L5 CARRIER
OVERALL SYSTEM
L5/E2 ALARM ANALYSIS

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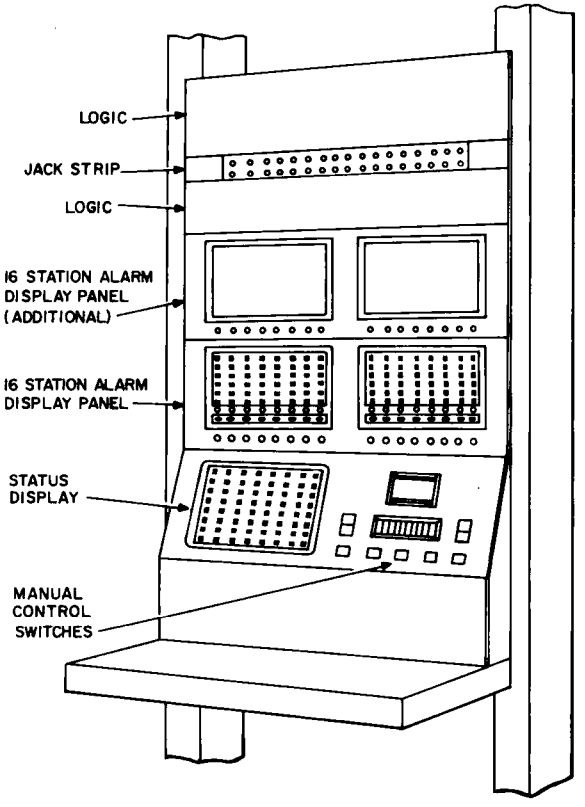

Fig. 1—Manual Alarm Central

1. GENERAL

1.01 The E2 Status Reporting and Control System is a general purpose telemetering system with multipoint data access which can perform specific tasks of centralized data gathering and control. This practice defines the application of E2 features for monitoring an L5 system. Corrective L5 actions to follow receipt of E2 alarms and indications are also furnished. The monitoring and corrective actions consist of alarm polling and status display, alarm analysis, and remote switching procedures. Further information on the E2 system can be found in the 201-644-ZZZ series of practices.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 The E2 system consists of a central station and a number of remote stations connected by a multipoint data network. The central station contains a manual alarm central (Fig. 1 and 2) which can monitor and control up to 16 remotes. Each remote (Fig. 3) can monitor a maximum of 4096 statuses.

1.04 Alarm polling, status display reporting, and remote switching are common modes of operation for alarm reporting systems. A fourth feature, remote call-up, is employed for data transfer when E2 is used with an L5 system.

1.05 The alarm polling and status display reporting modes are used to report the state of status indications at the alarm reporting remote. The remote switching mode allows the E2 central to change the state of equipment at the remote by commanding the momentary closure of isolated relay contacts. The remote call-up (RCU) provides a data transfer feature which permits an independent surveillance system, L5 Transmission Surveillance System (TSS), to communicate between the alarm reporting remotes on the same data network.

1.06 Cooperation between the operators at the E2 central and the Transmission Surveillance Center (TSC) is very important. It is necessary to establish schedules for routine work such as Fault Location Oscillator (FLO) runs and pilot level checks so that these activities do not interfere with the demand activities. This is particularly true for those locations that have the E2 central in one testroom and the TSC in another.

1.07 The analysis of alarms and status information by the E2 and TSC operators is often the only input available to the maintenance center for establishing a course of action at remote stations.

2. L5 ROUTE

2.01 The L5 route contains power feed, switching power feed, and terminal-type stations in addition to the various line-repeater-type equipment located in manholes. A TSS is provided to assess the transmission performance of the L5 system rapidly and frequently. A TSC is normally located at a major terminal station. All other main stations are equipped with a Transmission Surveillance Auxiliary (TSA) which makes measurements and transmits raw data under the direction of the TSC.

2.02 The size of a TSS is basically limited by:

(a) the number of stations which can be adequately controlled from one TSC and

(b) its containment within the area of a single E2 data network.

2.03 The transmission of telemetry signals between E2 remote stations and the central station takes place over a voiceband 4-wire, 3002 multipoint data facility. The transmissions between the TSC and TSAs are also in digital format via a 4-wire telemetry system normally on the interstitial wires of the cable. A redundant line is also provided via separate cable to the end office(s) to enable TSS and E2 operation on both sides of an L5 cable break.

2.04 The RCU permits the TSS to communicate with the alarm reporting remotes using the same data network on a time sharing basis with E2. An active TSS uses the feature 90 percent of the time (approximately 27 seconds on, with 3 seconds off for alarm polling). All data transmissions are coordinated and controlled by equipment in the E2 central.

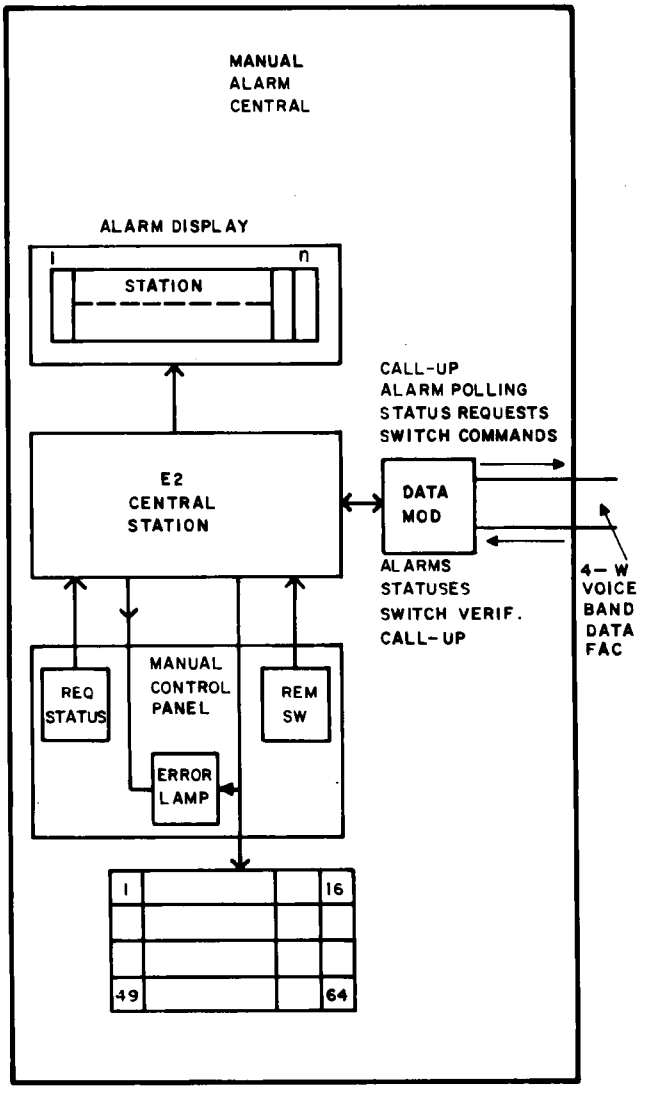

Fig. 2—Manual Alarm Central Circuitry

2.05 When the TSC desires measurements on a specific line between two main stations, a data request is prepared. The E2 continues to sequentially poll all locations for alarms. When the TSC location is polled, the data transfer request is recognized. The E2 halts the polling cycle and allows data to be transmitted from the TSC. The TSC requests TSA location A to direct its switch access circuit to set its oscillator to a particular frequency and power and to connect to the required line. At the end of the TSC request, the E2 central commands TSA location A to transmit data. This is done with acknowledgment of the transmission

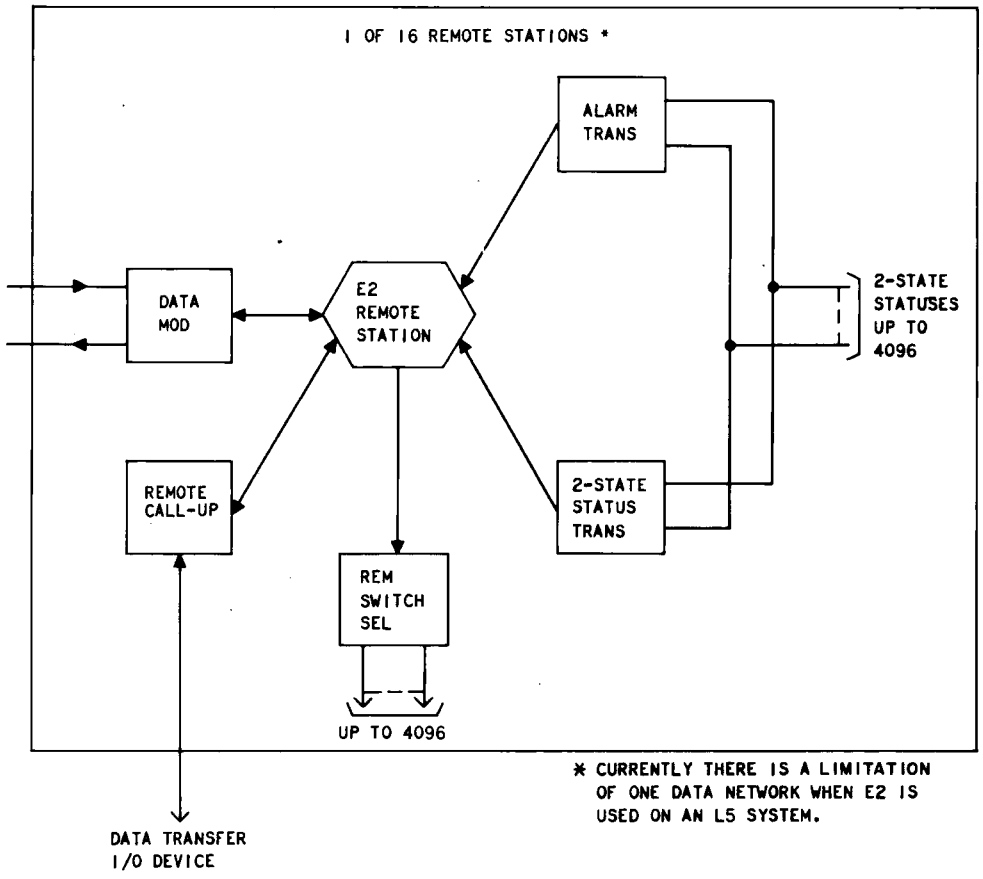

Fig. 3—Point of Connection for Transmission Surveillance System (TSC or TSA)

by the TSC. The E2 central again commands the TSC to transmit data. This time, the TSC requests location B to arrange its selective detector to measure on the desired line. The E2 then commands location B to transmit the measured results. At the end of the measurement request, the E2 central, after a 100-ms delay, resumes the alarm polling sequence.

2.06 An E2 manual alarm central is shown at a major L5 terminal station which is also a TSC location in Fig. 4. The option of the E2 manual alarm central at an off-route location is also shown in Fig. 4.

3. ALARM ANALYSIS PROCEDURE

3.01 The E2 system remains in the automatic polling mode unless a manual operator request is made at the E2 central or the TSS is using the E2 facilities via the RCU feature. The reporting of an alarm may be delayed by as much time as is required to continue the normal polling sequence of the remaining stations and return to the station with the alarm. Continuous use of E2 facilities by the TSS may further delay reporting of an alarm as much as up to 27 seconds.

3.02 With an alarm standing in, the remote station answers an alarm poll with a 17-bit word. The first bit is a control bit (start sync) and is not displayed at the central. It is followed by 16 possible information response bits. The sixteenth information response bit is reserved for a remote TSC to request use of the remote call-up feature. The alarm display panel is shown in Fig. 5 and a typical 16-bit alarm poll response is shown in Fig. 6.

3.03 When any failure occurs along the L5 route, a "NEW" alarm is reported to the E2 manual central from each station with a trouble or reaction to that trouble. The E2 central operator then manually status polls and fills out an E2 alarm ticket (Fig. 7) for each station reporting alarms.

MAC = MANUAL ALARM CENTRAL
TMS = TERMINAL MAIN STATION
TS = TERMINAL STATION
PFMS = POWER FEED MAIN STATION
SPFMS = SWITCHING POWER FEED MAIN STATION
REM STA = REMOTE STATION
4W BRDG = 4 WIRE BRIDGE
4W 6W BRDG = 4 W 6 WAY BRIDGE
4W VBDF = 4 WIRE VOICE BAND DATA FACILITY

