

JOB DRAWINGS
WIRING LISTS AND MISCELLANEOUS

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1. GENERAL

1.1 Scope of Section

1.11 This section describes the several kinds of miscellaneous job 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. WIRING LIST DRAWINGS

NOTE: Refer to Section 21 for information which applies to the preparation of wiring lists, whether or not they appear in the job specifications or on drawings.

2.01 Figures 1 and 2 show the manner in which information is shown on job wiring lists for dial equipment. Figure 3 shows the manner in which information is shown on job wiring lists for power plant equipment.

2.02 All types of equipment in the office, for example each line of switchboard, frames of the same kind, desks and similar groups of equipment, have their own wiring list drawing. Miscellaneous wiring for the office not confined to any particular switchboard or group of frames is covered on a separate wiring list drawing. For this reason the wiring list drawing covering miscellaneous wiring is made up of the specification dash number and another digit.

2.03 Wiring list drawings are provided for all new offices and all new lineups installed on additions.

2.04 For present offices not having wiring list drawings, wiring list drawings are provided for additional equipment or major modifications of present equipment. The portion of the equipment not affected by the particular order may not be included.

2.05 For toll and manual equipments, wiring list drawings are prepared if the floor plan indicates that the future equipment will consist of 15 or more positions, bays, etc., or when making a major modification involving 15 or more positions, bays, etc. This rule, however, does not apply if the office will be replaced in a few years.

2.06 In addition to listing the wiring diagram figures and options furnished and connected for an office, the corresponding schematic figures and option equipped on all new wiring list drawings except drawing prepared for Panel offices and No. 1, 1D, 9 and 10 Manual offices are

also listed. Existing wiring list drawings are changed to add this information only when authorized by the telephone company.

2.07 Under the headings "Wiring Furnished" and "Wiring Connected" on job wiring lists are specified all optional wiring furnished and connected (equipped), respectively, by the shop, installer or distributing house (as for example, "M", "P", "X", "Z"). In the "furnished" column is listed all optional wiring included in a standard local cable even though certain options may not be required for an office. In the "connected" column is listed only the equipped options. All options in the "connected" column are repeated in the "furnished" column.

2.08 For many large circuits especially in Crossbar equipment, additional drawings are prepared to cover (1) engineering notes applying to the several wiring diagrams, (2) association of wiring diagram and schematic figures and options and (3) location of apparatus or schematic drawing, wiring diagrams and frame. These drawings, which are numbered in the wiring diagram series with suffixes 08, 09 and 10, are listed on wiring list drawings, immediately above or below the associated wiring diagrams.

2.09 Since schematic (SD) and equipment and assembly (ED) drawings are provided for all apparatus coded panels except sealed units and those for which circuit labels are provided, the wiring list drawing will list, on the line following the connecting drawing (or as closed thereto as possible), the code, unit name, schematic (SD) and wiring diagram drawing numbers. In the respective position or bay column is listed the number of panels furnished.

2.10 The quantity of both the wired and equipped circuits are shown in the same column, the total of wired and equipped circuits within parenthesis and the equipped circuits without parenthesis. However, if the quantity of wired circuits for all positions is the same and the quantity of equipped circuits is variable, the wired circuits may be covered in one column and the equipped circuits under the individual position heading.

2.11 The purpose of the block schematic form of job power wiring list drawing (refer to Figure 3) is to provide a record which shows in schematic for the interrelation of standard wiring diagram figures and job circuit information to a particular office.

2.12 Previously, issue notes on Job Wiring List Drawings had been either complete or brief. The complete note contained all necessary change information and the brief note referred its reader to a Western Electric or telephone equipment order for complete change information. All issue notes on new Job Wiring List Drawings are now complete.

3. JOB INTERCONNECTING LEAD CHART (SXS OFFICES)

3.1 Job drawings are prepared for office alarm frames in step-by-step offices to cover in detail the interconnecting lead information for the frame local cable as well as specific terminal connections for leads in the frame cable. On these drawings, unless the terminal designations are stamped on the apparatus, all apparatus terminals are designated arbitrarily counting horizontally from left to right, vertically from bottom to top, and consecutively beginning with one (1) in each direction. For specific application of the numbering plan, refer to information drawing H-582-225.

