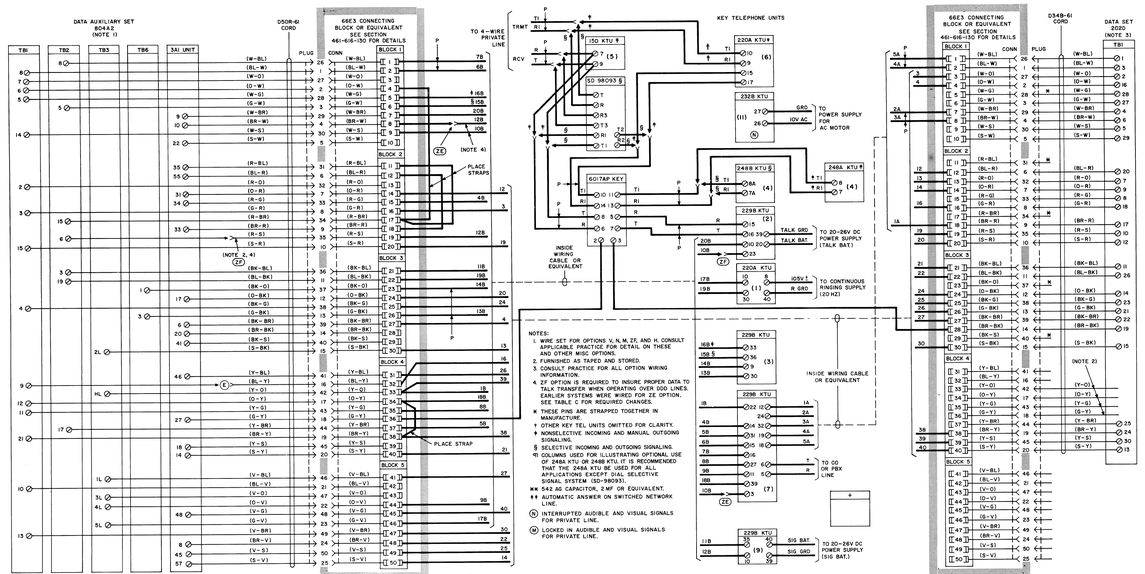
OPTION (N) – INTERRUPTED AUDIBLE AND VISUAL SIGNALS

OPTION (M) – LOCKED IN AUDIBLE AND VISUAL SIGNALS

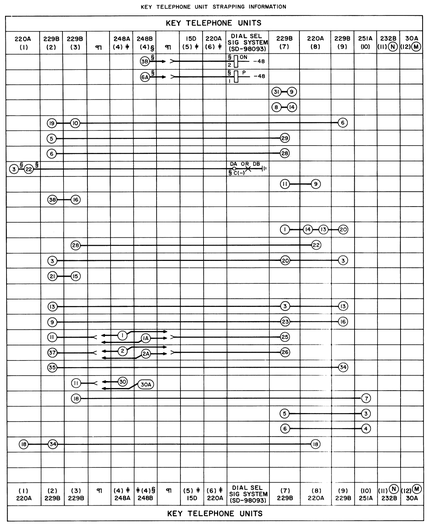


(1) 220A	(2) 229B	(3) 229B	¶	(4) † 248A	(4) § 248B	¶	(5) † 15D	(6) † 220A	(7) (N) 232B	(8) (M) 30A	DIAL SELECTIVE SIGNAL SYSTEM (SD-98093)
KEY TELEPHONE UNIT STRAPPING											

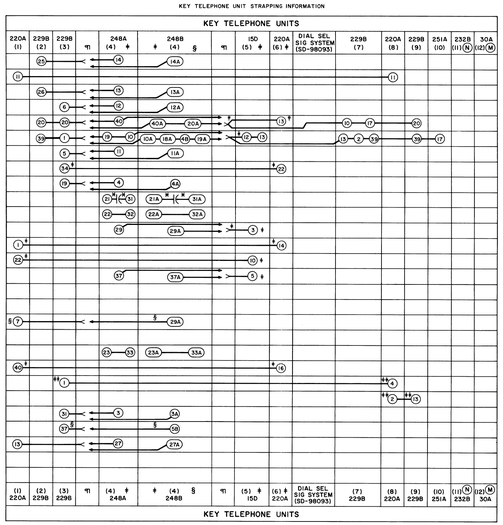
Fig. 9 — Four-Wire Private Line With Data Auxiliary Set 804A1



