

PANELS

583- AND 584-TYPES

IDENTIFICATION AND INSTALLATION

1. GENERAL

1.01 This section describes the 583- and 584-type panels designed for use at large centralized installations of 1A2 key telephone system equipment.

1.02 The section is reissued to include information on the 584B panel which replaces the 583A and 584A panels rated Manufacture Discontinued (MD). Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The 583- and 584-type panels mount on any frame structure designed for 23-inch wide mounting plates. Each panel is 4 inches high.

1.04 These panels are equipped with receptacles which will accept 400-type (CO or PBX line circuits) or 401A (manual intercom circuits) key telephone units (KTU). The KTUs are not supplied with the panels and must be ordered separately as required. The 400-type KTU can be installed in any panel receptacle. The 401A KTU can be installed in any panel receptacle but cannot be used in J13 on the 583A or 584A panel.

1.05 The KTUs are locked into place by a slide retainer bar furnished with the panels. This retainer bar is located on the bottom of the 583A and 584A panels and on the top of the 584B panel. A second retainer bar can be installed on the bottom of the 584B panel if desired. The P-48C743 bar and three P-210800 mounting screws must be ordered separately.

2. IDENTIFICATION

583A AND 584A PANELS

2.01 The 583A (Fig. 1) and 584A (Fig. 2) panels are equipped with small wire-wrap terminal strips. Station and feeder cables are con-

nected to the 302A terminal strips by means of an approved wire wrapping tool. The terminal strips are designated A through H on the 583A panel, and A through G on the 584A panel.



See Section 069-132-811 for method of making and removing wrapped connections.

2.02 Common control leads such as LW, LF, etc, are interconnected by factory wiring between the receptacles and are terminated on individual 302A terminal strips serving two receptacles each. These common leads are separated into two groups and can be associated with separate common equipment, or included as part of other grouped lines served by another panel.

2.03 The 583A panel (Fig. 1) accepts up to fifteen 400-type or 401A plug-in KTUs. Common leads (LF, LW, etc) are interconnected to comparable (KS-interrupter supply) terminal leads on the 584A or 584B panel.

2.04 The 584A panel (Fig. 2) accepts thirteen 400-type or 401A plug-in KTUs and is equipped with a plug-in KS-15900, List 1 interrupter.

2.05 The common lead appearances on terminal block G of the 583A and 584A panels can be interconnected so that the interrupter in the 584A panel can be used as common equipment for both panels.

2.06 The 583A and 584A panels are equipped with nine cartridge-type fuses for lamp, relay, and talk battery arranged as follows:

- 2 — 2-amp fuses for LF leads
- 2 — 2-amp fuses for LW leads

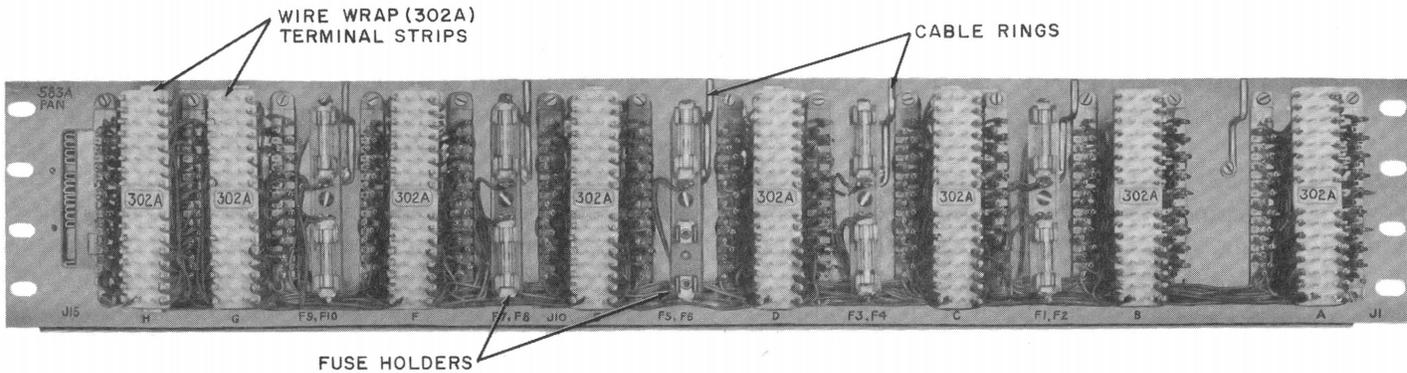
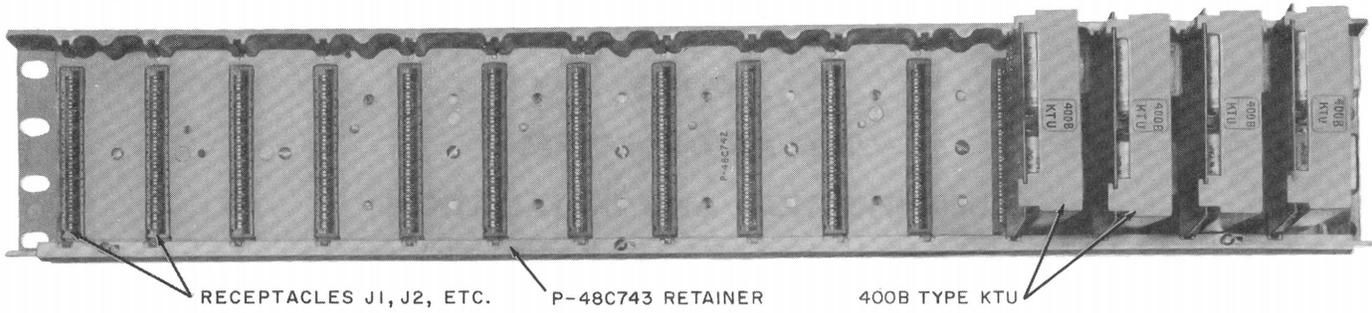


Fig. 1 — 583A Panel, Equipped With 400-Type KTUs

- 2 — 2-amp fuses for steady 10 volts ac lamp supply
- 2 — 1-amp fuses for 24 volts dc relay battery
- 1 — 1-amp fuse for 24 volts dc talk battery

Note: Bussman AGX-2 or Littelfuse No. 361002 may be used for the 2-amp fuses and Bussman AGX-1 or Littelfuse No. 361001 may be used for the 1-amp fuses.

2.07 Lamp supply and relay battery fuses serve two groups of receptacles per panel; J1 through J8, and J9 through J13 on the 584A panel, and J1 through J8, and J9 through J15 on the 583A panel.

2.08 Wiring from the receptacles and the common leads are terminated on the wire-wrap 302A terminal strips. The common KS-interrupter supply leads occupy a portion of terminal strip G on both panels.

584B PANEL

2.09 The 584B panel (Fig. 3) is similar in capacity and function to the 584A panel. Neither the 400-type KTU line circuits nor the KS-interrupter are supplied with the panel. Principal features include:

- (a) Factory wiring of all receptacles to 50-contact KS-type plugs located in the rear of the panel which permits use of A-type connector cables for line and station terminations. One A75A or three A25B connector cables serve each 584B panel.

