

## PANELS

### 583- AND 584-TYPE

### CONNECTIONS AND MAINTENANCE

#### 1. GENERAL

**1.01** This section is reissued to:

Add information on the 584D panel

Renumber terminals and change lead designations

Show the 584B panel (MD)

**1.02** This issue of the section is based on the following drawings:

SD-69502-01

SD-69552-01

SD-69591-01

**1.03** Station, power, and interpanel connections to 583A (MD) and 584A (MD) panels are provided with wire-wrap terminals. The KS-16363, List 1 hand grip wrapping tool should be used to wrap stripped wires. A KS-16492, List 2 unwrapping tool should be used to remove a wire-wrapped



***See appropriate sections in Divisions 069, 074, and 075 which provide reference guides to tool identification, parts, operational requirements, and ordering information, plus approved preparation procedures for connecting wires to terminals.***

**1.04** Power and interpanel connections to 584B (MD) 584C and 584D panels are made to screw terminals. Station connections are made by using connector cables.

#### 2. CONNECTIONS

**2.01** Fig. 1 shows various typical arrangements using 583- and 584-type panels. Refer to Fig. 1 for power connection figure reference and interpanel wiring used with the selected arrangement.

**2.02** Terminate station, CO, or PBX line connections directly to panels or to 66-type connecting blocks at the master distribution point or directly to panels (see Table A).

**2.03** When 584-type panel arranged for Program A is used to provide interrupted lamp signals to a 597A or 598A panel, the maximum number of 51A lamps fed by each 2-ampere fuse shall not exceed 50. If 584-type panel is arranged for Program C, the maximum number of 51A lamps fed by each 2-ampere fuse shall not exceed 24.

#### **2.04** Connection Index

Fig. 1—Block Diagram Showing Arrangements of 583A (MD), 584A (MD), 584B (MD), 584C and 584D Panels

Fig. 2—584A (MD) Panel Equipped with Interrupter (Panel can be used alone and also to control one other panel)

Fig. 3—583A (MD) or 584A (MD) Not Equipped With Interrupter or 412A KTU

Fig. 4—584B (MD) Panel Equipped With Interrupter (Panel not used to control other panels)

Fig. 5—584B (MD) Panel Equipped With Interrupter (Panel used to control one other panel)

Fig. 6—584B (MD) Panel Not Equipped With Interrupter or 412A KTU

Fig. 7—584C or 584D Panel Not Equipped With Interrupter or 412A KTU

Fig. 8—584C or 584D Panel Equipped With Interrupter (Panel not used to control other panels)

Fig. 9—584C or 584D Panel Equipped With Interrupter (Panel used to control one other panel)

Fig. 10—584B (MD) Panel Equipped With Interrupter (Master panel used to control up to 200 other panels each equipped with 412A KTU)

Fig. 11— 584B (MD) Panel Equipped With 412A KTU (Panel used to control one other panel)

Fig. 12- 584B (MD) Panel Equipped With 412A KTU (Panel not used to control other panels)

Fig. 13—584A (MD) Panel Equipped With 412A KTU (Panel used alone and also to control one other panel)

Fig. 14—584C or 584D Panel Equipped With 412A KTU (Panel not used to control other panels)

Fig. 15—584C or 584D Panel Equipped With Interrupter (Master panel used to control up to 200 other panels each equipped with 412A KTU)

Fig. 16—584C or 584D Panel Equipped With 412A KTU (Panel used to control one other panel)

Fig. 17—Modification of 584A (MD) Panel to Accept 412A KTU

Fig. 18—Manual Intercommunication Connections for 583A (MD) and 584A (MD) Panels

Fig. 19—Typical Functional Layout of 584B (MD) and 584C or D Panels Showing Line Circuit 1 Only

Table A—Connections to Distribution Points and/or Panels

### 3. MAINTENANCE

**3.01** Maintenance on panels should be limited to tracing of wiring troubles, fuse replacement, and replacement of improperly operating KTUs.

**3.02** When trouble is encountered, proceed as follows:

- (a) Visit station reporting trouble
- (b) Determine if trouble is located at the individual station or common to the system.
- (c) If common to the system:
  - (1) Check power supply and fuses
  - (2) Determine which KTU is not operating properly
  - (3) Replace KTU with one known to be in operating condition to determine whether trouble is located in the KTU or in external circuitry.

**Note:** Be sure that applicable options are correctly strapped on the replaced KTU.

- (4) If replacement of the KTU does not correct the trouble, it is external to the KTU and the complete wiring should be verified.

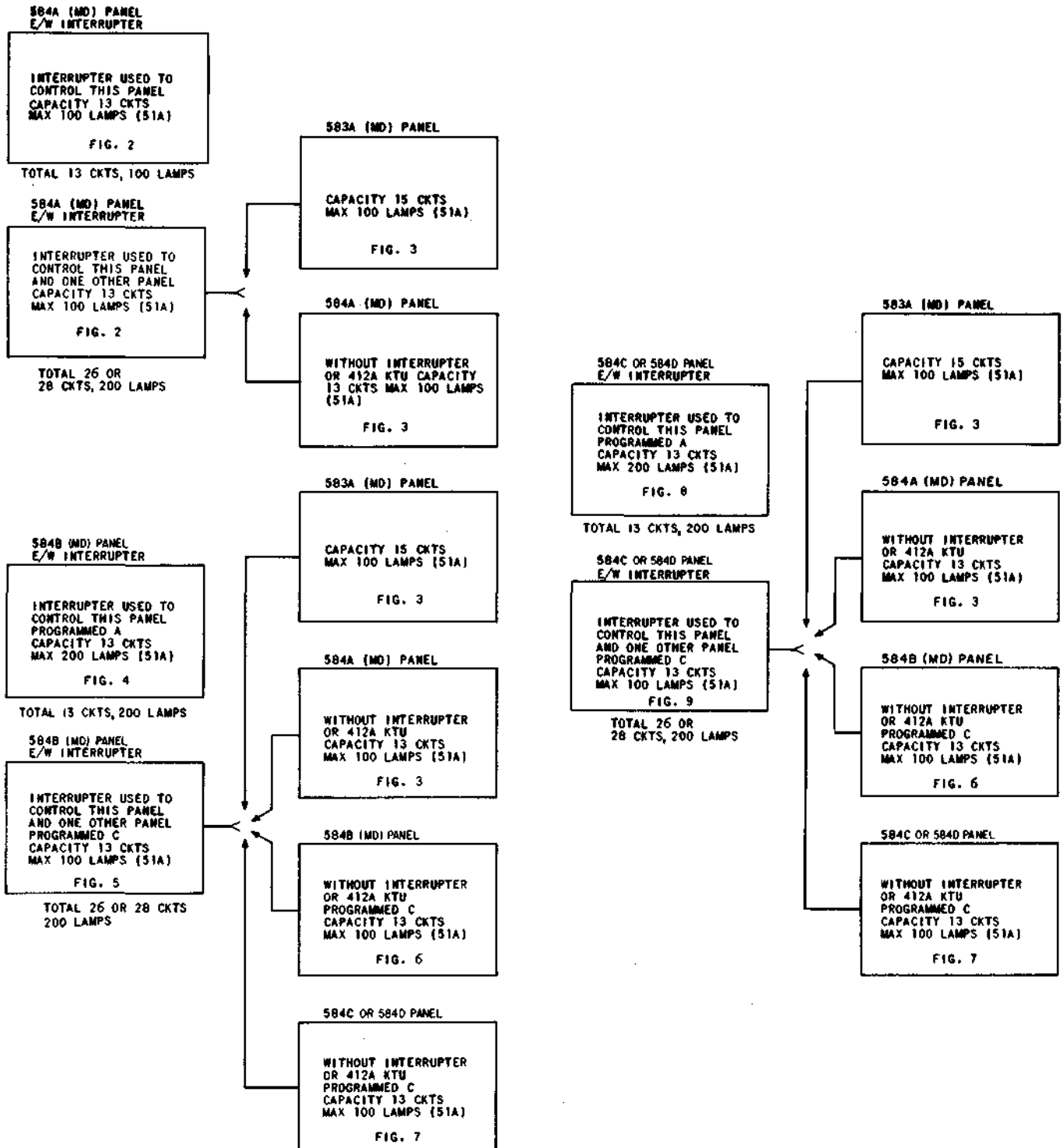


Fig. 1—Block Diagram Showing Arrangement of 583A (MD), 584A (MD), 584B (MD), 584C and 584D Panels (Sheet 1)

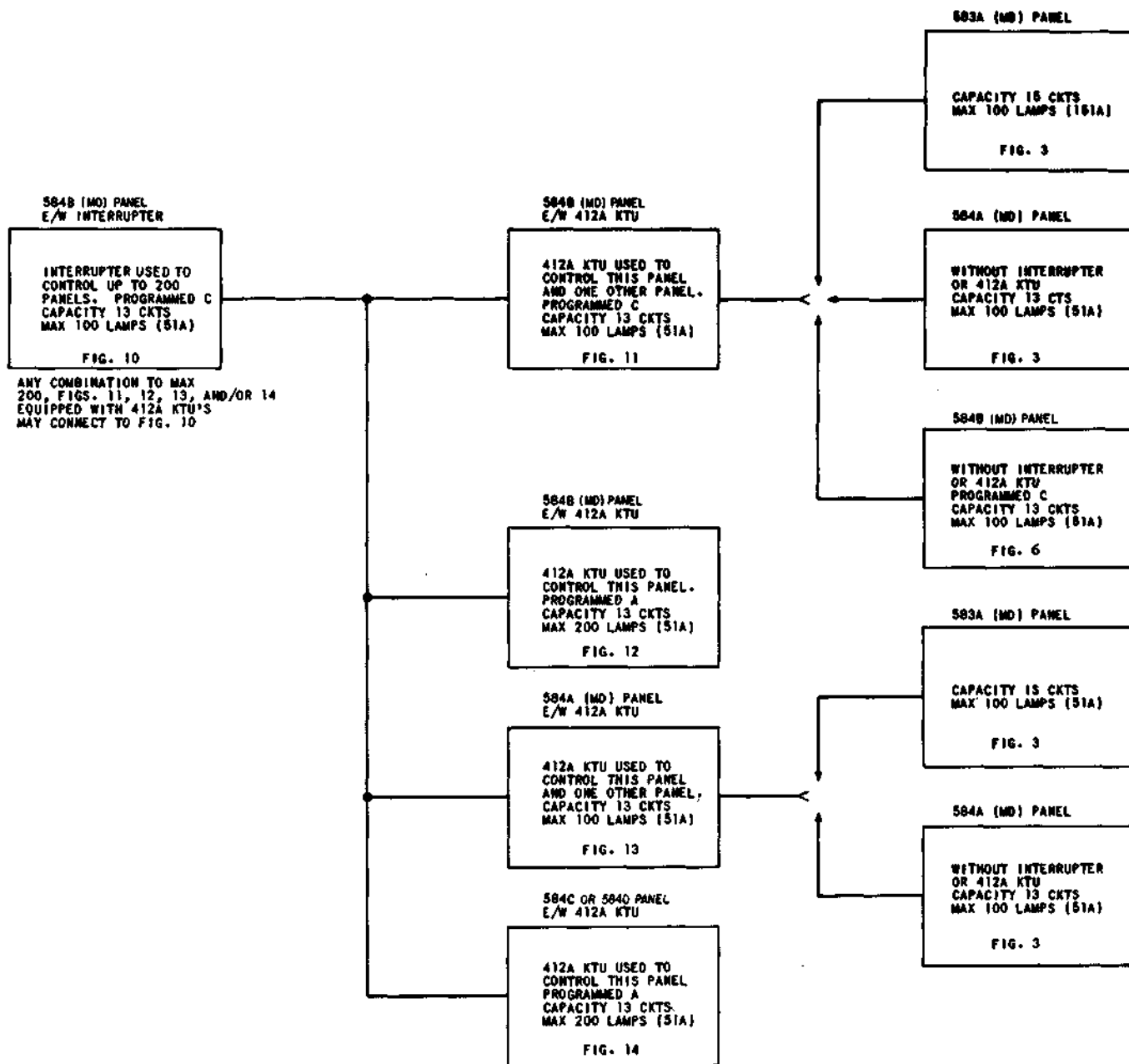


Fig. 1—Block Diagram Showing Arrangement of 583A (MD), 584A (MD), 584B (MD), 584C and 584D Panels (Sheet 2)

