

JOB DRAWINGS
EQUIPMENT DRAWINGS

CONTENTS

- | | |
|----------------------------|--------------------|
| 1. GENERAL | 4. FRONT EQUIPMENT |
| 1.1 Scope of Section | 5. RELAY RACKS |
| 2. WHEN PREPARED AND KINDS | 6. FUSE BAYS |
| 3. DISTRIBUTING FRAMES | |

1. GENERAL

1.1 Scope of Section

1.11 This section describes the several kinds of equipment drawings most commonly encountered and explains the use thereof. The numbering plan applied to job drawings is covered in Section 1 of this handbook.

2. WHEN PREPARED AND KINDS

2.1 Job equipment drawings are provided in one form or another for all the equipment in the office. Usually each type of equipment has its own equipment drawing.

2.11 Equipment drawings are provided in detail for distributing frames, fuse boards, power boards, relay racks, switchboards, and a number of other frames and bays.

2.12 Quite frequently, where equipment is ordered from standard specifications, as is the case for many dial systems frames and toll bays, the equipment drawing is furnished in tabular or chart form and reference is made on it to views on standard drawings.

2.13 For many of the dial systems frames, a combination wiring list and equipment drawing is used. This has the advantage of having the equipment view and wiring shown on the same drawing.

2.14 A "Location of Equipment" table is shown on equipment drawings of all new distributing frames. See Figure 4. The location shown is that of the terminal strips associated with the lowest numbered circuit. Where the equipment associated with a particular circuit is in two or more nonadjacent locations, the location for each equipment group is shown. A large majority of the equipment drawings originated prior to 1953 for distributing frames, relay racks and fuse boards, include a "Location of Equipment" table. The location shown is that of the terminal strips, mounting plate, or fuse row associated with the lowest numbered circuit.

2.15 The principal symbols used on job equipment drawings are shown in the manufacturing notes on Figures 3 to 8.

3. DISTRIBUTING FRAMES

3.1 Figures 1 and 2 show those portions of a typical intermediate distributing frame equipment drawing covering the equipment arrangement respectively on the horizontal and vertical sides of the frame. The associated manufacturing notes, sketches and tables, described herein, are omitted from these figures. The terminal strip sketches appearing on this particular equipment drawing are shown in Figure 3. The associated manufacturing notes, jack box sketches and tables are shown in Figure 4.

3.2 Terminal strip codes are not shown in the body of the equipment drawing but are listed in the "Location of Equipment" table which is shown on the drawing for all new distributing frames. Refer to Figure 4.

3.3 Circuit numbering is shown below the terminal strip convention on the horizontal side and to the right of the heavy line on the vertical side. All other designations are shown above the heavy line on the horizontal side and to the left on the vertical side. Refer to Figures 1 and 2.

3.4 In multiunit areas, the office code is shown as a part of the designation for each group of 100 subscriber's lines on the top and bottom shelves only. On message register terminal strips, the office code is shown on each terminal strip on the lowest, middle and highest shelves only. In addition to the office code, the hundred numbers are shown with the last two ciphers omitted. Typical designations are BA7-00, etc., to BA7-99.

3.5 In single unit areas, office codes are not used. Hundreds numbers associated with line circuits 0 to 900 are shown as 00, 01, etc., to 09.

3.6 Terminal strip sketches are designated to agree with the location of the terminal strips on the frame. For instance, if the strip is on shelf D in bay 6, the sketch is designated "D-6", or if located on vertical 6 shelf D the sketch is designated "6-D." If more than one terminal strip is included in the sketch, the sketch is identified by the location of the first terminal strip involved. Refer to Figure 3.

3.7 Sketches showing jack box equipment are designated with alphabetical designations such as "Sketch A," "Sketch B," etc. Refer to Figure 4. Unoccupied jack mounting positions on jack mounting supports are shown dotted in order to indicate definitely the positions in which the unequipped jack mountings are installed.

3.8 Jack boxes mounted on the vertical side of main distributing frames are shown dotted in their proper position on the horizontal side view of the frame.

3.9 For distributing frames on which all horizontal terminal strips are equipped with terminal strip shields, a "Location of Terminal Strip Shields" table is shown on the equipment drawing listing the various codes of terminal strips with the associated codes of shields. If only a part of the strips are equipped with shields, their locations are shown at the terminal strips, unless they are few enough to be covered by a note. See Figure 4.

4. FRONT EQUIPMENT

4.1 Figure 5 shows the manner in which typical front equipment for manual and toll boards is presented on job front equipment drawings.

