PANELS
583- AND 584-TYPE
CONNECTIONS AND MAINTENANCE

1. GENERAL

1.01 Information in this section was formerly contained in Section 518-270-401 which is hereby canceled. Information has been added on the 584C panel, which replaces the 584B panel used in large centralized installations of 1A2 Key Telephone System arrangements.

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

SD-69502-01, Issue 2D

SD-69552-01, Issue 4D

SD-69591-01, Issue 1

If this section is to be used with equipment or apparatus reflecting later issues of the drawings, reference should be made to the SDs and CDs to determine the extent of the changes and the manner in which the section may be affected.

1.03 Station, power, and interpanel connections to 583A and 594A panels are made to 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 termination.

Sections 069-132-811, 069-120-811, 075-120-701, and 074-820-101 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 and 584C 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 (see Table A).

2.03 ***Connection Index***

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

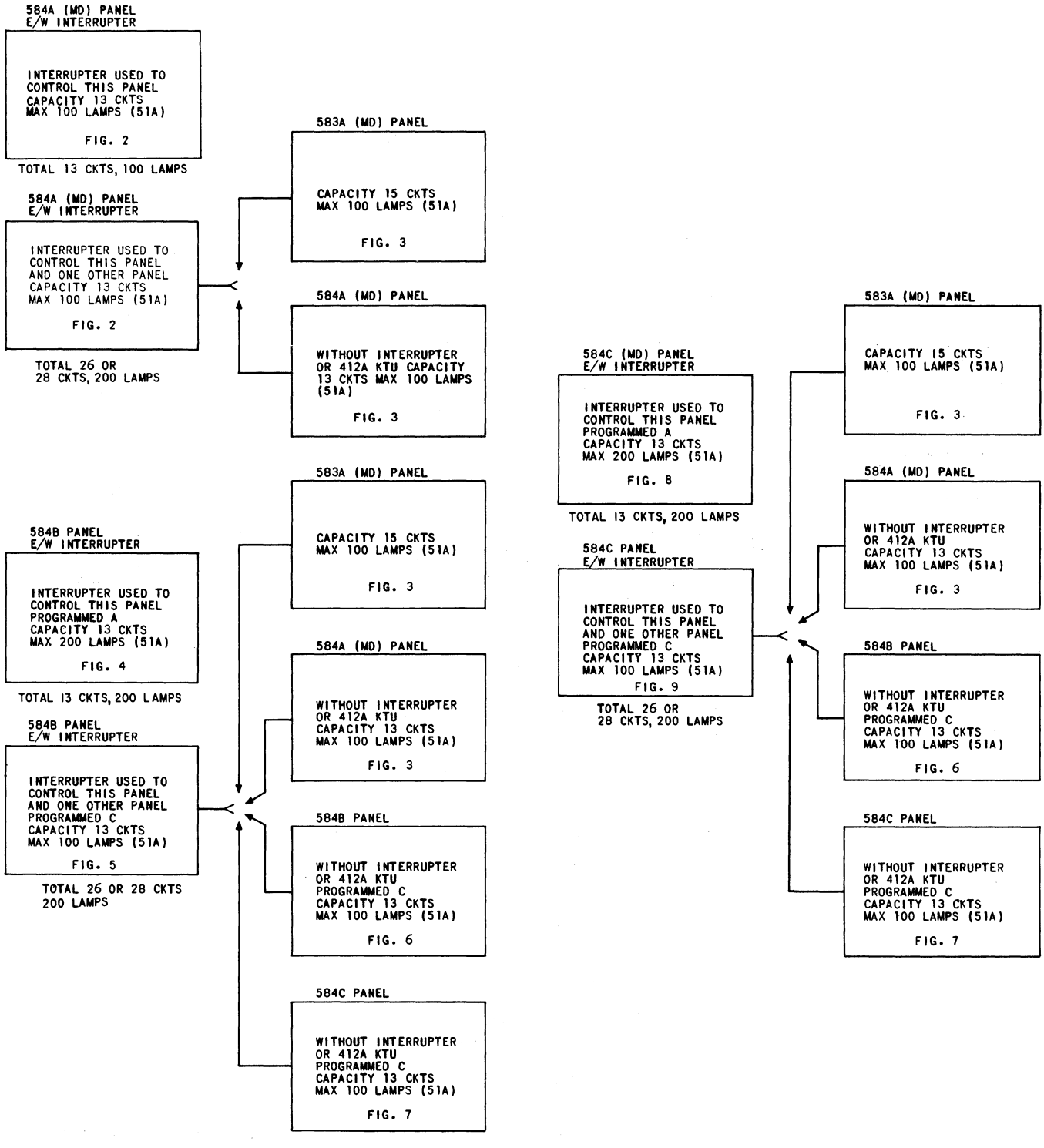
(2) Determine which KTU is not operating properly

(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: Ensure that the 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.

2 506



2 5 0 7

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

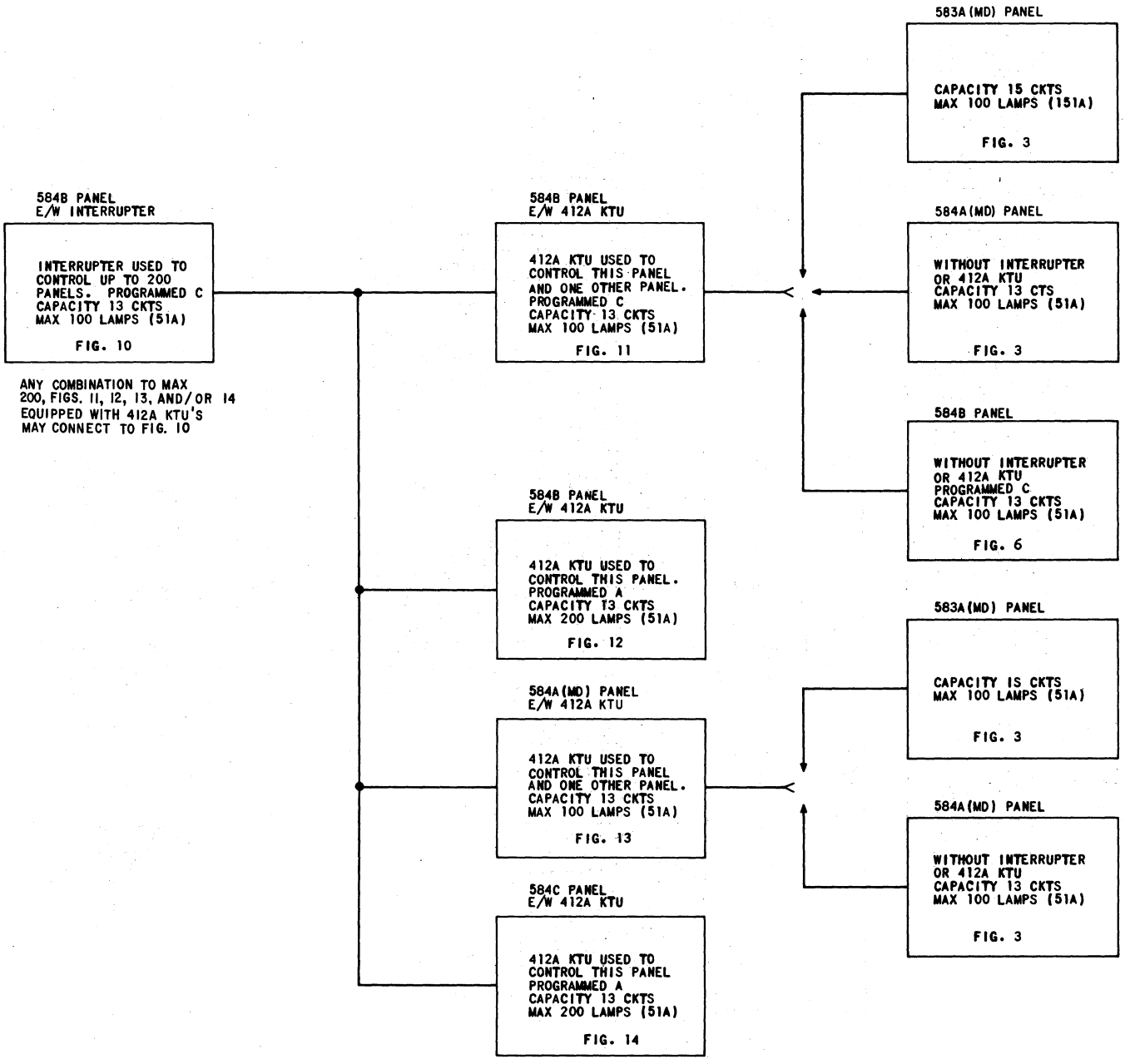
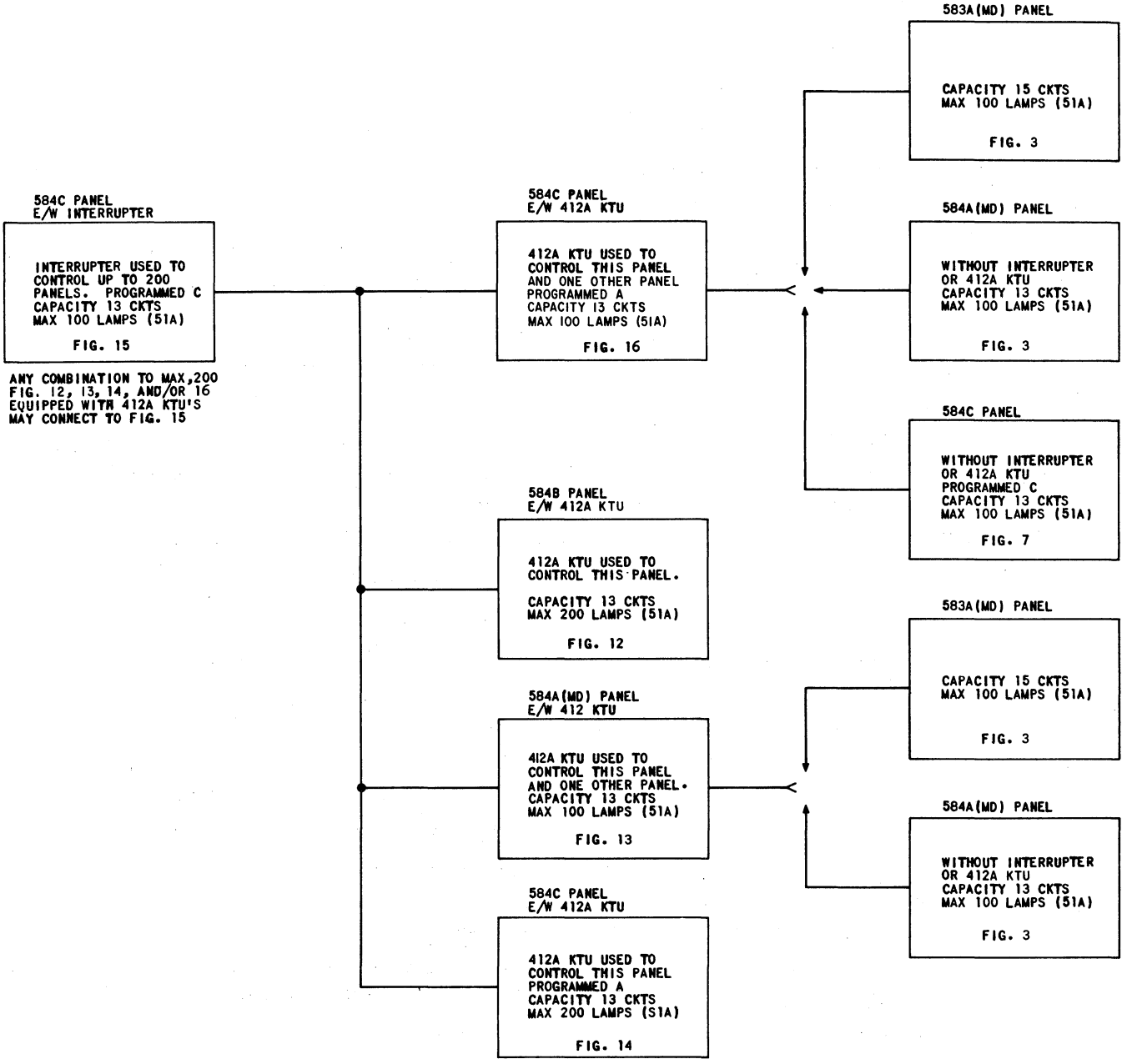