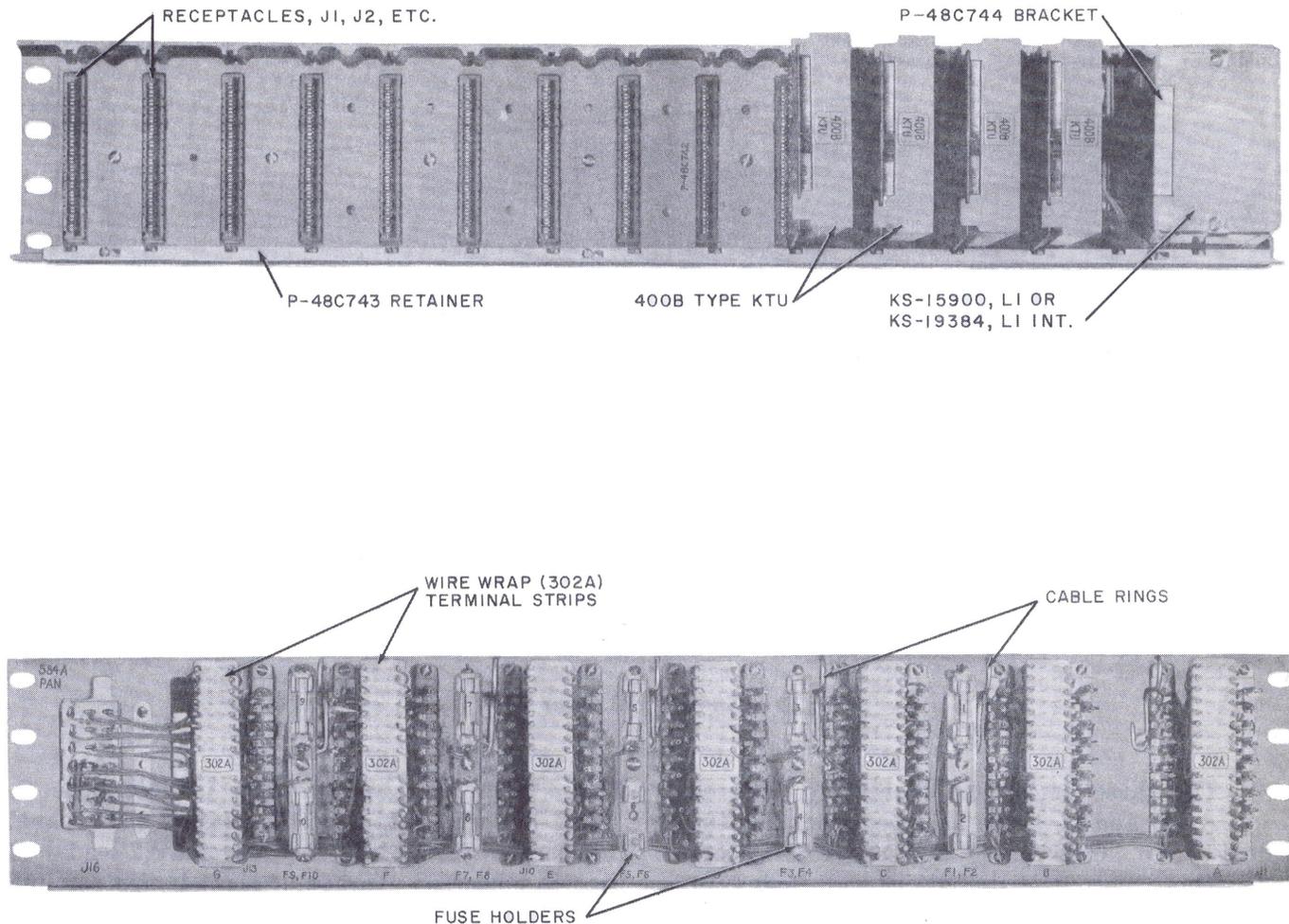


Fig. 2 — 584A Panel, Equipped With 400-Type KTUs

- (b) A 46-screw terminal field for power supply connections and strapping between panels.
- (c) A fuse panel equipped with thirty 24-type fuses.
- (d) Factory-wired options allowing rearrangement of lamp distribution and fusing within and/or between one or more similar panels.

2.10 The 584B panel accepts thirteen 400-type or 401A plug-in KTUs. Units can be intermixed in any receptacle position. A receptacle is provided for a KS-15900, List 1 or a KS-19384, List 1 interrupter which must be ordered separately.

2.11 All line and station wiring is factory wired from the receptacles to three 50-contact KS plugs numbered 1, 2, and 3 (Fig. 3) on the

rear of the panel. Power supply wiring, inter-panel strapping, and miscellaneous circuits are field connected to the 46-screw terminal panel.