4.2 Locations are shown for any drillings, cut-outs, etc., to be added to keyshelves, lock rails and top mouldings which do not require the omission of any existing drillings or change in location of parts shown on the assembly drawings. This includes drillings shown on the assembly drawing marked "Drill when shown on front equipment drawing."

4.3 Where number plates are not required for two or more consecutively numbered circuits, the numbering in the location ordinarily assigned for number plates is shown and is designated "To be stamped on underside of keyshelf (panel) only."

5. RELAY RACKS

5.1 Figures 6 and 8 show the manner in which typical relay rack equipment for dial systems is presented on job relay rack equipment drawings.

5.11 Tabular type equipment drawings were standardized for use on all new lineups and new offices engineered at Hawthorne after the middle of 1952. Prior to this time, tabular type drawings were only standard for No. 5 Crossbar.

5.111 Typical tabular type relay rack equipment drawings are illustrated by Figure 8.

5.112 A No. 5 Crossbar trunk relay rack equipment drawing differs from the miscellaneous relay rack equipment drawing of Figure 8 in that a class designation for a particular trunk is the same on each installation.

5.113 On No. 5 Crossbar trunk relay rack equipment drawings, a wire spring, relay type of trunk unit is indicated by the number 1 prefixing the class designation, i.e., 1A, 1B, 1C, etc.

5.12 Figure 6 is a typical relay rack equipment drawing for other than tabular type.

5.121 Sketches for equipment which appears in only one bay are numbered to correspond with the relay rack bay number and the mounting plate level. For example, "SK-106-E." For a group of mounting plates in the same sketch, the designation corresponds with the location of the lowest mounting plate in the group.

5.122 Where the same group of equipment appears in more than one bay, it is designated by like symbols. Refer to Figure 6.

5.123 Sketches of terminal strips mounted in a bay are assigned a figure number corresponding with the designation of the terminal strip. For example, "Fig. A" for strip "A".

5.124 Equipment which is furnished from standard drawings is shown on the job relay rack equipment drawing by the standard drawing numbers, including the groups and lists ordered, unless the telephone company desires the equipment to be shown in full.

6. FUSE BAYS

6.1 Figure 7 shows the manner in which typical fuse board equipment is presented on job fuse board drawings.

6.2 Fuse rows are numbered consecutively from bottom up, beginning with 1 in each bay. Ground panels located at the bottom of the bay are not numbered. Two numbers are reserved (odd and even) for each blank or single row fuse panel. Odd numbers are assigned to single row fuse panels when mixed with double row panels in the bay.

6.3 Lamp rows are numbered in continuation of the numbering of fuse rows except on four row lamp panels, in which case the first and third rows of lamps are numbered in continuation of the fuse row numbering. The second and fourth rows of lamps are numbered the same as the first and third rows respectively, but are supplemented by the suffix "A".

6.4 Wiring for future equipment is designated "(Wiring Only)" or "(WO)", depending on the space available. These designations are placed in parentheses so that they will not be stamped on the fuse board or typed on the fuse record sheets.

6.5 Where fuse record sheets are furnished, the circuit drawing numbers, circuit names, functional designations and numbering are shown on the equipment drawing for all panels in the bay. Circuit figure numbers only are shown where more than one fuse for the same current is required for a circuit and the fuses have no functional designations. Where fuse record sheets are not to be furnished, the circuit drawing numbers are omitted.

6.6 The code number of any nonflashing No. 35 type fuse is shown on the drawing so that this information may be stamped on the panel.

6.7 Fuses of different capacities on the same voltage are separated by the omission of one fuse post. Fuses for different voltages are separated by the omission of two fuse posts.

ATTACHMENT
Figures 1 to 8 on Pages 5, 7, 8, 9, 11, 13
and 15.

Manager, Engineering Practices

Reason for Reissue:
General Revision of Section 7 series
Equipment Drawing Information trans-
ferred to Section 7C.

Replaces part of Section 7 dated 12-2-54.