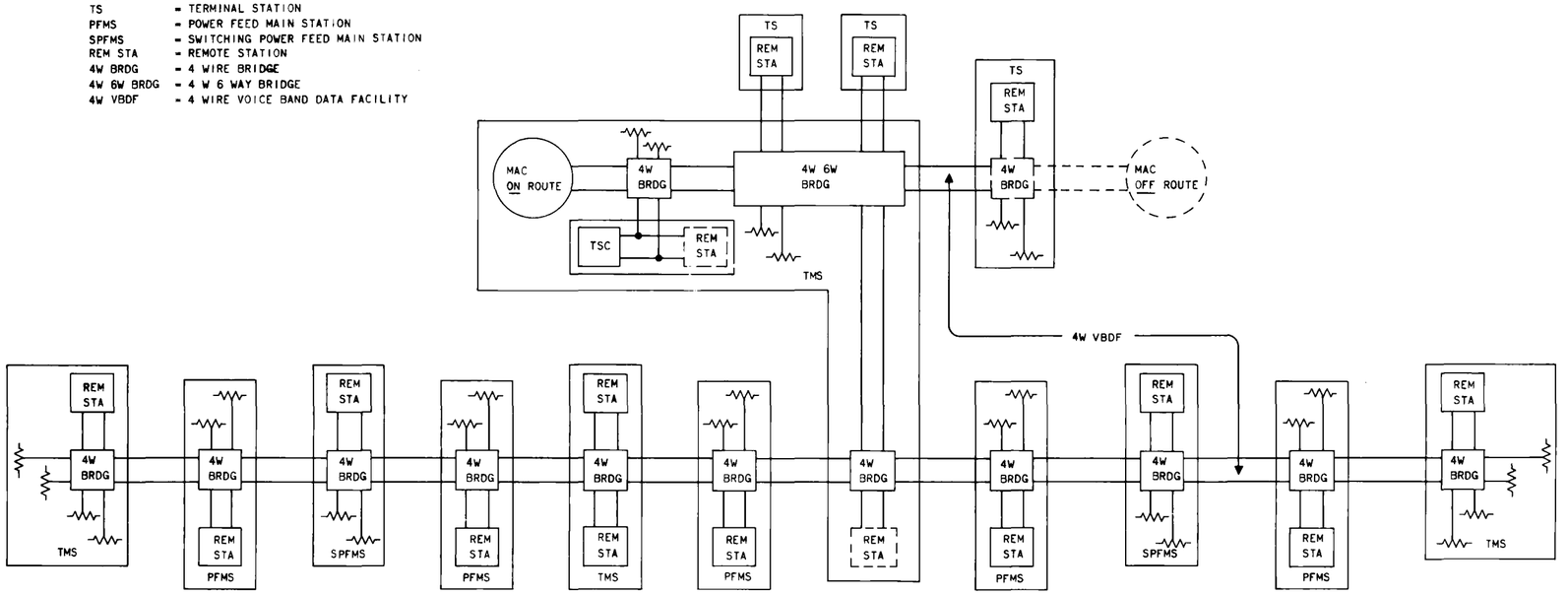

Fig. 4—E2 Manual Alarm Central with Off-Route Location Option

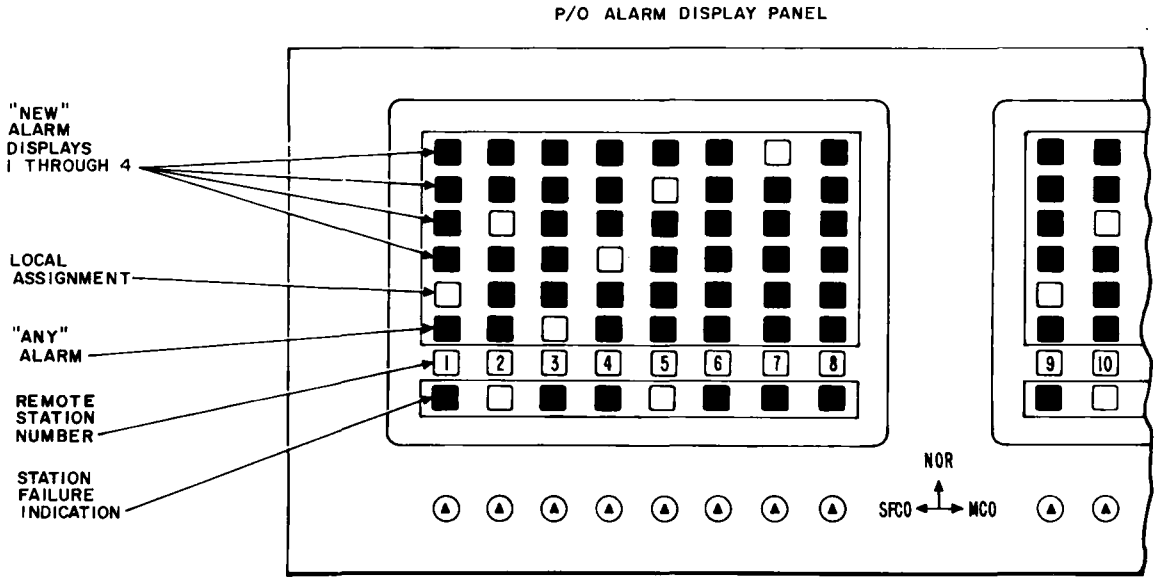

Fig. 5—Alarm Display Panel

3.04 The ticket shown in Fig. 7 has been locally prepared for use at one E2 central. A standard E2 ticket is not available, but any ticket available in the testroom may be adapted to the logging of status scan display information.

3.05 The new alarm index display, which indicates all displays containing new alarms, is polled first. Each display address indicated is recorded on the ticket in the "Status Display #" column. Then, each display listed on the ticket is polled and alarm bit numbers are recorded in the "Alarm Bit" column. This procedure is repeated and a ticket is prepared for each station reporting alarms.

3.06 The most serious alarm in at any given time should be analyzed first. Table A, the L5/E2 Alarm Priority List furnishes the sequence that should be followed in analyzing alarms.

3.07 The E2 central operator determines which of the 64 2-state status inputs (display scans) are to be interrogated. Each display is an 8 x 8 grid of 64 status inputs addressed by group number and quadrant letter (1A—16D). Group #1 (display 1A—1D) is reserved for alarm indexing. 1A is for NEW alarms and 1B for ANY alarms. Displays 2A—15D provide 3584 detailed status inputs. Group #16 (display 16A—16D) is used for the RCU feature communications. The overlay shown in Fig. 8 contains both the bit (1—64) and display address (1A—16D) information.

3.08 A sample index of displays is provided in Table B. It may be helpful to post a copy of this table near the E2 central for ready reference.

3.09 There may be times when the E2 central receives alarms simultaneously from several different stations, such as during major (multiple line) failures. The form shown in Fig. 9 may serve as a pattern for designing a log sheet for local use during such failures.

3.10 The E2 central operator first runs the NEW or ANY scans for all stations with these flags showing and circles the scans with alarms or indications. The experienced operator is alert to evidence of scans that contain possible service-affecting conditions. The operator is aware of which scans indicate line converter shutdown, frequency supply failure, power plant failure, line equipment failure without automatic switch, etc., and uses this knowledge in determining which stations to scan first. The less experienced operator should sequentially scan all stations and log all bits (alarm or indication information) on each scan. This information is then analyzed and appropriate action taken.

RESPONSE BIT NO.		
1	NEW ALARM	INDICATES THAT AN ALARM AT A REMOTE STATION HAS OCCURRED AND HAS NOT BEEN ACKNOWLEDGED BY THE CENTRAL.
2		RESERVED (NEW MINOR IN INITIAL INSTALLATION)
3		RESERVED
4		RESERVED FOR FUTURE USE WITH A REMOTE COMMUNICATIONS PANEL IN THE E-2 REMOTE.
5	OPEN DOOR	FOR THE LOCAL ASSIGNMENT OF ANY GIVEN STATUS INDICATION, NORMALLY THE OPEN DOOR INDICATION.
6	ANY ALARM	INDICATES THAT AN ALARM CONDITION (WHETHER NEW OR ACKNOWLEDGED) EXISTS AT A REMOTE STATION AND WILL PERSIST AS LONG AS THE ALARM PERSISTS.
	III	STATION DESIGNATION NUMBER
	STATION FAIL	ALARM GENERATED BY THE CENTRAL WHEN A REMOTE STATION FAILS TO REPLY IN A SPECIFIED TIME PERIOD.
	NORM SFCO MCO	STATION FAIL CUT-OFF/MANUAL CUT-OFF KEY
7-15		BITS 7-15 ARE NOT USED.
16		BIT 16 IS NOT DISPLAYED AT THE CENTRAL. IT IS USED BY THE TSC REMOTE STATION TO REQUEST USE OF THE REMOTE CALL-UP FEATURE.

Fig. 6—Station Display Alarm Pole Response

P63-646

E2 ALARM TICKET | Retention Code A411P - 01000

0299

Ser. # _____

Date _____ Time _____ Rec'd by _____

Alarm Display

New
Any

Station

_____

Status Display #	Alarm Bit

Referred out

To _____ Date _____ Time _____

WILL BE COVERED NOW ☐ WHEN _____

Cleared By: _____ Date _____ Time _____

E-2 Oper: _____

LOG: _____

_____

_____

_____

_____

_____

Log ☐ cont. on back.

E2
1-74

Fig. 7—E2 Alarm Ticket

3.11 The display assignments should be wired per standard drawings at all stations. Complete uniformity, however, can not be obtained because of the variety of stations along the L5 route. Some stations are power feed; others, switching power feed; and still others, terminal main with junction to other cable or radio routes. Therefore, it is suggested that all alarms and indications be entered in a locally prepared "Alarm Code Book" similar to the one shown in Appendix 1. Pages of this appendix are suitable for duplication and storage in a reference binder at the E2 central operating center.

3.12 Flowchart symbols are shown in Fig. 10. The flowcharts provide supplemental information to some of the display assignments and definition sheets shown in Appendix 2. These display assignments and definitions are taken from the standard drawing for application of interconnection between the L5 system and E2 system—ED-52018-10.

> ***Note:*** Alarms for miscellaneous building and emergency power are currently included in ED-52018-10. Although not really a part of the L5 system design circuitry, they are an integral part of the data gathering and control functions at an E2 manual central and are therefore included on the initial drawings for convenience of operating and maintenance personnel.

3.13 At this time, all the information necessary to use the alarm analysis flowcharts is available. The exception may be those occasions when the flowchart asks the state of a status at a station that was not polled because there were no new alarms at that station, only status indications. In these cases, the specific display containing the questioned status must be polled.

3.14 The operator follows the flowcharts, answering the decision block questions from the information recorded on the worksheet, until a conclusion as to the probable cause of the problem and a proper remedy are reached—either an E2 remote operation or referral to a responsible person.

3.15 In some cases, detailed knowledge of signal administration of jumbogroups and jumbogroup pilot uses is required to fully analyze some line interconnect and JMX alarms.

4. REMOTE SWITCHING

4.01 The remote switching mode allows the E2 central to change state of equipment at the remote by commanding closure of isolated relay contacts. The commmands are in the form of two 17-bit words. The first word designates the remote station and the second word indicates whether a 300- or 30-msec remote switch closure is being requested. When error-free commands are delivered

TABLE A

L5/E2 ALARM PRIORITY LIST

PRI #	ALARM SYMBOL	DISPLAY SCAN	ALARM DEFINITION
Group 1 Service affecting alarms			
11	TF	7A-7B	Total Fail
12	MJ	9A-9D	JMX Summary Major
13	LOO	10A-10D	Loss of Output
14	AJGF	3D-6B	Added Jumbogroup Failure
15	RLTCF	3D-6B	Reg. Line Thru Circuit Fail
16	PCS/NCS	3A-3C	Pos./Neg. Converter Shutdown
17	JFS-MJ	6C-6D	Jumbogroup Frequency Supply
18	LORP	3D-6B	Loss of Rec. Pilot on Thru J. G.
Group 2 Standby equipment not available			
21	OSA	7A-7B	Out of Service Auto.
22	SF	7A-7B	Standby Line Fail
23	TSRF	7A-7B	Transmit Switch Release Failure
24	TCFA	7A-7B	Transmit Clock Failure
25	MN	9A-9B	JMX Summary Minor
26	LOA	10A-10B	Loss of Auxiliary
27	RLSTCF	3D-6B	Reg. Line Sp. Thru Circuit Fail
Group 3			
31	FOCF/PAF	3D-6B	Fuse and Power T/R Bay
	FU/SAC	9A-9D	Fuse and Alarm Circuit JMX Bay
	CONV	10A-10D	Converter Failure BJGT Bay
	PC/NC/FGG	3A-3C	Line Feed Converter Minor Alarms
32	PF/PL/EOR	3D-6B	Pilot Alarms T/R Bay
33	CHAFA/CHBFA	7A-7B	LPSS-3 Channel Fail
	OAFA/OBFA	7A-7B	LPSS-3 Oscillator Fail
	COMFA	7A-7B	LPSS-3 Command Fail
Group 5			
51	CF	6C-6D	Circuit Fail
52	CFS/DBFA	6D	Console or Distribution Bay Fail
53	TSA-FA	6C	TSA Bay Fuse Alarm
	LAB-FA	6C-6D	Line Access Bay Fuse Alarm
54	L5 RTB FU	6C-6D	Restoration Trunk Fuse Alarm

1 1A	2 1B	3 1C	4 1D	5 2A	6 2B	7 2C	8 2D
17 5A	18 5B	19 5C	20 5D	21 6A	22 6B	23 6C	24 6D
33 9A	34 9B	35 9C	36 9D	37 10A	38 10B	39 10C	40 10D
49 13A	50 13B	51 13C	52 13D	53 14A	54 14B	55 14C	56 14D
9 3A	10 3B	11 3C	12 3D	13 4A	14 4B	15 4C	16 4D
25 7A	26 7B	27 7C	28 7D	29 8A	30 8B	31 8C	32 8D
41 11A	42 11B	43 11C	44 11D	45 12A	46 12B	47 12C	48 12D
57 15A	58 15B	59 15C	60 15D	61 16A	62 16B	63 16C	64 16D

Fig. 8—Status Display Overlay

TABLE B

INDEX OF DISPLAY SCANS

SCAN	INDICATIONS
1A	New Alarms
1B	Any Alarms
1C, 1D	Not Used
2A	Power Plant
2B	Power Plant
2C	Emergency Engines or Turbines
2D	Buildings, Cable Dryers and Pressure Telemetry
3A, 3B, 3C	Line Feed Converters
3D, 4A, 4B, 4C, 4D, 5A, 5B, 5C, 5D 6A, 6B	Transmit/Receive Bays
6C	TSA — Restoration, OW, Line Access, JFS Bays
6D	TSC — Restoration, OW, Line Access, JFS Bays
7A	LPSS — 3 (May serve two sides of an office)
7B	LPSS — 3 (Special Display #1 — S/W)
7C	LPSS — 3 (Special Display #2 — S/W)
7D	LPSS — 3 (Special Display #1 — N/E)
8A	LPSS — 3 (Special Display #2 — N/E)
8B, 8C, 8D	LPSS — 3 (Sidelegs)
9A, 9B, 9C, 9D	JMX Bays
10A, 10B, 10C, 10D	BJGT Bays
11A	SGBB, GRBB, PFS, LMX
11B, 11C, 11D, 12A, 12B, 12C, 12D 13A, 13B, 13C, 13D, 14A, 14B, 14C 14D, 15A, 15B, 15C, 15D	MMX
16A, 16B, 16C, 16D	TSS (TSC & TSA use only)

INITIAL ALARM: TIME _____ DATE _____

ADVISE E2 SUPV: TIME _____ DATE _____

ADVISE AREA ROCC: TIME _____ DATE _____

LOG:

STATION: NAME _____ TEL./O.W. # _____
INIT. ATTENDED: YES NO TIME IN _____
NTFD: NAME _____ TITLE _____ TIME _____ TEL./O.W. # _____

2A 2B 2C 2D 3A 3B 3C 3D 4A 4B 4C 4D 5A 5B 5C
5D 6A 6B 6D 7A 7B 7C 7D 8A 8B 8C 8D 9A 9B
9C 9D 10A 10B 10C 10D 11A 11B 11C 11D 12A
12B 12C 12D 13A 13B 13C 13D 14A 14B 14C 14D
15A 15B 15C 15D

SCAN ____ BIT _____

COMMON EQPT L5 ____ L5 ____ L5 ____ L5 ____ COAXIAL LINE NUMBER

POWER or BLDG	2A	–24, MISC, +140, +130					
	2B	ALT, INV, –48 or –130, +24, –12					
	2C	EMGY ENG, TURB, MISC					
	2D	AC, SW GEAR, MISC, CA DRYER, CA or GAS PRESS					
LINE CONV	3A–3C	MN, MJ (SHUTDOWN) FGG, ID (TURNED OFF)					
T/R BAY	3D–6B	PILOT HIT					
		END OF RANGE					
		PILOT LOSS					
		MISC					
TSA or TSC BAY	6C–	JFS					
	6D	MISC					
LPSS-3	7A–8B	TOTAL FAIL					
		SUMMARY ALM MAJOR					
		OUT OF SVC – AUTO					
		STANDBY FAIL					
		OUT OF SVC – MAN					
		LINE TERM					
		MISC					
JMX	9A–	S/W SIDE OF STA					
	9D	N/E SIDE OF STA					
BJGT	10A–	S/W SIDE OF STA					
	10D	N/E SIDE OF STA					
LMX	11A						
MMX	11B–15D						

Fig. 9—Typical Log

to the switching circuitry at the remote location (see Appendix 3 for standard lead designation and function), a verification message, indicating error-free transmission of the E2 signals, is returned to the E2 central. The verification signal does ***not*** indicate switch completion. A time-out circuit in the E2 central lights the ERROR lamp if the verification message is not received within 3 seconds or is received with parity errors.

4.02 The remote switches are addressed by group, subgroup, and bit number. There are 16 possible groups (1—16), 16 possible subgroups (A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, and S), and 16 possible bits (1—16) for a total capacity of 4096 remote commands available per remote station (16 x 16 x 16).