KEY TELEPHONE UNIT STRAPPING INFORMATION



KEY TELEPHONE UNIT STRAPPING INFORMATION



KEY TELEPHONE UNIT STRAPPING INFORMATION

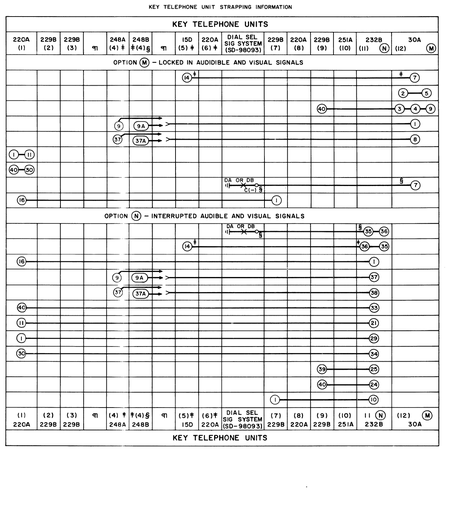
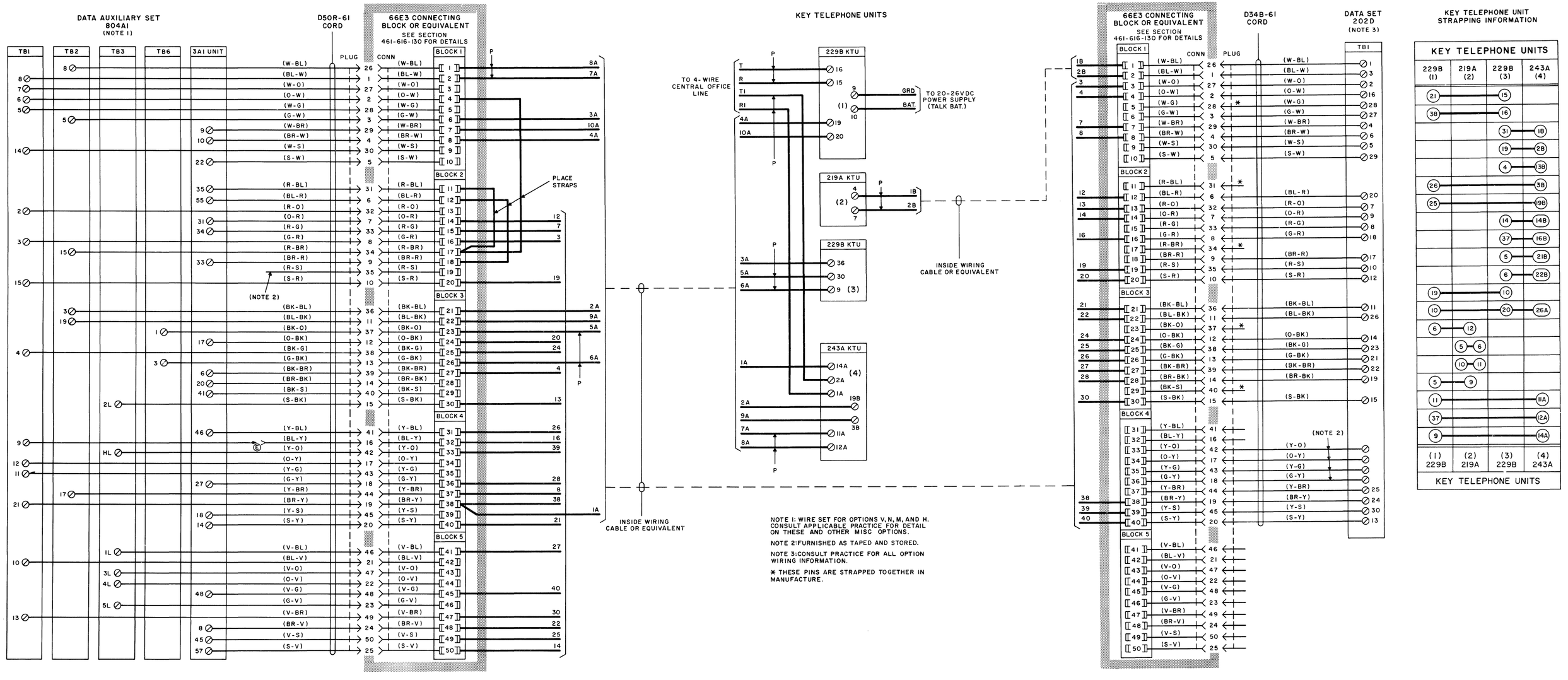


Fig. 10 — Four-Wire Private Line With Data Auxiliary Set 804A2 and With One Alternate Switched Network Line



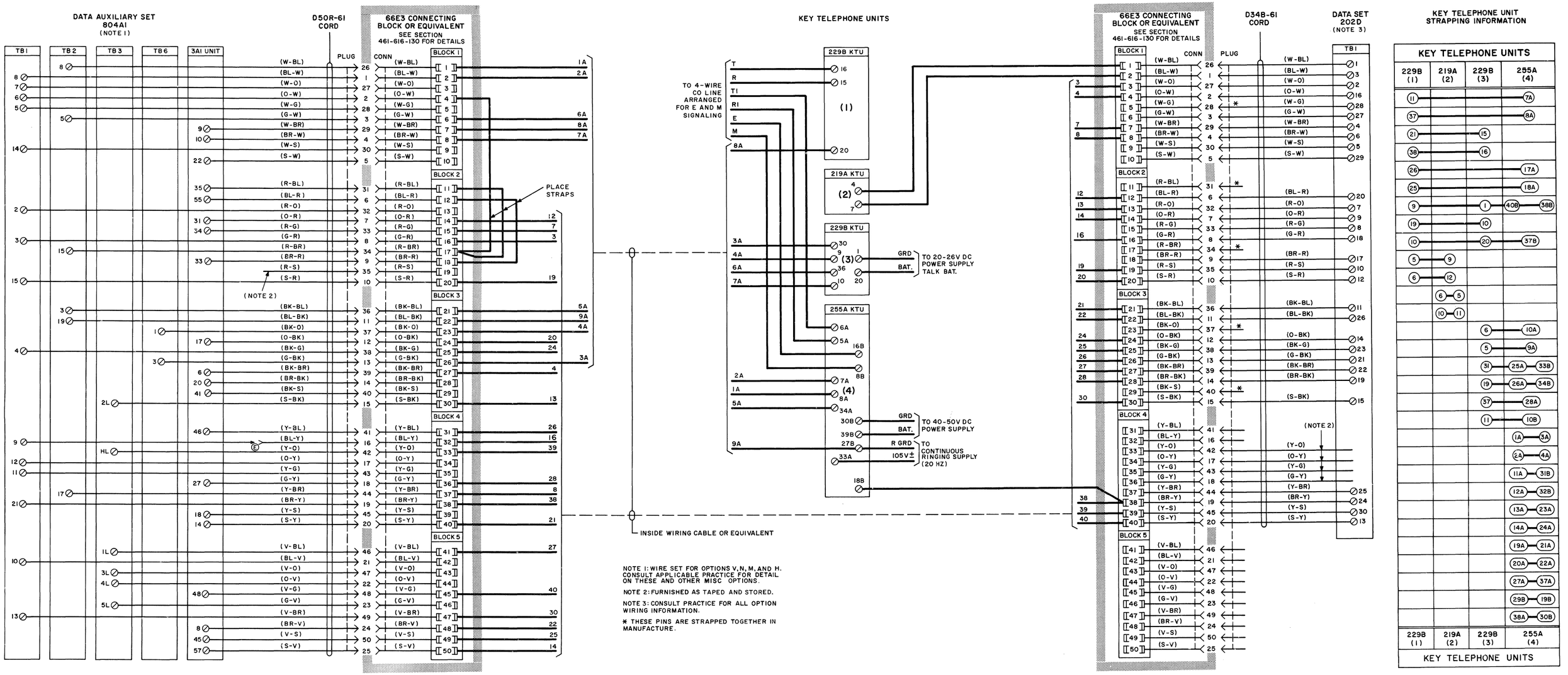
NOTE 1: WIRE SET FOR OPTIONS V, N, M, AND H. CONSULT APPLICABLE PRACTICE FOR DETAIL ON THESE AND OTHER MISC OPTIONS.