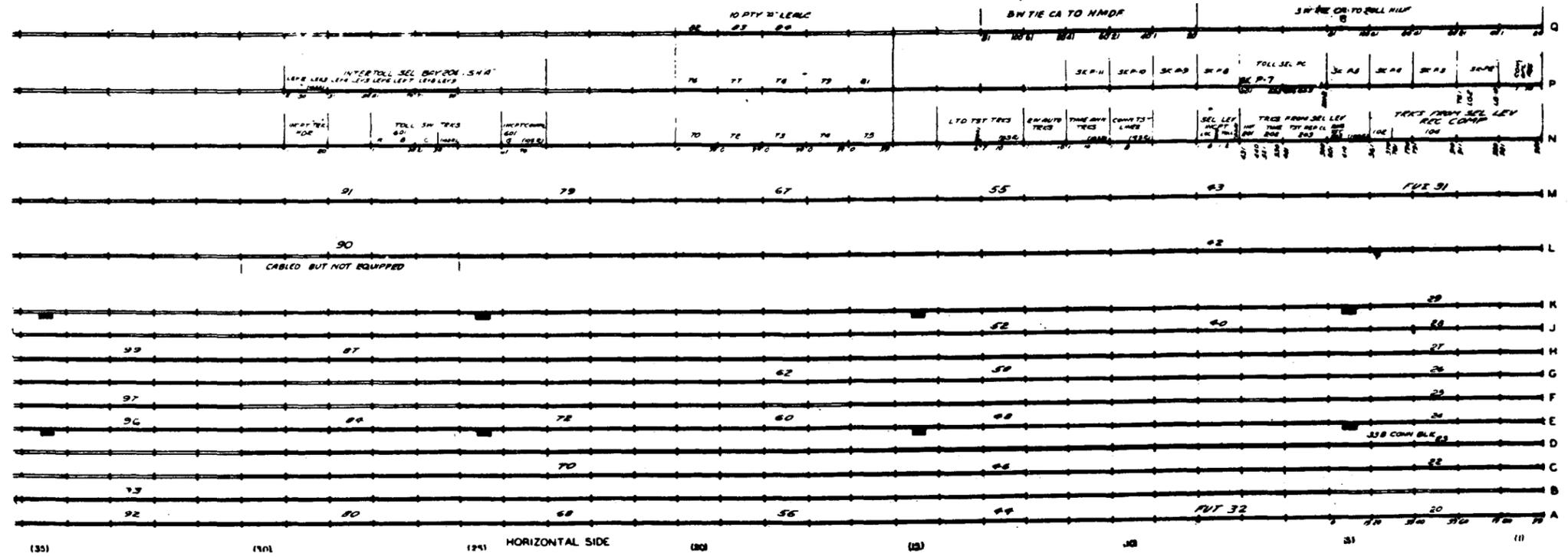


FIG. 1 TYPICAL EQUIPMENT DRAWING - I.D.F.