4. N DRAWINGS

4.1 The N drawing method was devised to provide a convenient means of furnishing prints of job drawings, showing the arrangement of wiring or equipment both before and after changes are made on the drawings involved. Under the plan, both the new and old drawings have the same drawing number with the exception that the letter N is added to the number of the drawing showing the old arrangement. The method is particularly adapted to the following conditions:

4.11 Where there will be confusion in the field due to conflict between the work on two concurrent orders if the drawings were changed to take care of the later order.

4.12 If the changes are so involved as to make it impractical to describe them fully in the issue column change notes on drawings such as:

Terminal Assemblies
Slip Multiple Drawings
Cross Connection Charts
Battery Control Board Drawings (Rear View)
Job Power Circuits
Line Finder to District Cabling Schematic Drawings
District Locating and Particular Circuit Charts
Any other job drawing, if a record of the equipment as installed, will be advantageous to the planner or installer.

4.2 When N drawings are issued to avoid confusion on concurrent orders, the engineer requests the installer to advise the equipment department promptly of any deviations made from the specification and drawings to avoid the possibility of locating equipment on the addition in a space already occupied. This is effected by attaching a copy of each drawing involved and requesting that they be marked to indicate any deviations.

4.3 A supplement is issued to add the N on the old drawing with both numbers shown on the supplement as:

T-2212-110
T-2212-110N

4.31 The supplement is Class "D" if no previous active order is involved.

4.32 The supplement is Class "D" if a previous active order is involved on which the installer's drawings have not been shipped. In this case however, an appendix is issued for the purpose of adding or changing the drawing number to show the proper N suffix, the changes being made under all headings in which the affected drawings appear in the specification.

4.33 The supplement is Class "A" if a previous active order is involved on which the installer's drawings have been shipped. Under the space "jobs affected" on the supplement, the previous active orders are listed.

4.34 In case two (or more) drawings are replaced by one drawing, the N plan is applied to one of the drawings and a note is placed on the other drawing as follows:

"Void (date) replaced by T _____."
The date inserted is the date of the change unless the old drawing is required for a job being installed, in which case the date is one year after the date of change.

4.4 A second supplement is issued to originate the new drawing on the regular number (as T-2212-110). Both numbers are shown on the supplement as:

T-2212-110N
T-2212-110

4.5 When the N plan is required for several active orders, the suffixes N, NA, NB, NC, etc. are used. The same suffix may be assigned for all N drawings required in connection with any one or all specifications on a particular order. When the orders are closed out, the suffixes may be reassigned.

5. ABBREVIATIONS USED ON DRAWINGS

5.1 Abbreviations for Designations Stamped on the Equipment

5.11 A list of the abbreviations and symbols used in stamping designations on equipment is included in Handbook 39.

5.2 Abbreviations for Terms Not Stamped on Equipment

5.21 The following list shows the meaning of principal abbreviations used on drawings (both job and standard) for terms not used in stamping the equipment.

<u>Abbreviation</u>	<u>Word or Term</u>
ADD	Addition, Additional
AL	Aluminum
AT&T CO	American Telephone & Telegraph Company
AMT	Amount
ANL	Annealed
APP	Apparatus