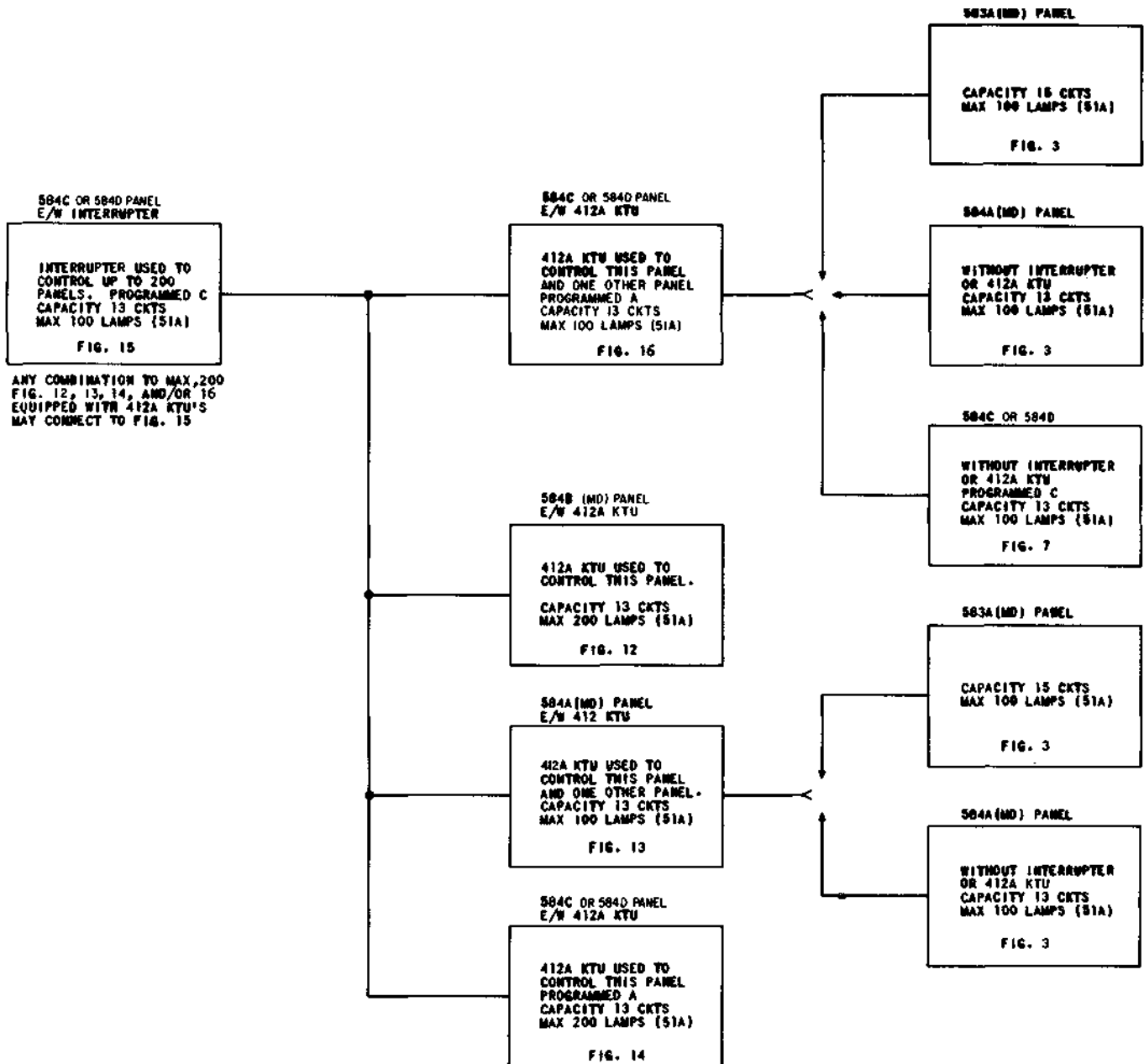


Fig. 1—Block Diagram Showing Arrangement of 583A (MD), 584A (MD), 584B (MD), 584C and 584D Panels (Sheet 3)

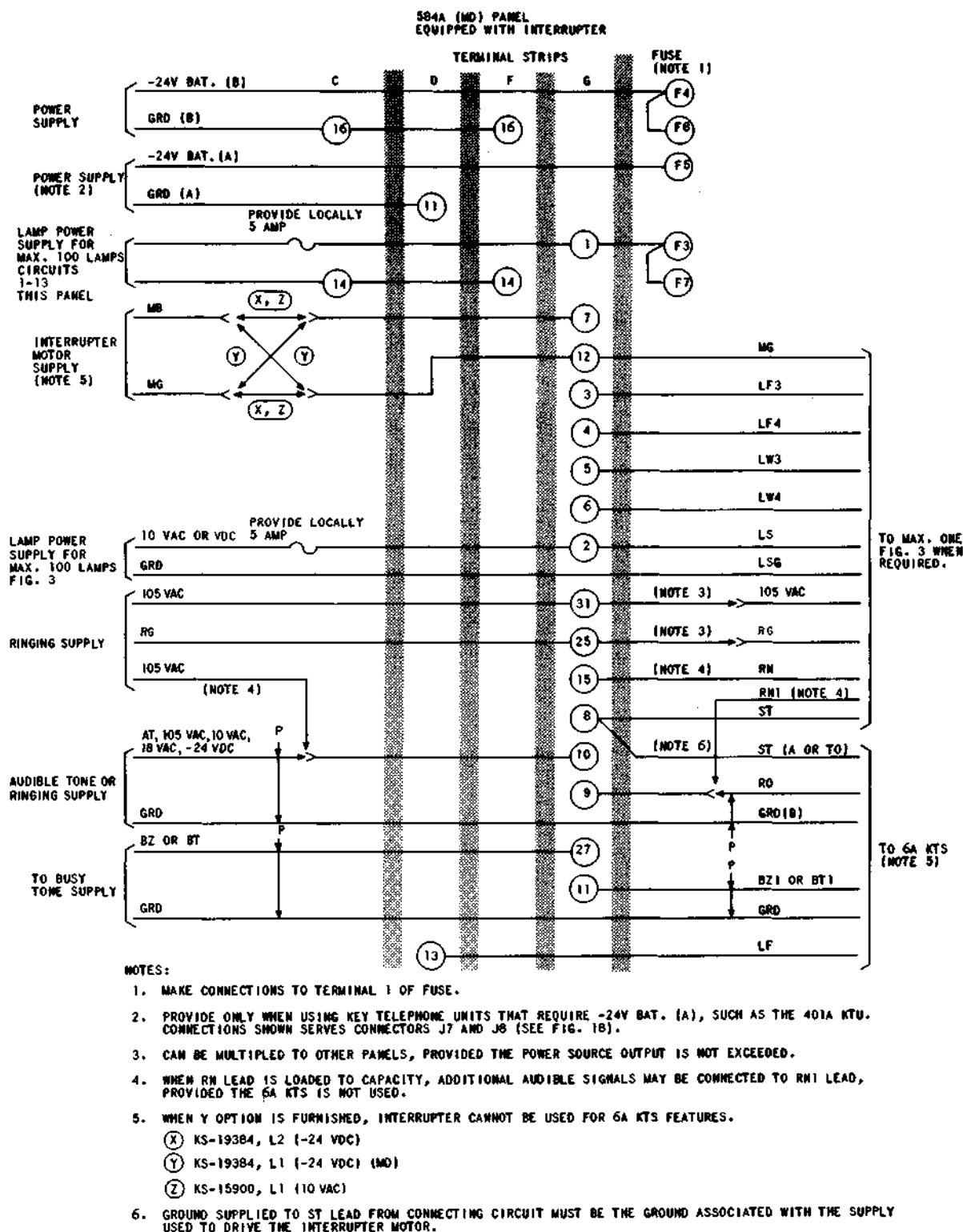
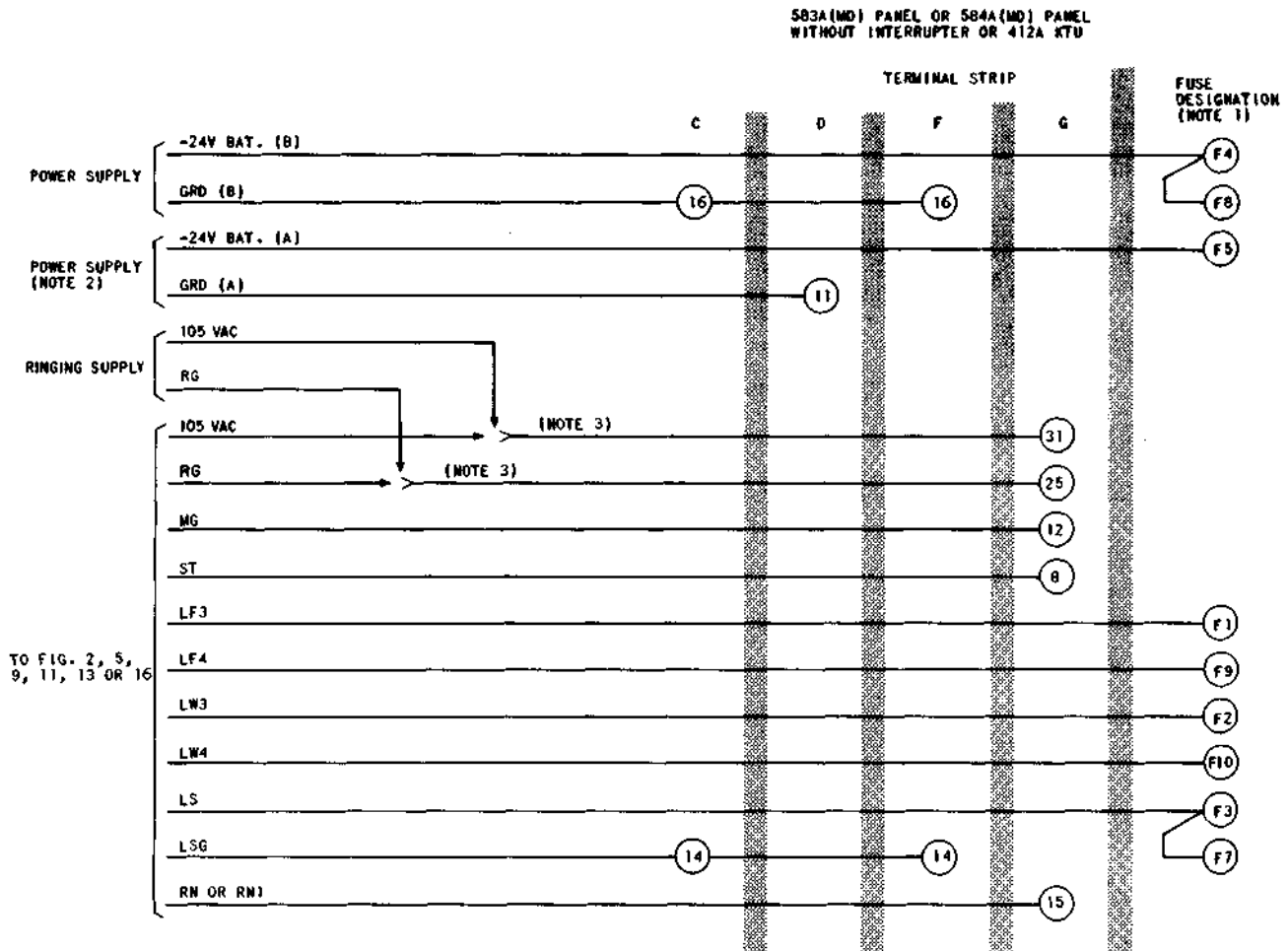