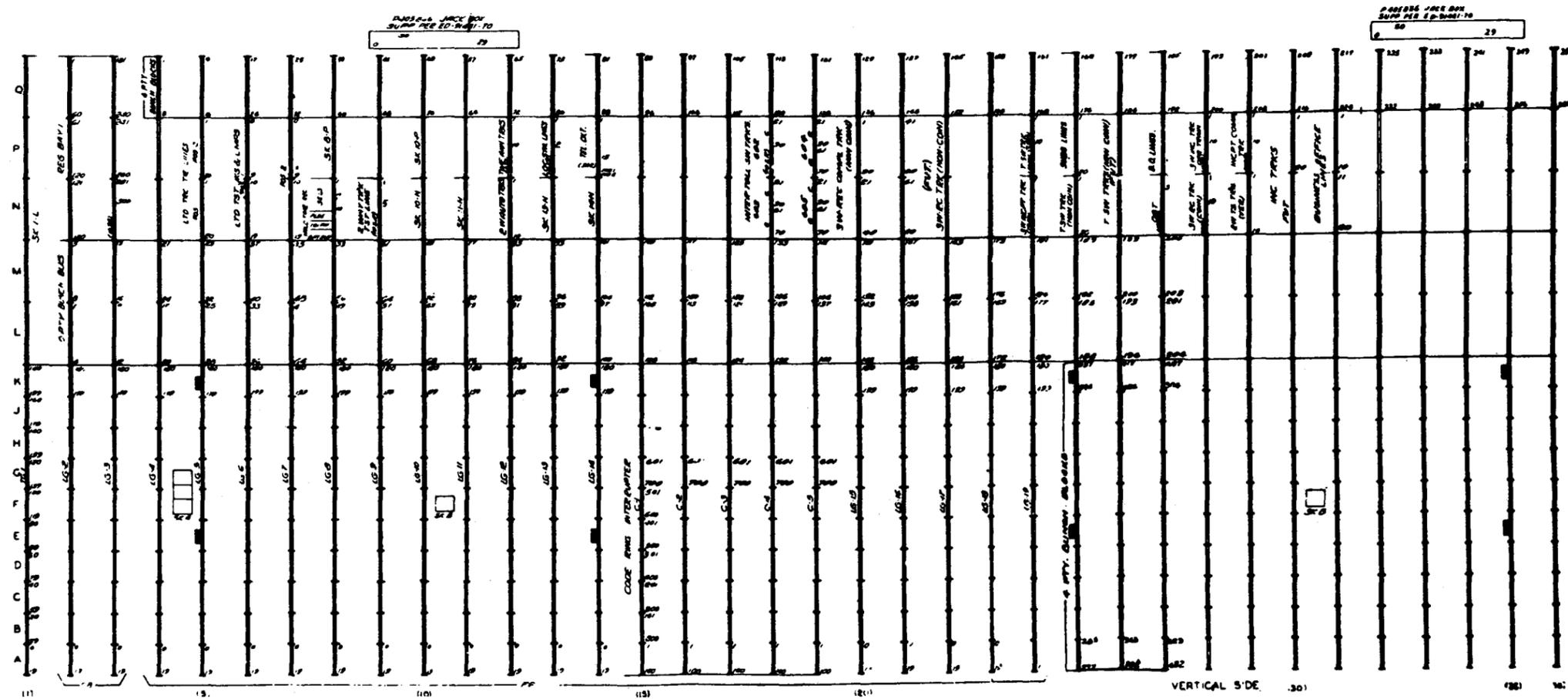


FIG. 2 TYPICAL EQUIPMENT DRAWING - I.D.F.

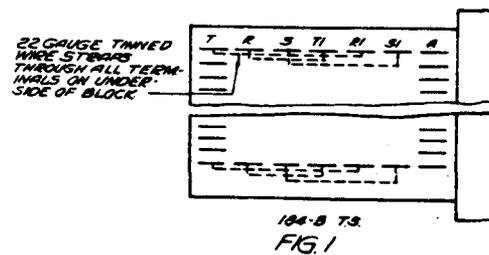
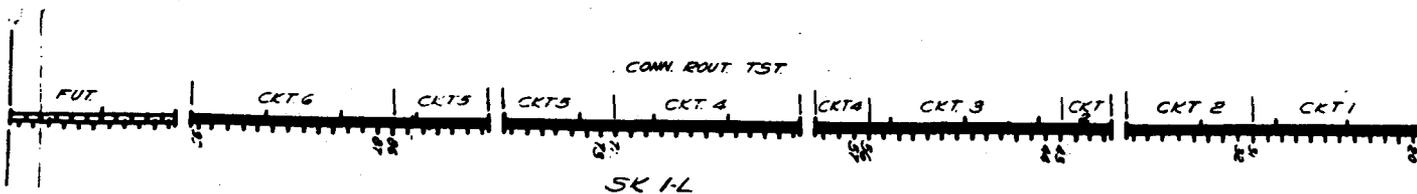
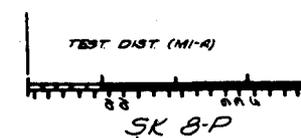
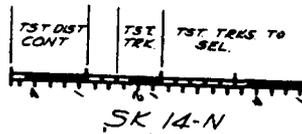
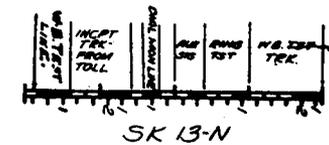
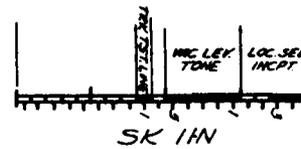
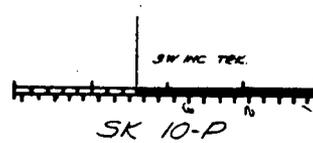
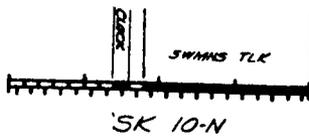