<u>Abbreviation</u>	<u>Word or Term</u>	<u>Abbreviation</u>	<u>Word or Term</u>
APP BLK	Apparatus Blank	4PDT	Four-Pole, Double-Throw
APPROX	Approximate	4PST	Four-Pole, Single-Throw
APPD	Approved	FRWK	Framework
ARR	Arrange, Arranged, Arrangement, Arranging	GALV	Galvanized
ASB	Asbestos	GF	Grind Finish
ASSEM	Assemble, Assembly, Assembled	HH	Half-Hard
BET.	Between	HD WHL	Hand Wheel
BEV	Bevel	H	Hard
BP	Binding Post	HD	Hard Drawn
BWG	Birmingham Wire Gauge	H RUB.	Hard Rubber
BRKT	Bracket	HEX	Hexagon
BRC	Braided & Rubber Covered (Wire)	HEX H	Hexagon Head
B&S	Brown & Sharpe (Gauge)	IMPG ABS COMP	Impregnated Asbestos Composition
CA	Cable, Cabling	IN. or "	Inch, Inches
CALC	Calculagraph	INCL	Include, Inclusive
CAT.	Catalog	IND CL	Induction Coil
CTR	Center, Centered, Centering	I	Iron
C	Center Line	JK SP	Jack Space
C to C	Center to Center	JCT	Junction
C	Centrigrade	K SP	Key Space
CHAM	Chamfer, Chamfered	KWH	Kilowatt-Hour
CM	Circular Mills	LAM	Laminate, Laminated, Lamination
CL or CLR	Clearance	LEAD CA	Lead Covered Cable
CD	Cold Drawn	LA	Lightning Arrestor
CR	Cold Rolled	LG	Long
CO	Company	M SCR or MS	Machine Screw
COMP	Compound	MFP	Made from Piece Part
COND	Conduct, Conductivity, Conductor	MAH	Mahogany
CONT	Contact	MFR	Manufacture, Manufacturer
CONT	Continued	MFG	Manufacturing
CU or COP	Copper	MARG or MG	Margin, Marginal
COP PL	Copper Plate, Copper Plated	MATL	Material
CD HOOK	Cord Hook	MED	Medium
CD FAST.	Cord Fastener	MEG	Megohms
CB	Counterbore	u or U	Micro
CDR	Counterdrill	uF or UF	Micro Farad
CSK	Countersink	u F or UF	Micromicro Farad
CTS	Cut to Shoulder	MIX	Mixture
~ or CY	Cycle	MTD	Mounted
DECAL	Decalcomania	MTG	Mounting
DESIG STR	Designation Strip	MTG PLT	Mounting Plate
DET	Detail	NEC	National Electrical Code
DEV	Develop, Developed, Development	NIC PLT	Nickel Plate
DIAG	Diagram	NIC SIL	Nickel Silver
D or DIA	Diameter	NON IND	Noninductive
DIM.	Dimension	NO. PLT	Number Plate
DIR CONN	Direct Connected	Ω	Ohm
DISC	Disconnect	OZ	Ounce
DISC	Discontinued	OD	Outside Diameter
DP	Double Pole (Switch)	OH	Oval Head (Screw)
DT	Double Throw (Switch)	OXD	Oxide, Oxidize, Oxidized
DWG	Drawing	PAR.	Parallel
DR	Drive	PAT.	Patent, Patented
EQPD	Equipped	PD	Pitch Diameter
E/W	Equipped With	PLAT.	Platinum
ESC	Escutcheon	POL	Polish, Polished
EXH	Exhaust	LB	Pound
EXT	External	PREC	Preceding
FAN. STR	Fanning Strip	R or RAD	Radius
F	Fahrenheit	RECP	Receptacle
F	Farad	RECT	Rectangular, Rectangle
FAST.	Fastener	REF	Reference
FF	File Finish	REP CL	Repeating Coil
FIL H	Fillister Head (Screw)	REQ	Required, Requisition
FIN. or F	Finish		
FH	Flat Head (Screw)		
FLEX.	Flexible		
FT or '	Foot or Feet		