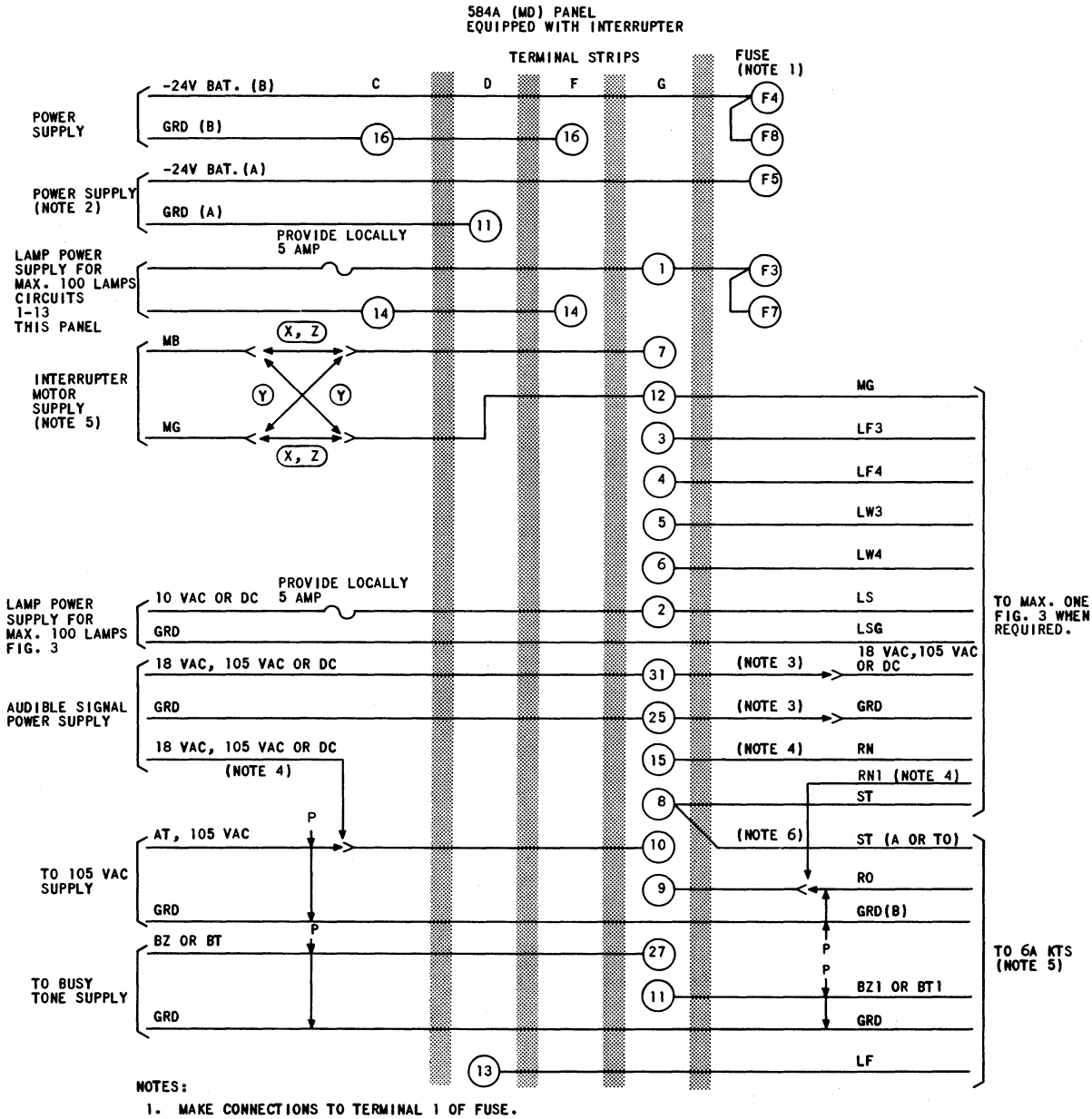
Fig. 1—Block Diagram Showing Arrangement of 583A (MD), 584A (MD), 584B, and 584C Panels (Sheet 2 of 3)

2 508



2 509

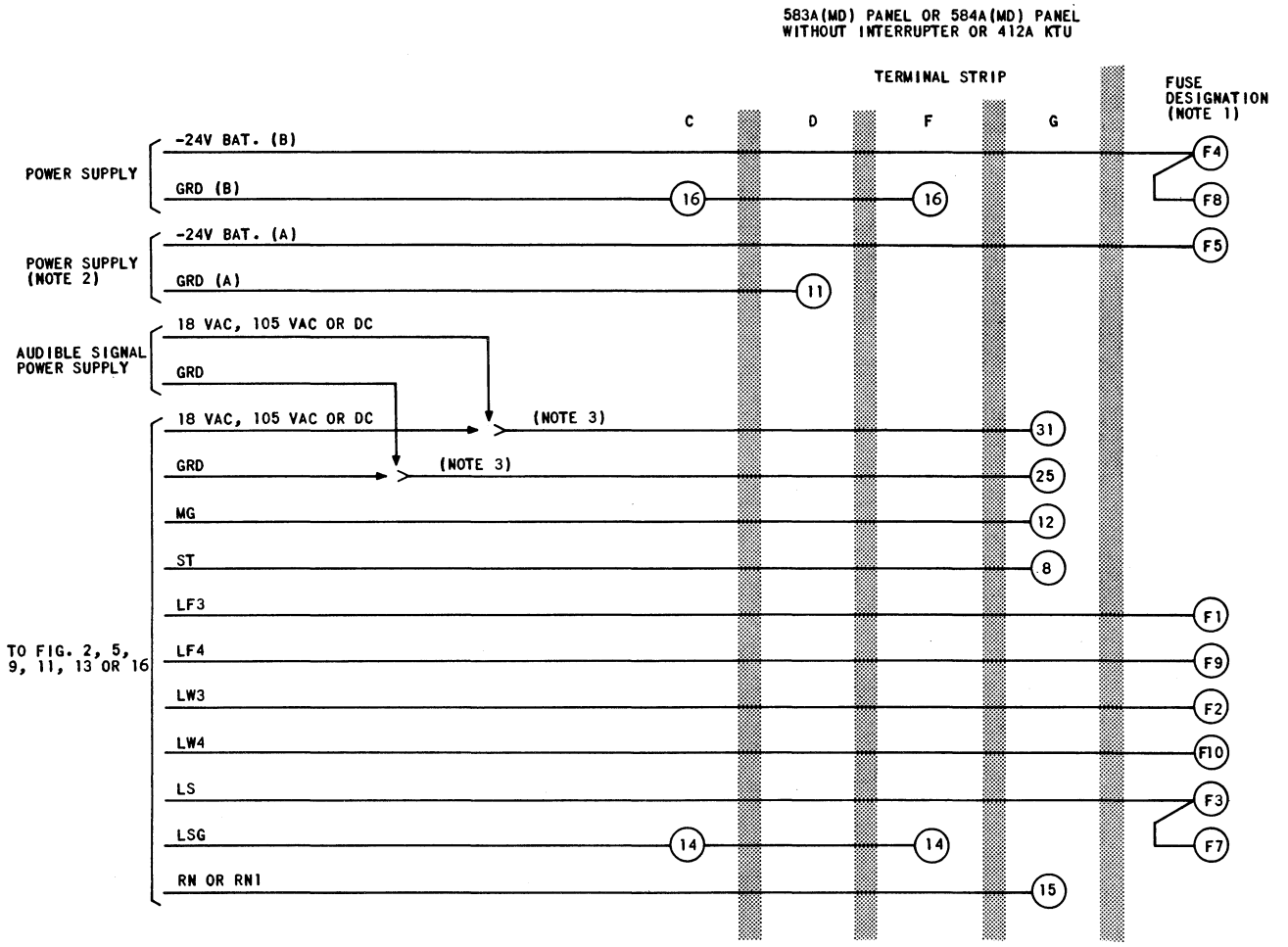
Fig. 1—Block Diagram Showing Arrangement of 583A (MD), 584A (MD), 584B, and 584C Panels (Sheet 3 of 3)



NOTES:

1. MAKE CONNECTIONS TO TERMINAL 1 OF FUSE.
2. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT. (A), SUCH AS THE 401A KTU. CONNECTIONS SHOWN SERVES CONNECTORS J7 AND J8 (SEE FIG. 18).
3. CAN BE MULTIPLED TO OTHER PANELS, PROVIDED THE POWER SOURCE OUTPUT IS NOT EXCEEDED.
4. WHEN RN LEAD IS LOADED TO CAPACITY, ADDITIONAL AUDIBLE SIGNALS MAY BE CONNECTED TO RN1 LEAD, PROVIDED THE 6A KTS IS NOT USED.
5. 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)
6. GROUND SUPPLIED TO ST LEAD FROM CONNECTING CIRCUIT MUST BE THE GROUND ASSOCIATED WITH THE SUPPLY USED TO DRIVE THE INTERRUPTER MOTOR.