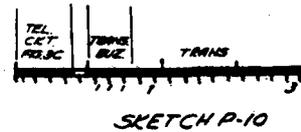
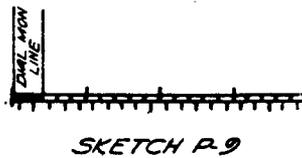
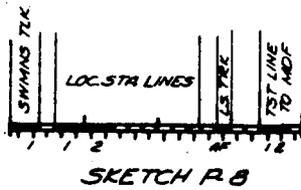
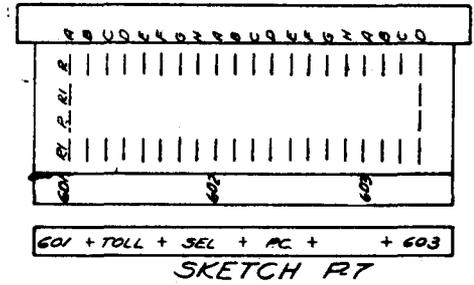
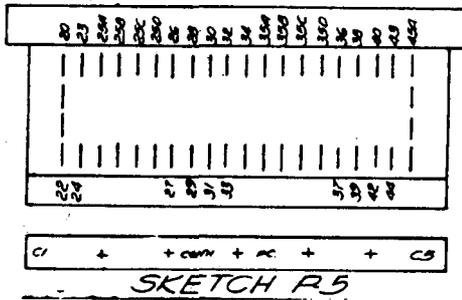
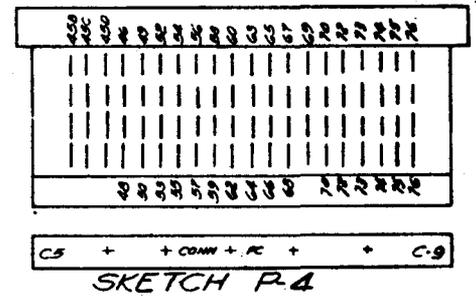
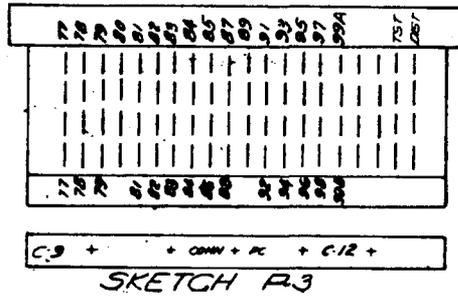
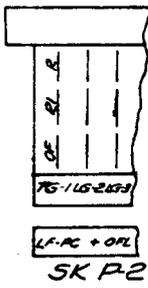
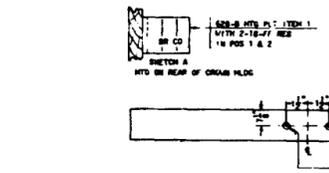
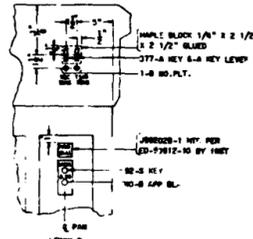
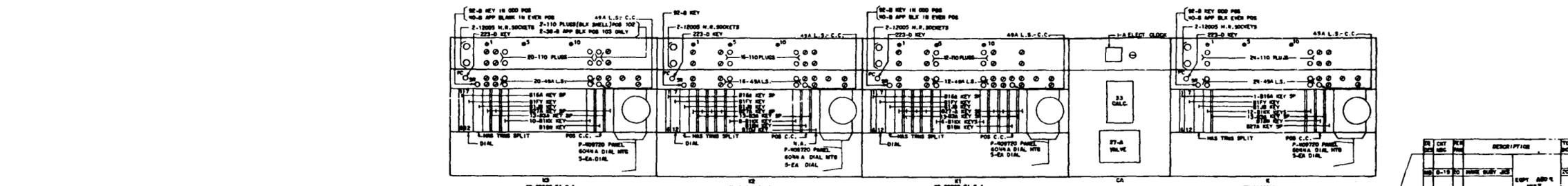