NOTE 2: FURNISHED AS TAPED AND STORED.

NOTE 3: CONSULT PRACTICE FOR ALL OPTION WIRING INFORMATION.

* THESE PINS ARE STRAPPED TOGETHER IN MANUFACTURE.

Fig. 11 — Four-Wire Switched Network With Data Auxiliary Set 804A1 (Common Battery Signaling)



NOTE 1: WIRE SET FOR OPTIONS V, N, M, AND H. CONSULT APPLICABLE PRACTICE FOR DETAIL ON THESE AND OTHER MISC OPTIONS.

NOTE 2: FURNISHED AS TAPED AND STORED.

NOTE 3: CONSULT PRACTICE FOR ALL OPTION WIRING INFORMATION.

* THESE PINS ARE STRAPPED TOGETHER IN MANUFACTURE.

Fig. 12 — Four-Wire Switched Network With Data Auxiliary Set 804A1 (With E and M Signaling)

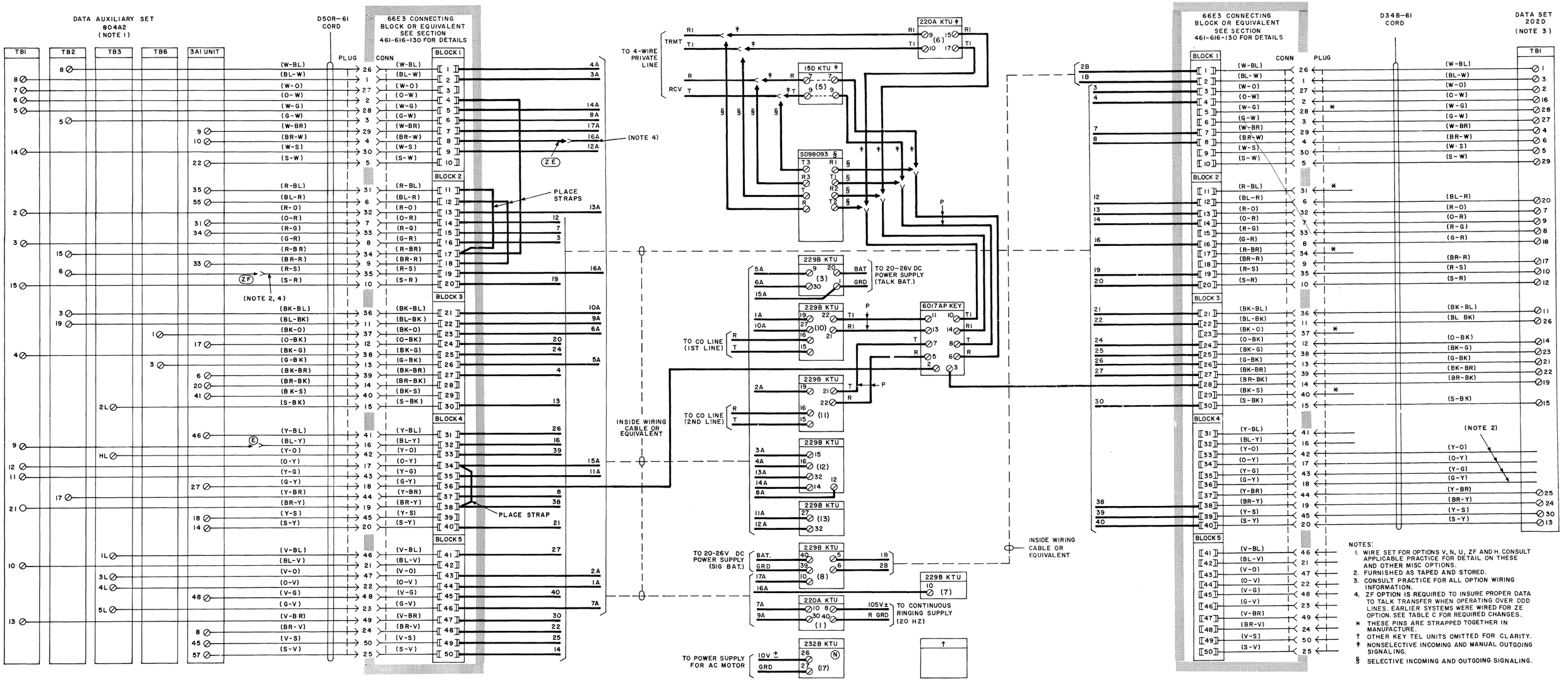
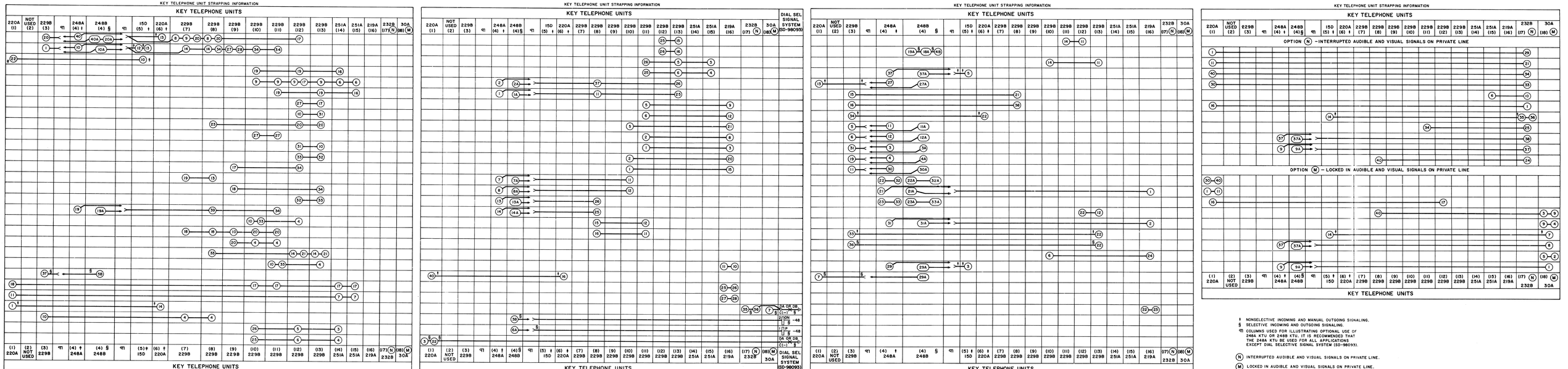