<u>Abbreviation</u>	<u>Word or Term</u>	<u>Abbreviation</u>	<u>Word or Term</u>
RES or RE	Resistance, Resistant, Resisting, Resistor	SL	Stock List
RET CL	Retardation Coil	S BOLT	Stove Bolt
REV	Reversal, Reverse, Reversing	SUCC	Succeeding
REV	Revolution	SWBD CA	Switchboard Cable
RPM	Revolutions per Minute	THD	Thread
RGF	Rough Grind Finish	3PDT	Three-Pole, Double Throw (Switch)
RH	Round Head	3PST	Three-Pole, Single Throw (Switch)
RUB.	Rubber	TW	Tight Wrapped
SCR	Screw	ULT	Ultimate
SEG	Segment	US STD or USS	United States Standard
ST	Self-Tapping	U.S.A.	United States of America
SEP	Separate	VSC	Very Slightly Chamfer
SER	Serial, Series	WT	Weight
SH	Sheet	WE CO INC.	Western Electric Company, Inc.
SP	Single Pole	WDG	Winding
ST	Single Throw	WIR	Wiring
SK	Sketch	W SCR	Wood Screw
SK	Skinned, Skinner	ZN	Zinc
SC	Slightly Chamfer		
SPEC	Specification, Specified		
SQ	Square		
STD	Standard		

➔ Arrowed lines indicate new
or changed information.

Manager, Engineering Practices

ATTACHMENT
Figures 1, 2 and 3 on Pages 5, 7 and 9.

Reason for Reissue:

- (1) Paragraph 2.12 on Wiring List Notes added.
- (2) Editorial corrections.

Replaces Section 7E dated 1-18-68.