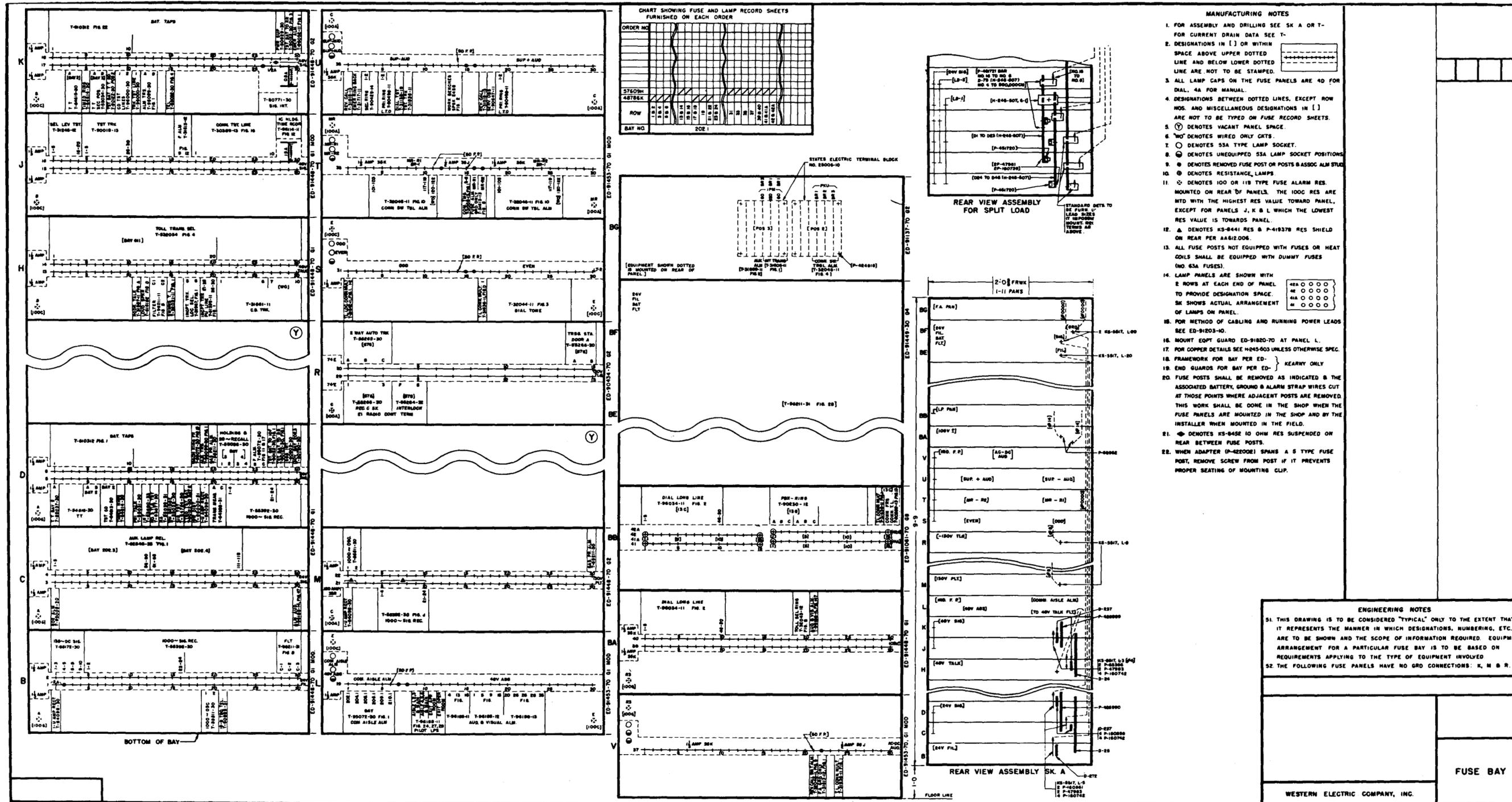
FIG. 3 TYPICAL EQUIPMENT DRAWING - I.D.F.