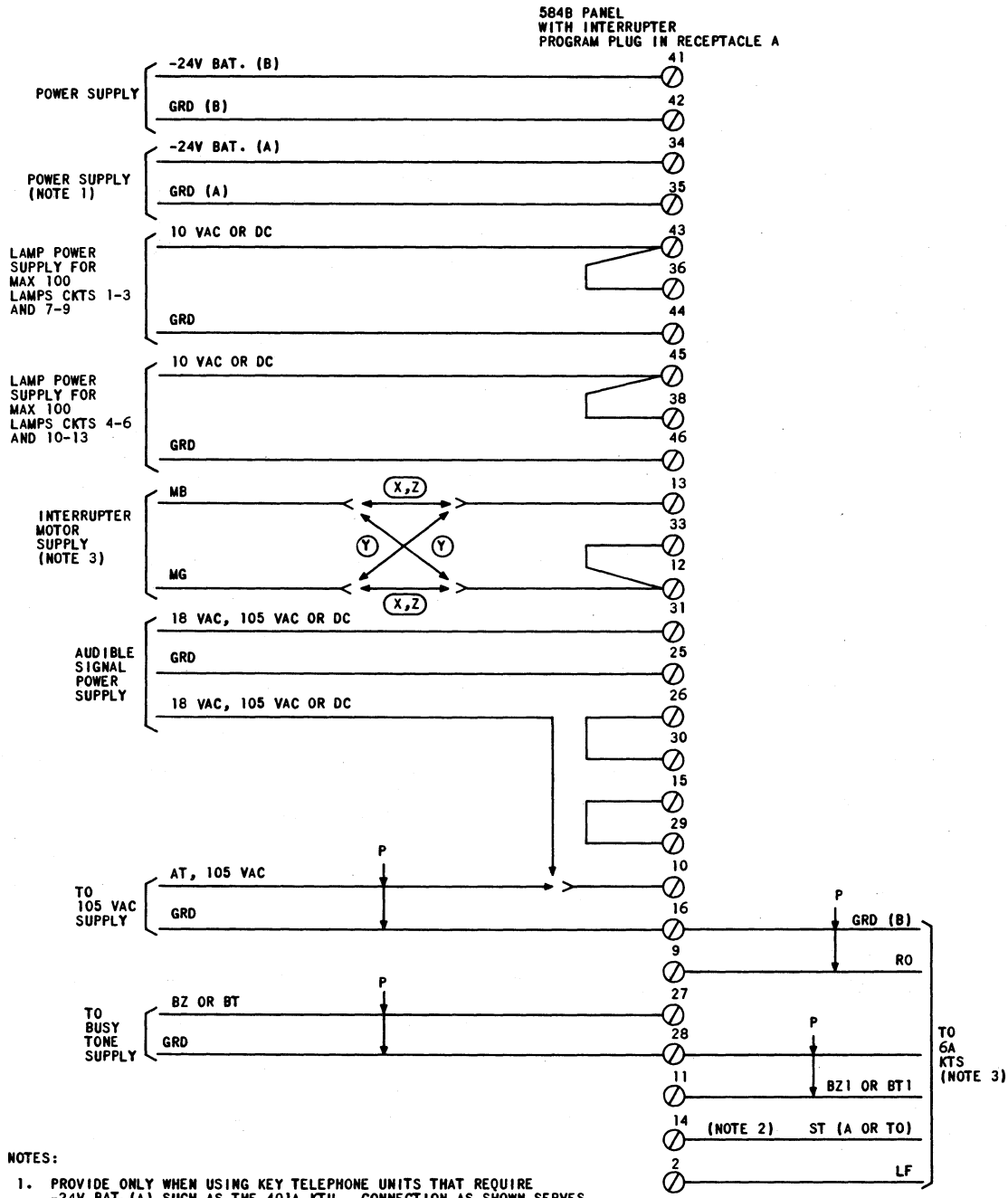
Fig. 2—584A (MD) Panel Equipped With Interrupter (Panel can be used alone and also to control one other panel)



NOTES:

1. MAKE CONNECTIONS TO TERMINAL 1 OF FUSE.
2. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT. (A), 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 AUDIBLE SIGNAL POWER TO THIS PANEL.

Fig. 3—583A (MD) or 584A (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. CONNECTION AS SHOWN SERVES ALL CONNECTORS ON PANEL.
2. GROUND SUPPLIED TO ST LEAD FROM CONNECTING CIRCUIT MUST BE THE GROUND ASSOCIATED WITH THE SUPPLY USED TO DRIVE THE INTERRUPTER MOTOR.
3. 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)

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

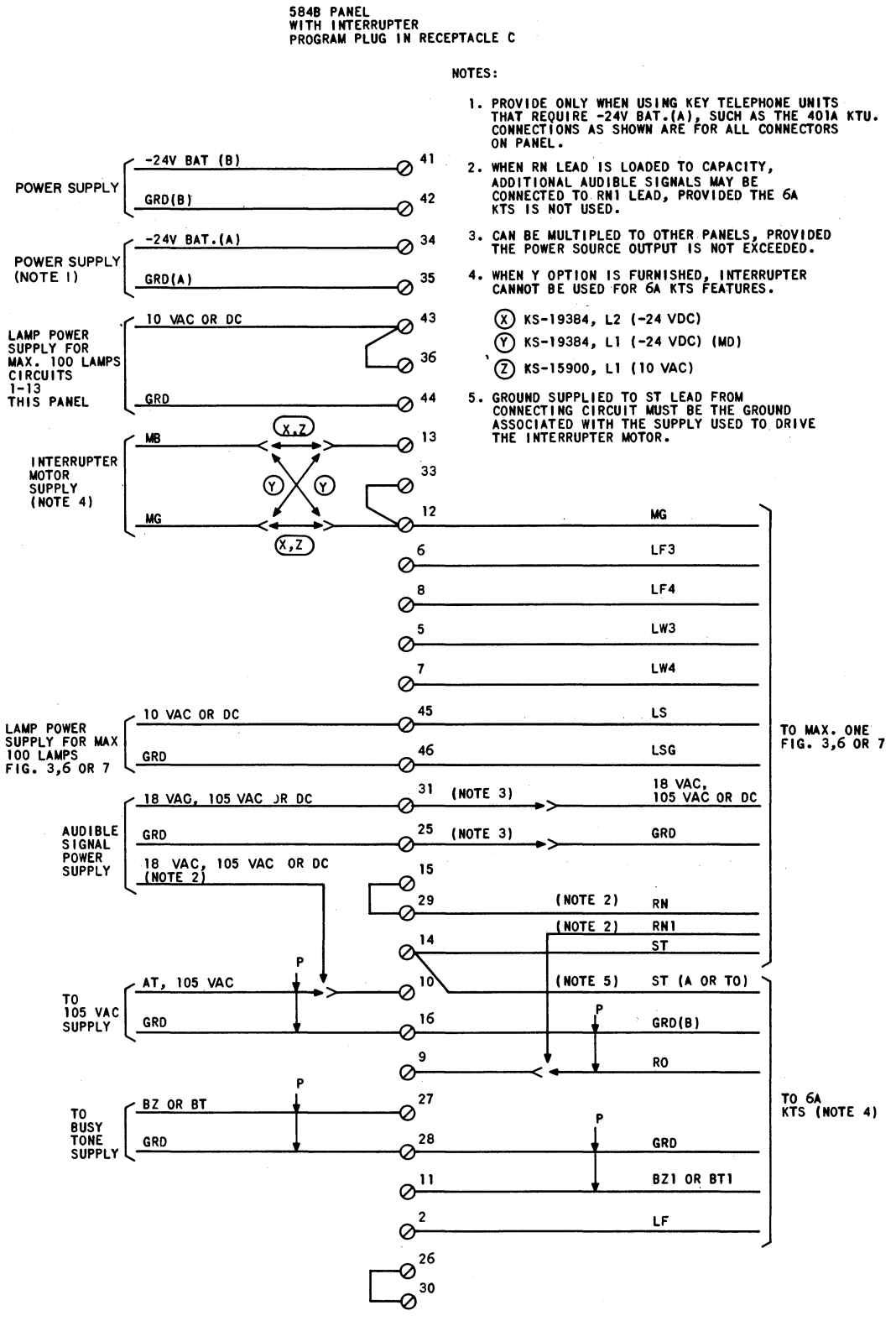


Fig. 5—584B Panel Equipped With Interrupter (Panel used to control one other panel)