2.12 The 584B panel is equipped with thirty 24-type fuses, grouped according to potential and rating. The 44-type indicator fuses may be substituted when desired; however, bushings must be placed over the fuse terminals. There are no provisions for fuse alarm signals.

2.13 Lamp fusing on the 584B panel is divided into three groups of three lines each and one group of four lines. This provides a maximum average of 17 lamps per line for each of the 3-line groups and 12 lamps per line for the 4-line group. In order not to exceed the capacity of the interrupter contacts not more than 50 lamps can be fed from any one group and not more than 20 lamps from any one line circuit.

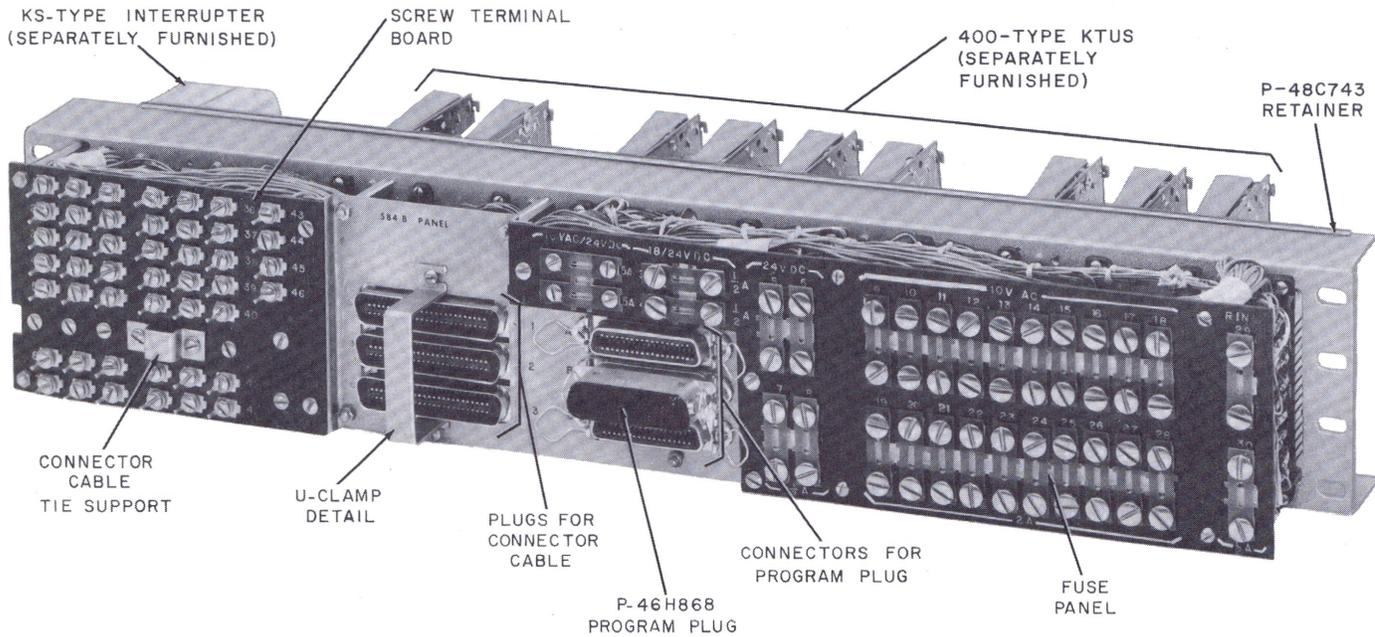


Fig. 3 — 584B Panel, Rear View

2.14 The three 34-contact connectors, lettered A, B, and C, serve as receptacles for the factory-wired lamp fusing and programming options. These permit distribution and fusing of lamp circuits, either within or external to the panel, to be changed by moving the program plug from one connector to another. One program option plug (P46H868) is furnished with each 584B panel.