Fig. 2—584A (MD) Panel Equipped with Interrupter (Panel can be used alone and also to control one other panel)



## NOTES:

1. MAKE CONNECTIONS TO TERMINAL 1 OF FUSE.
2. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT. (A1, SUCH AS THE 401A KTU. CONNECTION AS SHOWN SERVES CONNECTORS J7 AND J8 (SEE FIG. 18).
3. IF LEADS FROM PRECEDING PANEL ARE LOADED TO CAPACITY, PROVIDE SEPARATE RINGING SUPPLY TO THIS PANEL.

Fig. 3—583A (MD) or 584A (MD) Panel Not Equipped With Interrupter or 412A KTU

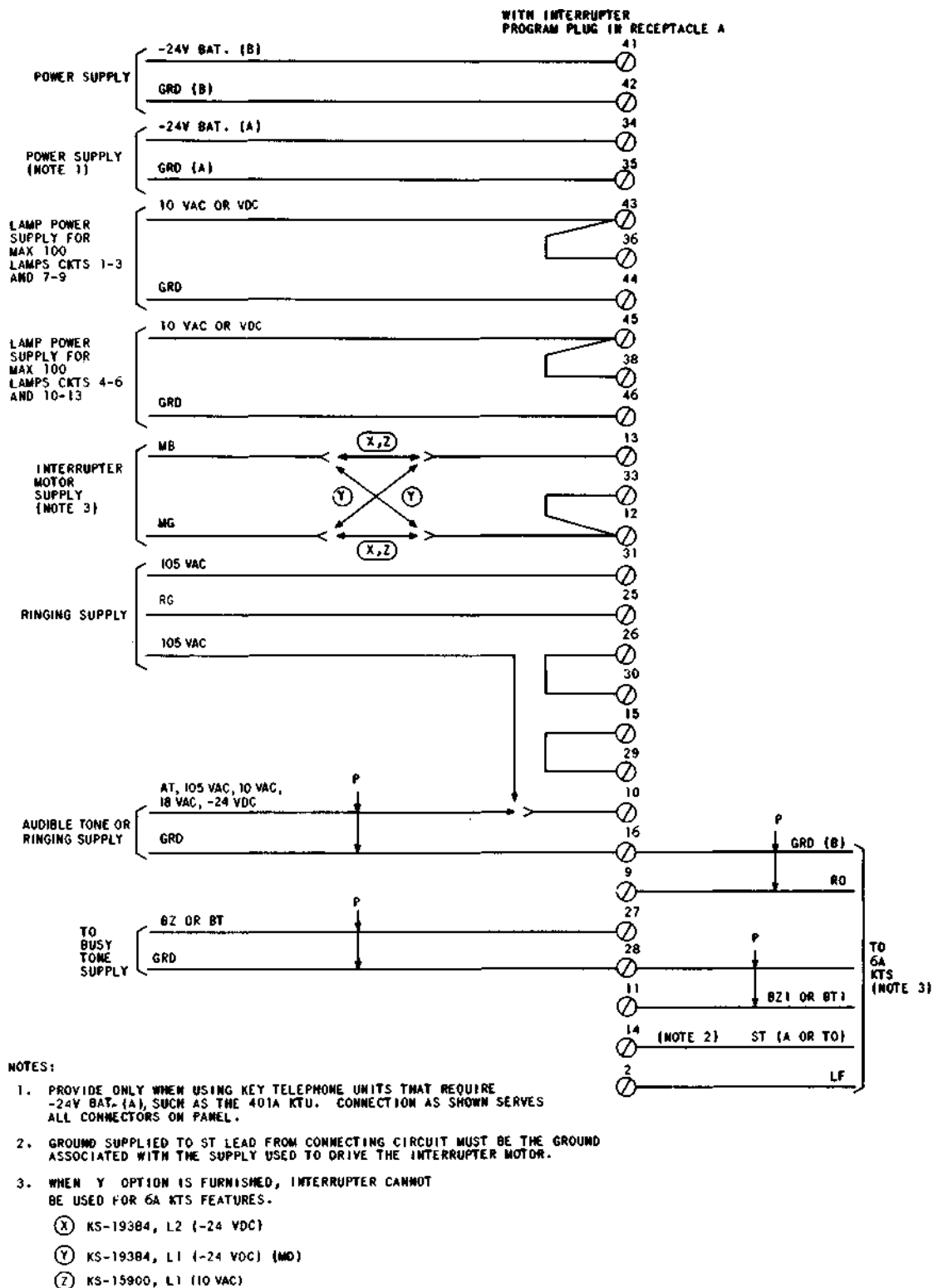


Fig. 4—584B (MD) Panel Equipped With Interrupter (Panel not used to control other panels)



584B (MD) PANEL  
WITH INTERRUPTER  
PROGRAM PLUG IN RECEPTACLE C

## NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT.(A), SUCH AS THE 401A KTU. CONNECTIONS AS SHOWN ARE FOR ALL CONNECTORS ON PANEL.
  2. WHEN RM LEAD IS LOADED TO CAPACITY, ADDITIONAL AUDIBLE SIGNALS MAY BE CONNECTED TO RM1 LEAD, PROVIDED THE 6A KTS IS NOT USED.
  3. CAN BE MULTIPLIED TO OTHER PANELS, PROVIDED THE POWER SOURCE OUTPUT IS NOT EXCEEDED.
  4. WHEN Y OPTION IS FURNISHED, INTERRUPTER CANNOT BE USED FOR 6A KTS FEATURES.
- (X) KS-19384, L2 (-24 VDC)  
 (Y) KS-19384, L1 (-24 VDC) (MD)  
 (Z) KS-15900, L1 (10 VAC)
5. GROUND SUPPLIED TO ST LEAD FROM CONNECTING CIRCUIT MUST BE THE GROUND ASSOCIATED WITH THE SUPPLY USED TO DRIVE THE INTERRUPTER MOTOR.

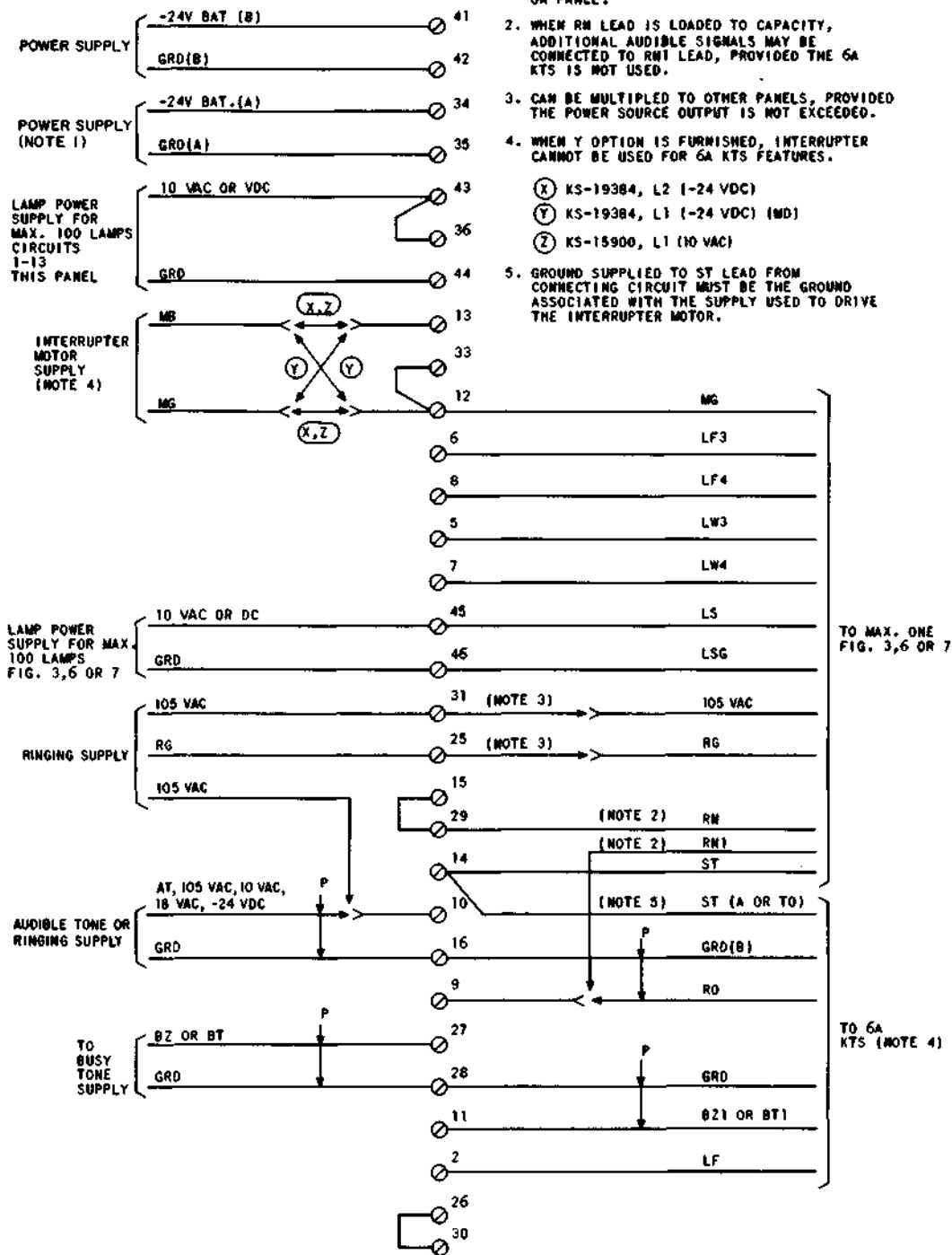
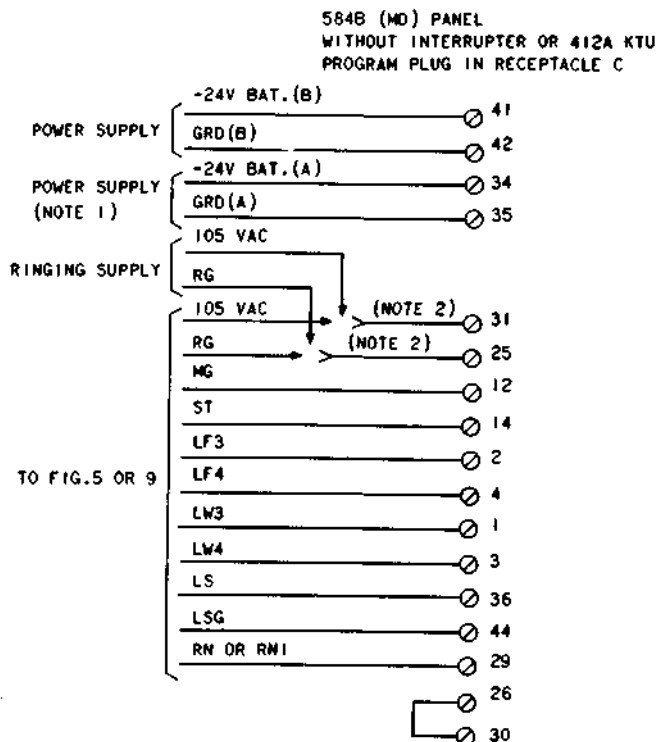