KEY	DESCRIPTION	KEY	DESCRIPTION
1	SP & MISC EMT	10	1-101-AC
2	SP CORE UNLESS INDICATED	11	1-101-AC
3	1-101-AC	12	1-101-AC
4	1-101-AC	13	1-101-AC
5	1-101-AC	14	1-101-AC
6	1-101-AC	15	1-101-AC
7	1-101-AC	16	1-101-AC
8	1-101-AC	17	1-101-AC
9	1-101-AC	18	1-101-AC
10	1-101-AC	19	1-101-AC
11	1-101-AC	20	1-101-AC
12	1-101-AC	21	1-101-AC
13	1-101-AC	22	1-101-AC
14	1-101-AC		
15	1-101-AC		
16	1-101-AC		
17	1-101-AC		
18	1-101-AC		
19	1-101-AC		
20	1-101-AC		
21	1-101-AC		
22	1-101-AC		

LINE	LETTER	DESCRIPTION	TYPE
1	A	1-101-AC	1
2	B	1-101-AC	1
3	C	1-101-AC	1
4	D	1-101-AC	1
5	E	1-101-AC	1
6	F	1-101-AC	1
7	G	1-101-AC	1
8	H	1-101-AC	1
9	I	1-101-AC	1
10	J	1-101-AC	1
11	K	1-101-AC	1
12	L	1-101-AC	1
13	M	1-101-AC	1
14	N	1-101-AC	1
15	O	1-101-AC	1
16	P	1-101-AC	1
17	Q	1-101-AC	1
18	R	1-101-AC	1
19	S	1-101-AC	1
20	T	1-101-AC	1
21	U	1-101-AC	1
22	V	1-101-AC	1
23	W	1-101-AC	1
24	X	1-101-AC	1
25	Y	1-101-AC	1
26	Z	1-101-AC	1
27	AA	1-101-AC	1
28	AB	1-101-AC	1
29	AC	1-101-AC	1
30	AD	1-101-AC	1
31	AE	1-101-AC	1
32	AF	1-101-AC	1
33	AG	1-101-AC	1
34	AH	1-101-AC	1
35	AI	1-101-AC	1
36	AJ	1-101-AC	1
37	AK	1-101-AC	1
38	AL	1-101-AC	1
39	AM	1-101-AC	1
40	AN	1-101-AC	1
41	AO	1-101-AC	1
42	AP	1-101-AC	1
43	AQ	1-101-AC	1
44	AR	1-101-AC	1
45	AS	1-101-AC	1
46	AT	1-101-AC	1
47	AU	1-101-AC	1
48	AV	1-101-AC	1
49	AW	1-101-AC	1
50	AX	1-101-AC	1
51	AY	1-101-AC	1
52	AZ	1-101-AC	1
53	BA	1-101-AC	1
54	BB	1-101-AC	1
55	BC	1-101-AC	1
56	BD	1-101-AC	1
57	BE	1-101-AC	1
58	BF	1-101-AC	1
59	BG	1-101-AC	1
60	BH	1-101-AC	1
61	BI	1-101-AC	1
62	BJ	1-101-AC	1
63	BK	1-101-AC	1
64	BL	1-101-AC	1
65	BM	1-101-AC	1
66	BN	1-101-AC	1
67	BO	1-101-AC	1
68	BP	1-101-AC	1
69	BQ	1-101-AC	1
70	BR	1-101-AC	1
71	BS	1-101-AC	1
72	BT	1-101-AC	1
73	BU	1-101-AC	1
74	BV	1-101-AC	1
75	BW	1-101-AC	1
76	BX	1-101-AC	1
77	BY	1-101-AC	1
78	BZ	1-101-AC	1
79	CA	1-101-AC	1
80	CB	1-101-AC	1
81	CC	1-101-AC	1
82	CD	1-101-AC	1
83	CE	1-101-AC	1
84	CF	1-101-AC	1
85	CG	1-101-AC	1
86	CH	1-101-AC	1
87	CI	1-101-AC	1
88	CJ	1-101-AC	1
89	CK	1-101-AC	1
90	CL	1-101-AC	1
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92	CN	1-101-AC	1
93	CO	1-101-AC	1
94	CP	1-101-AC	1
95	CQ	1-101-AC	1
96	CR	1-101-AC	1
97	CS	1-101-AC	1
98	CT	1-101-AC	1
99	CU	1-101-AC	1
100	CV	1-101-AC	1
101	CW	1-101-AC	1
102	CX	1-101-AC	1
103	CY	1-101-AC	1
104	CZ	1-101-AC	1
105	DA	1-101-AC	1
106	DB	1-101-AC	1
107	DC	1-101-AC	1
108	DD	1-101-AC	1
109	DE	1-101-AC	1
110	DF	1-101-AC	1
111	DG	1-101-AC	1
112	DH	1-101-AC	1
113	DI	1-101-AC	1
114	DJ	1-101-AC	1
115	DK	1-101-AC	1
116	DL	1-101-AC	1
117	DM	1-101-AC	1
118	DN	1-101-AC	1
119	DO	1-101-AC	1
120	DP	1-101-AC	1
121	DQ	1-101-AC	1
122	DR	1-101-AC	1
123	DS	1-101-AC	1
124	DT	1-101-AC	1
125	DU	1-101-AC	1
126	DV	1-101-AC	1
127	DW	1-101-AC	1
128	DX	1-101-AC	1
129	DY	1-101-AC	1
130	DZ	1-101-AC	1
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156	EZ	1-101-AC	1
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158	FB	1-101-AC	1
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160	FD	1-101-AC	1
161	FE	1-101-AC	1
162	FF	1-101-AC	1
163	FG	1-101-AC	1
164	FH	1-101-AC	1
165	FI	1-101-AC	1
166	FJ	1-101-AC	1
167	FK	1-101-AC	1
168	FL	1-101-AC	1
169	FM	1-101-AC	1
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171	FO	1-101-AC	1
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173	FQ	1-101-AC	1
174	FR	1-101-AC	1
175	FS	1-101-AC	1
176	FT	1-101-AC	1
177	FU	1-101-AC	1
178	FV	1-101-AC	1
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182	FZ	1-101-AC	1
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184	GB	1-101-AC	1
185	GC	1-101-AC	1
186	GD	1-101-AC	1
187	GE	1-101-AC	1
188	GF	1-101-AC	1
189	GG	1-101-AC	1
190	GH	1-101-AC	1
191	GI	1-101-AC	1
192	GJ	1-101-AC	1
193	GK	1-101-AC	1
194	GL	1-101-AC	1
195	GM	1-101-AC	1
196	GN	1-101-AC	1
197	GO	1-101-AC	1
198	GP	1-101-AC	1
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201	GS	1-101-AC	1
202	GT	1-101-AC	1
203	GU	1-101-AC	1
204	GV	1-101-AC	1
205	GW	1-101-AC	1
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207	GY	1-101-AC	1
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240	GH	1-101-AC	1
241	GI	1-101-AC	1
242	GJ	1-101-AC	1
243	GK	1-101-AC	1
244	GL	1-101-AC	1
245	GM	1-101-AC	1
246	GN	1-101-AC	1
247	GO	1-101-AC	1
248	GP	1-101-AC	1
249	GQ	1-101-AC	1
250	GR	1-101-AC	1