2.15 When the 584B panel is used alone, the program plug is placed in receptacle A. The full output of KS-15900, List 1 or KS-19384, List 1 interrupter is associated within that specific 584B panel. Under this arrangement, fusing for an average of 17 lamps per line circuit is provided not to exceed 50 lamps per interrupter contact.

2.16 With the program plug in receptacle B and the lamp supply potential changed from 10 volts ac to 24 volts dc ground on the interrupter contacts, the entire output of the interrupter is used to synchronously drive auxiliary (slave) relay equipment such as the 412A KTU. All lamp flash and lamp wink functions, including those of the master driving panel, are served from the auxiliary relay contacts.

2.17 With the program plug in receptacle C, half the output of the master 584B panel interrupter (LF1, LF2, LW1, and LW2 leads) is used to power an average of eight lamps per line within the panel. The remaining interrupter contacts (LF3, LF4, LW3, and LW4) may be used to power up to 50 lamps per contact. This is the maximum capacity of the KS-15900, List 1 or KS-19384, List 1 interrupter contacts. These leads may be used to drive auxiliary relays if desired. This option requires that dc power be connected to the input of the interrupter contact which is used to power the auxiliary relays. It is necessary to provide the optional wiring at the interrupter to avoid conflict with lamp battery supply (ac power) connected to other interrupter contacts.

3. INSTALLATION

3.01 Typical apparatus mountings, relay racks, etc, on which the 583- and 584-type panels can be mounted are covered in the section entitled Equipment Cabinets and Apparatus Mounting-Identification.

3.02 Except for power wiring, the majority of circuits served by one 583- or 584-type panel can be handled by one 75-pair inside wiring or A-type connector cable.

3.03 The number of cables that can be connected directly to the panels is limited (three on the 583A or 584A panel and one A-75 or three A-25 connector cables on the 584B panel); therefore, a master distribution point at large key system installations is generally required. Station cables can be terminated at this point or tie cables to auxiliary distribution points. The distribution point will also simplify cross-connections, additions, changes, or removal of lines or stations. See Fig. 4 for layout of a typical panel installation.

Note: To permit subgrouping of common audible signal controls with or without separate relays or diode matrices, the line circuit leads may be cabled from the panels to a miscellaneous terminal block.

3.04 The three types of panels may be intermixed in large installations. To assist in the distribution of visual signals within an installation, the 584A panel can be modified to accept a 412A KTU in place of the KS-interrupter.

3.05 Field cabling is dressed along the top rear of the 583A and 584A panels and fanned through the distributing rings to minimize congestion with the factory wiring.

3.06 The connector cable or cables must be brought in from the left rear of the 584B panel for connection to plugs 1, 2, and 3. A tie point and a U-shaped clamping detail are provided for support of the cable(s) and to assure positive mating of plug and connector.

3.07 Power supply connections to the panels may be made by means of separate 20-gauge conductor cables, such as No. 1450-CL (3-pair) or No. 1451-CL (6-pair) cables.

3.08 Power connections for the 583A and 584A panels are made directly to terminals of the 302A terminal strips or to the fuses as applicable. All power connections for the 584B panel are made to the 46-screw terminal field.