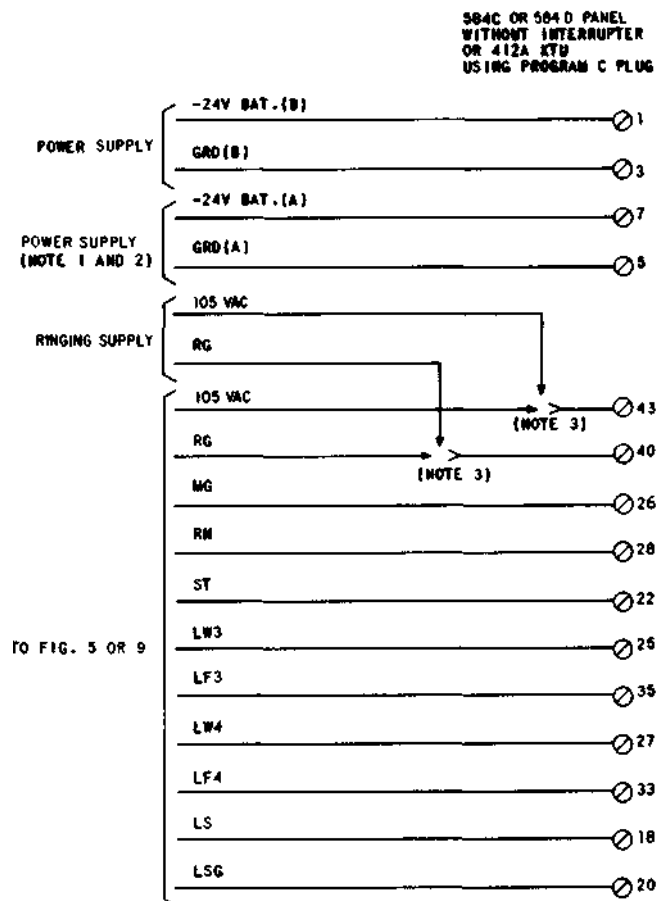
Fig. 5—584B (MD) Panel Equipped With Interrupter (Panel used to control one other panel)



NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT. (A), SUCH AS THE 401A KTU. CONNECTION AS SHOWN SERVES ALL CONNECTORS ON PANEL.
2. IF LEADS FROM PRECEDING PANEL ARE LOADED TO CAPACITY, PROVIDE SEPARATE RINGING SUPPLY TO THIS PANEL.

Fig. 6—584B (MD) Panel Not Equipped With Interrupter or 412A KTU



NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT. (A), SUCH AS THE 401A KTU.
2. WHEN MORE THAN ONE SUPPLY IS USED TO PROVIDE -24 VDC AND 10 VAC, POWER SUPPLY GROUND TERMINALS ARE BONDED TOGETHER.
3. IF LEADS FROM PRECEDING PANEL ARE LOADED TO CAPACITY, PROVIDE SEPARATE RINGING SUPPLY TO THIS PANEL

Fig. 7—584C or 584D Panel Not Equipped With Interrupter or 412A KTU

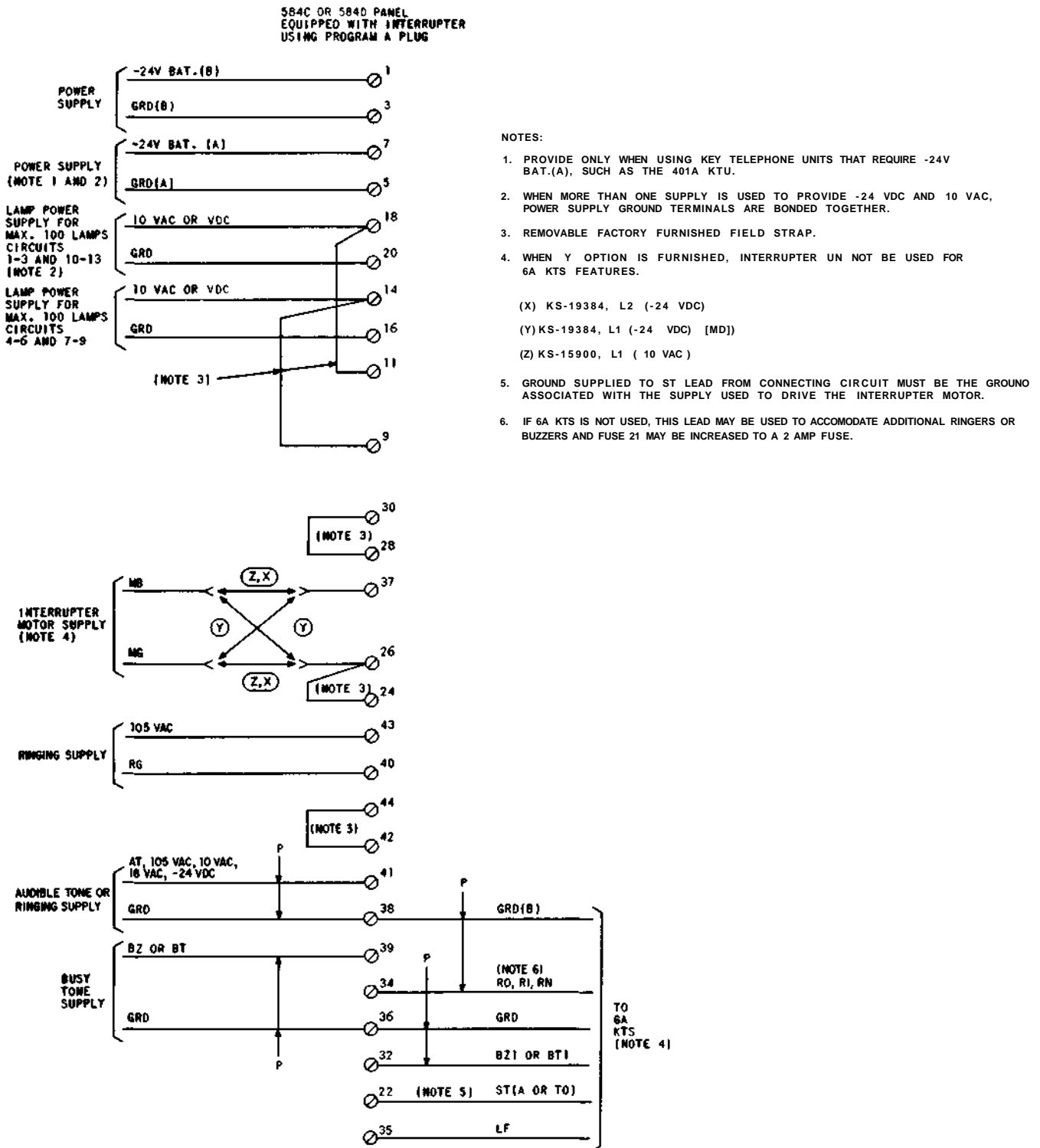


Fig. 8—584C or 584D Panel Equipped With Interrupter (Panel not used to control other panels)

584C OR 584D PANEL  
WITH INTERRUPTER  
USING PROGRAM C PLUG

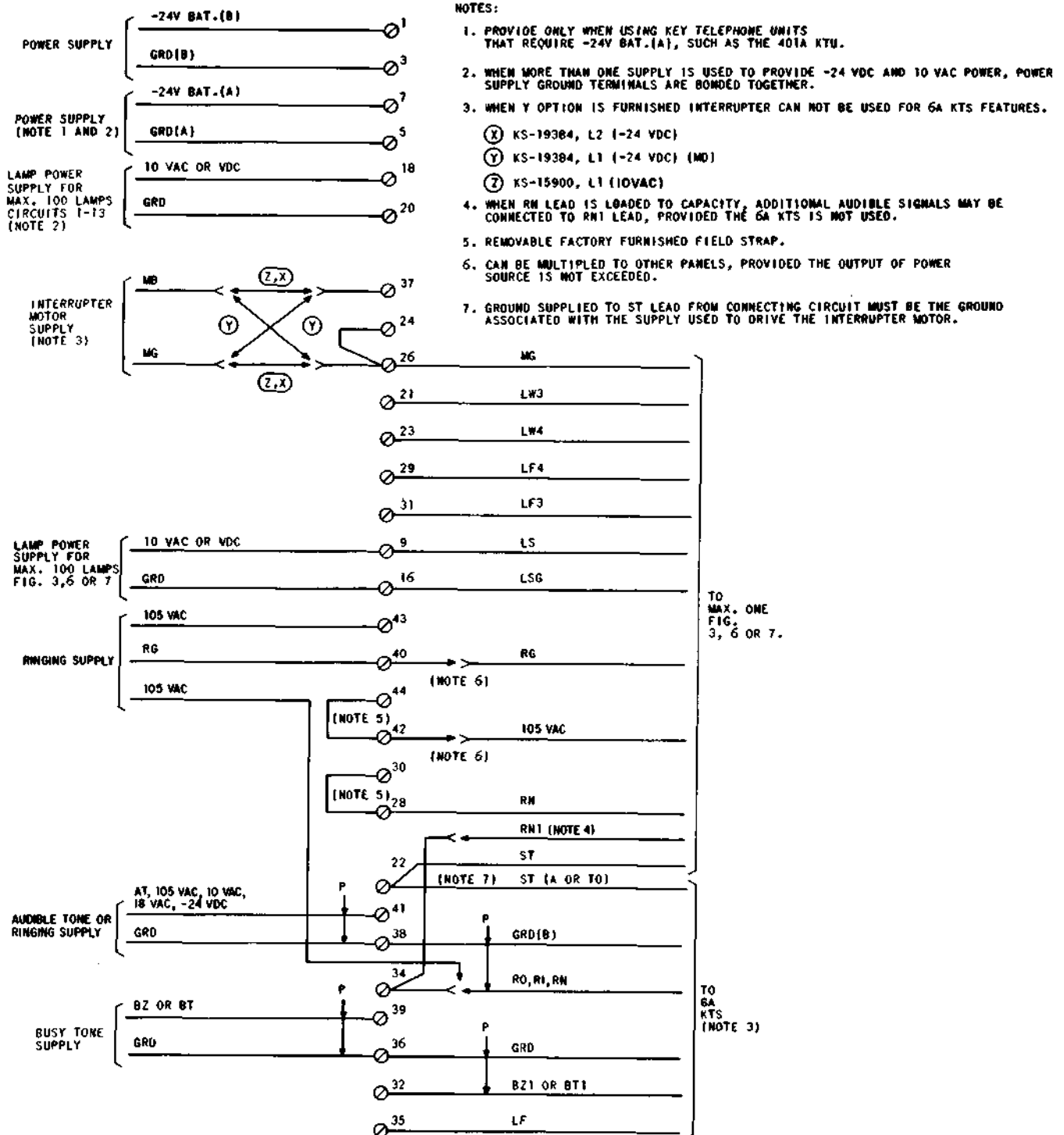


Fig. 9—584C or 584D Panel Equipped With Interrupter (Panel used to control one other panel)