Fig. 13 — Four-Wire Private Line With Data Auxiliary Set 804A2 and With Two Alternate Switched Network Lines

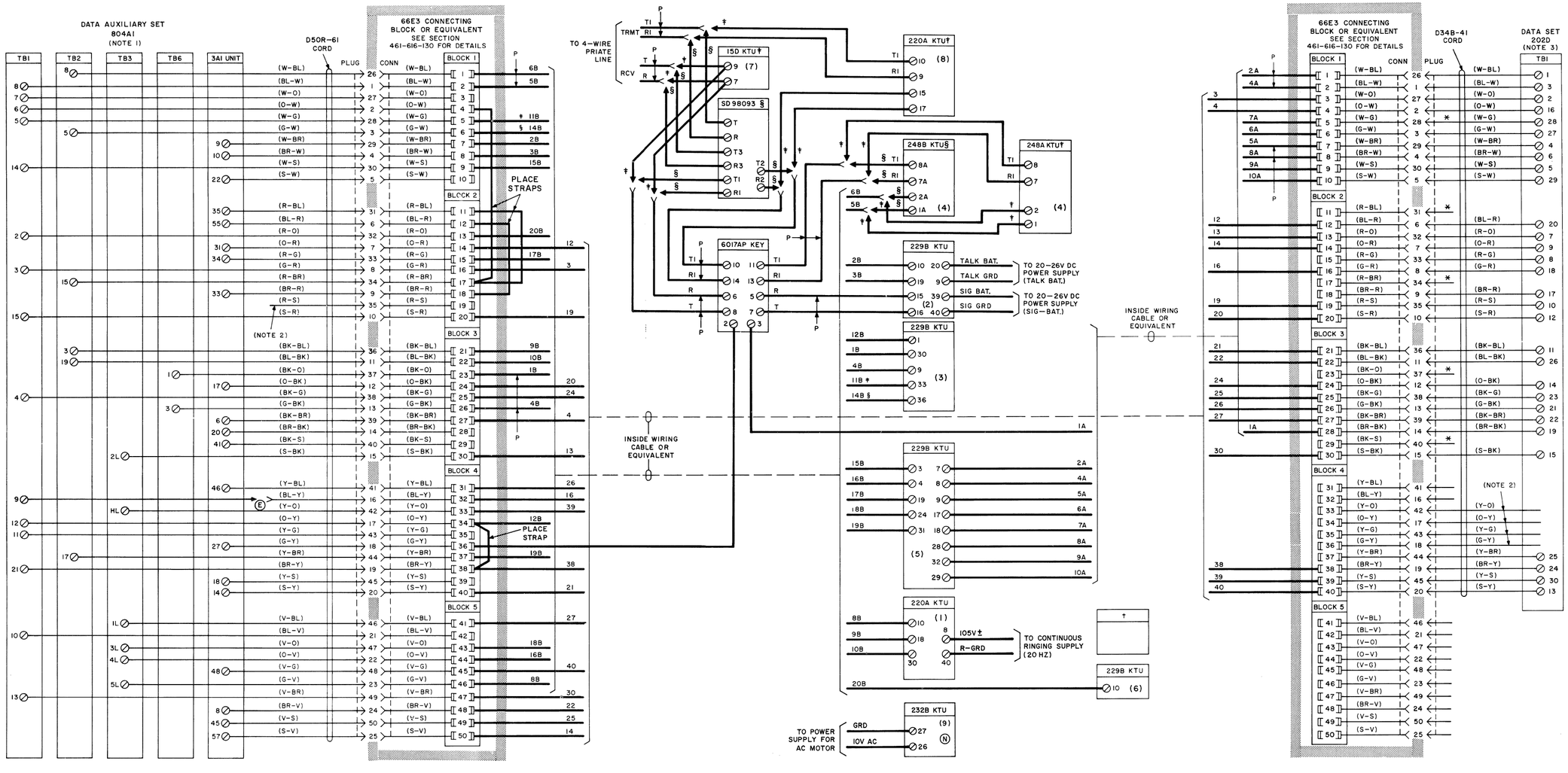


† NONSELECTIVE INCOMING AND MANUAL OUTGOING SIGNALING.
§ SELECTIVE INCOMING AND OUTGOING SIGNALING.
ㅁ COLUMNS USED FOR ILLUSTRATING OPTIONAL USE OF 248A KTU OR 248B KTU. IT IS RECOMMENDED THAT THE 248A KTU BE USED FOR ALL APPLICATIONS EXCEPT DIAL SELECTIVE SIGNAL SYSTEM (SD-98093).

(N) INTERRUPTED AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE.

(M) LOCKED IN AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE.

Fig. 14 — Additional Key Telephone Unit Strapping Information to be Used With Fig. 13



NOTES:

1. WIRE SET FOR OPTIONS V, N, M, AND H. CONSULT APPLICABLE PRACTICE FOR DETAIL ON THESE AND OTHER MISCELLANEOUS OPTIONS.
2. FURNISHED AS TAPED AND STORED.
3. CONSULT PRACTICE FOR ALL OPTION WIRING INFORMATION.

* THESE PINS ARE STRAPPED TOGETHER IN MANUFACTURE.

† OTHER KEY TEL UNITS OMITTED FOR CLARITY.

‡ NONSELECTIVE INCOMING AND MANUAL OUTGOING SIGNALING.