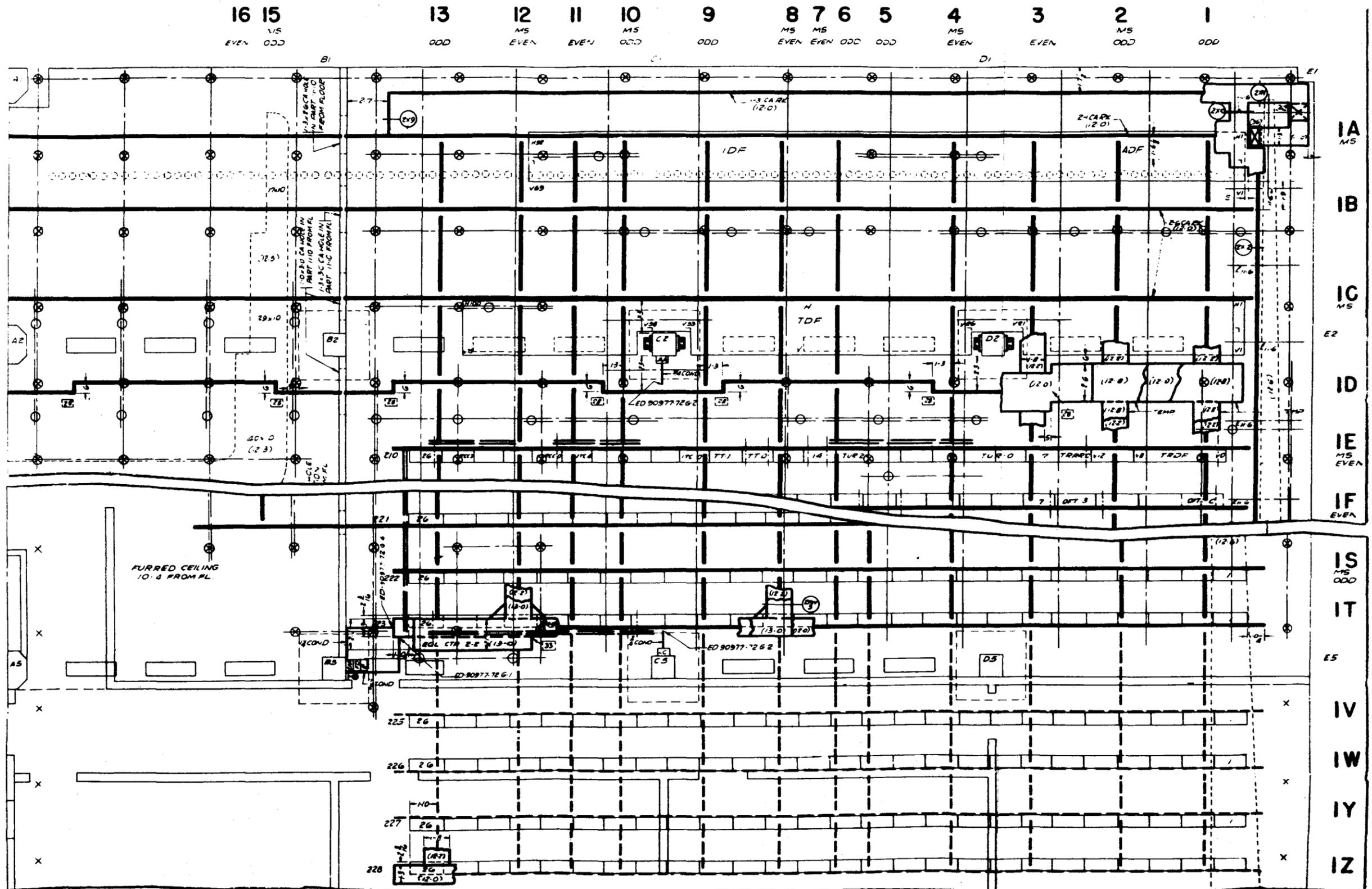


FIG. 1 TYPICAL INFORMATION APPEARING ON DIAL EQUIPMENT JOB WIRING LIST DRAWINGS

WIRING LIST OF UNIT EQUIPMENT																		
LINE	CLASS	NAME OF CIRCUIT	UNIT FRAMEWORK		CIRCUIT DRAWINGS				FIGS	CONDITIONAL WIRING			QUAN OF CKTS PER UNIT	TOTAL QUAN OF CKTS	NOTES	EQPT DWG REF NOS	RELAY RACK	REMARKS
			J-OR ED- DWG	LIST OR GRP	SCHEMATIC	FIGS	OPTION	WIRING DIAGRAM		FURN	CONN	APP						
1	A	OGT-VERIF REQ	J2305GA-50	1,2,6	SD-2566E-01	1,2	W,Q,EB	T-2566E-11	1,2,10	Q,H,C,ED	Q,H,C,EB	W,Q	1	1	2,3	109.00		(7BL-6 CKTS)(3XREG 0 CKTS)
2	A1			1,6		1	W,Q,EB		1,10	Q,H,C,ED	Q,H,C,EB	W,Q	1	13	2			
4	B	PERM SIG TRK SEL	J230600-30	1	SD-25767-01	1,7		T-25767-11	1,7			LL,WW	1	1	10	109.01		
5				2		2	X	T-25767-11	2,10	X,W	X,N	X	3	2 (3)				
6	C	P5 TST TRK (LTD)	J230600A-1	1,2		1,3,3,3,6	L	T-25767-11	1,3,4,5	Z	Z		2	2	12			(76 P CKTS)(176 R CKTS)
17	G	NO TST CONN SW	J23064C-50	1,3,F	SD-25702-01	1	Y	T-25702-11	1,11			Y	1	3		109.02		SEE TABLE D
18	G1		J23064E-50	6,B,F		1	X		1,11			X	1	1		109.03		
19	H	EMG LINE TO DSA BD	J23056F-60	1,2,4,5	SD-25701-01	1,2	V,Z,X,T	T-25701-11	1,2,11,12	Z,T	Z,T	X,V	1	1	6	109.00		
20	H1			1,4		1,8	V,Z,X,T		1,2,11,12	Z,T	Z,T	X,V	1	4	6	2		
61	N	PLUG UP LINE (MOD EQPT)	J23005G-30	1	SD-25701-01	1,51		T-25701-11	1				3	20(2)	A	109.02		CKT 21 WIRED & EQPT BUT NOT CA SEE TABLE D
62						1	Z,A		A,11,10					20	E			
112	A1	INT CKTS (ALM) 60/PM	J23026S-1	1,2,3,4	SD-25707-01	1,2,3,4,5	X	T-25707-11	1,11,12	J	J		1	1	8	109.05		STAMP GO 1PH BR 3" ON J SPEC UNIT SEE TABLE "E"
113				2,4		2,8			2,8				18	18				
114				4,8		4,8			4,8				18	18				
115	A1	NET	T-2293-170	FIG 7		12			12					20	8			
116	A1	ALMINE SYS		FIG 7	SNK-5-195-930-SF			SNK-5-195-930-SF	2,3				7	1		109.07		
117									1				7	3(A)				
118									4					4				
119									4					5				
120		GENERAL CABLING						T-520155	1107						7			SEE TABLE C