4.03 Selectors and keys in the following steps refer to the CONTROL PANEL (Fig. 11) at the E2 central:

STEP	PROCEDURE
1	Check to see that the OFF LINE lamp is extinguished.
2	Select the data network and the remote station on the LOOP STATION thumbwheel selectors.
3	Set the remote switch address on the three thumbwheel selectors designated REMOTE SW or STATUS POINT. ***Caution: Check that the proper switch address is selected.***
4	Depress and hold the REMOTE SWITCH pushbutton.
5	With the REMOTE SWITCH pushbutton held operated, depress the SEND pushbutton. Release both pushbuttons. The REMOTE SWITCH and SEND lamps light and remain lighted during the operate remote switch sequence.
6	If the ERROR lamp is lighted when the REMOTE SWITCH and SEND lamps extinguish, the information was not received correctly. Reinitiate the operation as described in Step 5.
7	If the remote switch is wired as a status, initiate a status display report to determine that the proper switch has operated.

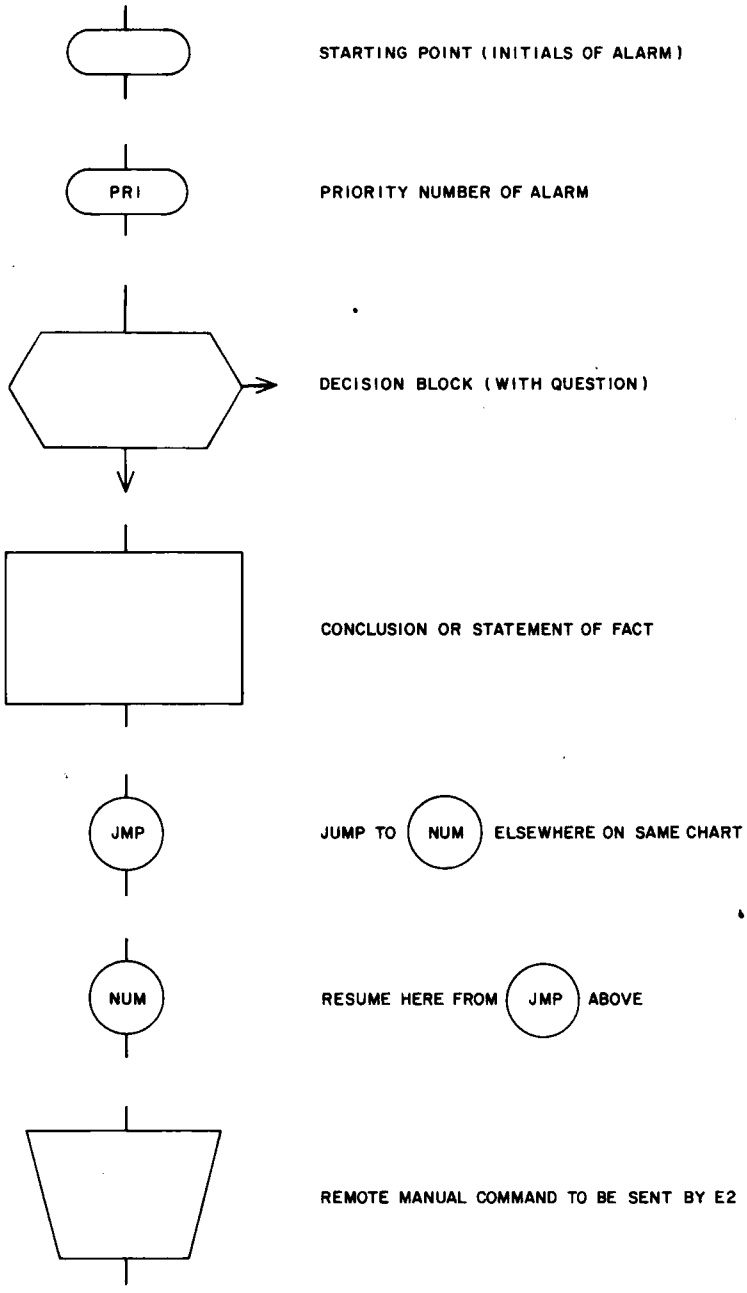

Fig. 10—Flowcharting Symbols

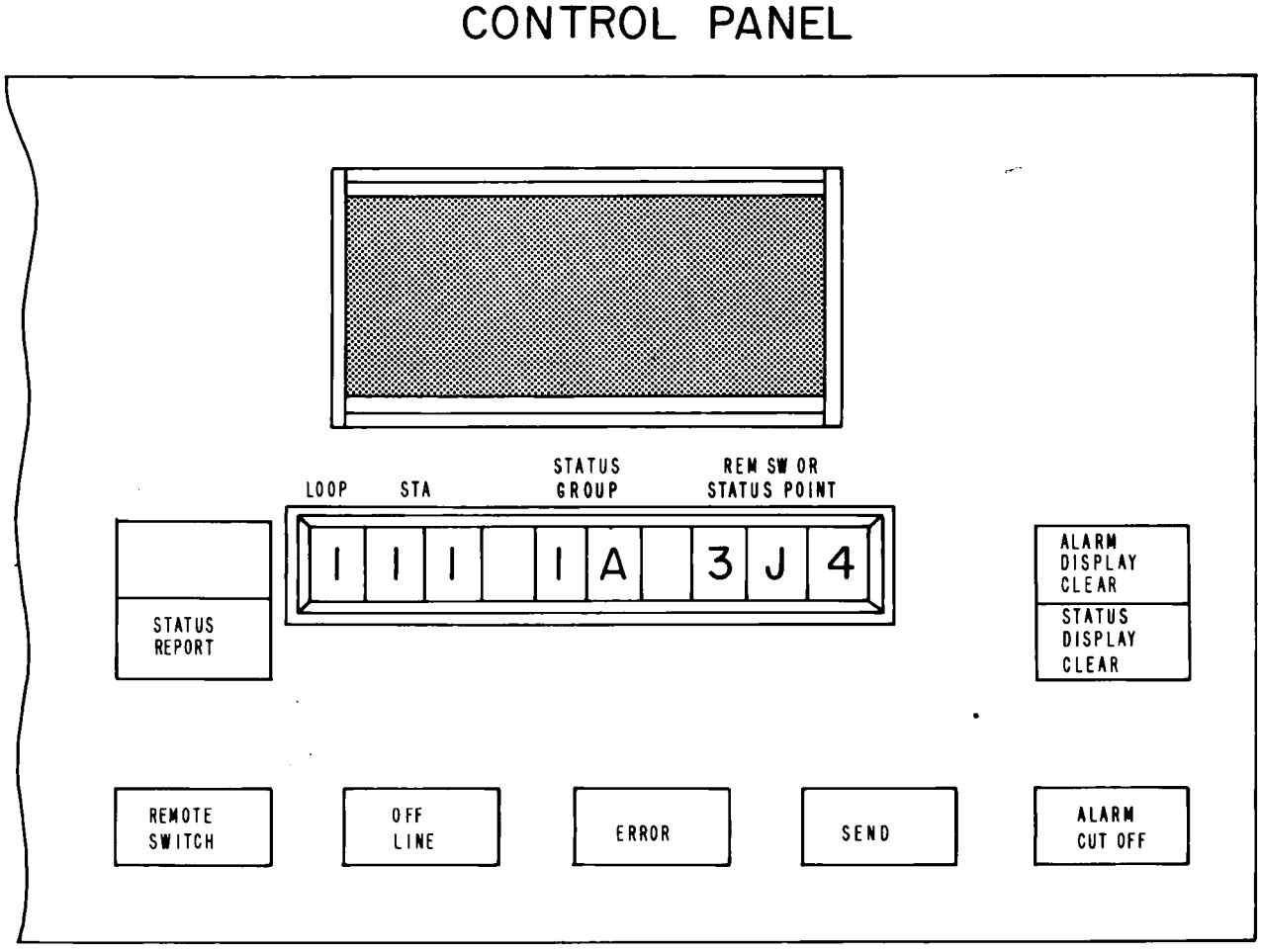

Fig. 11—Control Panel

STATUS DISPLAY

1.01 Appendix 1 provides a form for each status display giving the name of the major, minor, or indication alarm.

STATUS DISPLAY_____

		BACKBONE STATIONS											SIDELEGS					
																	MAJOR-MINOR INDICATION	
1																		1
2																		2
3																		3
4																		4
5																		5
6																		6
7																		7
8																		8
9																		9
10																		10
11																		11
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28																		28
29																		29
30																		30
31																		31
32																		32

STATUS DISPLAY_____

STATUS DISPLAY_____

	BACKBONE STATIONS										SIDELEGS					MAJOR-MINOR INDICATION	
33																	33
34																	34
35																	35
36																	36
37																	37
38																	38
39																	39
40																	40
41																	41
42																	42
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63																	63
64																	64

STATUS DISPLAY_____

STATUS DISPLAY 2A

		BACKBONE STATIONS										SIDELEGS						
	−24 Volt Power																MAJOR-MINOR INDICATION	
1	High-Low Voltage																MJ	1
2	High-Low Float																MN	2
3	Rectifier Failure																MJ	3
4	Converter Failure																MJ	4
5	Discharging Fuse Alarm																MJ	5
6	Power Alarm Battery Supply																MN	6
7	Control Battery Supply																MN	7
8	Major Alarm																MJ	8
9	Minor Alarm																MN	9
10	High-Low Voltage, Plant #2																MJ	10
11	High-Low Float, Plant #2																MN	11
12	Miscellaneous Signal Fuse Alarm																MJ	12
13	Miscellaneous Alarm Battery Supply FA																MJ	13
14																		14
15	Charge Fuse Failure																MN	15
16	Distribution Fuse																MJ	16
	Miscellaneous Unique Alarms																	
17																		17
18																		18
19																		19
20																		20
21																		21
22																		22
23																		23
24																		24
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26																		26
27																		27
28																		28
29																		29
30																		30
31																		31
32																		32

STATUS DISPLAY 2A

		BACKBONE STATIONS											SIDELEGS					
	+140 Volt Power																MAJOR-MINOR INDICATION	
33	High-Low Voltage																MJ	33
34																		34
35	Rectifier Failure																MN	35
36																		36
37	Discharging Fuse Alarm																MJ	37
38																		38
39																		39
40																		40
41																		41
42	High-Low Voltage, Plant #2																MJ	42
43																		43
44																		44
45																		45
46																		46
47																		47
48																		48
	+130 Volt Power																	
49	High-Low Voltage																MJ	49
50	High-Low Float																MN	50
51	Rectifier Failure																MJ	51
52	Converter Failure																MJ	52
53	Discharging Fuse Alarm																MJ	53
54	Power Alarm Battery Supply																MN	54
55	Control Battery Supply																MN	55
56	Major Alarm																MJ	56
57	Minor Alarm																MN	57
58	High-Low Voltage, Plant #2																MJ	58
59	High-Low Float, Plant #2																MN	59
60	Miscellaneous Signal Fuse Alarm																MJ	60
61	Miscellaneous Alarm Battery FA																MJ	61
62																		62
63	Charge Fuse Fail																MN	63
64	Distribution Fuse																MJ	64

STATUS DISPLAY 2B

		BACKBONE STATIONS											SIDELEGS					
	Alternators and Inverters																MAJOR-MINOR INDICATION	
1	TH-1 or L3 AC Motor FA or Power Transfer																MJ	1
2	TH-1 or L3 AC Motor Fail																MN	2
3	TH-1 or L3 Frequency Transfer																MN	3
4	TH-1 or L3 Alternator High-Low Voltage																MJ	4
5	TH-1 or L3 Alternator Failure																MN	5
6	TH-1 or L3 Transfer to Spare Unit																MN	6
7	L-1 Inverter Plant, Inverter Running																MN	7
8	L-1 Inverter Plant, By-Pass Alarm																MN	8
9	L-1 Inverter Plant, AC Fuse																MJ	9
10	L-1 Inverter Plant, DC Fuse																MJ	10
11	L-1 Inverter Plant, Line Voltage																MJ	11
12																		12
13	TH-1, Inverter High-Low AC Voltage																MJ	13
14	TH-1 Inverter FA East or West																MJ	14
15	TH-1 Firm AC																MN	15
16	TH-1 Load Discharging Fuse Alarm																MJ	16
	−48V or −130V Power																	
17	High-Low Voltage																MJ	17
18	High-Low Float																MN	18
19	Rectifier Failure																MJ	19
20	Converter Failure																MJ	20
21	Discharging Fuse Alarm																MJ	21
22	Power Alarm Battery Supply																MN	22
23	Control Battery Supply																MN	23
24	Major Alarm																MJ	24
25	Minor Alarm																MN	25
26	High-Low Voltage, Plant #2																MJ	26
27	High-Low Float, Plant #2																MN	27
28	Miscellaneous Signal Fuse Alarm																MJ	28
29	Miscellaneous Alarm Battery Supply FA																MJ	29
30																		30
31	Charge Fuse Failure																MN	31
32	Distribution Fuse																MJ	32

STATUS DISPLAY 2B

STATUS DISPLAY 2B

		BACKBONE STATIONS										SIDELEGS						
	+24 Volt Power																MAJOR-MINOR INDICATION	
33	High-Low Voltage																MJ	33
34	High-Low Float																MN	34
35	Rectifier Failure																MJ	35
36	Converter Failure																MJ	36
37	Discharging Fuse Alarm																MJ	37
38	Power Alarm Battery Supply																MN	38
39	Control Battery Supply																MN	39
40	Major Alarm																MJ	40
41	Minor Alarm																MN	41
42	High-Low Voltage, Plant #2																MJ	42
43	High-Low Float, Plant #2																MN	43
44	Miscellaneous Signal Fuse Alarm																MJ	44
45	Miscellaneous Alarm Battery Supply FA																MJ	45
46																		46
47																		47
48	Distribution Fuse																MJ	48
	−12 Volt Power																	
49	High-Low Voltage																MJ	49
50	High-Low Float																MN	50
51	Rectifier Failure																MJ	51
52	Converter Failure																MJ	52
53	Discharging Fuse Alarm																MJ	53
54	Power Alarm Battery Supply																MN	54
55	Control Battery Supply																MN	55
56	Major Alarm																MJ	56
57	Minor Alarm																MN	57
58	High-Low Voltage, Plant #2																MJ	58
59	High-Low Float, Plant #2																MN	59
60	Miscellaneous Signal Fuse Alarm																MJ	60
61	Miscellaneous Alarm Battery Supply FA																MJ	61
62																		62
63																		63
64	Distribution Fuse Alarm																MJ	64

STATUS DISPLAY 2B

STATUS DISPLAY 2C

		BACKBONE STATIONS											SIDELEGS					
	Gas or Diesel Engine																MAJOR-MINOR INDICATION	
1	Engine #1 Running																MN	1
2	Engine #1 Failed																MJ	2
3	Engine #2 Running																MN	3
4	Engine #2 Failed																MJ	4
5																		5
6																		6
7																		7
8																		8
9																		9
10																		10
11	Low Fuel																MN	11
12	Low Oil Pressure																MJ	12
13	Crank Failure																MN	13
14	Overspeed																MJ	14
15	Rectifier Failure																MN	15
16	Low Fuel																MN	16
	Turbines																	
17	Turbine A Running																MN	17
18	Turbine A Failed																MJ	18
19	Turbine B Running																MN	19
20	Turbine B Failed																MJ	20
21	Turbine C Running																MN	21
22	Turbine C Failed																MJ	22
23	Turbine D Running																MN	23
24	Turbine D Failed																MJ	24
25	Turbine E Running																MN	25
26	Turbine E Failed																MJ	26
27																		27
28	Waste Oil Sump High																MN	28
29	Day Fuel Tank High-Low Pressure																MN	29
30	Preliminary High Exhaust																MN	30
31	Rectifier Failure																MN	31
32	Low Fuel																MN	32