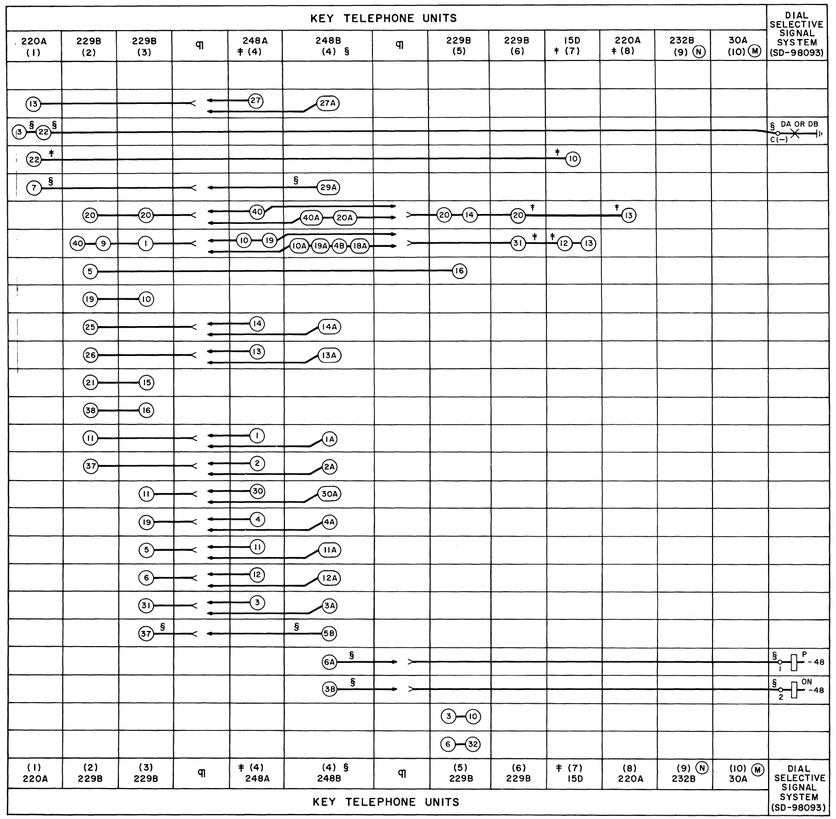
§ SELECTIVE INCOMING AND OUTING SIGNALING.

(N) INTERRUPTED AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE.

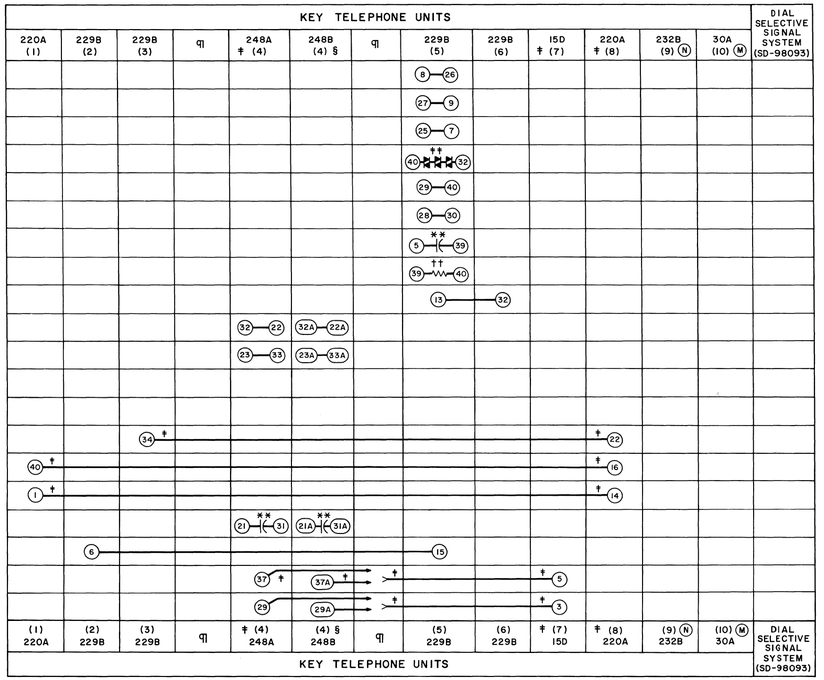
(M) LOCKED IN AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE.

Fig. 15 — Four-Wire Private Line With Data Auxiliary Set 804A1 With Reverse Channel

KEY TELEPHONE UNIT STRAPPING INFORMATION



KEY TELEPHONE UNIT STRAPPING INFORMATION



LEGEND:

† NONSELECTIVE INCOMING AND MANUAL OUTGOING SIGNALING.
§ SELECTIVE INCOMING AND OUTGOING SIGNALING.
¶ COLUMNS USED FOR ILLUSTRATING OPTIONAL USE OF 248A KTU OR 248B KTU. IT IS RECOMMENDED THAT THE 248A KTU BE USED FOR ALL APPLICATIONS EXCEPT DIAL SELECTIVE SIGNAL SYSTEM (SD-98093).
** 542AG CAPACITOR, 2 MF OR EQUIVALENT.
†† RESISTOR, KS-19151-L1, 15 OHMS OR EQUIVALENT.
††† 3 VARISTORS, 100E OR EQUIVALENT
(N) INTERRUPTED AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE
(M) LOCKED IN AUDIBLE AND VISUAL SIGNALS ON PRIVATE LINE