3.09 Verify that each fuse in the panel is of the proper rating specified for the circuit involved. See Table A.

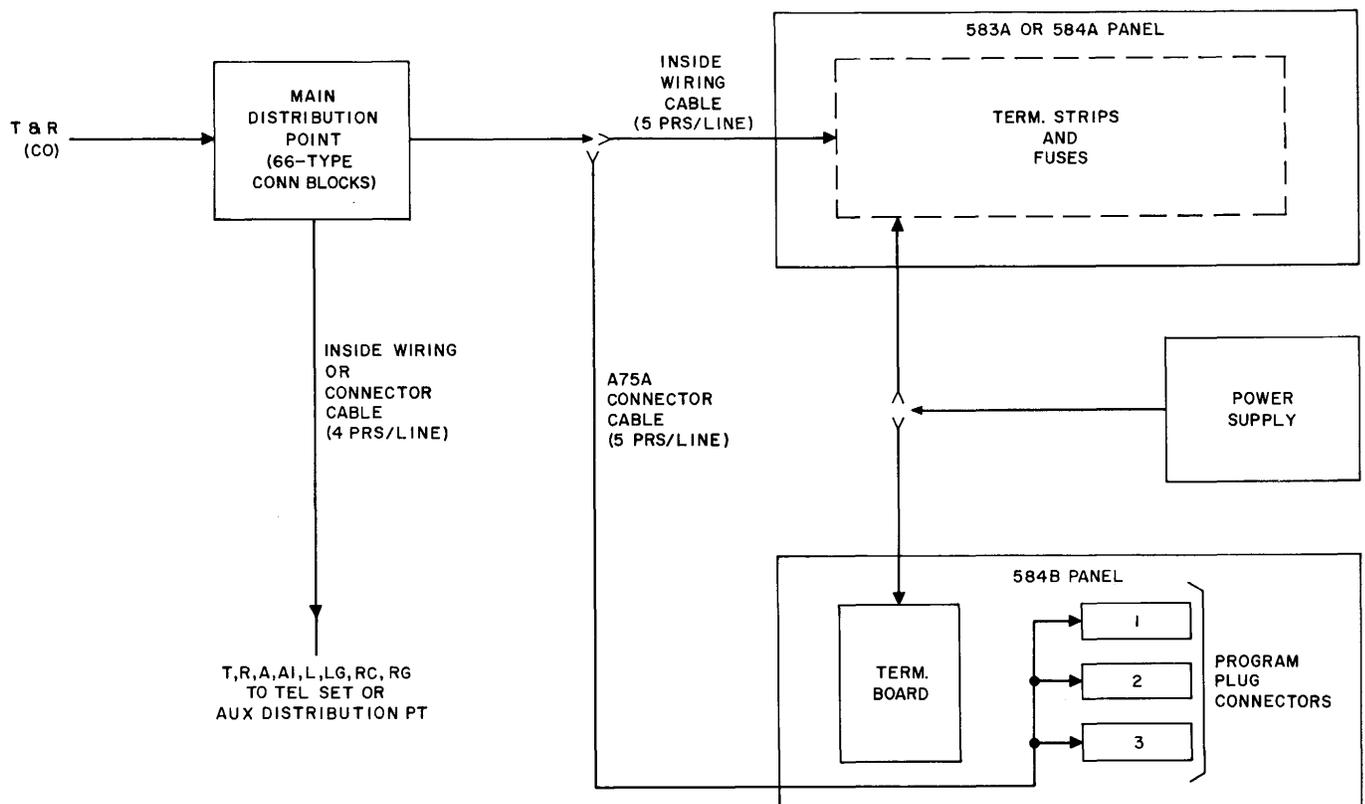


Fig. 4 — Layout of Typical Panel Installation

Note: When a 24-type fuse is not suitable for use in the 584B panel, the 44-type may be used. Remove the two screws for the associated terminals, insert each screw through a bushing and install screws in original positions before installing the 44-type fuse. Use P-187217 bushings for a 1/2-, 1-1/3-, or 2-amp fuse, and P-142332 bushings for a 5-amp fuse.

3.10 Do not exceed lamp lead limitations of the KS-interrupter in 584-type panels or external interrupters connected to panels. In some instances auxiliary relays may have to be separately installed to provide sufficient current carrying capacity for:

- (a) Line lamp multiples above 20 appearances or
- (b) Lamp flash, lamp wink, etc, features beyond 2 amperes per interrupter contact.

3.11 Install the 584B panel lamp program plug into the A, B, or C connector which provides the desired lamping arrangement.

3.12 Table B provides lamp capacities and average lamps per line for the 583- and 584-type panels.

3.13 To avoid confusion, all lines appearing in a particular telephone set should derive visual and audible signals from the same interrupter.