STATUS DISPLAY 2C

STATUS DISPLAY 2C

		BACKBONE STATIONS											SIDELEGS					
	Miscellaneous Unique Alarms																MAJOR-MINOR INDICATION	
33																		33
34																		34
35																		35
36																		36
37																		37
38																		38
39																		39
40																		40
41																		41
42																		42
43																		43
44																		44
45																		45
46																		46
47																		47
48																		48
	Miscellaneous Unique Alarms																	
49																		49
50																		50
51																		51
52																		52
53																		53
54																		54
55																		55
56																		56
57																		57
58																		58
59																		59
60																		60
61																		61
62																		62
63																		63
64																		64

STATUS DISPLAY 2C

STATUS DISPLAY 2D

		BACKBONE STATIONS											SIDELEGS					
	Miscellaneous Building Alarms																MAJOR-MINOR INDICATION	
1	AC Failure																MJ	1
2	AC Restore																MJ	2
3	AC Transfer High Temperature																MJ	3
4	Switch Gear Control																MJ	4
5	Switch Gear, −130V Power																MJ	5
6	Air Conditioning																MJ	6
7	High-Low Room Temperature																MJ	7
8	High-Low Turbine Room Temperature																MJ	8
9	Refrigeration Unit																MJ	9
10	Fire Protection																MJ	10
11	Secondary System																MJ	11
12	Lightning Protection																MJ	12
13	Joslyn Lightning Protection																MJ	13
14	Open Cargo Door																MJ	14
15	Open Blast Door																MJ	15
16																		16
	Miscellaneous Building Alarms																	
17	Nuclear Blast																MJ	17
18	Seal-Up System																MJ	18
19	Boiler #1																MJ	19
20	Boiler #2																MJ	20
21	Blower #1																MJ	21
22	Blower #2																MJ	22
23	Water and Sanitation																MJ	23
24																		24
25																		25
26																		26
27																		27
28																		28
29																		29
30																		30
31																		31
32																		32

STATUS DISPLAY 2D

STATUS DISPLAY 2D

		BACKBONE STATIONS											SIDELEGS					
	Cable Dryers																MAJOR-MINOR INDICATION	
33	#1 Alarm																MJ	33
34	#2 Alarm																MJ	34
35	#3 Alarm																MJ	35
36	#4 Alarm																MJ	36
37	#5 Alarm																MJ	37
38	#6 Alarm																MJ	38
39	#7 Alarm																MJ	39
40	#8 Alarm																MJ	40
41																		41
42																		42
43																		43
44																		44
45																		45
46																		46
47																		47
48																		48
	Cable Pressure Telemetry, Gas Pressure																	
49	Cable Pressure Alarm #1																MJ	49
50	Cable Pressure Alarm #2																MJ	50
51	Cable Pressure Alarm #3																MJ	51
52	Cable Pressure Alarm #4																MJ	52
53	Cable Pressure Alarm #5																MJ	53
54	Cable Pressure Alarm #6																MJ	54
55	Cable Pressure Alarm #7																MJ	55
56	Cable Pressure Alarm #8																MJ	56
57	Gas Pressure Alarm #1																MJ	57
58	Gas Pressure Alarm #2																MJ	58
59	Gas Pressure Alarm #3																MJ	59
60	Gas Pressure Alarm #4																MJ	60
61	Gas Pressure Alarm #5																MJ	61
62	Gas Pressure Alarm #6																MJ	62
63	Gas Pressure Alarm #7																MJ	63
64	Gas Pressure Alarm #8																MJ	64

STATUS DISPLAY 2D

STATUS DISPLAY 3A, 3B, 3C

		BACKBONE STATIONS											SIDELEGS					
	Line Feed Converter																MAJOR-MINOR INDICATION	
1	S/W Positive Converter																MN	1
2	S/W Negative Converter																MN	2
3	S/W Positive Converter Shutdown																MJ	3
4	S/W Negative Converter Shutdown																MJ	4
5	S/W Floating Ground-Grounded																MN	5
6	S/W Positive Converter Turned Off																ID	6
7	S/W Negative Converter Turned Off																ID	7
8	Spare Converter																MN	8
9	N/E Positive Converter																MN	9
10	N/E Negative Converter																MN	10
11	N/E Positive Converter Shutdown																MJ	11
12	N/E Negative Converter Shutdown																MJ	12
13	N/E Floating Ground-Grounded																MN	13
14	N/E Positive Converter Turned Off																ID	14
15	N/E Negative Converter Turned Off																ID	15
16	Spare Converter																MJ	16
	Line Feed Converter																	
17	S/W Positive Converter																MN	17
18	S/W Negative Converter																MN	18
19	S/W Positive Converter Shutdown																MJ	19
20	S/W Negative Converter Shutdown																MJ	20
21	S/W Floating Ground-Grounded																MN	21
22	S/W Positive Converter Turned Off																ID	22
23	S/W Negative Converter Turned Off																ID	23
24																		24
25	N/E Positive Converter																MN	25
26	N/E Negative Converter																MN	26
27	N/E Positive Converter Shutdown																MJ	27
28	N/E Negative Converter Shutdown																MJ	28
29	N/E Floating Ground-Grounded																MN	29
30	N/E Positive Converter Turned Off																ID	30
31	N/E Negative Converter Turned Off																ID	31
32																		32

STATUS DISPLAY 3A, 3B, 3C

BACKBONE STATIONS | SIDELEGS

	Line Feed Converter	MAJOR-MINOR INDICATION	
33	S/W Positive Converter	MN	33
34	S/W Negative Converter	MN	34
35	S/W Positive Converter Shutdown	MJ	35
36	S/W Negative Converter Shutdown	MJ	36
37	S/W Floating Ground-Grounded	MN	37
38	S/W Positive Converter Turned Off	ID	38
39	S/W Negative Converter Turned Off	ID	39
40			40
41	N/E Positive Converter	MN	41
42	N/E Negative Converter	MN	42
43	N/E Positive Converter Shutdown	MJ	43
44	N/E Negative Converter Shutdown	MJ	44
45	N/E Floating Ground-Grounded	MN	45
46	N/E Positive Converter Turned Off	ID	46
47	N/E Negative Converter Turned Off	ID	47
48			48
	Line Feed Converter		
49	S/W Positive Converter	MN	49
50	S/W Negative Converter	MN	50
51	S/W Positive Converter Shutdown	MJ	51
52	S/W Negative Converter Shutdown	MJ	52
53	S/W Floating Ground-Grounded	MN	53
54	S/W Positive Converter Turned Off	ID	54
55	S/W Negative Converter Turned Off	ID	55
56			56
57	N/E Positive Converter	MN	57
58	N/E Negative Converter	MN	58
59	N/E Positive Converter Shutdown	MJ	59
60	N/E Negative Converter Shutdown	MJ	60
61	N/E Floating Ground-Grounded	MN	61
62	N/E Positive Converter Turned Off	ID	62
63	N/E Negative Converter Turned Off	ID	63
64			64

STATUS DISPLAY 3D, 4A, 4B, 4C, 4D, 5A, 5B, 5C, 5D, 6A, 6B

		BACKBONE STATIONS											SIDELEGS					
	T/R Line Bays																MAJOR-MINOR INDICATION	
1	S/W Pilot Hit 2																MN	1
2	S/W Pilot Hit 20																MN	2
3	S/W Pilot Hit 42																MN	3
4	S/W Pilot Hit 66																MN	4
5	S/W End of Range 2																MN	5
6	S/W End of Range 20																MN	6
7	S/W End of Range 42																MN	7
8	S/W End of Range 66																MN	8
9	N/E Pilot Hit 2																MN	9
10	N/E Pilot Hit 20																MN	10
11	N/E Pilot Hit 42																MN	11
12	N/E Pilot Hit 66																MN	12
13	N/E End of Range 2																MN	13
14	N/E End of Range 20																MN	14
15	N/E End of Range 42																MN	15
16	N/E End of Range 66																MN	16
	T/R Line Bays																	
17	S/W Pilot Loss																MN	17
18	S/W Fuse or Converter Failure																MN	18
19	S/W Power Alarm Failure																MN	19
20	S/W Power Alarm Cutoff																ID	20
21	S/W Local Control Status																MN	21
22	S/W Inhibit																ID	22
23	S/W Equalization Check																ID	23
24	S/W Optional Memory Status																ID	24
25	N/E Pilot Loss																MN	25
26	N/E Fuse or Converter Failure																MN	26
27	N/E Power Alarm Failure																MN	27
28	N/E Power Alarm Cutoff																ID	28
29	N/E Local Control Status																MN	29
30	N/E Inhibit																ID	30
31	N/E Equalization Check																ID	31
32	N/E Optional Memory Status																ID	32

STATUS DISPLAY 3D, 4A, 4B, 4C, 4D, 5A, 5B, 5C, 5D, 6A, 6B

		BACKBONE STATIONS											SIDELEGS					
	T/R Line Bays																MAJOR-MINOR INDICATION	
33	S/W Common Control Circuit Failure																MN	33
34	S/W Transmit Pilot Fail																MN	34
35	S/W Regular Line Thru Circuit Fail																MJ	35
36	S/W Regular Line Spare Thru Circuit Fail																MN	36
37	S/W Standby Line Thru Circuit Fail																MN	37
38																		38
39	S/W Loss of Rec. Pilot on Thru JG																MN	39
40	S/W Added Jumbogroup Fail																MJ	40
41	N/E Common Control Circuit Failure																MN	41
42	N/E Transmit Pilot Fail																MN	42
43	N/E Regular Line Thru Circuit Fail																MJ	43
44	N/E Regular Line Spare Thru Circuit Fail																MN	44
45	N/E Standby Line Thru Circuit Fail																MN	45
46																		46
47	N/E Loss of Rec. Pilot on Thru JG																MN	47
48	N/E Added Jumbogroup Fail																MJ	48
	T/R Line Bays																	
49	S/W Branch Line Thru Circuit Fail																MJ	49
50	S/W Branch Line Thru Circuit Fail																MJ	50
51	S/W Branch Line Spare Thru Ckt. Fail																MN	51
52	S/W Branch Line Spare Thru Ckt. Fail																MN	52
53	S/W 1st Line Branching Ckt. Input Alarm																MN	53
54	S/W 2nd Line Branching Ckt. Input Alarm																MN	54
55																		55
56																		56
57	N/E Branch Line Thru Circuit Fail																MJ	57
58	N/E Branch Line Thru Circuit Fail																MJ	58
59	N/E Branch Line Spare Thru Ckt. Fail																MN	59
60	N/E Branch Line Spare Thru Ckt. Fail																MN	60
61	N/E 1st Line Branching Ckt. Input Alarm																MN	61
62	N/E 2nd Line Branching Ckt. Input Alarm																MN	62
63																		63
64																		64

STATUS DISPLAY 6C

		BACKBONE STATIONS											SIDELEGS					
	Order Wire																MAJOR-MINOR INDICATION	
1	Bay 1 Order Wire Cut Thru Ckt. #1																ID	1
2	Bay 1 Order Wire Cut Thru Ckt. #2																ID	2
3	Bay 1 Order Wire Cut Thru Ckt. #3																ID	3
4	Bay 1 Order Wire Cut Thru Ckt. #4																ID	4
5	Bay 2 Order Wire Cut Thru Ckt. #1																ID	5
6	Bay 2 Order Wire Cut Thru Ckt. #2																ID	6
7	Bay 2 Order Wire Cut Thru Ckt. #3																ID	7
8	Bay 2 Order Wire Cut Thru Ckt. #4																ID	8
9	Bay 3 Order Wire Cut Thru Ckt. #1																ID	9
10	Bay 3 Order Wire Cut Thru Ckt. #2																ID	10
11	Bay 3 Order Wire Cut Thru Ckt. #3																ID	11
12	Bay 3 Order Wire Cut Thru Ckt. #4																ID	12
13	Bay 4 Order Wire Cut Thru Ckt. #1																ID	13
14	Bay 4 Order Wire Cut Thru Ckt. #2																ID	14
15	Bay 4 Order Wire Cut Thru Ckt. #3																ID	15
16	Bay 4 Order Wire Cut Thru Ckt. #4																ID	16
	Line Access, JFS, Fuse Alarms — RTB, TSA and OW Bays																	
17	S/W Line Access Bay Fuse Alarm #1																MN	17
18	S/W Line Access Bay Fuse Alarm #3																MN	18
19	S/W Line Access Bay Fuse Alarm #5																MN	19
20	S/W Line Access Bay Fuse Alarm #7																MN	20
21	S/W Line Access Bay Fuse Alarm #9																MN	21
22	Jumbogroup Frequency Supply #1																MJ	22
23	Jumbogroup Frequency Supply #2																MJ	23
24	Jumbogroup Frequency Supply #3																MJ	24
25	N/E Line Access Bay Fuse Alarm #2																MN	25
26	N/E Line Access Bay Fuse Alarm #4																MN	26
27	N/E Line Access Bay Fuse Alarm #6																MN	27
28	N/E Line Access Bay Fuse Alarm #8																MN	28
29	N/E Line Access Bay Fuse Alarm #10																MN	29
30	L5 Restoration Trunk Bay Fuse Alarm																MN	30
31	TSA Bay Fuse Alarm																MN	31
32	Order Wire Bay Fuse Alarm																MN	32

STATUS DISPLAY 6C

		BACKBONE STATIONS										SIDELEGS						
	Jumbogroup Frequency Supply and Restoration Trunk Bay																MAJOR-MINOR INDICATION	
33																		33
34																		34
35																		35
36																		36
37																		37
38	Jumbogroup Frequency Supply #1																MN	38
39	Jumbogroup Frequency Supply #2																MN	39
40	Jumbogroup Frequency Supply #3																MN	40
41																		41
42																		42
43																		43
44																		44
45																		45
46	L5 Restoration Trunk Bay Fuse Alarm																MN	46
47																		47
48																		48
	Line Access and Jumbogroup Frequency Supply																	
49	S/W Circuit Failure #1																MN	49
50	S/W Circuit Failure #3																MN	50
51	S/W Circuit Failure #5																MN	51
52	S/W Circuit Failure #7																MN	52
53	S/W Circuit Failure #9																MN	53
54	Jumbogroup Frequency Supply #4																MJ	54
55	Jumbogroup Frequency Supply #4																MN	55
56																		56
57	N/E Circuit Failure #2																MN	57
58	N/E Circuit Failure #4																MN	58
59	N/E Circuit Failure #6																MN	59
60	N/E Circuit Failure #8																MN	60
61	N/E Circuit Failure #10																MN	61
62																		62
63																		63
64																		64