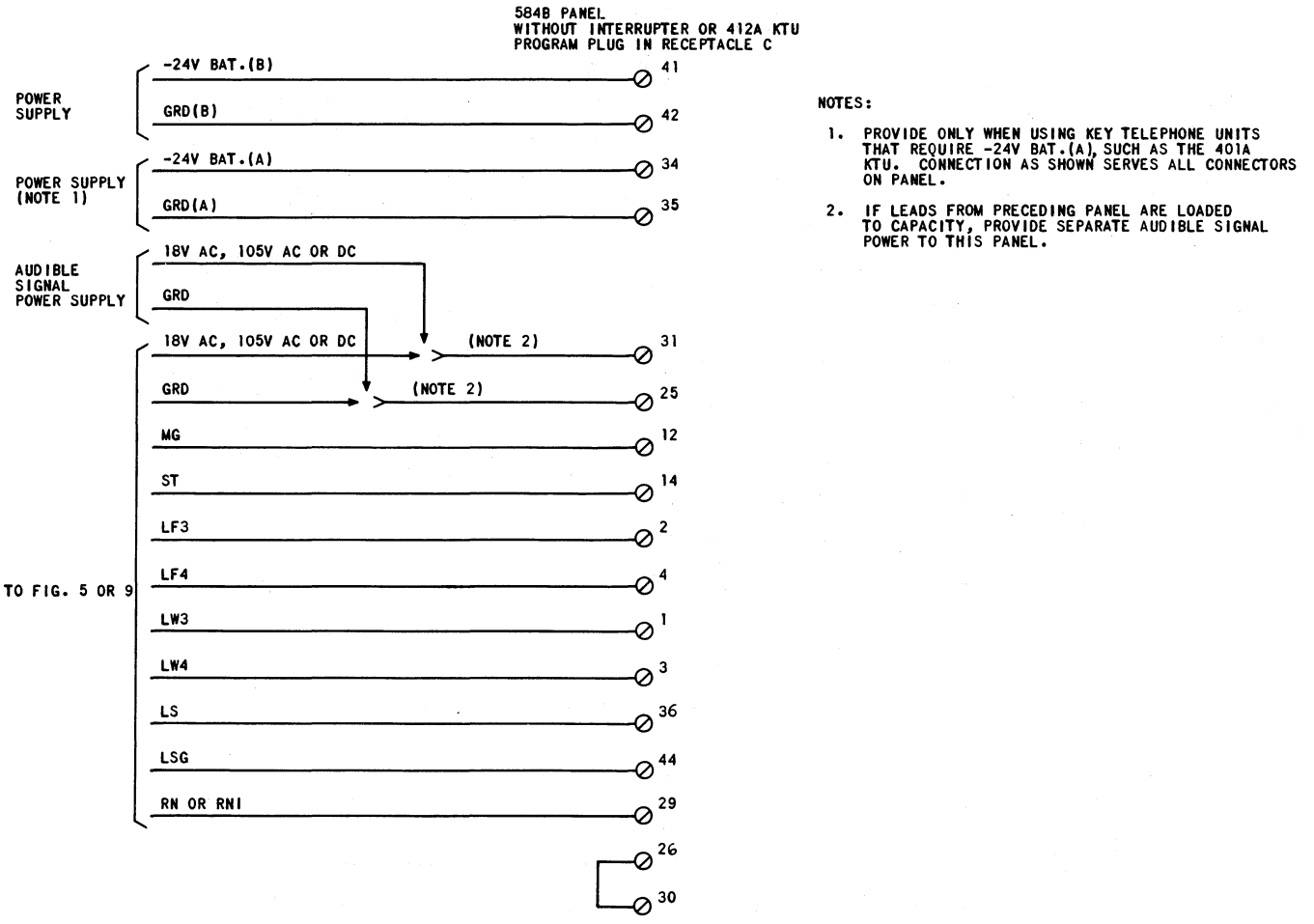
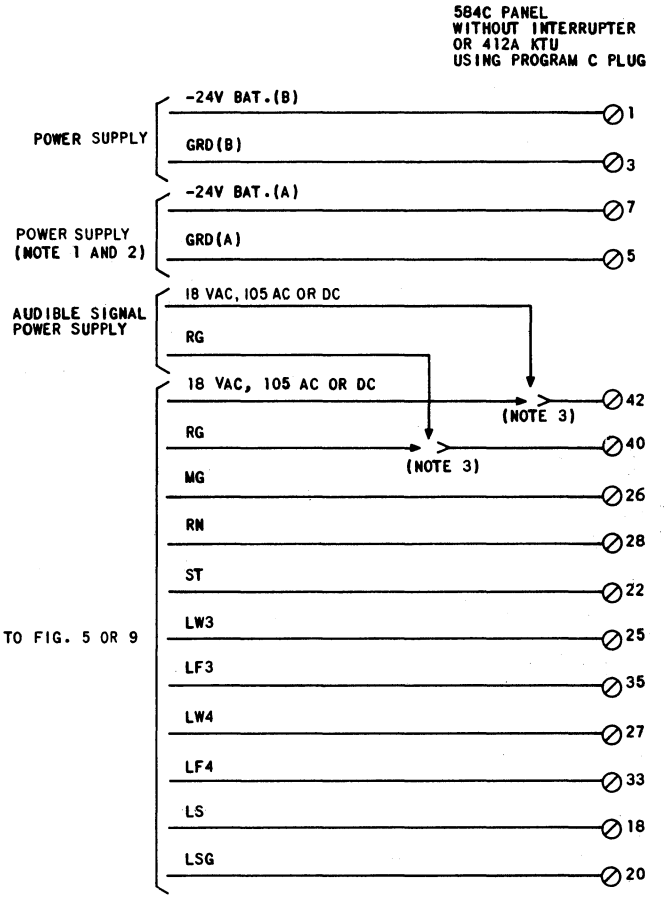


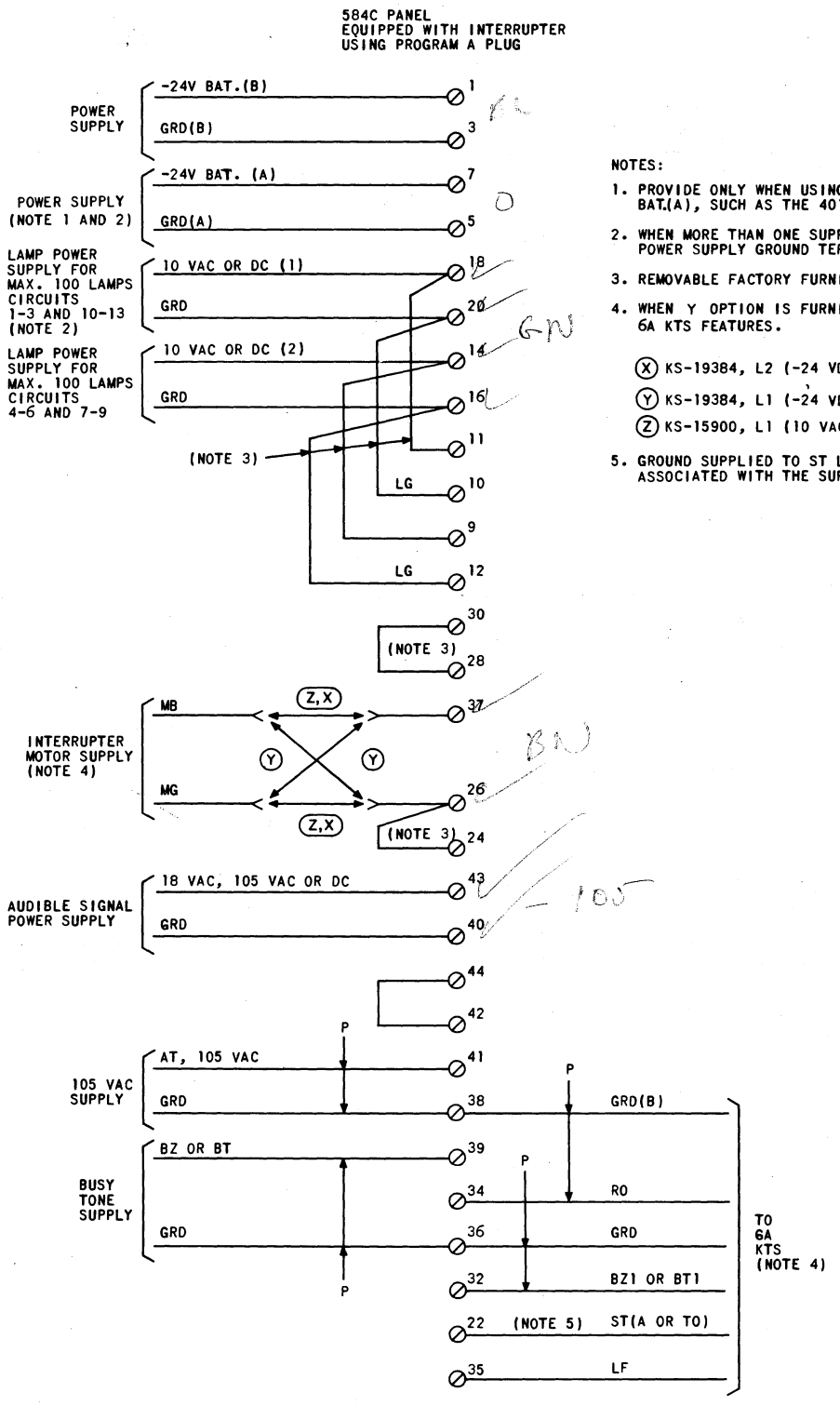
Fig. 6—584B Panel Not Equipped With Interrupter or 412A KTU



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, POWER SUPPLY GROUND TERMINALS ARE BOUNDED TOGETHER.
3. IF LEADS FROM PRECEDING PANEL ARE LOADED TO CAPACITY, PROVIDE SEPARATE AUDIBLE SIGNAL POWER TO THIS PANEL.

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



NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONEUNITS THAT REQUIRE -24V BAT.(A), SUCH AS THE 401A KTV.
2. WHEN MORE THAN ONE SUPPLY IS USED TO PROVIDE -24 VDC AND 10 VAC POWER, POWER SUPPLY GROUND TERMINALS ARE BONDED TOGETHER.
3. REMOVABLE FACTORY FURNISHED FIELD STRAP.
4. WHEN Y OPTION IS FURNISHED, INTERRUPTER CAN NOT 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. 8—584C Panel Equipped With Interrupter (Panel not used to control other panels)