3.14 On the 583A and 584A panels the talk battery supply for the 401A KTU manual intercom is factory wired only to J7 and J8 receptacles. If receptacles (other than J13) are to be equipped with the manual intercom unit, the talk battery and ground supply must be field strapped between terminal strip D, feeding J7 and J8, and the terminal strip associated with the other receptacles to be equipped with 401A KTUs. The 401A KTU can be installed in any receptacle on the 584B panel without additional wiring.

3.15 A 10-volt ac KS-15900, List 1 interrupter is normally used with the panels. Where service conditions require, a 24-volt dc KS-19384, List 1 interrupter can be used. This will require a change in the power supply to the interrupter motor.

3.16 Key telephones, CALL DIRECTOR sets, or 400 and 1400 series key mountings wired for A-lead control must be used with the 400-type KTUs. Wire all station equipment in accordance with existing practices.

**TABLE A
FUSE DISTRIBUTION**

FUSE NO.	583A PANEL			584A PANEL			584B PANEL				
	RATING	DESIG	CKT	RATING	DESIG	CKT	RATING	DESIG	CIRCUIT		
									OPTION A	OPTION B	OPTION C
1	2A	LF1	1-8	2A	LF1	1-8	5A	LW-LF	1-3, 7-9	1-3, 7-9	1-13
2	2A	LW1	1-8	2A	LW1	1-8	5A	LW-LF	4-6, 10-13	4-6, 10-13	
3	2A	LS	1-8	2A	LS	1-8	1/2A	BZ	BUSY TONE — 6A KTS INTERRUPTER MOTOR		
4	1A	B BAT.	1-8	1A	B BAT.	1-8	1/2A	MB			
5	1A	A BAT.	7-8	1A	A BAT.	7-8	1 1/3A	A BAT.	1-6	1-6	1-6
6		SPARE			SPARE	*	1 1/3A	A BAT.	7-13	7-13	7-13
7	2A	LS	9-15	2A	LS	9-13	1 1/3A	B BAT.	1-6	1-6	1-6
8	1A	B BAT.	9-15	1A	B BAT.	9-13	1 1/3A	B BAT.	7-13	7-13	7-13
9	2A	LF2	9-15	2A	LF2	9-13	2A	LS1	1-3	1-3	1-6
10	2A	LW2	9-15	2A	LW2	9-13	2A	LS2	7-9	7-9	7-13
11							2A	LS3	4-6	4-6	
12							2A	LS4	10-13	10-13	
13							2A	LW1	1-3	1-3	1-6
14							2A	LF1	1-3	1-3	1-6
15							2A	LW2	7-9	7-9	10-13
16							2A	LF2	7-9	7-9	10-13
17							2A	LW3	4-6	4-6	
18							2A	LF3	4-6	4-6	
19							2A	LW4	10-13	10-13	
20							2A	LF4	10-13	10-13	
21							2A	LW1	1-3	1-3	
22							2A	LF1	1-3	1-3	
23							2A	LW2	7-9	7-9	
24							2A	LF2	7-9	7-9	
25							2A	LW3	4-6	4-6	
26							2A	LF3	4-6	4-6	
27							2A	LW4	10-13	10-13	
28							2A	LF4	10-13	10-13	
29							1/2A	AT1	INTERRUPTED RING — 6A KTS		
30							1/2A	RN	1-13	1-13	1-13

*Fuse 6 used when 584A panel is modified to accept 412A KTU.

TABLE B
LAMP DISTRIBUTION

CAPACITY	583A PANEL	584A PANEL	584B PANEL				
			USED ALONE OPTION A	AS 1ST PNL. E/W KS-15900, L1 OR KS-19384, L1 INTERR. OPTION B	AS 1ST PNL. E/W KS-15900, L1 OR KS-19384, L1 INTERR. OPTION C.	AS 2ND PNL. WITHOUT 412A KTU OPTION C	AS 2ND OR SUCC. PNL. E/W 412A KTU OPTION A
Total Lamps	100	100	200	200	100	100	200
Average Lamps/Line	7	8	17	17	8	8	17