STATUS DISPLAY 6D

BACKBONE STATIONS | SIDELEGS

	Order Wire	MAJOR-MINOR INDICATION	
1	Bay 1 Order Wire Cut Thru Ckt #1	ID	1
2	Bay 1 Order Wire Cut Thru Ckt #2	ID	2
3	Bay 1 Order Wire Cut Thru Ckt #3	ID	3
4	Bay 1 Order Wire Cut Thru Ckt #4	ID	4
5	Bay 2 Order Wire Cut Thru Ckt #1	ID	5
6	Bay 2 Order Wire Cut Thru Ckt #2	ID	6
7	Bay 2 Order Wire Cut Thru Ckt #3	ID	7
8	Bay 2 Order Wire Cut Thru Ckt #4	ID	8
9	Bay 3 Order Wire Cut Thru Ckt #1	ID	9
10	Bay 3 Order Wire Cut Thru Ckt #2	ID	10
11	Bay 3 Order Wire Cut Thru Ckt #3	ID	11
12	Bay 3 Order Wire Cut Thru Ckt #4	ID	12
13	Bay 4 Order Wire Cut Thru Ckt #1	ID	13
14	Bay 4 Order Wire Cut Thru Ckt #2	ID	14
15	Bay 4 Order Wire Cut Thru Ckt #3	ID	15
16	Bay 4 Order Wire Cut Thru Ckt #4	ID	16
	Line Access, JFS, Fuse Alarms – RTB, TSC and OW Bays		
17	S/W Line Access Bay Fuse Alarm #1	MN	17
18	S/W Line Access Bay Fuse Alarm #3	MN	18
19	S/W Line Access Bay Fuse Alarm #5	MN	19
20	S/W Line Access Bay Fuse Alarm #7	MN	20
21	S/W Line Access Bay Fuse Alarm #9	MN	21
22	Jumbogroup Frequency Supply #1	MJ	22
23	Jumbogroup Frequency Supply #2	MJ	23
24	Jumbogroup Frequency Supply #3	MJ	24
25	N/E Line Access Bay Fuse Alarm #2	MN	25
26	N/E Line Access Bay Fuse Alarm #4	MN	26
27	N/E Line Access Bay Fuse Alarm #6	MN	27
28	N/E Line Access Bay Fuse Alarm #8	MN	28
29	N/E Line Access Bay Fuse Alarm #10	MN	29
30	L5 Restoration Trunk Bay Fuse Alarm	MN	30
31	Order Wire Bay Fuse Alarm	MN	31
32	Console Fuse Alarm	MN	32

STATUS DISPLAY 6D

STATUS DISPLAY 6D

		BACKBONE STATIONS											SIDELEGS					
	Jumbogroup Frequency Supply and Restoration																MAJOR-MINOR INDICATION	
33																		33
34																		34
35																		35
36																		36
37																		37
38	Jumbogroup Frequency Supply #1																MN	38
39	Jumbogroup Frequency Supply #2																MN	39
40	Jumbogroup Frequency Supply #3																MN	40
41																		41
42																		42
43																		43
44																		44
45																		45
46	Restoration Fuse Alarm																MN	46
47	Distribution Bay Fuse Alarm																MN	47
48																		48
	Line Access and Jumbogroup Frequency Supply																	
49	S/W Circuit Failure #1																MN	49
50	S/W Circuit Failure #3																MN	50
51	S/W Circuit Failure #5																MN	51
52	S/W Circuit Failure #7																MN	52
53	S/W Circuit Failure #9																MN	53
54	Jumbogroup Frequency Supply #4																MJ	54
55	Jumbogroup Frequency Supply #4																MN	55
56																		56
57	N/E Circuit Failure #2																MN	57
58	N/E Circuit Failure #4																MN	58
59	N/E Circuit Failure #6																MN	59
60	N/E Circuit Failure #8																MN	60
61	N/E Circuit Failure #10																MN	61
62																		62
63																		63
64																		64

STATUS DISPLAY 6D

STATUS DISPLAY 7A

		BACKBONE STATIONS										SIDELEGS						
	LPSS-3 (may serve two sides of an office)																MAJOR-MINOR INDICATION	
1	S/W Total Fail #1																MJ	1
2	S/W Total Fail #2																MJ	2
3	S/W Total Fail #3																MJ	3
4	S/W Total Fail #4																MJ	4
5	S/W Total Fail #5																MJ	5
6	S/W Summary Alarm																MJ	6
7	S/W Transmitter Clock Fail																MN	7
8	S/W Special Display #1																ID	8
9	N/E Total Fail #1																MJ	9
10	N/E Total Fail #2																MJ	10
11	N/E Total Fail #3																MJ	11
12	N/E Total Fail #4																MJ	12
13	N/E Total Fail #5																MJ	13
14	N/E Summary Alarm																MJ	14
15	N/E Transmitter Clock Fail																MN	15
16	N/E Special Display #1																ID	16
	LPSS-3 (may serve two sides of an office)																	
17	S/W Out of Service Automatic #1																MN	17
18	S/W Out of Service Automatic #2																MN	18
19	S/W Out of Service Automatic #3																MN	19
20	S/W Out of Service Automatic #4																MN	20
21	S/W Out of Service Automatic #5																MN	21
22	S/W Standby Fail																MN	22
23	S/W Converter or Fuse Failure																MN	23
24	S/W Special Display #2																ID	24
25	N/E Out of Service Automatic #1																MN	25
26	N/E Out of Service Automatic #2																MN	26
27	N/E Out of Service Automatic #3																MN	27
28	N/E Out of Service Automatic #4																MN	28
29	N/E Out of Service Automatic #5																MN	29
30	N/E Standby Fail																MN	30
31	N/E Converted or Fuse Failure																MN	31
32	N/E Special Display #2																ID	32

STATUS DISPLAY 7A

STATUS DISPLAY 7A

		BACKBONE STATIONS										SIDELEGS						
	LPSS-3 (may serve two sides of an office)																MAJOR-MINOR INDICATION	
33	S/W Total Fail #6																MJ	33
34	S/W Total Fail #7																MJ	34
35	S/W Total Fail #8																MJ	35
36	S/W Total Fail #9																MJ	36
37	S/W Total Fail #10																MJ	37
38	S/W Oscillator A Fail.																MN	38
39	S/W Channel A Fail																MN	39
40	S/W Transmitter Switch Release Fail																MN	40
41	N/E Total Fail #6																MJ	41
42	N/E Total Fail #7																MJ	42
43	N/E Total Fail #8																MJ	43
44	N/E Total Fail #9																MJ	44
45	N/E Total Fail #10																MJ	45
46	N/E Oscillator A Fail																MN	46
47	N/E Channel A Fail																MN	47
48	N/E Transmitter Switch Release Fail																MN	48
	LPSS-3 (may serve two sides of an office)																	
49	S/W Out of Service Automatic #6																MN	49
50	S/W Out of Service Automatic #7																MN	50
51	S/W Out of Service Automatic #8																MN	51
52	S/W Out of Service Automatic #9																MN	52
53	S/W Out of Service Automatic #10																MN	53
54	S/W Oscillator B Fail																MN	54
55	S/W Channel B Fail																MN	55
56	S/W Command Fail																MN	56
57	N/E Out of Service Automatic #6																MN	57
58	N/E Out of Service Automatic #7																MN	58
59	N/E Out of Service Automatic #8																MN	59
60	N/E Out of Service Automatic #9																MN	60
61	N/E Out of Service Automatic #10																MN	61
62	N/E Oscillator B Fail																MN	62
63	N/E Channel B Fail																MN	63
64	B/E Command Fail																MN	64

STATUS DISPLAY 7A

STATUS DISPLAY 7B

		BACKBONE STATIONS											SIDELEGS					
	LPSS-3 Special Display #1 S/W																MAJOR-MINOR INDICATION	
1	Transmitting Line Switch Disable #1																ID	1
2	Transmitting Line Switch Disable #2																ID	2
3	Transmitting Line Switch Disable #3																ID	3
4	Transmitting Line Switch Disable #4																ID	4
5	Transmitting Line Switch Disable #5																ID	5
6	Out of Service Manual #1																ID	6
7	Out of Service Manual #2																ID	7
8	Out of Service Manual #3																ID	8
9	Out of Service Manual #4																ID	9
10	Out of Service Manual #5																ID	10
11	Receiving Line Switch Disable Standby																ID	11
12	Receiving Line Switch Disable #1																ID	12
13	Receiving Line Switch Disable #2																ID	13
14	Receiving Line Switch Disable #3																ID	14
15	Receiving Line Switch Disable #4																ID	15
16	Receiving Line Switch Disable #5																ID	16
	LPSS-3 Special Display #1 S/W																	
17	Transmitting Line Switch Operate #1																ID	17
18	Transmitting Line Switch Operate #2																ID	18
19	Transmitting Line Switch Operate #3																ID	19
20	Transmitting Line Switch Operate #4																ID	20
21	Transmitting Line Switch Operate #5																ID	21
22	Lock Normal																ID	22
23	Restoration Lock Normal																ID	23
24	Standby Message Cut-Off Switch Operate																ID	24
25	Standby Terminate Operate-Manual																ID	25
26	Standby Terminate Override																ID	26
27	Standby Terminate Operate-Auto																ID	27
28	Message Cut-Off Switch Operate #1																ID	28
29	Message Cut-Off Switch Operate #2																ID	29
30	Message Cut-Off Switch Operate #3																ID	30
31	Message Cut-Off Switch Operate #4																ID	31
32	Message Cut-Off Switch Operate #5																ID	32

STATUS DISPLAY 7B

		BACKBONE STATIONS											SIDELEGS					
	Special Display #1 S/W																MAJOR-MINOR INDICATION	
33	Line Terminate Operate #1																ID	33
34	Line Terminate Operate #2																ID	34
35	Line Terminate Operate #3																ID	35
36	Line Terminate Operate #4																ID	36
37	Line Terminate Operate #5																ID	37
38	Signaling Transmitter Disable																ID	38
39																		39
40																		40
41																		41
42																		42
43																		43
44	Select Line — Manual #1																ID	44
45	Select Line — Manual #2																ID	45
46	Select Line — Manual #3																ID	46
47	Select Line — Manual #4																ID	47
48	Select Line — Manual #5																ID	48
	Special Display #1 S/W																	
49	Line Terminate Mode Manual #1																ID	49
50	Line Terminate Mode Manual #2																ID	50
51	Line Terminate Mode Manual #3																ID	51
52	Line Terminate Mode Manual #4																ID	52
53	Line Terminate Mode Manual #5																ID	53
54																		54
55																		55
56																		56
57																		57
58																		58
59																		59
60	Priority Line #1																ID	60
61	Priority Line #2																ID	61
62	Priority Line #3																ID	62
63	Priority Line #4																ID	63
64	Priority Line #5																ID	64

STATUS DISPLAY 7C

		BACKBONE STATIONS											SIDELEGS					
	LPSS-3 Special Display #2 S/W																MAJOR-MINOR INDICATION	
1	Transmitting Line Switch Disable #6																ID	1
2	Transmitting Line Switch Disable #7																ID	2
3	Transmitting Line Switch Disable #8																ID	3
4	Transmitting Line Switch Disable #9																ID	4
5	Transmitting Line Switch Disable #10																ID	5
6	Out of Service — Manual #6																ID	6
7	Out of Service — Manual #7																ID	7
8	Out of Service — Manual #8																ID	8
9	Out of Service — Manual #9																ID	9
10	Out of Service — Manual #10																ID	10
11																		11
12	Receiving Line Switch Disable #6																ID	12
13	Receiving Line Switch Disable #7																ID	13
14	Receiving Line Switch Disable #8																ID	14
15	Receiving Line Switch Disable #9																ID	15
16	Receiving Line Switch Disable #10																ID	16
	LPSS-3 Special Display #2 S/W																	
17	Transmitting Line Switch Operate #6																ID	17
18	Transmitting Line Switch Operate #7																ID	18
19	Transmitting Line Switch Operate #8																ID	19
20	Transmitting Line Switch Operate #9																ID	20
21	Transmitting Line Switch Operate #10																ID	21
22																		22
23																		23
24																		24
25																		25
26																		26
27																		27
28	Message Cut-Off Switch Operate #6																ID	28
29	Message Cut-Off Switch Operate #7																ID	29
30	Message Cut-Off Switch Operate #8																ID	30
31	Message Cut-Off Switch Operate #9																ID	31
32	Message Cut-Off Switch Operate #10																ID	32

STATUS DISPLAY 7C

STATUS DISPLAY 7C

		BACKBONE STATIONS											SIDELEGS					
	LPSS-3 Special Display #2 S/W																MAJOR-MINOR INDICATION	
33	Line Terminate Operate #6																ID	33
34	Line Terminate Operate #7																ID	34
35	Line Terminate Operate #8																ID	35
36	Line Terminate Operate #9																ID	36
37	Line Terminate Operate #10																ID	37
38																		38
39																		39
40																		40
41																		41
42																		42
43																		43
44	Select Line #6																ID	44
45	Select Line #7																ID	45
46	Select Line #8																ID	46
47	Select Line #9																ID	47
48	Select Line #10																ID	48
	LPSS-3 Special Display #2 S/W																	
49	Line Terminate Mode Manual #6																ID	49
50	Line Terminate Mode Manual #7																ID	50
51	Line Terminate Mode Manual #8																ID	51
52	Line Terminate Mode Manual #9																ID	52
53	Line Terminate Mode Manual #10																ID	53
54																		54
55																		55
56																		56
57																		57
58																		58
59																		59
60	Priority Line #6																ID	60
61	Priority Line #7																ID	61
62	Priority Line #8																ID	62
63	Priority Line #9																ID	63
63	Priority Line #10																ID	64

STATUS DISPLAY 7C

STATUS DISPLAY 7D

BACKBONE STATIONS | SIDELEGS

	LPSS-3 Special Display #1 N/E	MAJOR-MINOR INDICATION	
1	Transmitting Line Switch Disable #1	ID	1
2	Transmitting Line Switch Disable #2	ID	2
3	Transmitting Line Switch Disable #3	ID	3
4	Transmitting Line Switch Disable #4	ID	4
5	Transmitting Line Switch Disable #5	ID	5
6	Out of Service Manual #1	ID	6
7	Out of Service Manual #2	ID	7
8	Out of Service Manual #3	ID	8
9	Out of Service Manual #4	ID	9
10	Out of Service Manual #5	ID	10
11	Receiving Line Switch Disable Standby	ID	11
12	Receiving Line Switch Disable #1	ID	12
13	Receiving Line Switch Disable #2	ID	13
14	Receiving Line Switch Disable #3	ID	14
15	Receiving Line Switch Disable #4	ID	15
16	Receiving Line Switch Disable #5	ID	16
	LPSS-3 Special Display #1 N/E		
17	Transmitting Line Switch Operate #1	ID	17
18	Transmitting Line Switch Operate #2	ID	18
19	Transmitting Line Switch Operate #3	ID	19
20	Transmitting Line Switch Operate #4	ID	20
21	Transmitting Line Switch Operate #5	ID	21
22	Lock Normal	ID	22
23	Restoration Lock Normal	ID	23
24	Standby Message Cut-Off Switch Operate	ID	24
25	Standby Terminate Operate-Manual	ID	25
26	Standby Terminate Override	ID	26
27	Standby Terminate Operate-Auto	ID	27
28	Message Cut-Off Switch Operate #1	ID	28
29	Message Cut-Off Switch Operate #2	ID	29
30	Message Cut-Off Switch Operate #3	ID	30
31	Message Cut-Off Switch Operate #4	ID	31
32	Message Cut-Off Switch Operate #5	ID	32