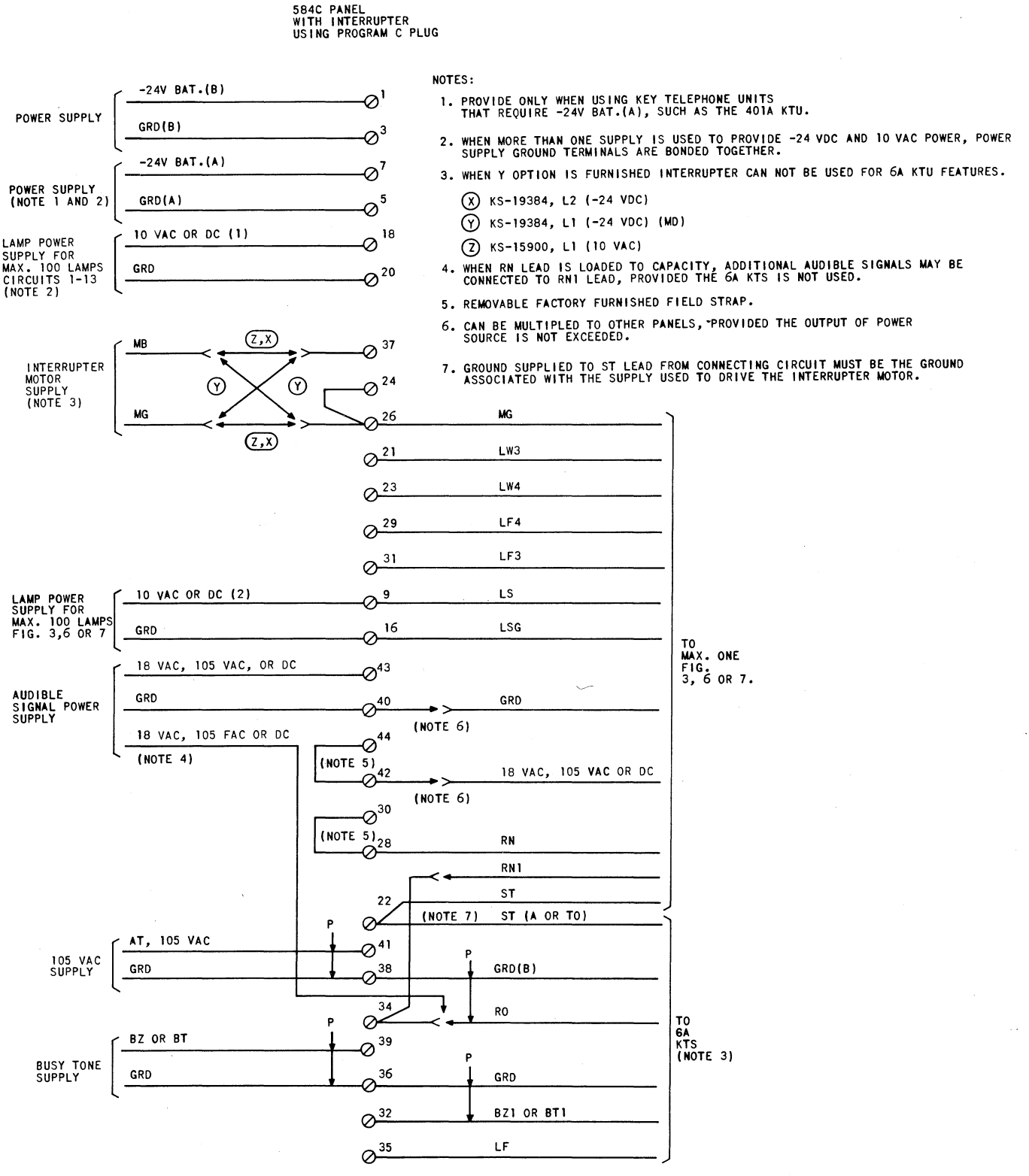


Fig. 9—584C Panel Equipped With Interrupter (Panel used to control one other panel)

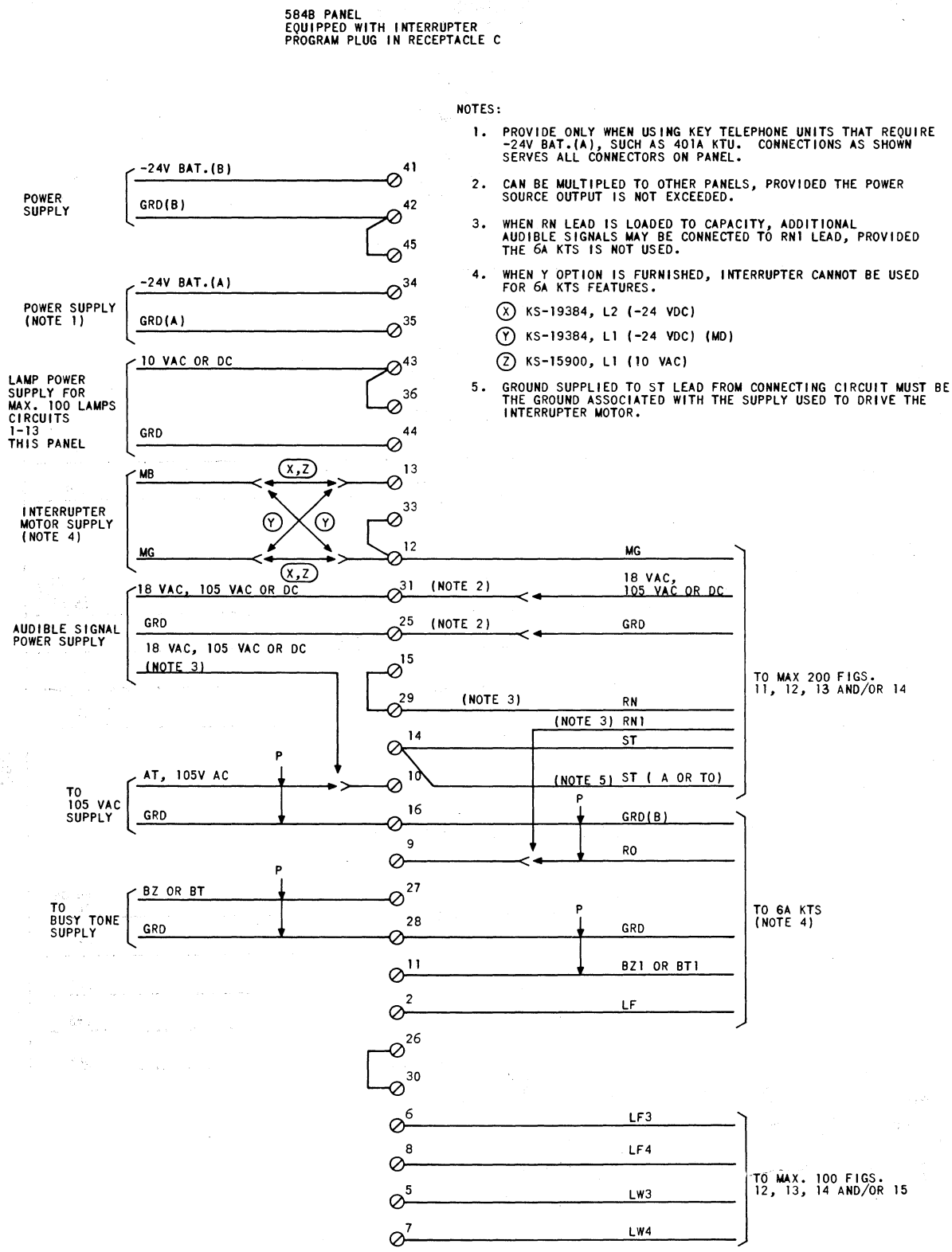
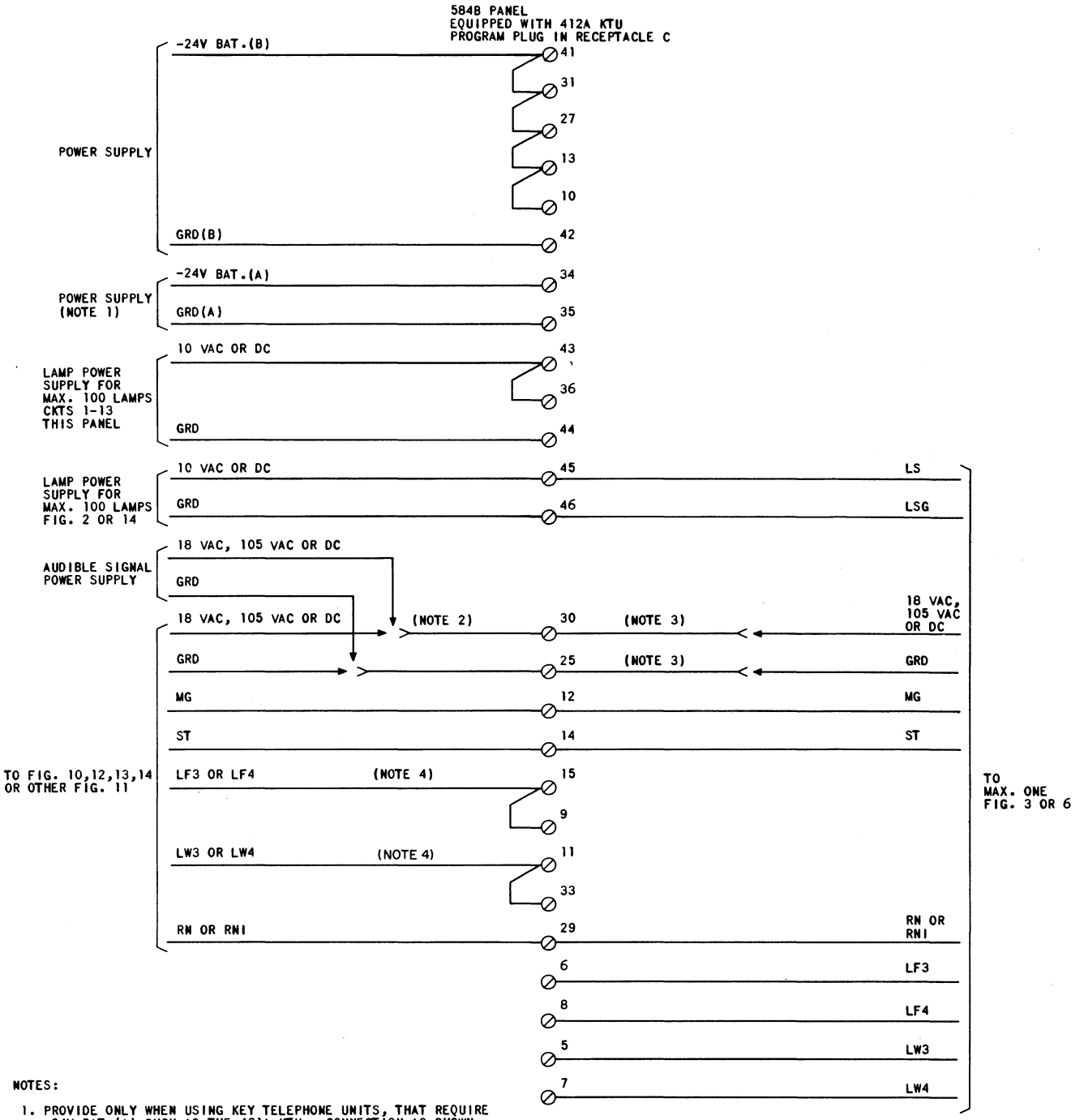