GENERAL STYLE (FOR USE WITH STD UNITS)

EQUIPMENT B FRAME CABLE DRAWINGS					
LINE	BAY NO	EQPT DWG NO	FR CA NO	DPTS NBG DWG	FIG
41	101-2	T-9844-421	SW BD CA	W-909-723	1
42	103-4	-421			1
43	105-6	-421			1
44	201-2	-422			2
45	203-4	-422			2
46	205-6	-422			2
47	301-2	-423			2
48	303-4	-423			2
49	305-6	-423			2

FIG A (S X S)

DRAWINGS FOR REFERENCE		
LINE	TITLE	DWG NO
101	SEL FR EQPT TYPICAL (20 CAP SH)	ED-30734-01
102	UNIV SW FR EQPT TYPICAL (NO CAP SH)	ED-31001-01
103	TYPICAL TRK GRP INF (WITH DTA)	ED-30846-01
104	TYPICAL TRK GRP INF (WITHOUT DTA)	ED-30847-01
105	TYPICAL UNIV SHELF WRG	ED-30767-01
106	SWRD CA & PWR FEEDER (20 CAP SH)	ED-30734-10
107	1 (NO CAP SH)	ED-30780-10
108	TRK CKT CABLING (20 CAP SH)	T-68184
109	1 (NO CAP SH)	T-532184

FIG B (PANEL) (S X S) (CBR)

WIRING LIST OF MISCELLANEOUS CIRCUITS													
LINE	NAME OF CIRCUIT	SCHEMATIC		WIRING DIAGRAM				QUAN OF CKTS	CIRCUIT NUMBERING		NOTES	EQPT DWG REF NOS	REMARKS
		NUMBER	EQUIPPED	NUMBER	FIGURE	FURN	CONN		APP	EQUIPPED			
71	TALK TRK MOD EQPT	SD-90050-13	3	T-90050-13	11			17(9)	1 TO 17	18,20	3	1	
72													
73	TST TRK (INT TEL) JK & LP	SD-96356-01	1	T-96356-11	1			1	0		2	1	POS 1 & 2 EA
74	(MULT) JK KEY & LP	SD-90018-01	1	T-90018-11	1			13(20)	1 TO 13	14 TO 19	2	1	
75													
80	MOD TST	SD-90056-01	1	T-90056-11	1			2(7)	01	2 TO 6	1	1	POS 1 & 2 EA
81													
82	PRY SEC TST ON CONT	SD-90097-01	6	T-90097-15	7K			1			3	1	POS 1,2
83	TST BAT		2					1			1	1	POS 2
84	WB BAT		3					1			1	1	POS 1
85	GED							1			1	1	

GENERAL STYLE (FOR USE WITHOUT STD UNITS)

STANDARD FRAMEWORK & EQUIPMENT RECORD					
LINE	DWG NO	LIST OR GRP	MOD BY SKETCH	DESCRIPTION	POS NO
221	J95002F-9	1,7,12,16,22		STOCKLIST	1,2
222		23,24,25			
223	ED-90208-10			FRONT EQPT (REG)	1,2
224	ED-90293-30	G-1		CTS (LT END)	
225	ED-90226-30	G-1		END DETAILS	RT & LT END
226	ED-90454-13	G-1		PBX ALM CAB	TUM OF POS 1
227					

FIG C (PANEL) (S X S) (CBR)