5848 (MD) PANEL  
EQUIPPED WITH INTERRUPTER  
PROGRAM PLUG IN RECEPTACLE C

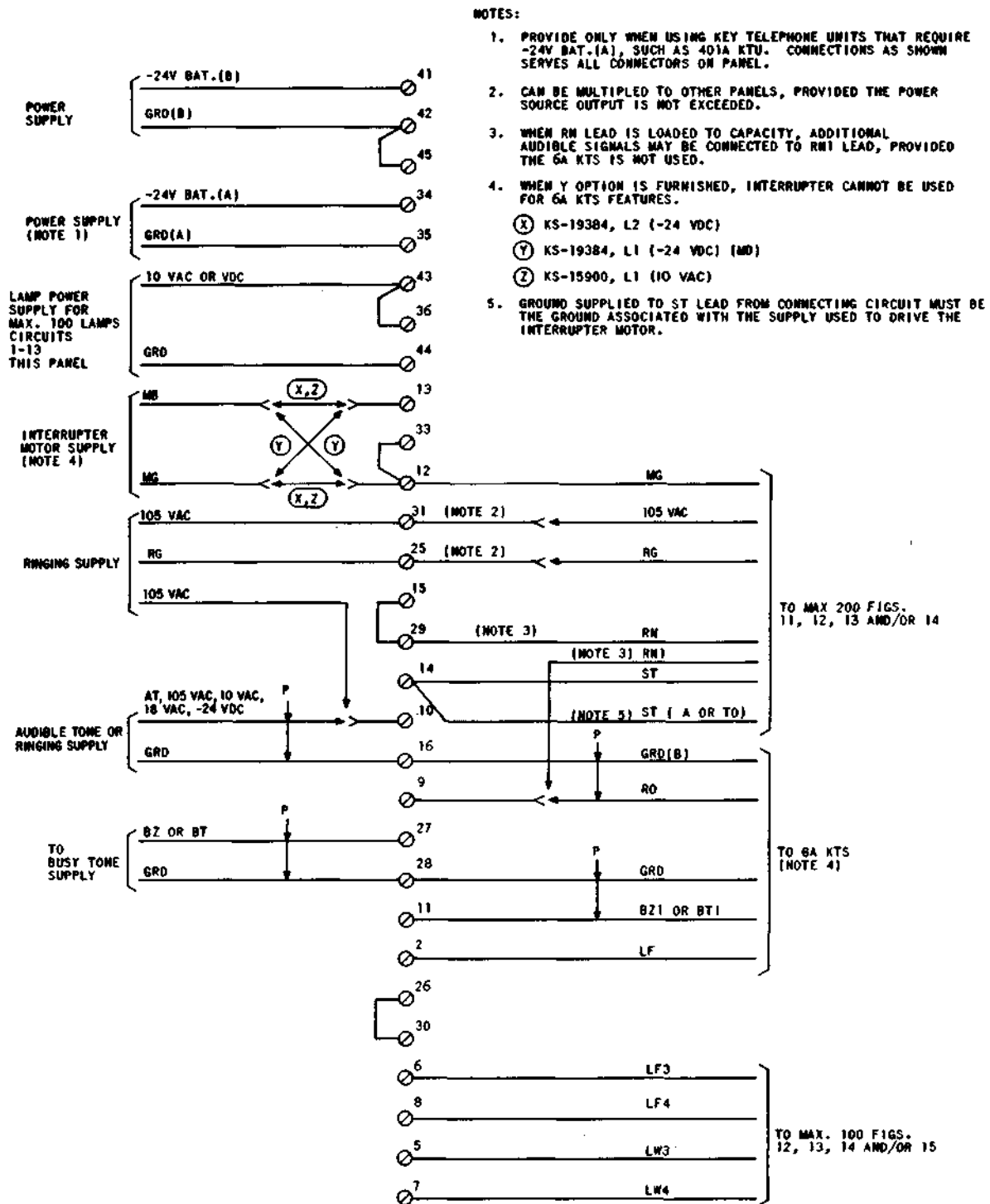


Fig. 10—584B (MD) Panel Equipped With Interrupter (Master panel used to control up to 200 other panels each equipped with 412A KTU)

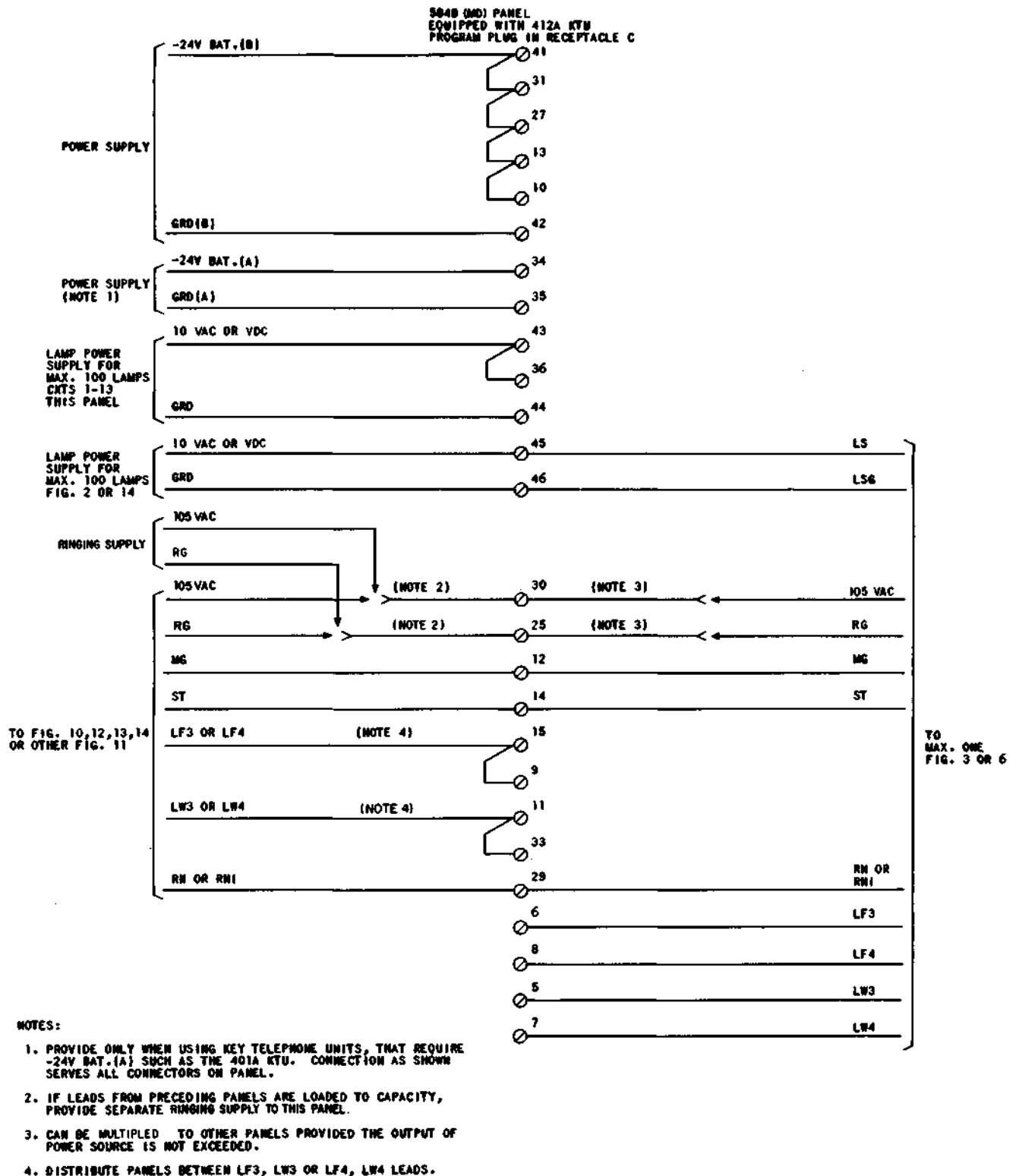


Fig. 11—584B (MD) Panel Equipped With 412A KTU (Panel used to control one other panel)