STATUS DISPLAY 7D

STATUS DISPLAY 7D

		BACKBONE STATIONS											SIDELEGS					
	LPSS-3 Special Display #1 N/E																MAJOR-MINOR INDICATION	
33	Line Terminate Operate #1																ID	33
34	Line Terminate Operate #2																ID	34
35	Line Terminate Operate #3																ID	35
36	Line Terminate Operate #4																ID	36
37	Line Terminate Operate #5																ID	37
38	Signaling Transmitter Disable																ID	38
39																		39
40																		40
41																		41
42																		42
43																		43
44	Select Line — Manual #1																ID	44
45	Select Line — Manual #2																ID	45
46	Select Line — Manual #3																ID	46
47	Select Line — Manual #4																ID	47
48	Select Line — Manual #5																ID	48
	LPSS-3 Special Display #1 N/E																	
49	Line Terminate Mode Manual #1																ID	49
50	Line Terminate Mode Manual #2																ID	50
51	Line Terminate Mode Manual #3																ID	51
52	Line Terminate Mode Manual #4																ID	52
53	Line Terminate Mode Manual #5																ID	53
54																		54
55																		55
56																		56
57																		57
58																		58
59																		59
60	Priority Line #1																ID	60
61	Priority Line #2																ID	61
62	Priority Line #3																ID	62
63	Priority Line #4																ID	63
64	Priority Line #5																ID	64

STATUS DISPLAY

STATUS DISPLAY 8A

BACKBONE STATIONS | SIDELEGS

	LPSS-3 Special Display #2 N/E	MAJOR-MINOR INDICATION	
1	Transmitting Line Switch Disable #6	ID	1
2	Transmitting Line Switch Disable #7	ID	2
3	Transmitting Line Switch Disable #8	ID	3
4	Transmitting Line Switch Disable #9	ID	4
5	Transmitting Line Switch Disable #10	ID	5
6	Out of Service — Manual #6	ID	6
7	Out of Service — Manual #7	ID	7
8	Out of Service — Manual #8	ID	8
9	Out of Service — Manual #9	ID	9
10	Out of Service — Manual #10	ID	10
11			11
12	Receiving Line Switch Disable #6	ID	12
13	Receiving Line Switch Disable #7	ID	13
14	Receiving Line Switch Disable #8	ID	14
15	Receiving Line Switch Disable #9	ID	15
16	Receiving Line Switch Disable #10	ID	16
	LPSS-3 Special Display #2 N/E		
17	Transmitting Line Switch Operate #6	ID	17
18	Transmitting Line Switch Operate #7	ID	18
19	Transmitting Line Switch Operate #8	ID	19
20	Transmitting Line Switch Operate #10	ID	20
21		ID	21
22			22
23			23
24			24
25			25
26			26
27			27
28	Message Cut-Off Switch Operate #6	ID	28
29	Message Cut-Off Switch Operate #7	ID	29
30	Message Cut-Off Switch Operate #8	ID	30
31	Message Cut-Off Switch Operate #9	ID	31
32	Message Cut-Off Switch Operate #10	ID	32

STATUS DISPLAY 8A

		BACKBONE STATIONS										SIDELEGS					
	LPSS-3 Special Display #2 N/E															MAJOR-MINOR INDICATION	
33	Line Terminate Operate #6															ID	33
34	Line Terminate Operate #7															ID	34
35	Line Terminate Operate #8															ID	35
36	Line Terminate Operate #9															ID	36
37	Line Terminate Operate #10															ID	37
38																	38
39																	39
40																	40
41																	41
42																	42
43																	43
44	Select Line #6															ID	44
45	Select Line #7															ID	45
46	Select Line #8															ID	46
47	Select Line #9															ID	47
48	Select Line #10															ID	48
	LPSS-3 Special Display #2 N/E																
49	Line Terminate Mode Manual #6															ID	49
50	Line Terminate Mode Manual #7															ID	50
51	Line Terminate Mode Manual #8															ID	51
52	Line Terminate Mode Manual #9															ID	52
53	Line Terminate Mode Manual #10															ID	53
54																	54
55																	55
56																	56
57																	57
58																	58
59																	59
60	Priority Line #6															ID	60
61	Priority Line #7															ID	61
62	Priority Line #8															ID	62
63	Priority Line #9															ID	63
64	Priority Line #10															ID	64

STATUS DISPLAY 8B, 8C, 8D

	BACKBONE STATIONS										SIDELEGS					
	LPSS-3 Sidelegs															MAJOR-MINOR INDICATION	
1																	1
2																	2
3																	3
4																	4
5																	5
6																	6
7																	7
8																	8
9																	9
10																	10
11																	11
12																	12
13																	13
14																	14
15																	15
16																	16
	LPSS-3 Sidelegs																
17																	17
18																	18
19																	19
20																	20
21																	21
22																	22
23																	23
24																	24
25																	25
26																	26
27																	27
28																	28
29																	29
30																	30
31																	31
32																	32

STATUS DISPLAY 8B, 8C, 8D

STATUS DISPLAY 8B, 8C, 8D

BACKBONE STATIONS | SIDELEGS

	LPSS-3 Sidelegs															MAJOR-MINOR INDICATION	
33																	33
34																	34
35																	35
36																	36
37																	37
38																	38
39																	39
40																	40
41																	41
42																	42
43																	43
44																	44
45																	45
46																	46
47																	47
48																	48
	LPSS-3 Sidelegs																
49																	49
50																	50
51																	51
52																	52
53																	53
54																	54
55																	55
56																	56
57																	57
58																	58
59																	59
60																	60
61																	61
62																	62
63																	63
64																	64

STATUS DISPLAY 8B, 8C, 8D

STATUS DISPLAY 9A, 9B, 9C, 9D

		BACKBONE STATIONS											SIDELEGS					
	Jumbogroup Multiplex																MAJOR-MINOR INDICATION	
1	Transmit Major Status Pos. #1																ID	1
2	Transmit Minor Status Pos. #1																ID	2
3	Transmit Major Status Pos. #2																ID	3
4	Transmit Minor Status Pos. #2																ID	4
5	Transmit Major Status Pos. #3																ID	5
6	Transmit Minor Status Pos. #3																ID	6
7	Common Bay Major Alarm																MJ	7
8																		8
9	Receive Major Status Pos. #1																ID	9
10	Receive Minor Status Pos. #1																ID	10
11	Receive Major Status Pos. #2																ID	11
12	Receive Minor Status Pos. #2																ID	12
13	Receive Major Status Pos. #3																ID	13
14	Receive Minor Status Pos. #3																ID	14
15	Common Converter Alarm																ID	15
16																		16
	Jumbogroup Multiplex																	
17	Transmit — Path A Pos. #1																ID	17
18	Transmit — Lock Status Pos. #1																ID	18
19	Transmit — Path A Pos. #2																ID	19
20	Transmit — Lock Status Pos. #2																ID	20
21	Transmit — Path A Pos. #3																ID	21
22	Transmit — Lock Status Pos. #3																ID	22
23	Bay Minor Alarm																MN	23
24																		24
25	Receive — Path A Pos. #1																ID	25
26	Receive — Lock Status Pos. #1																ID	26
27	Receive — Path A Pos. #2																ID	27
28	Receive — Lock Status Pos. #2																ID	28
29	Receive — Path A Pos. #3																ID	29
30	Receive — Lock Status Pos. #3																ID	30
31	Summary Alarm — Circuit Power Alarm																MN	31
32																		32

STATUS DISPLAY 9A, 9B, 9C, 9D

STATUS DISPLAY 9A, 9B, 9C, 9D

		BACKBONE STATIONS											SIDELEGS					
	Jumbogroup Multiplex																MAJOR-MINOR INDICATION	
33	Transmit Switch Power Pos. #1																ID	33
34																		34
35	Transmit Switch Power Pos. #2																ID	35
36																		36
37	Transmit Switch Power Pos. #3																ID	37
38	Minor Fuse Alarm																MN	38
39																		39
40																		40
41	Receive Switch Power Pos. #1																ID	41
42																		42
43	Receive Switch Power Pos. #2																ID	43
44																		44
45	Receive Switch Power Pos. #3																ID	45
46	Minor Fuse Alarm																MN	46
47																		47
48																		48
	Jumbogroup Multiplex																	
49																		49
50																		50
51																		51
52																		52
53																		53
54																		54
55																		55
56																		56
57																		57
58																		58
59																		59
60																		60
61																		61
62																		62
63																		63
64																		64

STATUS DISPLAY 9A, 9B, 9C, 9D

STATUS DISPLAY 10A, 10B, 10C, 10D

		BACKBONE STATIONS											SIDELEGS					
	Basic Jumbogroup Trunk Bay																MAJOR-MINOR INDICATION	
1	Converter Alarm #1																MN	1
2	Loss of Output #1																MJ	2
3	Loss of Output #2																MJ	3
4	Loss of Output #3																MJ	4
5	Loss of Output #4																MJ	5
6	Loss of Output #5																MJ	6
7	Loss of Output #6																MJ	7
8	Loss of Output #7																MJ	8
9	Converter Alarm #5																MN	9
10	Loss of Output #8																MJ	10
11	Loss of Output #9																MJ	11
12	Loss of Output #10																MJ	12
13	Loss of Output #11																MJ	13
14	Loss of Output #12																MJ	14
15	Loss of Output #13																MJ	15
16	Loss of Output #14																MJ	16
	Basic Jumbogroup Trunk Bay																	
17	Converter Alarm #2																MN	17
18	Loss of Auxiliary Side #1																MN	18
19	Loss of Auxiliary Side #2																MN	19
20	Loss of Auxiliary Side #3																MN	20
21	Loss of Auxiliary Side #4																MN	21
22	Loss of Auxiliary Side #5																MN	22
23	Loss of Auxiliary Side #6																MN	23
24	Loss of Auxiliary Side #7																MN	24
25	Converter Alarm #6																MN	25
26	Loss of Auxiliary Side #8																MN	26
27	Loss of Auxiliary Side #9																MN	27
28	Loss of Auxiliary Side #10																MN	28
29	Loss of Auxiliary Side #11																MN	29
30	Loss of Auxiliary Side #12																MN	30
31	Loss of Auxiliary Side #13																MN	31
32	Loss of Auxiliary Side #14																MN	32

STATUS DISPLAY 10A, 10B, 10C, 10D

		BACKBONE STATIONS											SIDELEGS					
	Basic Jumbogroup Trunk Bay																MAJOR-MINOR INDICATION	
33	Converter Alarm #3																MN	33
34	Loss of Pilot #1																ID	34
35	Loss of Pilot #2																ID	35
36	Loss of Pilot #3																ID	36
37	Loss of Pilot #4																ID	37
38	Loss of Pilot #5																ID	38
39	Loss of Pilot #6																ID	39
40	Loss of Pilot #7																ID	40
41	Converter Alarm #7																MN	41
42	Loss of Pilot #8																ID	42
43	Loss of Pilot #9																ID	43
44	Loss of Pilot #10																ID	44
45	Loss of Pilot #11																ID	45
46	Loss of Pilot #12																ID	46
47	Loss of Pilot #13																ID	47
48	Loss of Pilot #14																	48
	Basic Jumbogroup Trunk Bay																	
49	Converter Alarm #4																MN	49
50	Minor Fuse Alarm																MN	50
51																		51
52																		52
53																		53
54																		54
55																		55
56																		56
57	Converter Alarm # 8																MN	57
58																		58
59																		59
60																		60
61																		61
62																		62
63																		63
64																		64

STATUS DISPLAY 11A

	LMX	BACKBONE STATIONS										SIDELEGS					MAJOR-MINOR INDICATION	
1																		1
2	(There has been no attempt to make standard																	2
3	display assignments of LMX equipment.)																	3
4																		4
5																		5
6																		6
7																		7
8																		8
9																		9
10																		10
11																		11
12																		12
13																		13
14																		14
15																		15
16																		16
	LMX																	
17																		17
18																		18
19																		19
20																		20
21																		21
22																		22
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30																		30
31																		31
32																		32

STATUS DISPLAY 11A

STATUS DISPLAY 11A

		BACKBONE STATIONS											SIDELEGS					
	LMX																MAJOR-MINOR INDICATION	
33	(There has been no attempt to make standard																	33
34	display assignments of LMX equipment.)																	34
35																		35
36																		36
37																		37
38																		38
39																		39
40																		40
41																		41
42																		42
43																		43
44																		44
45																		45
46																		46
47																		47
48																		48
	LMX																	
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52																		52
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59																		59
60																		60
61																		61
62																		62
63																		63
64																		64

STATUS DISPLAY 11A

STATUS DISPLAY 11B, 11C, 11D, 12A, 12B, 12C, 12D, 13A, 13B, 13C, 13D, 14A, 14B, 14C, 14D, 15A, 15B, 15C, 15D

		BACKBONE STATIONS											SIDELEGS					
	MMX																MAJOR-MINOR INDICATION	
1	(There has been no attempt to make standard																	1
2	display assignment of MMX equipment.)																	2
3																		3
4																		4
5																		5
6																		6
7																		7
8																		8
9																		9
10																		10
11																		11
12																		12
13																		13
14																		14
15																		15
16																		16
	MMX																	
17																		17
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29																		29
30																		30
31																		31
32																		32

STATUS DISPLAY 11B, 11C, 11D, 12A, 12B, 12C, 12D, 13A, 13B, 13C, 13D, 14A, 14B, 14C, 14D, 15A, 15B, 15C, 15D

		BACKBONE STATIONS											SIDELEGS					
	MMX																MAJOR-MINOR INDICATION	
33	(There has been no attempt to make standard																	33
34	display assignments of MMX equipment.)																	34
35																		35
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	MMX																	
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ALARM ANALYSIS

1.01 Appendix 2 provides the name of the major, minor, or indication alarm and the position that the alarm would appear in the status display panel.

1.02 The alarm is defined and flowcharts are provided to aid in the analysis and response required by the central operator.