FIG. 2 TYPICAL INFORMATION APPEARING ON DIAL EQUIPMENT JOB WIRING LIST DRAWINGS

PANEL

SUMMARY OF SELECTOR CIRCUITS										WIRING LIST AND EQUIPMENT OF FINAL FRAMES													
LINE	CLASS	NAME OF CIRCUIT	CIRCUIT DRAWING NOS		FIGS	CONDITIONAL			NOTES	EQPT DWG REF NOS	EQPT ON FRONT OF FRAME						EQPT ON REAR OF FRAME						
			SCHEMATIC	WIRING DIAGRAM		WIRING	FURN	CONN			APP	CKT NO	201	202	203	204	205	206	CKT NO	201	202	203	204
1	A	FINAL SEL	SD-21200-01	T-21200-14	1					59	B	B	B	B	B	B	58	B	B	B	B	B	(B)
2	B	(TEST)	SD-21200-02	T-21200-15	1			Z		57							56						
3										55							54						
4										51							52						
										49	A	A	A	A	A	A	50	A	A	A	A	A	
										47													

LINE	DPTS ASSIGNMENT				
	FR NO	DPTS DWG NO	FIG	FR CAB NO	EQPT DWG NO
101	LF-1 TO 3	H909-720	1	SWBD CA	T-9844-7200
102	4 TO 6				
103	7 TO 9				
104	10 TO 12				
105	13, 14, 15				

FIG D (SXS)

SELECTOR FRAMES

JOB EQPT DWG REFERENCE TABLE			
LINE	REF NO	DWG NO	TITLE
251		T-3293-01	FL PLAN 1ST FL
252	1	-180	MDF
253	2	-210	PPTD
254	3	-171	RR EQPT
255			
256			
257			

FIG E (PANEL) (SXS) (CBR)

STEP BY STEP

FRAME NUMBER	L GROUP NO	UNIT ASSEM	UNIT EQPT	MISCELLANEOUS	LINE EQPT	LINES EQPT	LINE OR TRUNK FRAMES & UNIT EQUIPMENT													CLASS OF SERVICE	NOTES					
							SWITCH POSITIONS																			
							5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
LF-1		BA	UA	CA	AA	198																		CB		
DPTS																										
LF-2																										
DPTS																										
LF-3																										
DPTS																										
LF-4																										
DPTS																										

BAY NO	REG'S CA	SW TBL ALM	MISC	SH JK WRG	BKS (1 TO 10)	BKS (11 TO 20)	SH ASSEM	SH DESIG	SW NBG	SELECTOR FRAME SHELF & SWITCH EQUIPMENT														NOTE		
										SWITCH POSITION																
										1	2	3	4	5	6	7	8	9	10	11	12	13	14			
601	AC			BA	EJ	EK	HE	AB	1-20																	
DPTS								CD	21-40																	
								EF	41-60																	
								GH	61-80																	
								IJ	81-100																	
								KL	101-120																	
								MN	121-140																	
								OP	141-160																	
602	AC			BA	EL	EM	NF	AB	1-20																	
DPTS								CD	21-40																	
								EF	41-60																	
								GH	61-80																	
								IJ	81-100																	
								KL	101-120																	
								MN	121-140																	

BAY NUMBER	PBX MULT	SHELF NUMBER	SH ASSEM	BANK WRG	MISC	SW TBL ALARM	SH JK WRG	PBX OPL JK PAN	CONNECTOR FRAME & SHELF EQUIPMENT											TYPE OF SERVICE	NOTE				
									SWITCH POSITIONS																
									T	1	2	3	4	5	6	7	8	9	10	11					
C-1		200	HE	EC		BC, BL	CC																		
DPTS		201																							
		202																							
		203	HA	EA		BA, BJ	CA																		
		204																							
		205																							
		206	HB			BB, BK	CB																		
		207																							
		208	HB	EA		BB, BK	CB																		
		209																							
C-2		210	HE	EC		BC, BL	CC																		
DPTS		211																							
		212	HA	EA		BA, BJ	CA																		
		213																							
		214	HA			BA, BJ	CA																		

LINE FINDER, SELECTOR, AND CONNECTOR FRAMES

FIG. 3 JOB POWER PLANT WIRING LIST - BLOCK SCHEMATIC