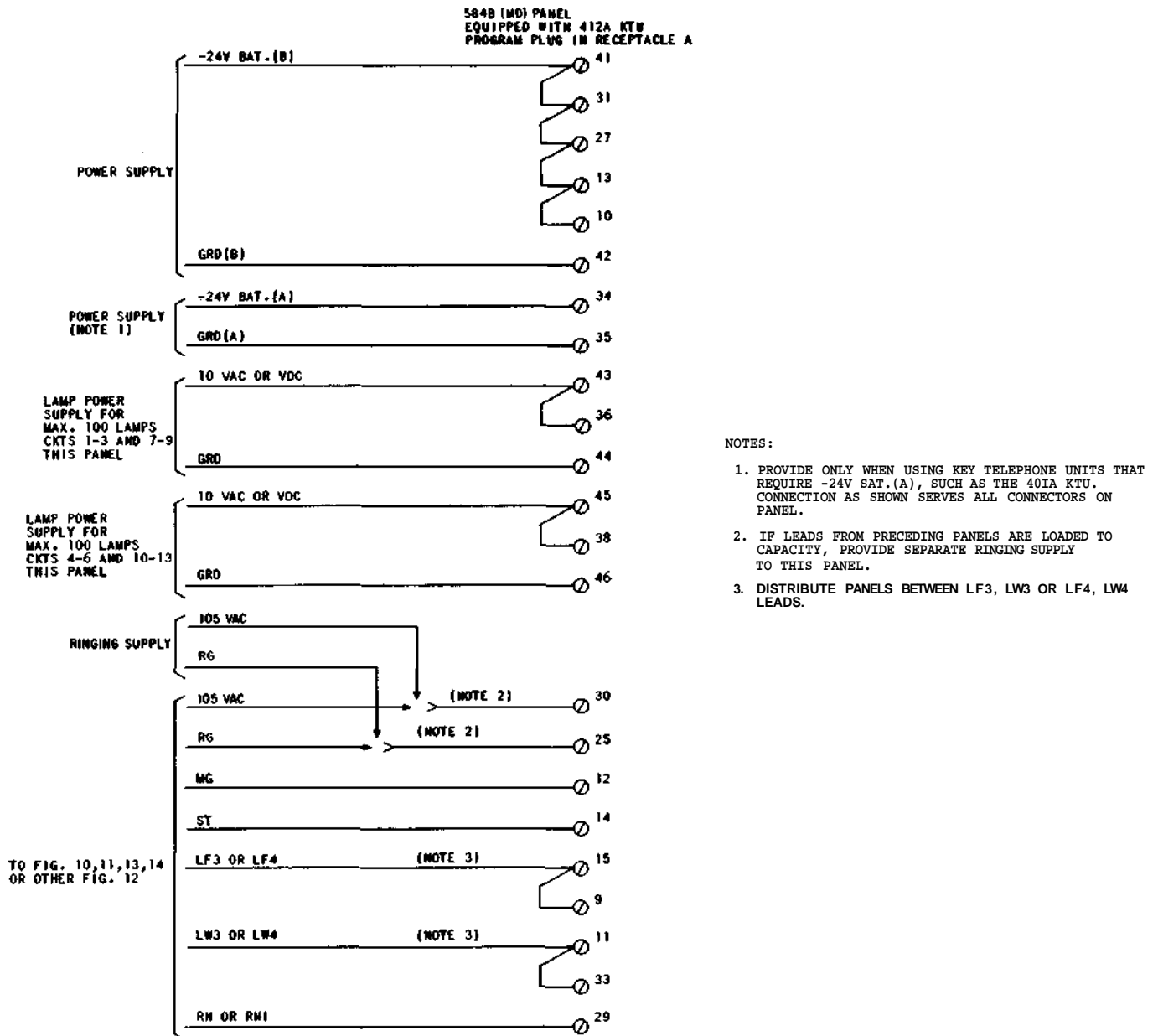


Fig. 12—584B (MD) Panel Equipped With 412A KTU (Panel not used to control other panels)

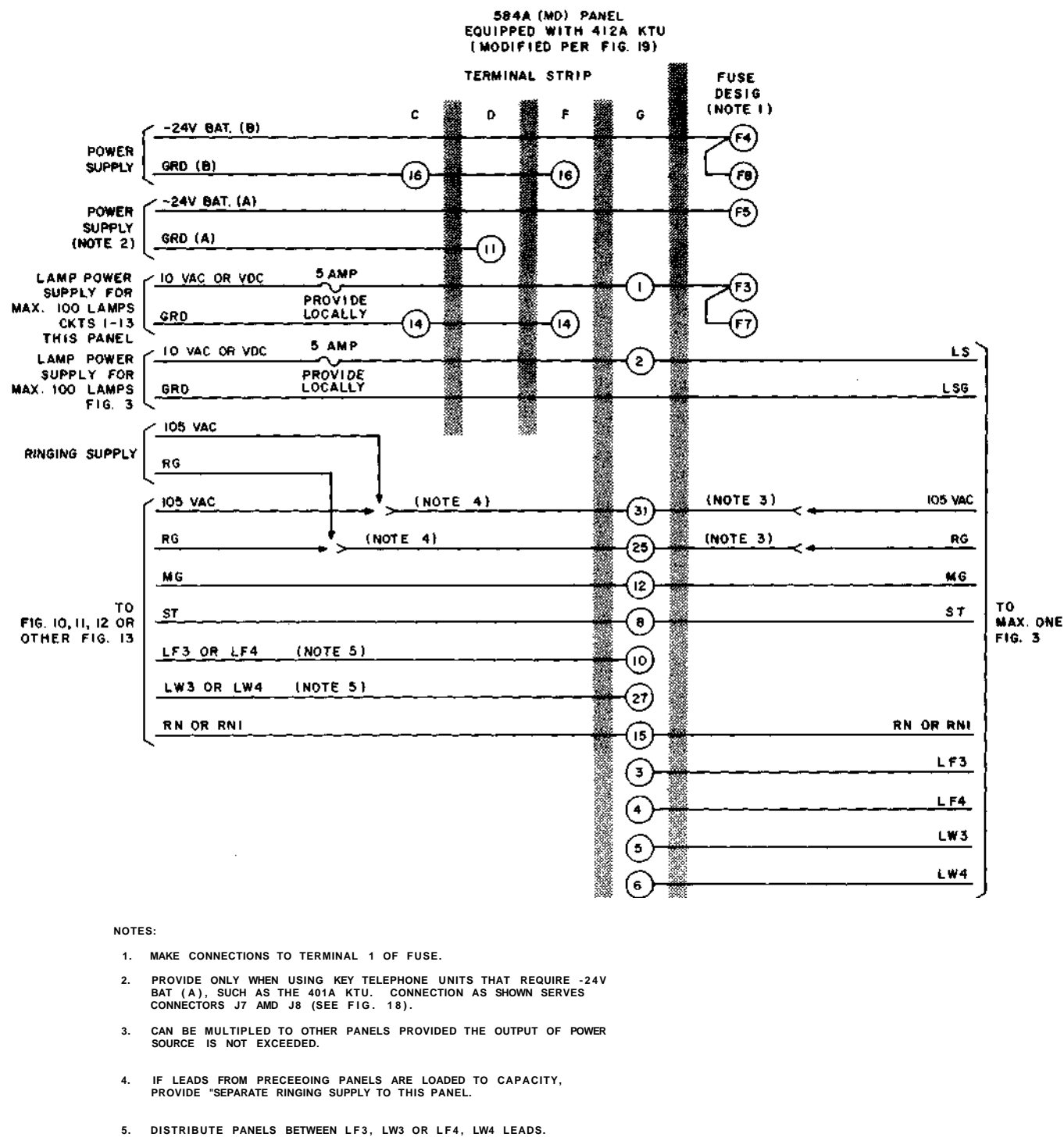
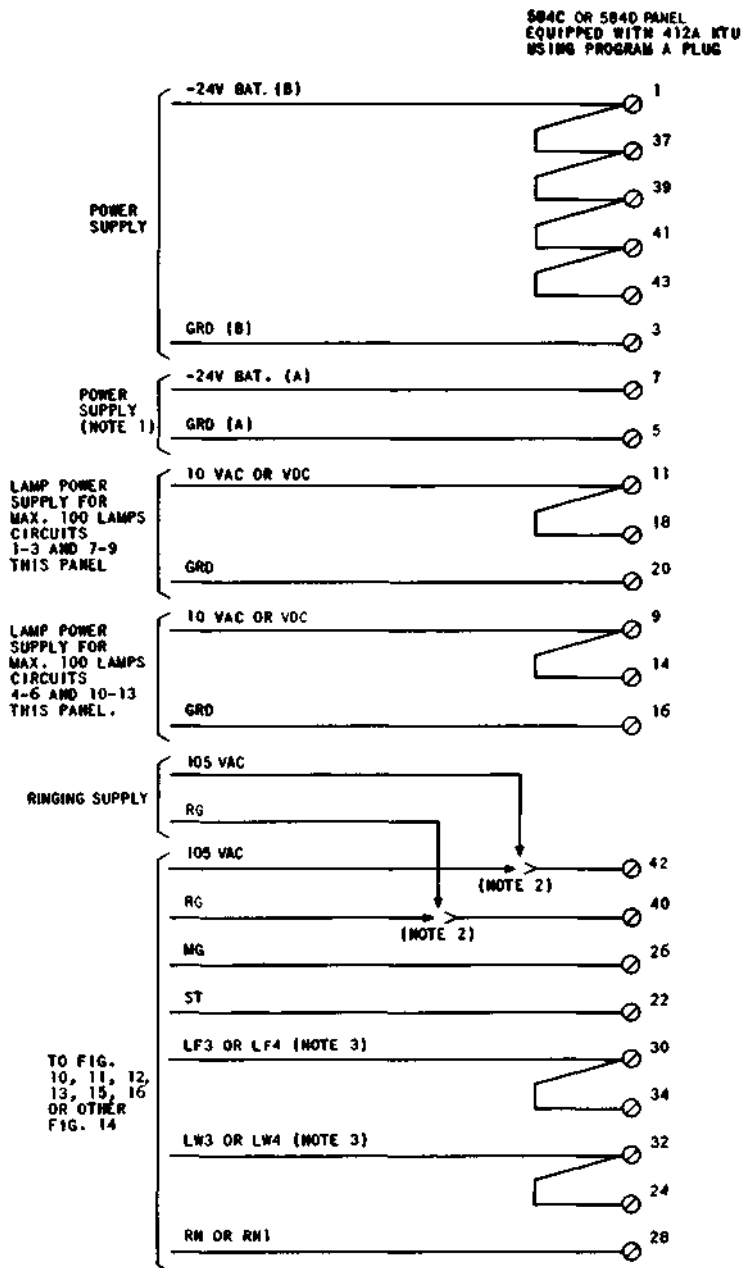


Fig. 13—584A (MD) Panel Equipped With 412A KTU (Panel used alone and also to control one other panel)





## NOTES

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V RAT.(A), SUCH AS 401A KTU.
2. IF LEADS FROM PRECEDING PANEL ARE LOADED TO CAPACITY. PROVIDE SEPARATE RINGING SUPPLY TO THIS PANEL.
3. DISTRIBUTE PANELS BETWEEN LF3, LW3 OR LF4, LW4 LEADS.