DISPLAY 2A

POWER ALARMS

−24V	HI-LO VOLT MJ(1)	HI-LO FLOAT MN(1)	RECT FAIL MJ	CONV FAIL MJ	DISCHG FA MJ	PABS MN	CBS MN	ALARM MJ
MISCELLANEOUS UNIQUE								
+140V	HI-LO VOLT MJ(1)	HI-LO FLOAT MN(1)	RECT FAIL MJ		DISCHG FA MJ			
+130V	HI-LO VOLT MJ(1)	HI-LO FLOAT MN(1)	RECT FAIL MJ	CONV FAIL MJ	DISCHG FA MJ	PABS MN	CBS MN	ALARM MJ
−24V	ALARM MN	HI-LO VOLT MJ(2)	HI-LO FLOAT MN(2)	MISC SIG FA MJ	MISC ABS FA MJ		CHARGE FUSE FAIL MN	DISTR FUSE MJ
MISCELLANEOUS UNIQUE								
+140V		HI-LO VOLT MJ(2)	HI-LO FLOAT MN(2)					
+130V	ALARM MN	HI-LO VOLT MJ(2)	HI-LO FLOAT MN(2)	MISC SIG FA MJ	MISC ABS FA MJ		CHARGE FUSE FAIL MN	DISTR FUSE MJ

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
HI-LO VOLT	High or Low Voltage	The voltage of the battery string has exceeded the predetermined high or low voltage reading considered to be the safe operating range of the string.
HI-LO FLOAT	High or Low Float	The charging unit voltage is being applied at too high or low a potential to the battery string.
RECT FAIL	Rectifier Failure	Failure of one or more rectifiers. Normally spare rectifiers are provided and failure of one rectifier does not jeopardize the charging capacity of the system. Should the rectifiers fail to maintain proper charging voltage, one or more alarms (such as H/L V, H/L F or office MJ) may be expected in addition to the RECT FAIL alarm.
CONV FAIL	Converter Failure	Failure of one or more converters.
DISCHG FA	Discharging Fuse Alarm	Blown fuse in the battery discharge circuitry between the cells and the main battery bus.
PABS	Power Alarm Battery Supply	An open in the power alarm battery circuitry.
CBS	Control Battery Supply	An open in the control battery circuitry.
ALARM MJ	Major Office Alarm	Requires immediate attention. Condition may become service-affecting if not corrected.
ALARM MN	Minor Office Alarm	Requires attention. Condition may be service-affecting but of less severity than the major alarm. May develop into a major condition if not corrected.
MISC SIG FA	Miscellaneous Signal Fuse Alarm	Blown fuse in the signal battery circuitry.
MISC ABS FA	Miscellaneous Alarm Battery Supply Fuse Alarm	Blown fuse in the alarm battery supply circuitry.
CHARGE FUSE FAIL	Charging Fuse Failure	Blown fuse in the battery charging circuitry.
DIST FUSE	Distribution Fuse	Blown fuse in the circuitry distributing the battery to the central office equipment.

DISPLAY 2B

POWER AND ALTERNATORS AND INVERTERS

ALTERNATORS & INVERTERS	AC MTR FA or PWR TRANS MJ	AC MOTOR FAIL MN	FREQ TRANS MN	ALT HI-LO VOLT MJ	ALT FAIL MN	TRANS TO SP UNIT MN	INV RNNG MN	BY-PASS ALARM MN
−48V OR −130V	HI-LO VOLT MJ(1)	HI-LO FLOAT MN(1)	RECT FAIL MJ	CONV FAIL MJ	DISCHG FA MJ	PABS MN	CBS MN	ALARM MJ
+24V	HI-LO VOLT MJ(1)	HI-LO FLOAT MN(1)	RECT FAIL MJ	CONV FAIL MJ	DISCHG FA MJ	PABS MN	CBS MN	ALARM MJ
−12V	HI-LO VOLT MJ(1)	HI-LO FLOAT MN(1)	RECT FAIL MJ	CONV FAIL MJ	DISCHG FA MJ	PABS MN	CBS MN	ALARM MJ
ALTERNATORS & INVERTERS	AC FUSE MJ	DC FUSE MJ	LINE VOLT MJ		INV HI-LO AC VOLT MJ	INV FA E OR W MJ	FIRM AC MN	LOAD DISCHG CKT BKR MJ
−48V OR −130V	ALARM MN	HI-LO VOLT MJ(2)	HI-LO FLOAT MN(2)	MISC SIG FA MJ	MISC ABS FA MJ		CHARGE FUSE FAIL MN	DISTR FUSE MJ
+24V	ALARM MN	HI-LO VOLT MJ(2)	HI-LO FLOAT MN(2)	MISC SIG FA MJ	MISC ABS FA MJ			DISTR FUSE MJ
−12V	ALARM MN	HI-LO VOLT MJ(2)	HI-LO FLOAT MN(2)	MISC SIG FA MJ	MISC ABS FA MJ			DISTR FUSE MJ

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
AC MTR FA or PWR TRANS	AC Motor Fuse Alarm or Power Transfer	TH-1 or L-3 — The motor alternator set has transferred to DC drive because of a power transfer or a blown fuse to the AC motor.
AC MOTOR FAIL	AC Motor Failure	TH-1 or L-3 — A failure of the AC motor on the motor alternator set.
FREQ TRANS	Frequency Transfer	TH-1 or L-3 — A frequency shift has caused a transfer of the alternator from AC drive to DC drive.
ALT HI-LO VOLT	Alternator High or Low Voltage	TH-1 or L-3 — The output voltage of the alternator has reached a predetermined high or low setting.
ALT FAIL	Alternator Failure	TH-1 or L-3 — One of the motor alternator sets has shut down for some reason.
TRANS TO SP UNIT	Transfer to Spare Unit	TH-1 or L-3 — An automatic transfer of the load from a regular alternator to the running spare alternator (normally provided).
INV RNNG	Inverter Running	L-1 Inverter Plant — Commercial power has failed and the rectifier-inverter is supplying the 60 Hz AC to the power control circuit.
BYPASS ALARM	Bypass Alarm	L-1 Inverter Plant — The power control circuit is being fed directly from the commercial AC.
AC FUSE	AC Fuse	L-1 Inverter Plant — Blown fuse in AC circuitry.
DC FUSE	DC Fuse	L-1 Inverter Plant — Blown fuse in DC circuitry.
LINE VOLT	Line Voltage	L-1 Inverter Plant — The supply voltage has dropped to less than 50 percent of normal for a period of 15 seconds or longer, and power has automatically turned down.
INV HI-LO AC VOLT	Inverter High or Low AC Voltage	TH-1 — The output voltage of the inverter has reached a predetermined high or low setting.

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
INV FA E OR W	Inverter Fuse Alarm East or West	TH-1 — Blown fuse in inverter circuitry.
FIRM AC	Firm AC	TH-1 — The output voltage of the inverter exceeds the predetermined high or low settings when measured at the AC firm distribution panel.
LOAD DISCHG CKT BRKR	Load Disconnect Circuit Breaker	TH-1 — The circuit breaker has opened the path from the inverter output to the TH radio load.
HI-LO VOLT	High or Low Voltage	The voltage of the battery string has exceeded the predetermined high or low voltage reading considered to be the safe operating range of the string.
HI-LO FLOAT	High or Low Float	The charging unit voltage is being applied at too high or low potential to the battery string.
RECT FAIL	Rectifier Failure	Failure of one or more rectifiers. Normally, spare rectifiers are provided and failure of one rectifier does not jeopardize the charging capacity of the system. Should the rectifiers fail to maintain proper charging voltage, one or more alarms (such as H/L V, H/L F or office MJ) may be expected in addition to the RECT FAIL alarm.
CONV FAIL	Converter Failure	Failure of one or more converters.
DISCHG FA	Discharging Fuse Alarm	Blown fuse in the battery discharge circuitry between the cells and the main battery bus.
PABS	Power Alarm Battery Supply	An open in the power alarm battery circuitry.
CBS	Control Battery Supply	An open in the control battery supply circuitry.
ALARM MJ	Major Office Alarm	Alarm requiring immediate attention. Condition may become service-affecting if not corrected.

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
ALARM MN	Minor Office Alarm	Alarm requiring attention. Condition may be service-affecting but of less severity than the major alarm. May develop into a major condition if not corrected.
MISC SIG FA	Miscellaneous Signal Fuse Alarm	Blown fuse in the signal battery circuitry.
MISC ABS FA	Miscellaneous Alarm Battery Supply Fuse Alarm	Blown fuse in the alarm battery supply circuitry.
CHARGE FUSE FAIL	Charging Fuse Failure	Blown fuse in the battery charging circuitry.
DISTR FUSE	Distribution Fuse	Blown fuse in the circuitry distributing the battery to the central office equipment

DISPLAY 2C

EMERGENCY POWER AND MISCELLANEOUS BUILDING

GAS OR DIESEL ENGINE	ENG 1 RNNG MN	ENG 1 FAIL MJ	ENG 2 RNNG MN	ENG 2 FAIL MJ				
TURBINE	TURB A RNNG MN	TURB A FAIL MJ	TURB B RNNG MN	TURB B FAIL MJ	TURB C RNNG MN	TURB C FAIL MJ	TURB D RNNG MN	TURB D FAIL MJ
MISCELLANEOUS UNIQUE								
MISCELLANEOUS UNIQUE								
GAS OR DIESEL ENGINE			LOW FUEL MN	LOW OIL PRESS MJ	CRANK FAIL MN	OVER SPEED MJ	RECT FAIL MN	LOW FUEL MN
TURBINE	TURB E RNNG MN	TURB E FAIL MJ		WASTE OIL SUMP HI MN	DAY FUEL TANK HI-LO PRESS MN	PRELIM HI EXHAUST MN	RECT FAIL MN	LOW FUEL MN
MISCELLANEOUS UNIQUE								
MISCELLANEOUS UNIQUE								

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
ENG RNNG	Engine Running	The gas or diesel engine has started automatically because of commercial power failure, manually for maintenance reasons or routine run on remote order from the alarm center.
ENG FAIL	Engine Failure	The engine has failed to start of has shut down after initially starting.
LOW OIL PRESS PRESS	Low Oil Pressure	The engine oil pressure has decreased to a predetermined psi value. The set will probably shut down.
CRANK FAIL	Crank Failure	This alarm is provided only on engines using compressed air for starting and indicates pressure too high or too low in the air tank.
OVER SPEED	Overspeed	This alarm indicates that the speed of the engine has reached an RPM predetermined to be hazardous, and the engine shuts down.
RECT FAIL	Rectifier Failure	Failure of the rectifier that normally provides the float voltage to the engine start batteries.
LOW FUEL	Low Fuel	The fuel level in the tank (gasoline or diesel oil) has reached the low level point and fuel should be added.
TURB RNNG	Turbine Running	The turbine has started automatically because of a commercial power failure, manually for maintenance reasons or routine run on remote order from the alarm center.
TURB FAIL	Turbine Failure	The turbine has failed to start or has shut down after initially starting.
WASTE OIL SUMP HI	Waste Oil Sump High	The fluid level is high and some of the liquid (mostly waste oil) should be pumped from the sump reservoir.
DAY FUEL TANK HI-LO	Day Fuel Tank High or Low Pressure	Fuel is pumped from the storage tanks into the day fuel tank and then into the turbine. The alarm indicates that the pressure in the day tank has reached a high or low predetermined pressure point.
PRELIM HI EXHAUST	Preliminary High Exhaust	The exhaust gas exceeds 800° F. The alarm remains until the exhaust temperature drops below 800° F or until it reaches 940° F, at which time the turbine shuts down.

DISPLAY 2D

MISCELLANEOUS BUILDING AND CABLE ALARMS

MISCELLANEOUS BUILDING ALARMS	AC FAIL MJ	AC REST MJ	AC TRANS HI-TEMP MJ	SW GEAR CONTROL MJ	SW GEAR —130V PWR MJ	AIR COND MJ	HI-LO ROOM TEMP MJ	HI-LO TURB RM TEMP MJ
MISCELLANEOUS BUILDING ALARMS	NUCLEAR BLAST MJ	SEAL-UP SYS MJ	BOILER 1 MJ	BOILER 2 MJ	BLOWER 1 MJ	BLOWER 2 MJ	WATER & SAN MJ	
CABLE DRYERS	CA DRYER 1 MJ	CA DRYER 2 MJ	CA DRYER 3 MJ	CA DRYER 4 MJ	CA DRYER 5 MJ	CA DRYER 6 MJ	CA DRYER 7 MJ	CA DRYER 8 MJ
CABLE PRESSURE TELEMETRY	CA PRESS 1 MJ	CA PRESS 2 MJ	CA PRESS 3 MJ	CA PRESS 4 MJ	CA PRESS 5 MJ	CA PRESS 6 MJ	CA PRESS 7 MJ	CA PRESS 8 MJ
MISCELLANEOUS BUILDING ALARMS	REFRIG UNIT MJ	FIRE PROT MJ	SECOND SYS MJ	LIGHT PROT MJ	JOSLYN LIGHT PROT MJ	OPEN CARGO DOOR MJ	OPEN BLAST DOOR MJ	
GAS PRESSURE	GAS PRESS 1 MJ	GAS PRESS 2 MJ	GAS PRESS 3 MJ	GAS PRESS 4 MJ	GAS PRESS 5 MJ	GAS PRESS 6 MJ	GAS PRESS 7 MJ	GAS PRESS 8 MJ

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
AC FAIL	Commercial AC Failure	An unscheduled commercial power failure or a planned interruption has caused the building load to transfer to the emergency engine or turbine.
AC REST	Commercial AC Restored	The commercial power failure (either unscheduled or planned) has been cleared.
AC TRANSF HI TEMP	AC Transformer High Temperature	A high temperature is being experienced on the AC transformers.
SW GEAR CONTROL	Switch Gear Control	A failure in the switch gear control circuitry.
SW GEAR —130 PWR	Switch Gear — 130V Power	A loss of —130V battery to the switch gear.
AIR COND	Air Conditioning	An alarm condition in the building air conditioning system potentially serious to heat-sensitive equipment.
HI-LO ROOM TEMP	High or Low Room Temperature	The temperature has reached a predetermined high or low level, possibly the result of a problem in the heating or cooling system.
HI-LO TURB RM TEMP	High or Low Turbine Room Temperature	The temperature in the turbine room has reached a predetermined high or low level, possibly the result of an air circulation problem.
REFRIG UNIT	Refrigeration Unit	Failure of the refrigeration unit.
FIRE PROT	Fire Protection	The fire protection circuitry has been opened because of excessive heat or some other physical break.
SECOND SYS	Secondary System	An alarm in the secondary or back-up system.
LIGHT PROT	Lightning Protection	Trouble in the protection circuitry (protects buildings and cables from lightning damage).

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
JOSLYN LIGHT PROT	Joslyn Lightning Protection	A joslyn protector is an arrester designed for high kVA service. This alarm indicates trouble in the arrester circuitry.
OPEN CARGO DOOR	Open Cargo Door	The cargo door is normally a large access door to a hoist or elevator system and is provided for the movement of equipment into or from the building.
OPEN BLAST DOOR	Open Blast Door	The blast resistant door has been opened.
NUCLEAR BLAST	Nuclear Blast	The radiation detection devices indicate a nuclear blast within the sensitivity range of the instruments.
SEAL-UP SYS	Seal-Up System	A malfunction of the equipment provided to seal the building to protect against radiation.
BOILER	Boiler	An alarm condition exists on one of the building's boilers.
BLOWER	Blower	An air circulation blower in one of the buildings is not functioning properly.
WATER & SANITATION	Water & Sanitation	An alarm condition exists on either the building's water or sanitation treatment systems.
CA DRYER	Cable Dryer	Failure of one of the units which provide dry air to the cable.
CA PRESS	Cable Pressure Telemetry	While scanning the cable, the telemetry system has detected a transducer measurement representing a cable pressure that has dropped below a predetermined safe level.
GAS PRESS	Gas Pressure	Low pressure to those cables being fed from nitrogen gas.