KEY TELEPHONE UNIT STRAPPING INFORMATION

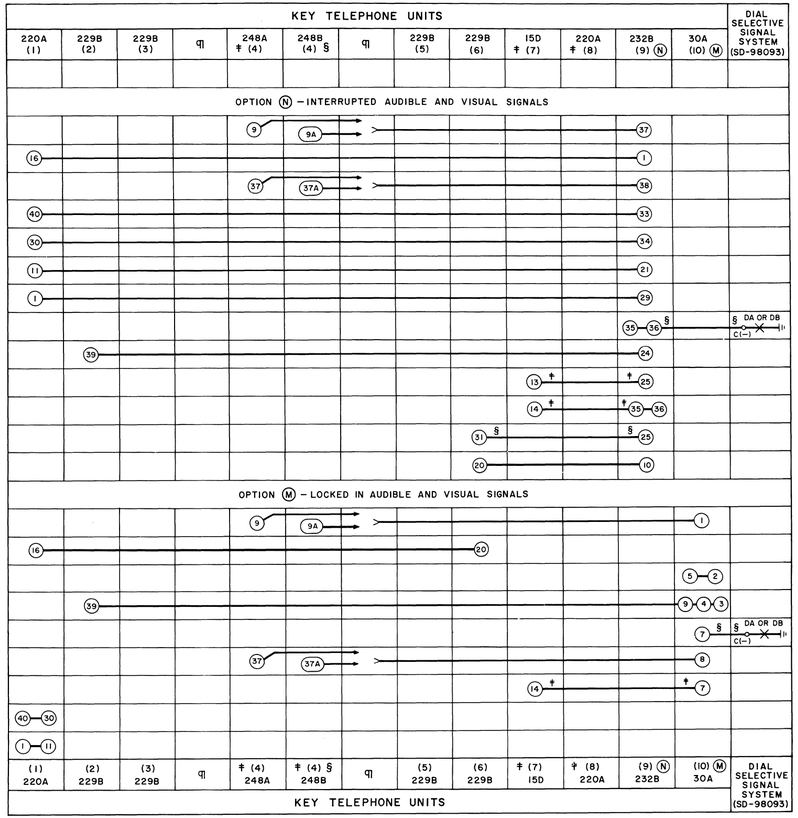
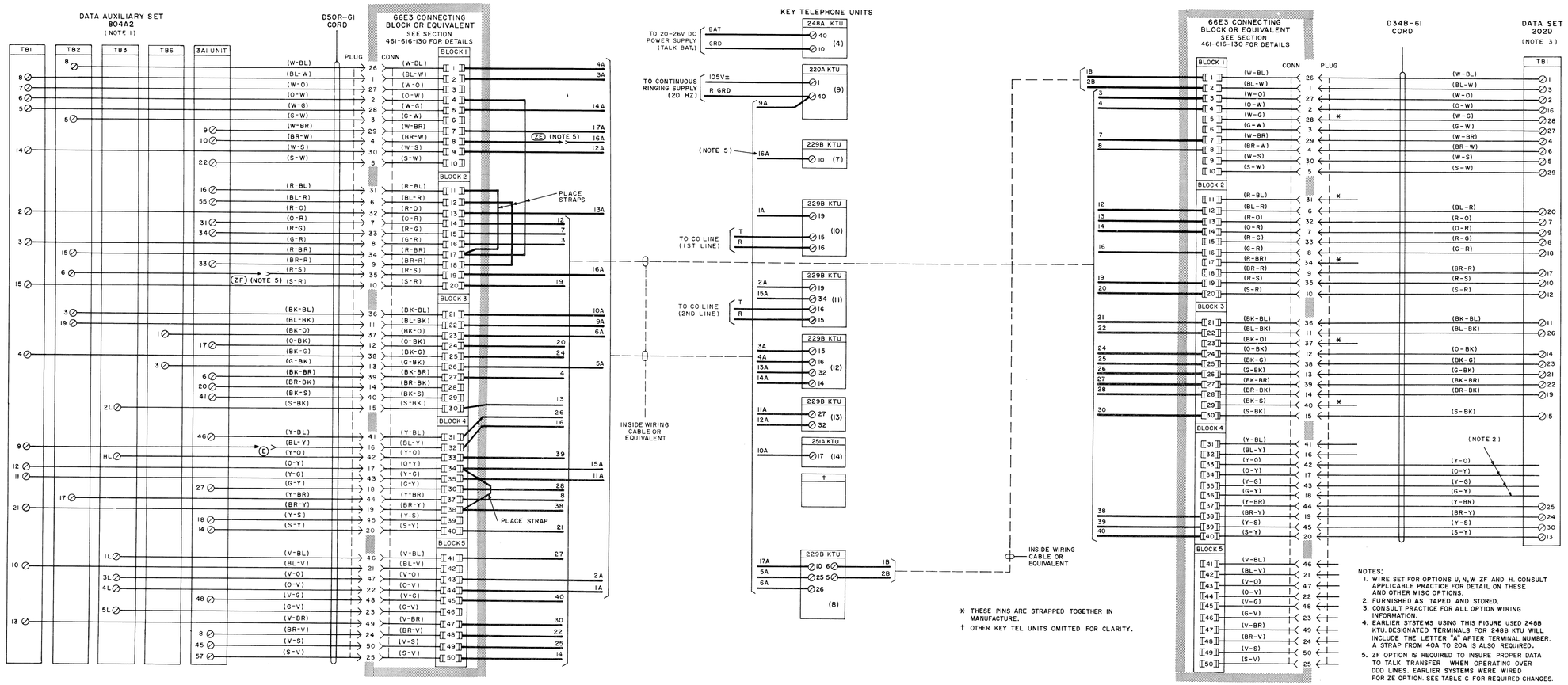


Fig. 16— Additional Key Telephone Unit Strapping Information to be Used With Fig. 15