Fig. 14—584C or 584D Panel Equipped With 412A KTU (Panel not used to control other panels)

S84C OR 584D PANEL  
EQUIPPED WITH INTERRUPTER  
USING PROGRAM C PLUG

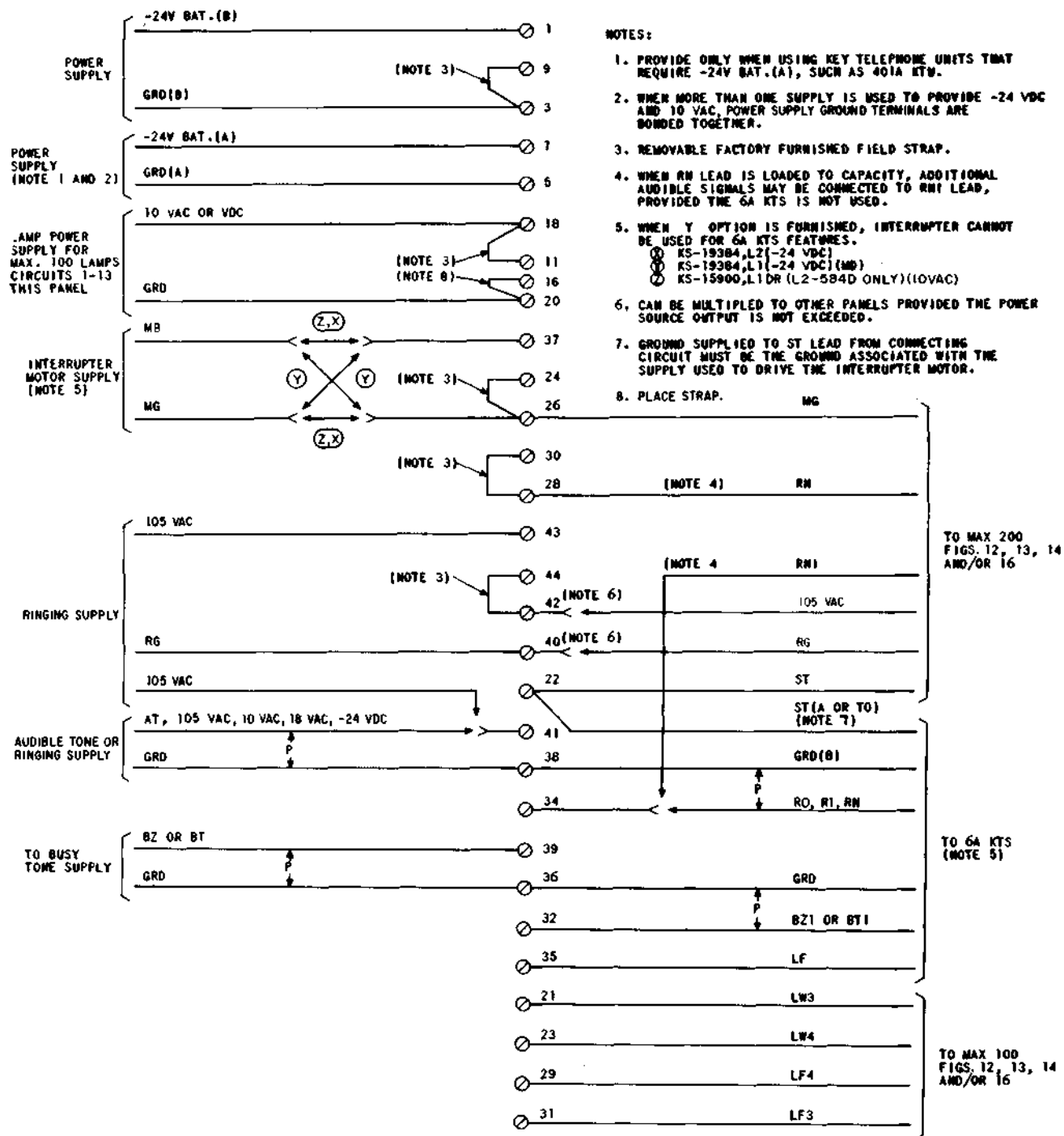
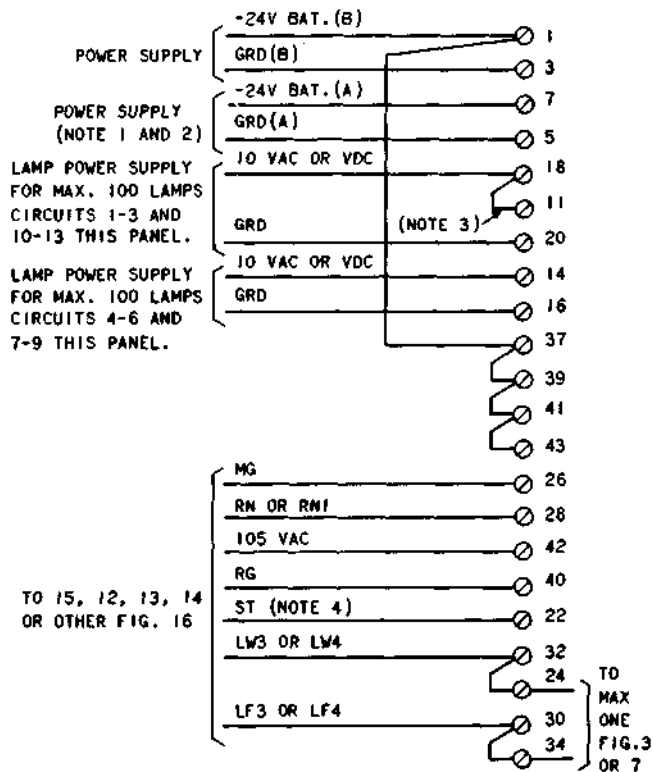


Fig. 15—584C or 584D Panel Equipped With Interrupter (Master panel used to control up to 200 other panels each equipped with 412A KTU)



## NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT. (A), SUCH AS THE 401A KTU.
2. WHEN MORE THAN ONE SUPPLY IS USED TO PROVIDE -24 VDC AND 10 VAC, POWER SUPPLY GROUND TERMINALS ARE BONDED TOGETHER.
3. REMOVABLE FACTORY FURNISHED FIELD STRAP.
4. GROUND SUPPLIED TO ST LEAD FROM CONNECTING CIRCUIT MUST BE THE GROUND ASSOCIATED WITH THE SUPPLY USED TO DRIVE THE INTERRUPTER MOTOR.

Fig. 16—584C or 584D Panel Equipped With 412A KTU (Panel used to control one other panel)

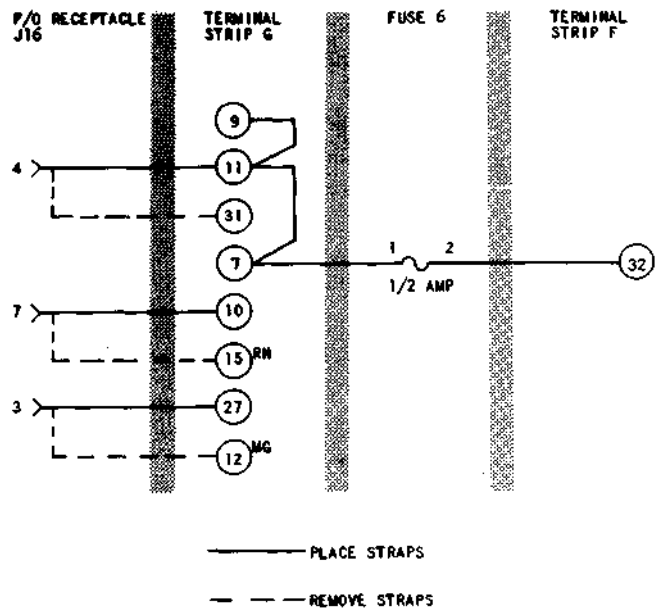
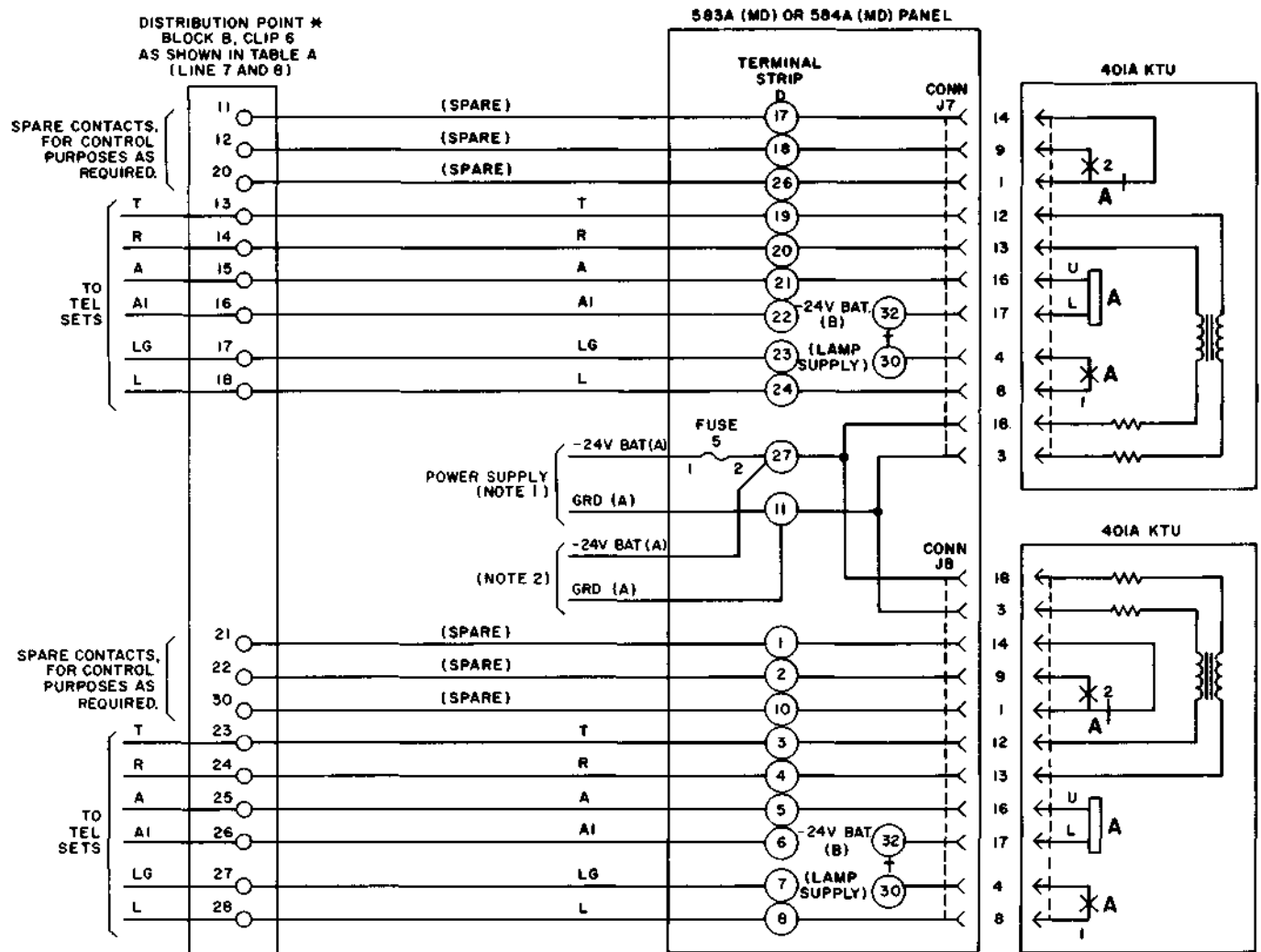


Fig. 17—Modification of 584A (MD) Panel to Accept 412A KTU



## NOTES:

1. A MAXIMUM OF SIX 401A KTU'S CAN BE SERVED THROUGH FUSE 5. IF ADDITIONAL 401A KTU'S ARE REQUIRED, -24V BAT (A) MUST BE SUPPLIED THROUGH A SPARE FUSE.
2. IF ADDITIONAL 401A KTU'S ARE REQUIRED, MULTIPLE TO ANY DESIRED TERMINAL STRIP EXCEPT TERMINAL STRIP G (CONN J13), WITHIN THE LIMITATIONS OF NOTE 1.

X A MAXIMUM OF 3 STATION CABLES OR 2 STATION CABLES AND A DISTRIBUTING CABLE CAN CONNECT DIRECTLY TO PANEL.

+ FURNISHED WITH BASIC WIRING OF PANEL. FOR CLARITY, SAME TERMINAL SHOWN TWICE.