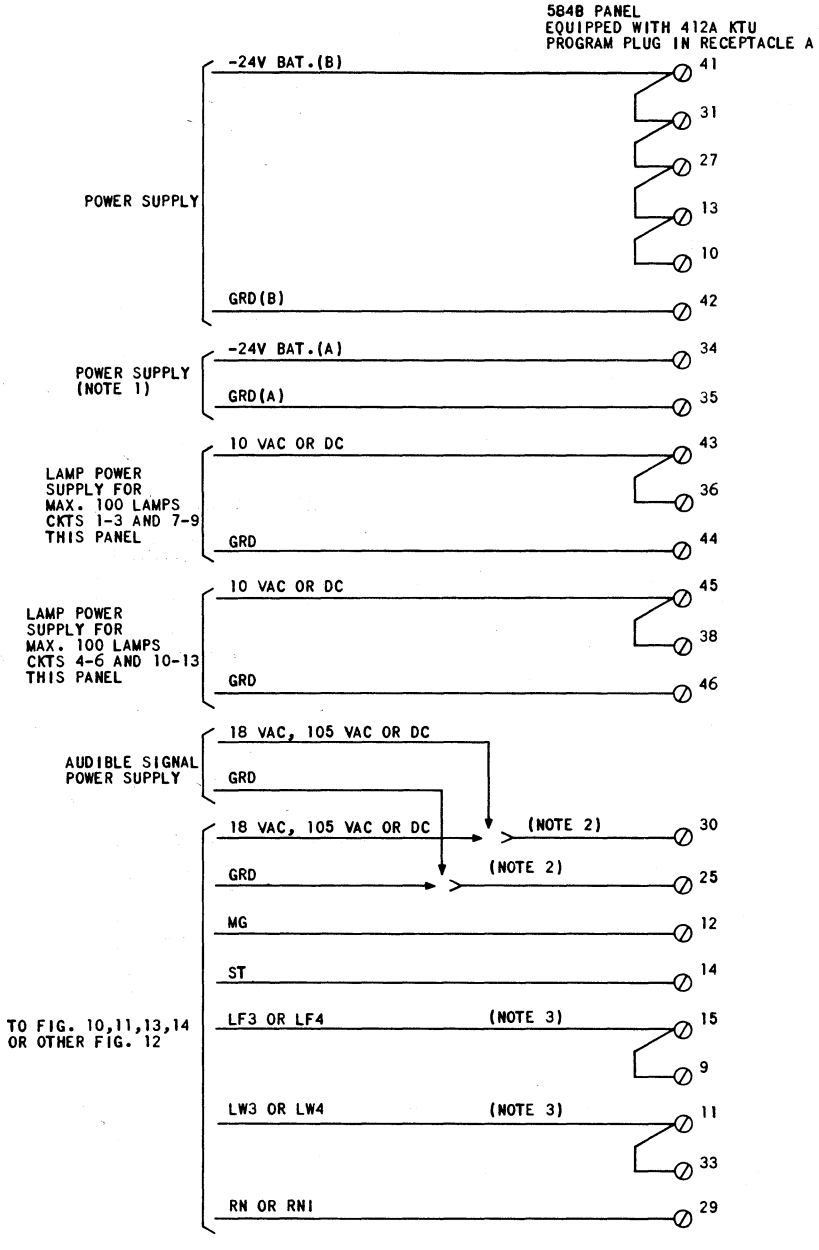
Fig. 10—584B Panel Equipped With Interrupter (Master panel used to control up to 200 other panels each equipped with 412A KTU)



NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS, THAT REQUIRE -24V BAT.(A) SUCH AS THE 401A KTU. CONNECTION AS SHOWN SERVES ALL CONNECTORS ON PANEL.
2. IF LEADS FROM PRECEDING PANELS ARE LOADED TO CAPACITY, PROVIDE SEPARATE AUDIBLE SIGNAL POWER TO THIS PANEL.
3. CAN BE MULTIPLIED TO OTHER PANELS PROVIDED THE OUTPUT OF POWER SOURCE IS NOT EXCEEDED.
4. DISTRIBUTE PANELS BETWEEN LF3, LW3 OR LF4, LW4 LEADS.

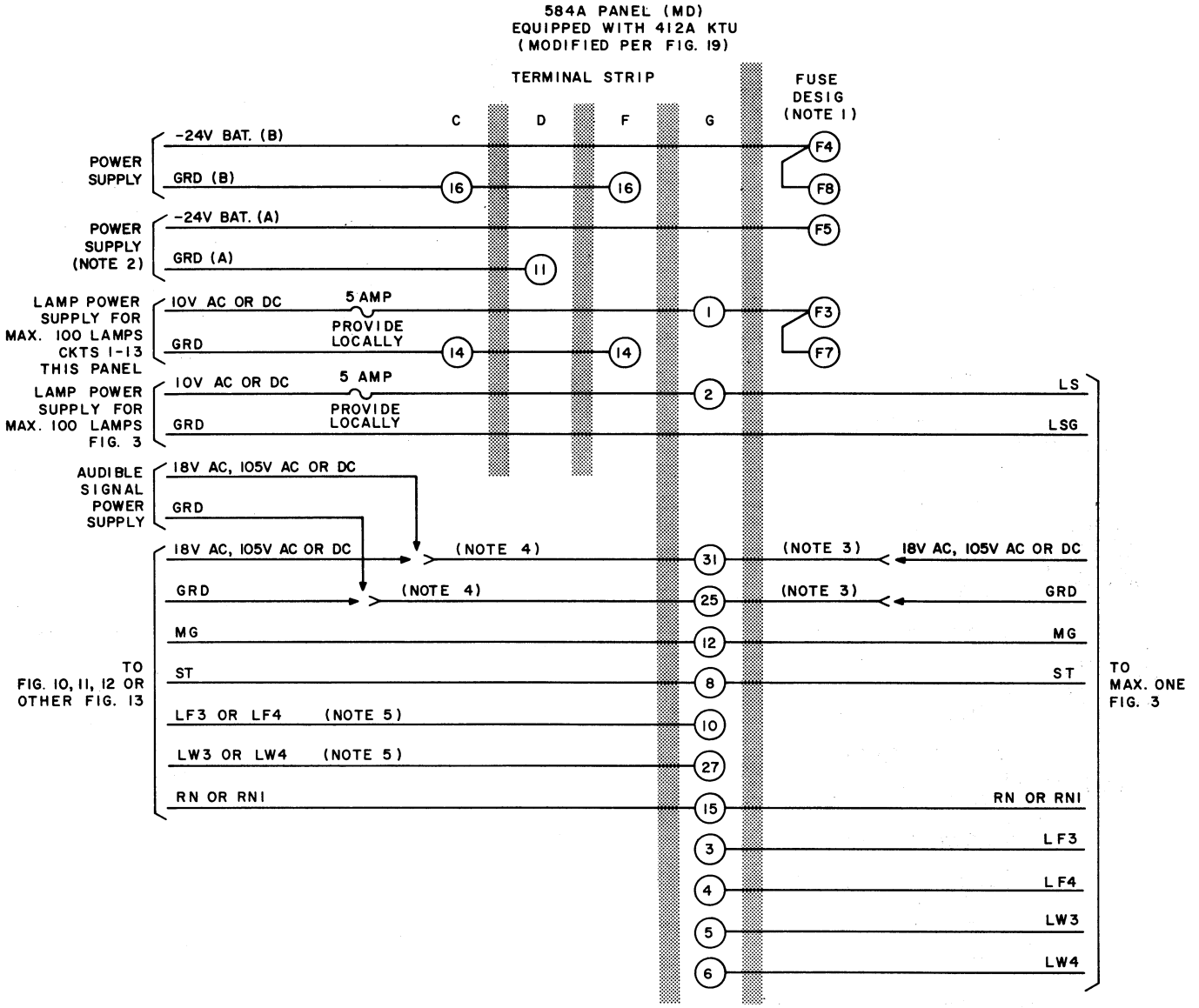
Fig. 11—584B Panel Equipped With 412A KTU (Panel used to control one other panel)



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 PANELS ARE LOADED TO CAPACITY, PROVIDE SEPARATE AUDIBLE SIGNAL POWER TO THIS PANEL.
3. DISTRIBUTE PANELS BETWEEN LF3, LW3 OR LF4, LW4 LEADS.

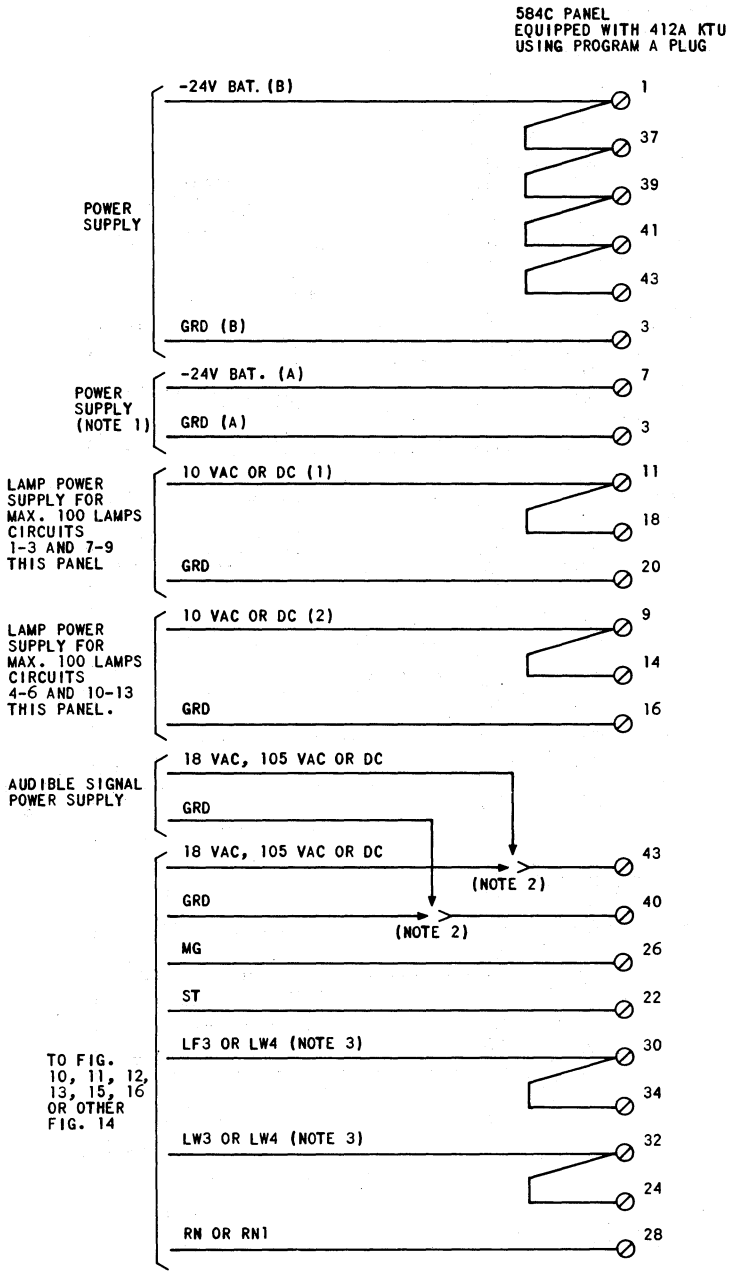
Fig. 12—584B Panel Equipped With 412A KTU (Panel not used to control other panels)