LINE	LETTER	DESCRIPTION	TYPE
1	A	1-101-AC	1
2	B	1-101-AC	1
3	C	1-101-AC	1
4	D	1-1	



- MANUFACTURING NOTES**
- FOR ASSEMBLY AND DRILLING SEE SK A OR T- FOR CURRENT DRAIN DATA SEE T-
 - DESIGNATIONS IN [] OR WITHIN SPACE ABOVE UPPER DOTTED LINE AND BELOW LOWER DOTTED LINE ARE NOT TO BE STAMPED.
 - ALL LAMP CAPS ON THE FUSE PANELS ARE 4D FOR DIAL, 4A FOR MANUAL.
 - DESIGNATIONS BETWEEN DOTTED LINES, EXCEPT ROW NOS. AND MISCELLANEOUS DESIGNATIONS IN [] ARE NOT TO BE TYPED ON FUSE RECORD SHEETS.
 - ⊙ DENOTES VACANT PANEL SPACE.
 - ⊙ DENOTES WIRED ONLY CRTS.
 - ⊙ DENOTES 55A TYPE LAMP SOCKET.
 - ⊙ DENOTES UNEQUIPPED 55A LAMP SOCKET POSITIONS.
 - ⊙ DENOTES REMOVED FUSE POST OR POSTS & ASSOC ALM STUD.
 - ⊙ DENOTES RESISTANCE LAMPS.
 - ⊙ DENOTES 100 OR 118 TYPE FUSE ALARM RES. MOUNTED ON REAR OF PANELS. THE 100C RES ARE MTD WITH THE HIGHEST RES VALUE TOWARD PANEL, EXCEPT FOR PANELS J, K & L WHICH THE LOWEST RES VALUE IS TOWARDS PANEL.
 - ⊙ DENOTES K5-8441 RES & P-419378 RES SHIELD ON REAR PER A4612.006.
 - ALL FUSE POSTS NOT EQUIPPED WITH FUSES OR HEAT COILS SHALL BE EQUIPPED WITH DUMMY FUSES (NO. 63A FUSES).
 - LAMP PANELS ARE SHOWN WITH 5 ROWS AT EACH END OF PANEL TO PROVIDE DESIGNATION SPACE. SK SHOWS ACTUAL ARRANGEMENT OF LAMPS ON PANEL.
 - FOR METHOD OF CABLING AND RUNNING POWER LEADS SEE ED-9120-10.
 - MOUNT EQPT GUARD ED-9120-70 AT PANEL L.
 - FOR COPPER DETAILS SEE H45-603 UNLESS OTHERWISE SPEC.
 - FRAMEWORK FOR BAY PER ED- KEARNY ONLY
 - END GUARDS FOR BAY PER ED-
 - FUSE POSTS SHALL BE REMOVED AS INDICATED & THE ASSOCIATED BATTERY, GROUND & ALARM STRAP WIRES CUT AT THOSE POINTS WHERE ADJACENT POSTS ARE REMOVED. THIS WORK SHALL BE DONE IN THE SHOP WHEN THE FUSE PANELS ARE MOUNTED IN THE SHOP AND BY THE INSTALLER WHEN MOUNTED IN THE FIELD.
 - ⊙ DENOTES K5-BASE 10 OHM RES SUSPENDED ON REAR BETWEEN FUSE POSTS.
 - WHEN ADAPTER (P-42006) SPANS A 5 TYPE FUSE POST, REMOVE SCREW FROM POST IF IT PREVENTS PROPER SEATING OF MOUNTING CLIP.

ENGINEERING NOTES

51. THIS DRAWING IS TO BE CONSIDERED "TYPICAL" ONLY TO THE EXTENT THAT IT REPRESENTS THE MANNER IN WHICH DESIGNATIONS, NUMBERING, ETC. ARE TO BE SHOWN AND THE SCOPE OF INFORMATION REQUIRED. EQUIPMENT ARRANGEMENT FOR A PARTICULAR FUSE BAY IS TO BE BASED ON REQUIREMENTS APPLYING TO THE TYPE OF EQUIPMENT INVOLVED.

52. THE FOLLOWING FUSE PANELS HAVE NO GRD CONNECTIONS: K, M & R.

FUSE BAY

WESTERN ELECTRIC COMPANY, INC.

FIG. 7 TYPICAL FUSE BOARD EQUIPMENT