Fig. 18—Manual Intercommunication Connections for 583A (MD) and 584A (MD) Panels

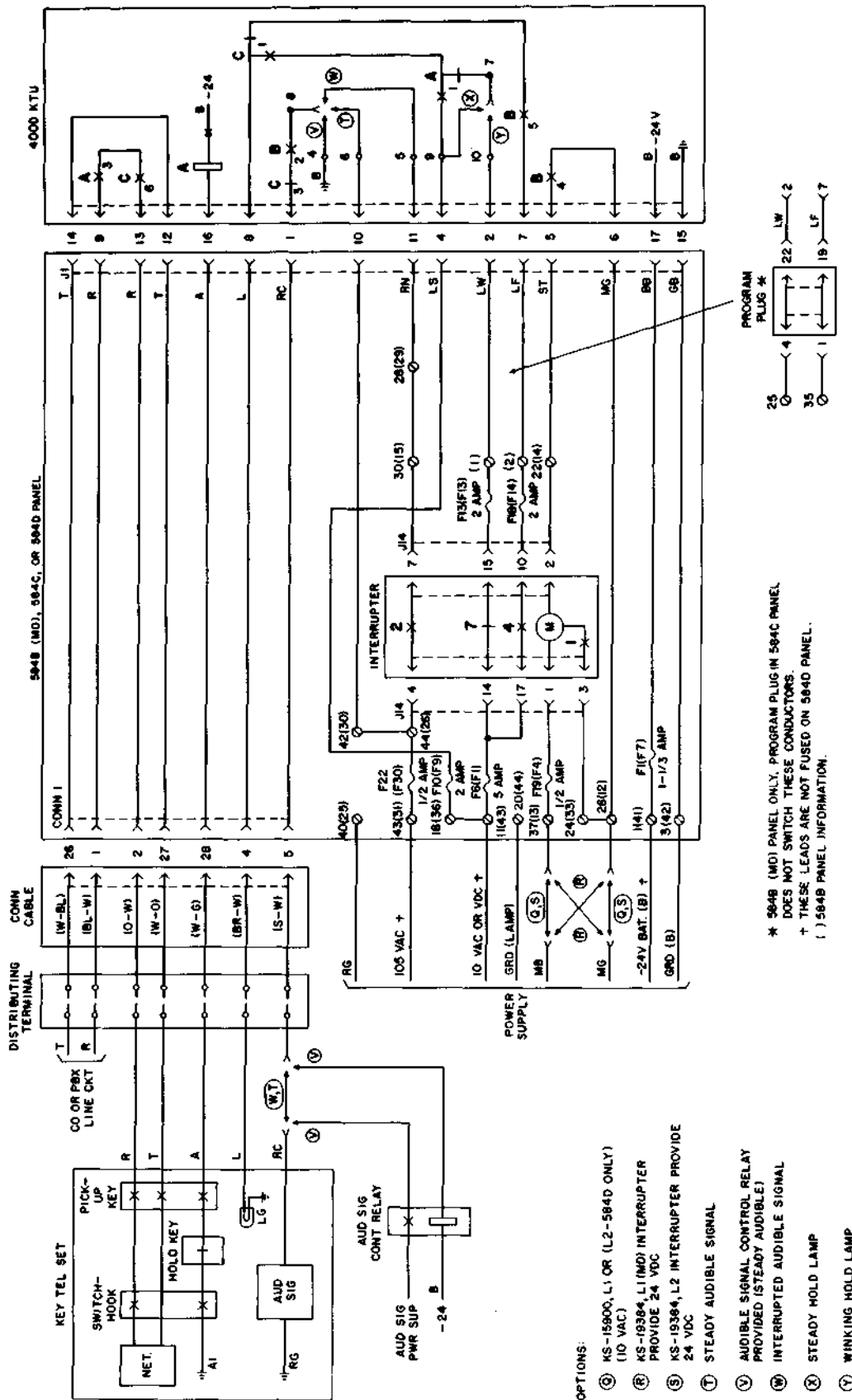


Fig. 19—Typical Functional Layout of 584B (MD) and 584C or D Panels Showing Line Circuit 1 Only

TABLE A

## CONNECTIONS TO DISTRIBUTION POINT AND/OR THE PANELS

CIRCUIT		LEAD DESIG	DISTRIBUTION POINT BLOCK A 66-TYPE CONNECTING BLOCK			TERMINAL ON PANEL			
			ROW	COL	COLOR BL-W BINDER	583A (MO)	S84A (MD)	S84B (MD) 584C AND 584D	
								PIN	CONNECTOR
Line 1	CO PBX	T R	1 2	F	W-BL BL-W	17A 18A	26 1	1	
	STA	T R	3 4		W-0 O-W	19A 20A	27 2		
		A A1	5 6		W-G G-W	21A 22A	28 3		
		LG L	7 8		W-BR BR-W	23A 24A	29 4		
		RG RC	9 10		W-S S-W	25A 26A	30 5		
CO PBX		T R	11 12		R-BL BL-R	1A 2A	31 6		
Line 2	STA	T R	13 14		R-0 O R	3A 4A	32 7		
		A A1	15 16		R-G G-R	5A 6A	33 8		
		LG L	17 18		R-BR BR-R	7A 8A	34 9		
		RG RC	19 20		R-S S-R	9A 10A	35 10		
		CO PBX	T R		21 22	BK-BL BL-BK	17B 18B		36 11
Line 3	STA	T R	23 24		BK-0 O-BK	19B 20B	37 12		
		A A1	25 26		BK-G G-BK	21B 22B	38 13		
		LG L	27 28		BK-BR BR-BK	23B 24B	39 14		
		RG RC	29 30		BK-S S-BK	25B 26B	40 15		
		CO PBX	T R		31 32	Y-BL BL-Y	1B 2B		41 16
Line 4	STA	T R	33 34		Y-0 O-Y	3B 4B	42 17		
		A A1	35 36		Y-G G-Y	5B 6B	43 18		
		LG L	37 38		Y-BR BR-Y	7B 8B	44 19		
		RG RC	39 40		Y-S S-Y	9B 10B	45 20		
		CO PBX	T R		41 42	V-BL BL-V	17C 18C		46 21
Line 5	STA	T R	43 44		V-0 O-V	19C 20C	47 22		
		A A1	45 46		V-G G-V	21C 22C	48 23		
		LG L	47 48		V-BR BR-V	23C 24C	49 24		
		RG RC	49 50		V-S S-V	25C 26C	50 25		

TABLE A (Cont)

## CONNECTIONS TO DISTRIBUTION POINT AND/OR THE PANELS

CIRCUIT		LEAD DESIG	DISTRIBUTION POINT BLOCK B 66-TYPE CONNECTING BLOCK			TERMINAL ON PANEL			
			ROW	COL	COLOR O-W BINDER	583A (MD)	584A (MD)	584B (MD) 584C AND 584D	
								PIN	CONNECTOR
Line 6	CO PBX	T R	1 2	A	W-BL BL-W	1C 2C		26 1	2
	STA	T R	3 4		W-0 O-W	3C 4C		27 2	
		A A1	5 6		W-G G-W	5C 6C		28 3	
		LG L	7 8		W-BR BR-W	7C 8C		29 4	
		RG RC	9 10		W-S S-W	9C 10C		30 5	
Line 7	CO PBX	T R	11 12		R-BL BL-R	17D 18D		31 6	
	STA	T R	13 14		R-0 O-R	19D 20D		32 7	
		A A1	15 16		R-G G-R	21D 22D		33 8	
		LG L	17 18		R-BR BR-R	23D 24D		34 9	
		RG RC	19 20		R-S S-R	25D 26D		35 10	
Line 8	CO PBX	T R	21 22		BK-BL BL-BK	1D 2D		36 11	
	STA	T R	23 24		BK-0 O-BK	3D 4D		37 12	
		A A1	25 26		BK-G G-BK	5D 6D		38 13	
		LG L	27 28		BK-BR BR-BK	7D 8D		39 14	
		RG RC	29 30		BK-S S-BK	9D 10D		40 15	
Line 9	CO PBX	T R	31 32		Y-BL BL-Y	17E 18E		41 16	
	STA	T R	33 34		Y-0 O-Y	19E 20E		42 17	
		A A1	35 36		Y-G G-Y	21E 22E		43 18	
		LG L	37 38		Y-BR BR-Y	23E 24E		44 19	
		RG RC	39 40		Y-S S-Y	25E 26E		45 20	
Line 10	CO PBX	T R	41 42		V-BL BL-V	1E 2E		46 21	
	STA	T R	43 44		V-0 O-V	3E 4E		47 22	
		A A1	45 46		V-G G-V	5E 6E		48 23	
		LG L	47 48		V-BR BR-V	7E 8E		49 24	
		RG RC	49 50		V-S S-V	9E 10E		50 25	

TABLE A (Cont)

## CONNECTIONS TO DISTRIBUTION POINT AND/OR THE PANELS

CIRCUIT		LEAD DESIG	DISTRIBUTION POINT BLOCK C 66-TYPE CONNECTING BLOCK			TERMINAL ON PANEL		
			ROW	COL	COLOR G-W BINDER	583A (MD)	584A (MO)	584B (MD) 584C AND 584D PIN CONNECTOR
Line 11	CO PBX	T R	1 2	F	W-BL BL-W	17F 18F		26 1
	STA	T R	3 4		W-0 O-W	19F 20F		27 2
		A A1	5 6		W-G G-W	21F 22F		28 3
		LG L	7 8		W-BR BR-W	23 F 24F		29 4
		RG RC	9 10		W-S S-W	25F 26F		30 5
Line 12	CO PBX	T R	11 12		R-BL BL-R	1F 2F		31 6
	STA	T R	13 14		R-O O-R	4F 3F		32 7
		A A1	15 16		R-G G-R	5F 6F		33 8
		LG L	17 18		R-BR BR-R	7F 8F		34 9
		RG RC	19 20		R-S S-R	9F 10F		35 10
Line 13	CO PBX	T R	21 22		BK-BL BL-BK	17G 18G		36 11
	STA	T R	23 24		BK-0 O-BK	19G 20G		37 12
		A A1	25 26		BK-G G-BK	21G 22G		38 13
		LG L	27 28		BK-BR BR-BK	23G 24G		39 14
		RG RC	29 30		BK-S S-BK	25G 26G		40 15
Line 14	CO PBX	T R	31 32		Y-BL BL-Y	17H 18H		41 16
	STA	T R	33 34		Y-O O-Y	19H 20H		42 17
		A A1	35 36		Y-G G-Y	21H 22H		43 18
		LG L	37 38		Y-BR BR-Y	23H 24H		44 19
		RG RC	39 40		Y-S S-Y	25H 26H		45 20
Line 15	CO PBX	T R	41 42		V-BL BL-V	1H 2H		46 21
	STA	T R	43 44		V-0 O-V	3H 4H		47 22
		A A1	45 46		V-G G-V	5H 6H		48 23
		LG L	47 48		V-BR BR-V	7H 8H		49 24
		RG RC	49 50		V-S S-V	9H 10H		50 25

3

(NOTE)

*Note:* When using other than A65A connector cable with the 584B (MD). panel, these leads are spare and are dead-dressed long enough to reach any screw terminal and stored behind back panel.