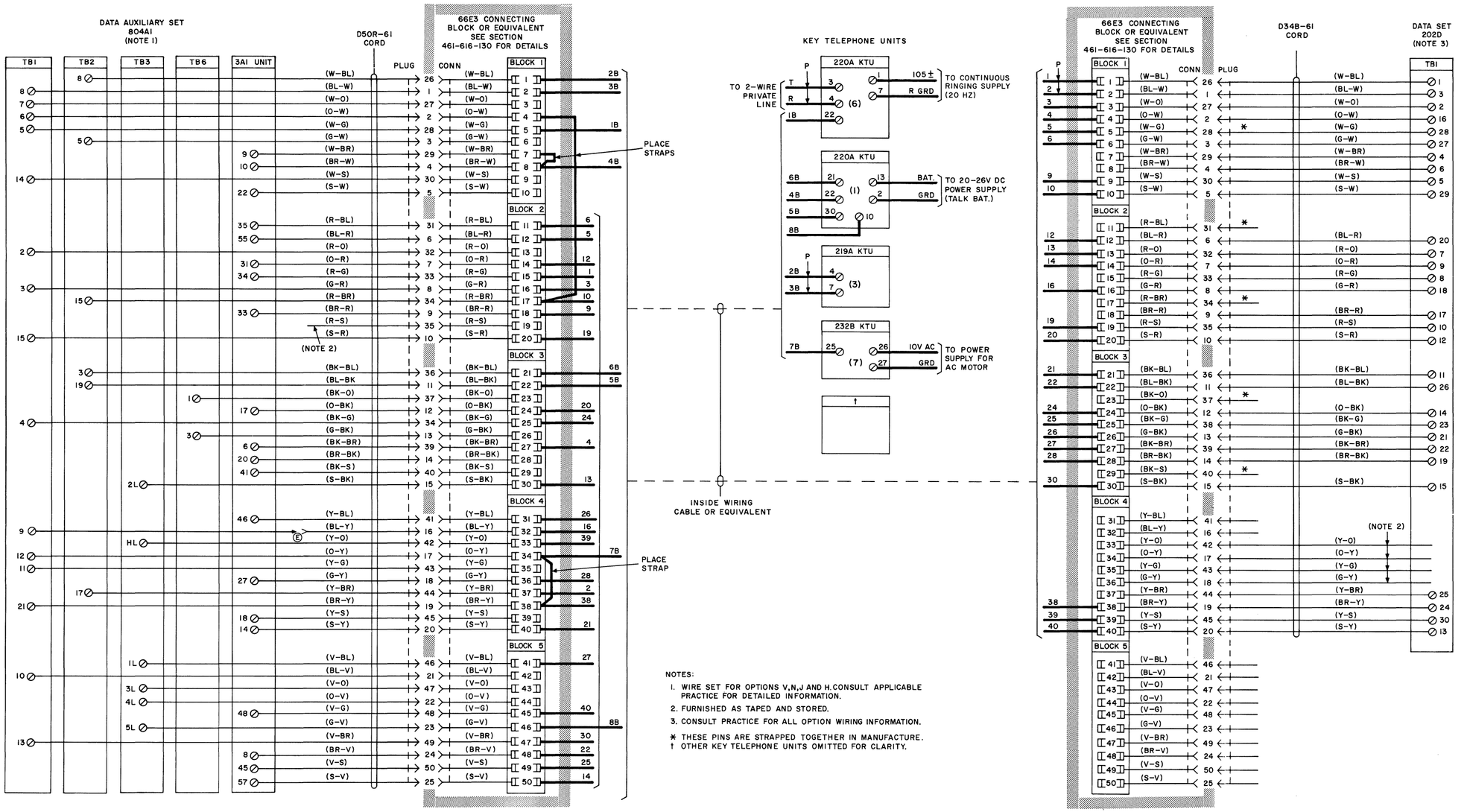


KEY TELEPHONE UNIT STRAPPING INFORMATION

KEY TELEPHONE UNITS										
(NOTE 4) 248A (4)	229B (7)	229B (8)	220A (9)	229B (10)	229B (11)	229B (12)	229B (13)	251A (14)	251A (15)	219A (16)
40	8 9 20	8 9 20		9	9	9 17	9	6	6	
10	14	14 34	4 6	34	34					
				19		19		16		
					19		19		16	
	18	18	13	20	20					
	19	13								
		23				20	20			
			22	4	4					
				10 33		4				
				14			11			
					14	11				
		33				14 21	14 21			
23 33										22 23
30	4	4								
					10 33		4			
						27	17			
								17	17	
										27 28
						33	32			
		3				34				
						10	31			
						31	10			
						32	33			
		5					34			
		8						7	7	
				6						24
				5						21
13					6					
14					5					
7										15
8										20
1		11					25			
2		37					26			
3		16								
4		15								
1.		21								
12		38								
				26		5		3		
				25		6		4		
					26		5		3	
					25		6		4	
						25	15			
						26	16			
(4) 248A	(7) 229B	(8) 229B	(9) 220A	(10) 229B	(11) 229B	(12) 229B	(13) 229B	(14) 251A	(15) 251A	(16) 219A

KEY TELEPHONE UNITS

Fig. 17 — Two Switched Network Lines With Data Auxiliary Set 804A2



NOTES:

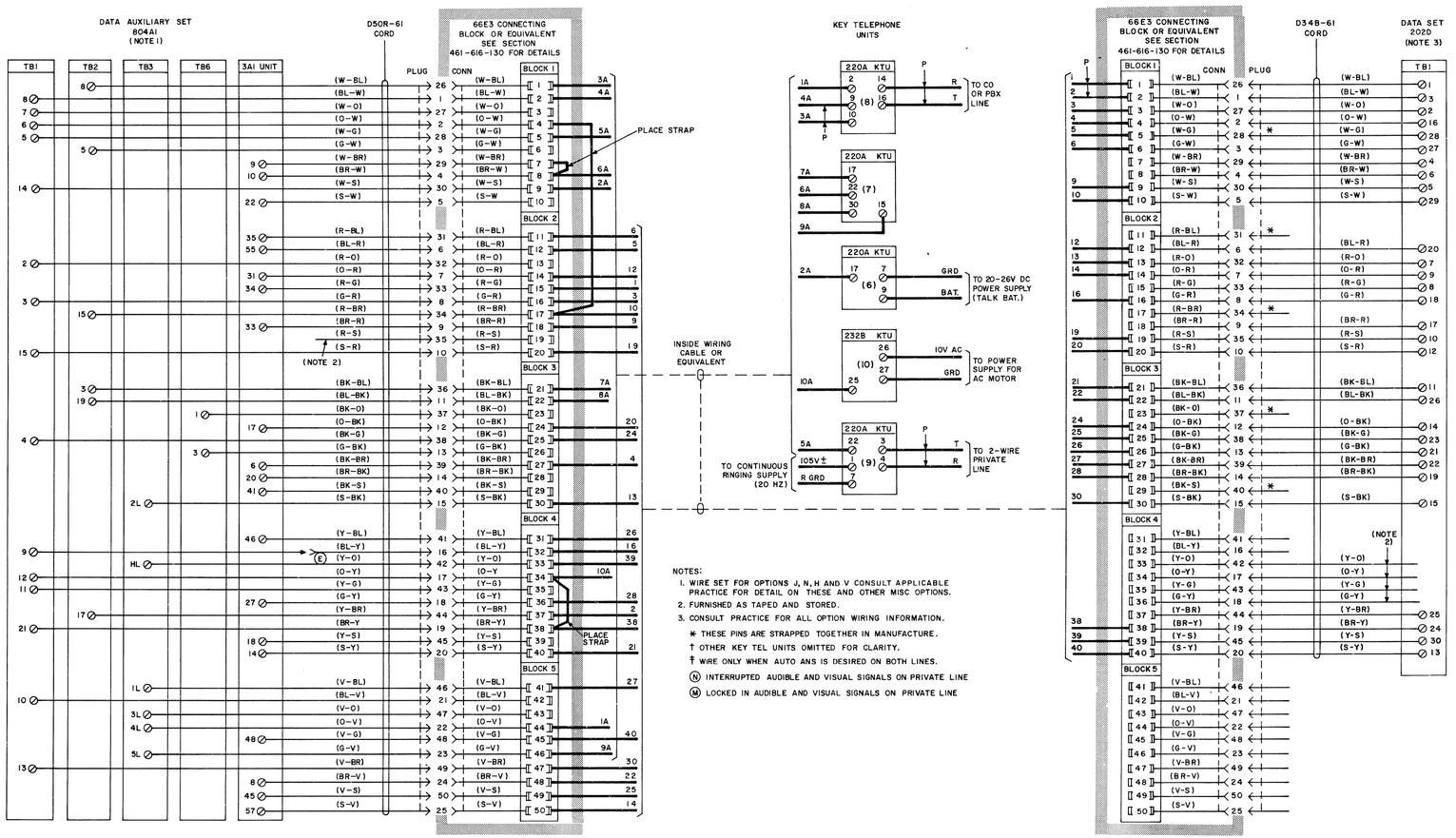
1. WIRE SET FOR OPTIONS V,N,J AND H.CONSULT APPLICABLE PRACTICE FOR DETAILED INFORMATION.
2. FURNISHED AS TAPED AND STORED.
3. CONSULT PRACTICE FOR ALL OPTION WIRING INFORMATION.

* THESE PINS ARE STRAPPED TOGETHER IN MANUFACTURE.
† OTHER KEY TELEPHONE UNITS OMITTED FOR CLARITY.

KEY TELEPONE UNIT STRAPPING INFORMATION

KEY TELEPHONE UNITS						
220A (1)	NOT USED (2)	219A (3)	NOT USED (4)	251A (5)	220A (6)	232B (7)
13					13	24-10
2				8-19		25
3				16		
6						38
12				15		
17				7		
		4				40
		7				30
		9		3	5	
		12		4	6	
		1-11				
		2-10				
		5-13				
		6-14				
				6-9		
				18		36
					2-8	
OPTION (N)—INTERRUPTED AUDIBLE AND VISUAL SIGNALS						
						35-36
					8	29
					7	34
30						33
				5		21
				17		1
OPTION (M)—LOCKED IN AUDIBLE AND VISUAL SIGNALS						
				5	8	
30					7	
				17		10
(1) 220A	(2) NOT USED	(3) 219A	(4) NOT USED	(5) 251A	(6) 220A	(7) 232B
KEY TELEPHONE UNITS						

Fig. 18 — Two-Wire Private Line With Data Auxiliary Set 804A1 Using Only 200-Type Key Telephone Units



KEY TELEPHONE UNIT STRAPPING INFORMATION

KEY TELEPHONE UNITS

251A (1)	251A (2)	NOT USED (3)	219A (4)	NOT USED (5)	220A (6)	220A (7)	220A (8)	220A (9)	232B (10)
					(9)–(13)	(13)–(13)	(13)–(13)	(13)–(13)	(10)–(24)
(8)–(19)	(17)				(7)	(2)	(7)	(12)	(25)
(6)–(9)									
(3)			(9)					(5)	
(4)			(12)					(6)	
(16)						(3)			
(18)							(12)	(20)	(36)
(15)	(15)					(10)			
(5)	(5)								
	(6)				(15)		(4)		
	(16)						(2)		
			(7)				(15)		(30)
			(4)				(17)		(40)
			(1)–(11)						
			(2)–(10)					(2)–(8)	
			(5)–(13)						
			(6)–(14)						
	(3)						(14)		
	(4)						(16)		
					(3)–(18)				
					(22)–(11)		(21)		
					(10)–(12)		(3)		
						(20)–(22)			
						(6)			(38)
						(4)			(37)
(8)–†–(17)									
	(7)–†				(12)				
					(21)–†		(3)		
(1) 251A	(2) 251A	(3) NOT USED	(4) 219A	(5) NOT USED	(6) 220A	(7) 220A	(8) 220A	(9) 220A	(10) 232B

KEY TELEPHONE UNITS

KEY TELEPHONE UNIT STRAPPING INFORMATION

KEY TELEPHONE UNITS

251A (1)	251A (2)	NOT USED (3)	219A (4)	NOT USED (5)	220A (6)	220A (7)	220A (8)	220A (9)	232B (10)
OPTION (N) — INTERRUPTED AUDIBLE AND VISUAL SIGNALS									
									(35)–(36)
								(8)–(29)	
								(7)–(34)	
						(30)–(33)			
	(5)								(21)
(7)									(1)
(17)						(9)			
OPTION (M) — LOCKED IN AUDIBLE AND VISUAL SIGNALS									
	(5)–(8)								
						(30)–(7)			
(7)									(10)
(17)						(9)			
(1) 251A	(2) 251A	(3) NOT USED	(4) 219A	(5) NOT USED	(6) 220A	(7) 220A	(8) 220A	(9) 220A	(10) 232B

KEY TELEPHONE UNITS

Fig. 19 — Two-Wire Private Line With Data Auxiliary Set 804A1 and With Alternate Switched Network Line Using Only 200-Type Key Telephone Units