NOTES:

1. MAKE CONNECTIONS TO TERMINAL 1 OF FUSE.
2. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT (A), SUCH AS THE 401A KTU. CONNECTION AS SHOWN SERVES CONNECTORS J7 AND J8 (SEE FIG. 18).
3. CAN BE MULTIPLED TO OTHER PANELS PROVIDED THE OUTPUT OF POWER SOURCE IS NOT EXCEEDED.
4. IF LEADS FROM PRECEEDING PANELS ARE LOADED TO CAPACITY, PROVIDE SEPARATE AUDIBLE SIGNAL POWER TO THIS PANEL.
5. DISTRIBUTE PANELS BETWEEN LF3, LW3 OR LF4, LW4 LEADS.

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 BAT.(A), SUCH AS 401A KTU.
2. IF LEADS FROM PRECEDING PANEL ARE LOADED TO CAPACITY, PROVIDE SEPARATE AUDIBLE SIGNAL POWER TO THIS PANEL.
3. DISTRIBUTE PANELS BETWEEN LF3, LW3 OR LF4, LW4 LEADS.

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

584 C PANEL
EQUIPPED WITH INTERRUPTER
USING PROGRAM C PLUG

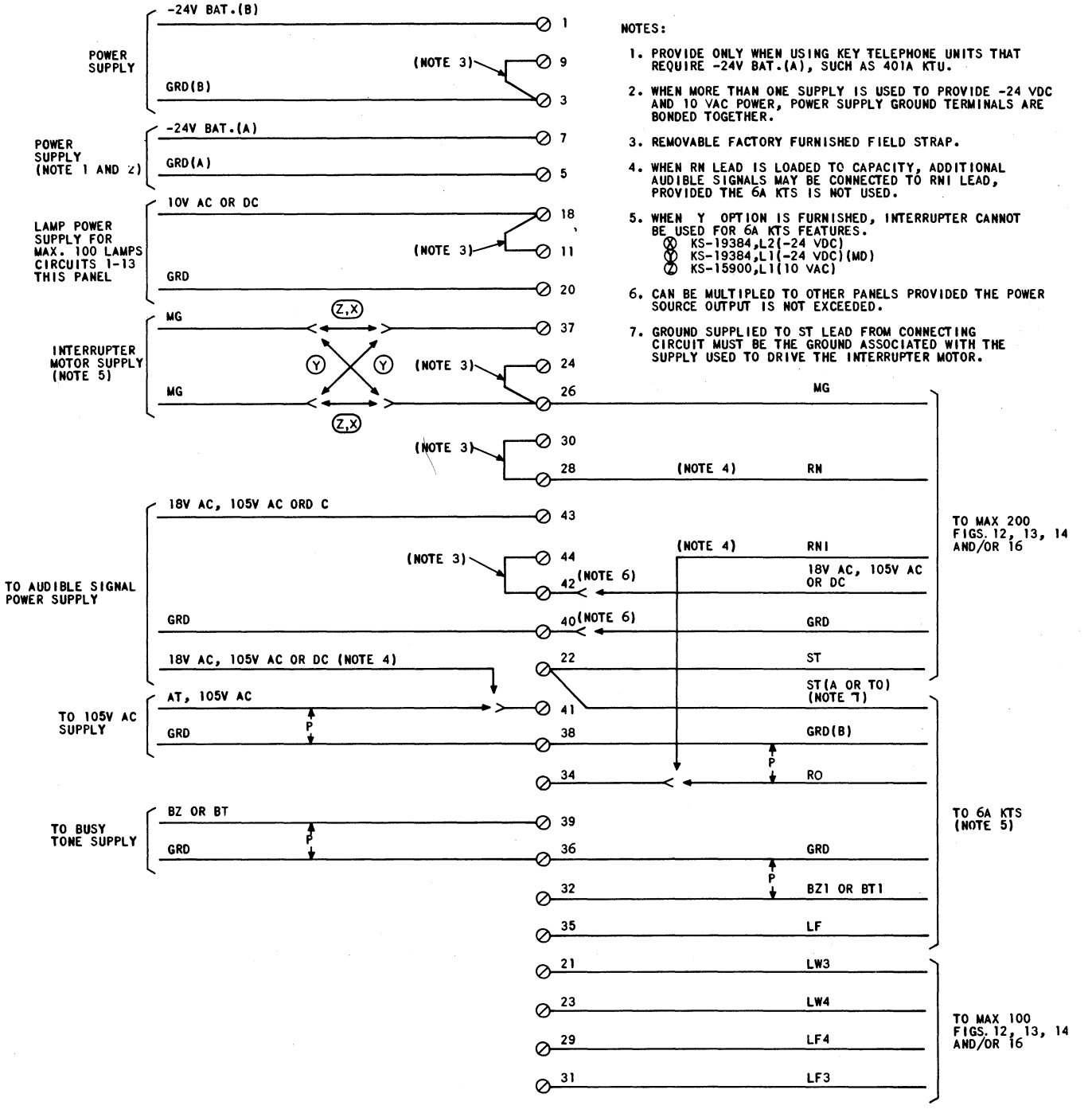
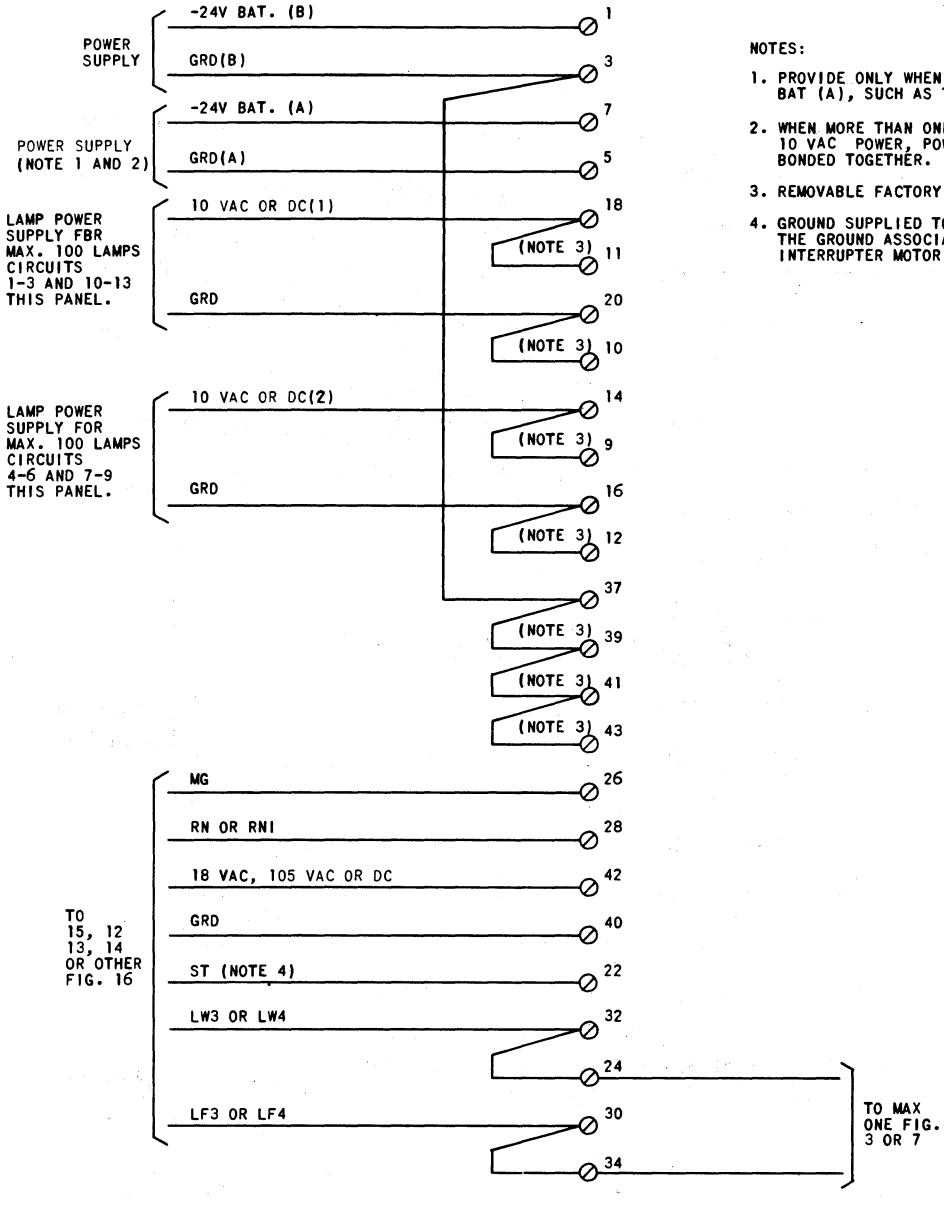


Fig. 15—584C Panel Equipped With Interrupter (Master panel used to control up to 200 other panels each equipped with 412A KTU)



NOTES:

1. PROVIDE ONLY WHEN USING KEY TELEPHONE UNITS THAT REQUIRE -24V BAT (A), SUCH AS THE 401A KTV.
2. WHEN MORE THAN ONE SUPPLY IS USED TO PROVIDE -24 VDC AND 10 VAC POWER, 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 Panel Equipped With 412A KTU (Panel used to control one other panel)

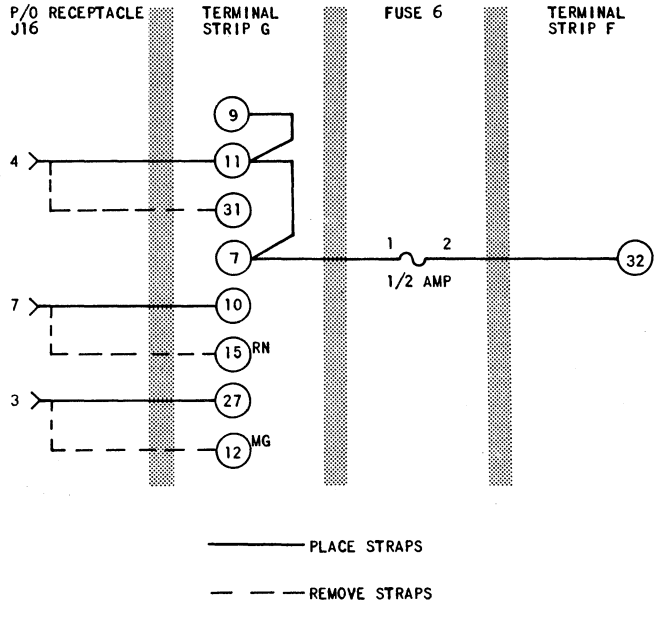
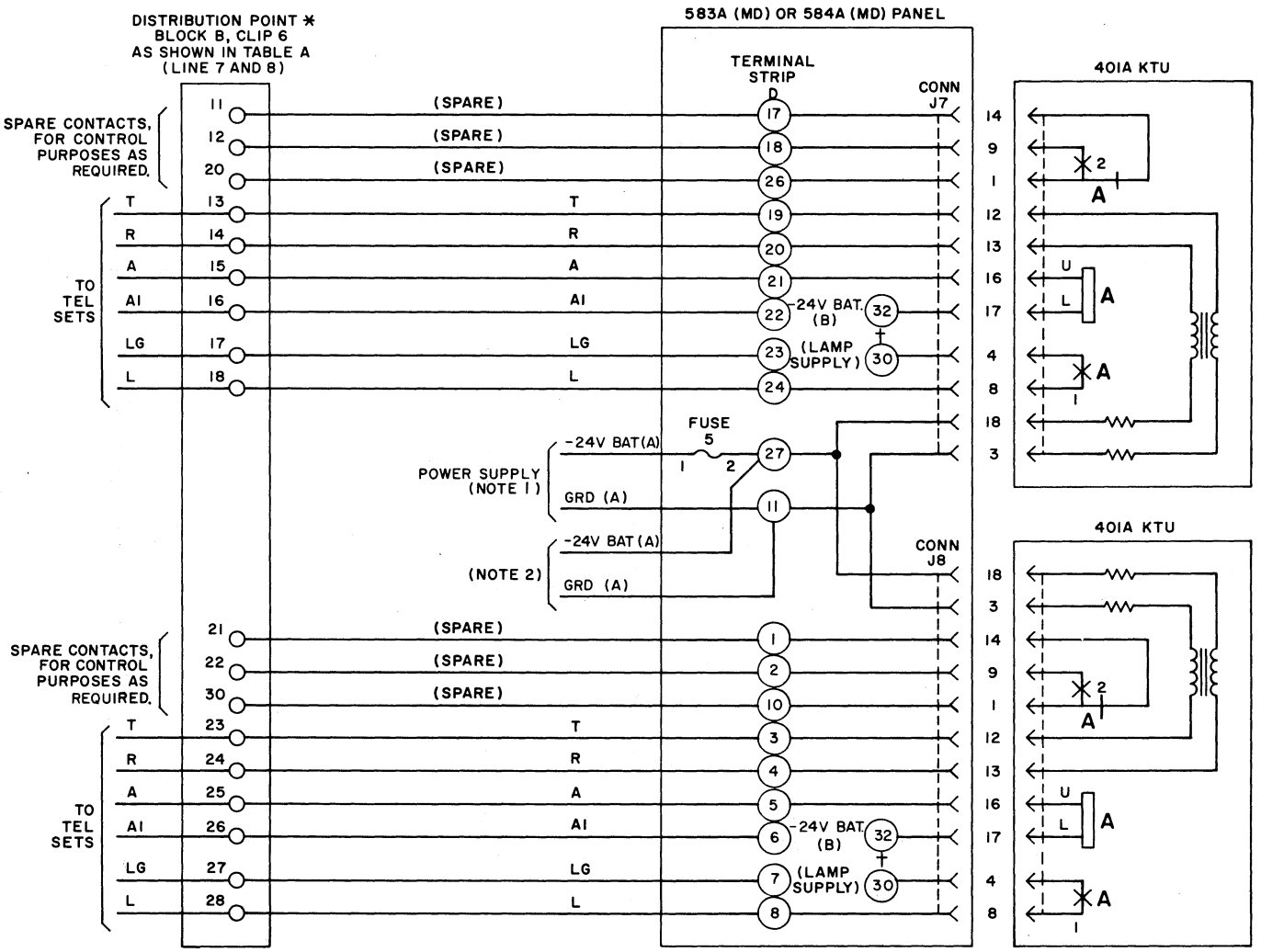


Fig. 17—Modification of 584A (MD) Panel to Accept 412A KTU



NOTES:

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

* 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

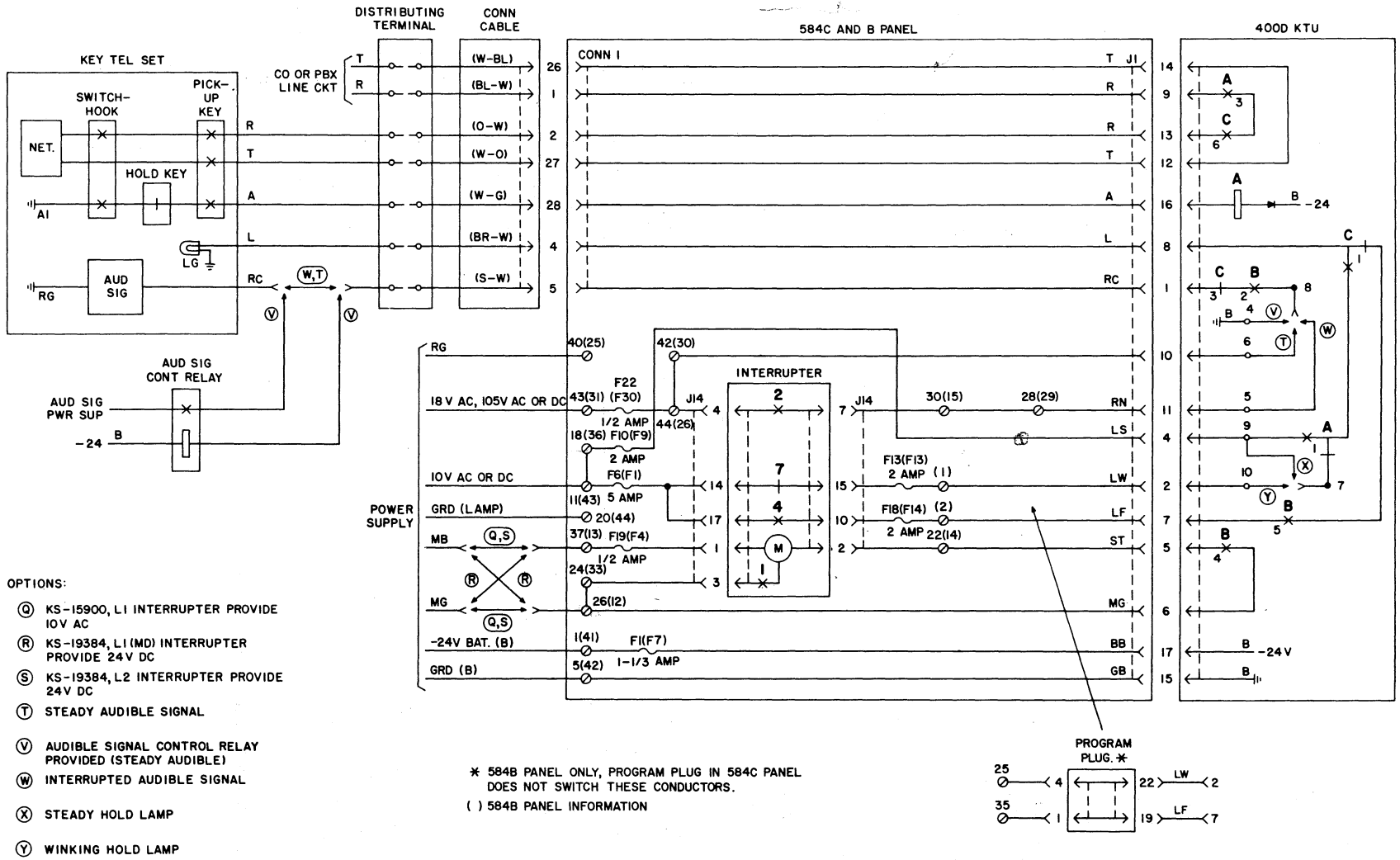


Fig. 19—Typical Functional Layout of 584C or B Panel Showing Line Circuit 1 Only

TABLE A

CONNECTIONS TO DISTRIBUTION POINT AND/OR TO THE PANELS

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

TABLE A (Cont)

CONNECTIONS TO DISTRIBUTION POINT AND/OR TO THE PANELS

CIRCUIT		LEAD DESIG	DISTRIBUTION POINT BLOCK B 66-TYPE CONNECTING BLOCK			TERMINAL ON PANEL			
						583A	584A	584B AND 584C	
			TERMINAL	CLIP	COLOR O-W BINDER			TERMINAL	CONNECTOR
Line 6	CO PBX	T R	1 2		W-BL BL-W	1C 2C		26 1	
	STA	T R	3 4		W-O 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-O 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-O O-BK	3D 4D		37 12	
		A A1	25 26	6	BK-G G-BK	5D 6D		38 13	2
		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-O 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-O 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 TO THE PANELS

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

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