DISPLAY 3A, 3B, 3C

LINE CONVERTER ALARMS AND INDICATIONS

PC S/W MN	NC S/W MN	PCS S/W MJ	NCS S/W MJ	FGG S/W MN	PCTO S/W ID	NCTO S/W ID	SPARE CONV MN
PC S/W MN	NC S/W MN	PCS S/W MJ	NCS S/W MJ	FGG S/W MN	PCTO S/W ID	NCTO S/W ID	
PC S/W MN	NC S/W MN	PCS S/W MJ	NCS S/W MJ	FGG S/W MN	PCTO S/W ID	NCTO S/W ID	
PC S/W MN	NC S/W MN	PCS S/W MJ	NCS S/W MJ	FGG S/W MN	PCTO S/W ID	NCTO S/W ID	
PC N/E MN	NC N/E MN	PCS N/E MJ	NCS N/E MJ	FGG N/E MN	PCTO N/E ID	NCTO N/E ID	SPARE CONV MJ
PC N/E MN	NC N/E MN	PCS N/E MJ	NCS N/E MJ	FGG N/E MN	PCTO N/E ID	NCTO N/E ID	
PC N/E MN	NC N/E MN	PCS N/E MJ	NCS N/E MJ	FGG N/E MN	PCTO N/E ID	NCTO N/E ID	
PC N/E MN	NC N/E MN	PCS N/E MJ	NCS N/E MJ	FGG N/E MN	PCTO N/E ID	NCTO N/E ID	

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
PC NC	Positive Converter Negative Converter	Minor positive or negative converter alarm. The converter does not shut down, but depending upon the magnitude of the voltage drop or current change, the line may switch. The alarm may be due to: 1. Power stage failure (230 volts per stage) 2. Fuse failure 3. Current above 975 ma or below 860 ma due to short or ground on line.
PCS NCS	Positive Converter Shutdown Negative Converter Shutdown	Major positive or negative converter alarm. The converter shuts down. There is a line switch or line failure. Line power is down on at least one direction of transmission (see FGG). On a double-ended power section, a converter shutdown may cause shutdown on other end. The alarm may be due to: 1. High impedance over voltage-open line or repeater failure 2. Overcurrent or current fluctuations.
FGG	Floating Ground Grounded	A converter bay contains one positive and one negative converter and one minor alarm per bay. The circuit provides a ground protector between the two ungrounded supplies when required. A line ground fault or converter shutdown causes a voltage detector device to ground the circuit at this point, splitting the power loop and allowing normal transmission in one line. The other line fails. If there is a line fault or converter shutdown and the floating ground does not ground itself, line power and transmission are affected in both directions. This indicates a floating ground panel trouble and the alarm does not operate.

INDICATION SYMBOL	INDICATION NAME	INDICATION DEFINITION
PCTO NCTO	Positive Converter Turned Off Negative Converter Turned Off	The positive or negative converter has automatically or manually shut down. The PCTO or NCTO indication clears should the converter automatically restart. However, transmittal of a reset command is required to clear the PCS or NCS alarm.

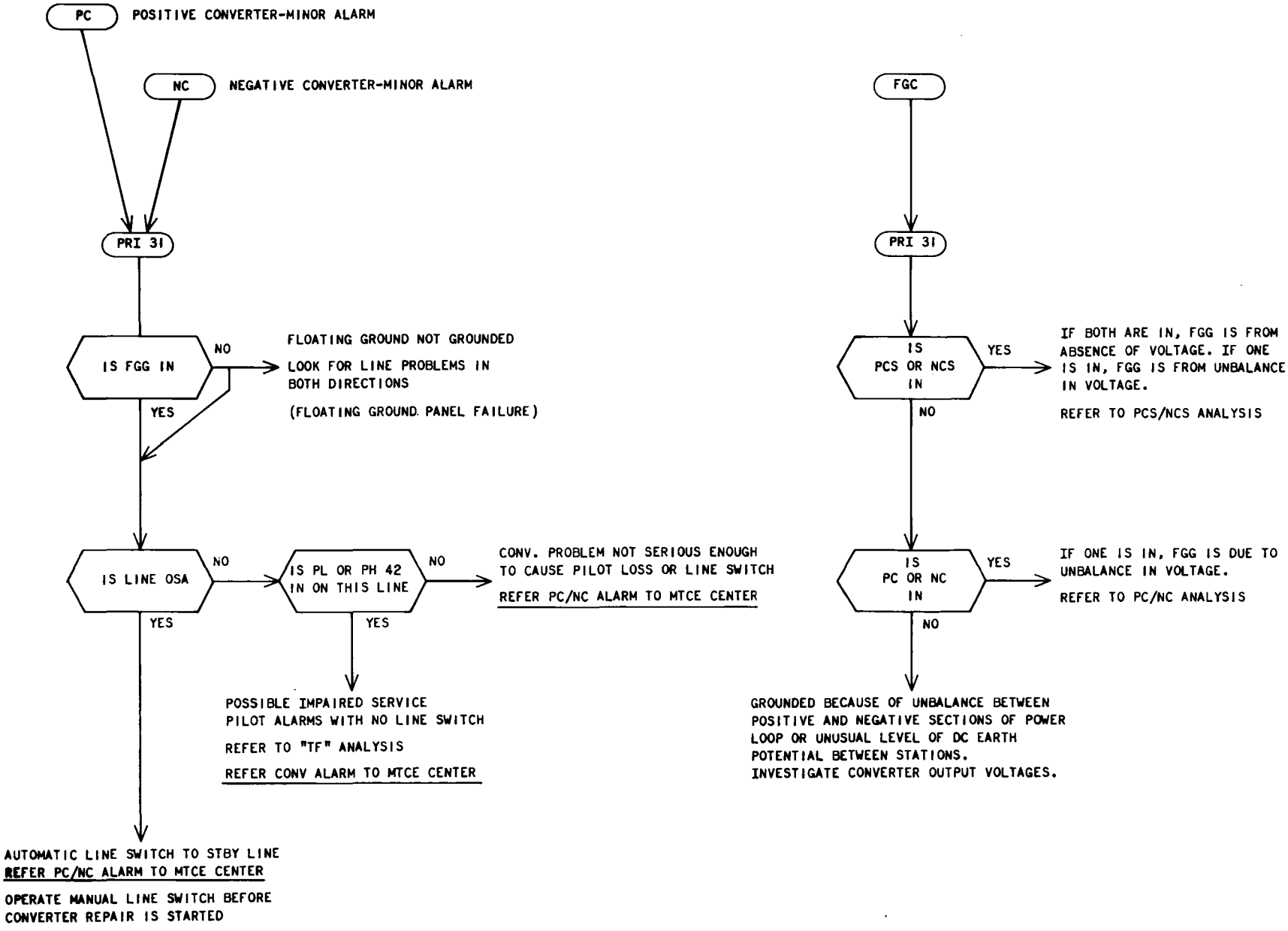


Fig. 1—Line Feed Converters—Positive and Negative Converter Minor Alarms—Floating Ground Grounded

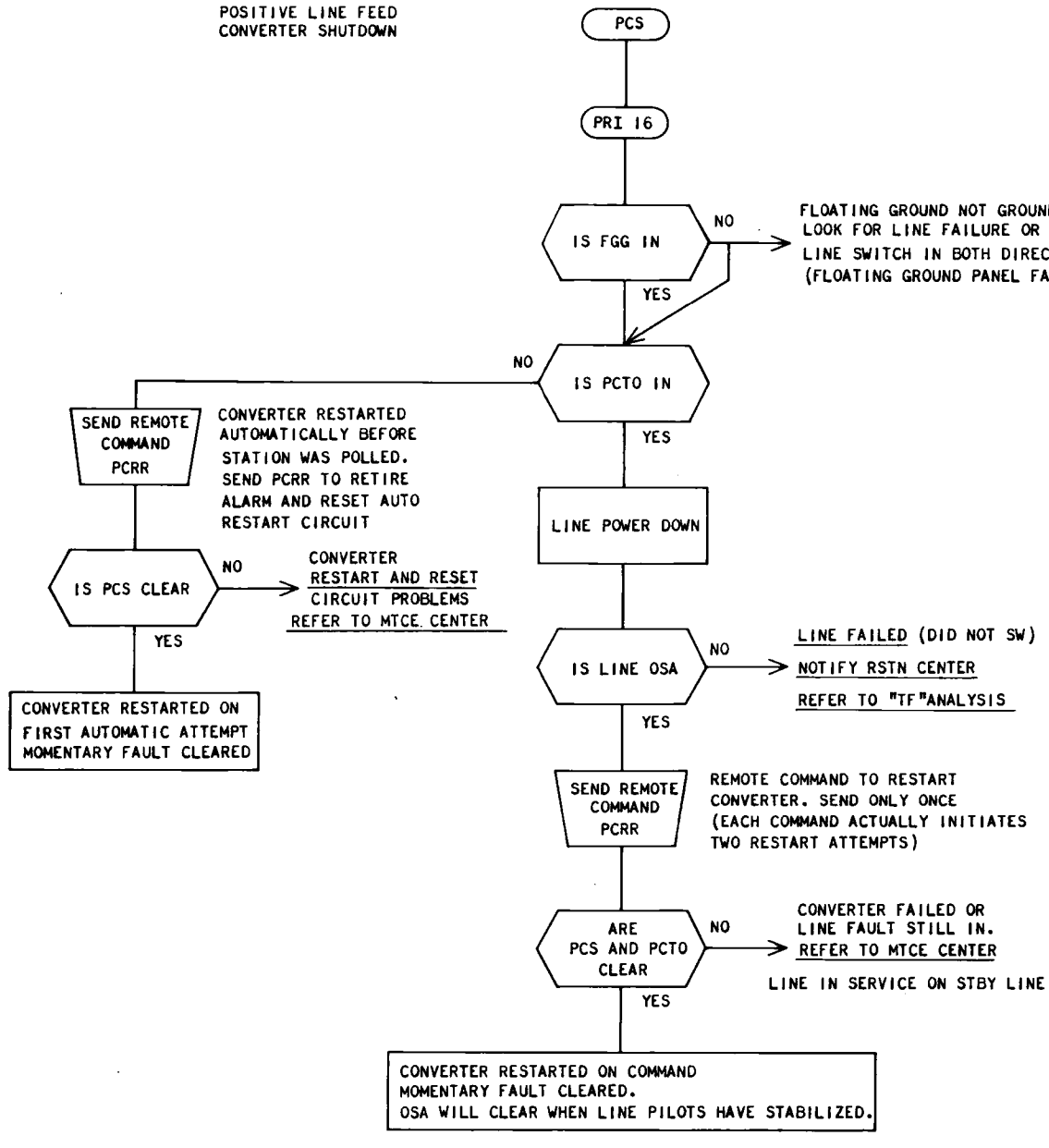


Fig. 2A—Line Feed Converters—Postive Converter Shutdown

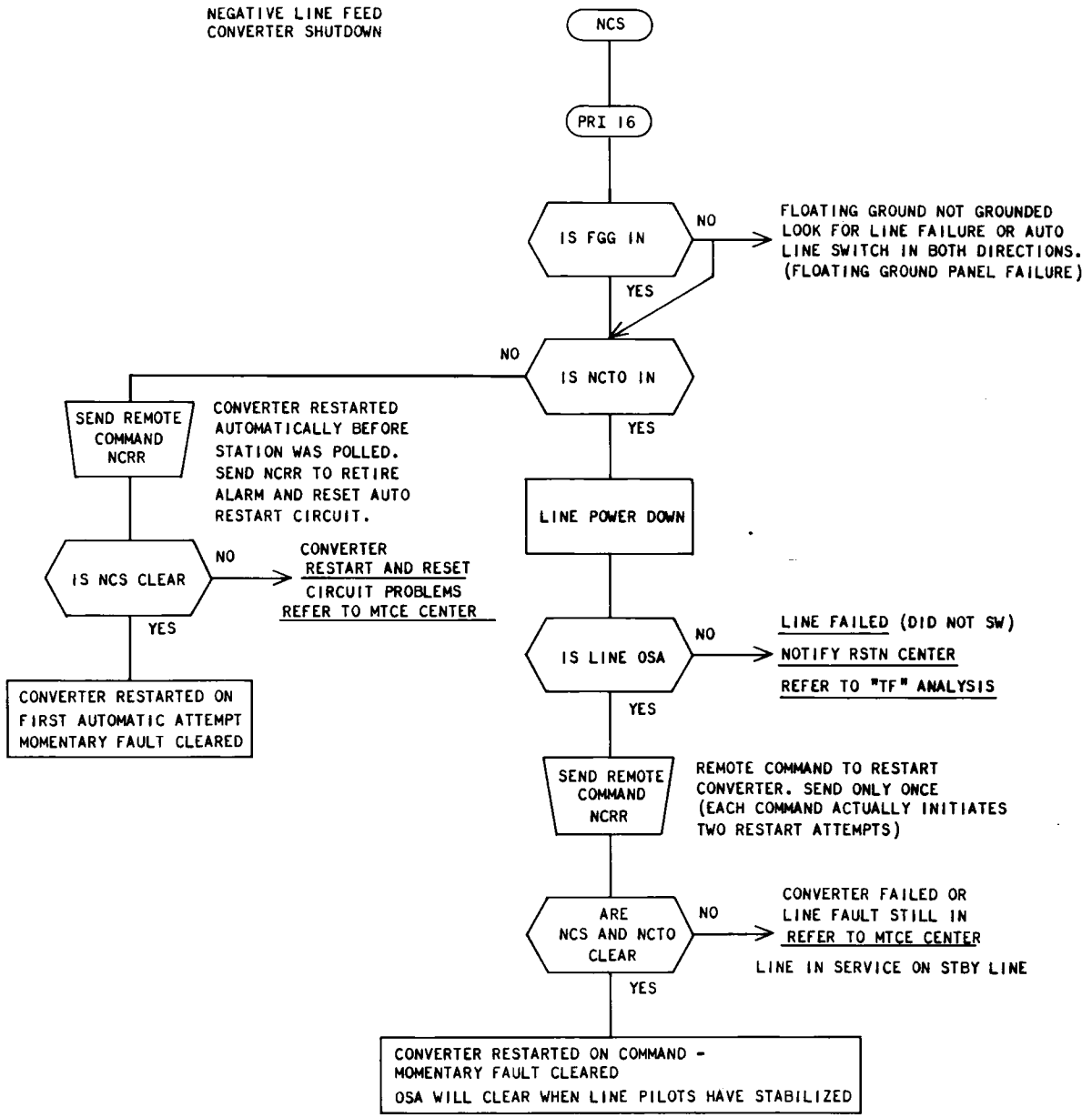


Fig. 2B—Line Feed Converters—Negative Converter Shutdown

DISPLAY 3D, 4A, 4B, 4C, 4D, 5A, 5B, 5C, 5D, 6A, 6B

T/R BAY ALARMS AND INDICATIONS

PH 2 S/W MN	PH 20 S/W MN	PH 42 S/W MN	PH 66 S/W MN	EOR 2 S/W MN	EOR 20 S/W MN	EOR 42 S/W MN	EOR 66 S/W MN
PL S/W MN	FOCF S/W MN	PAF S/W MN	PACO S/W ID	LCS S/W MN	I S/W ID	EC S/W ID	OMS S/W ID
CCCF S/W MN	TPF S/W MN	RLTCF S/W MJ	RLSTCF S/W MN	SLTCF S/W MN		LORP S/W MN	AJGF S/W MJ
BLTCF 1 S/W MJ	BLTCF 2 S/W MJ	BLSTCF 1 S/W MN	BLSTCF 2 S/W MN	FLBCIA S/W MN	SLBCIA S/W MN		
PH 2 N/E	PH 20 N/E	PH 42 N/E	PH 66 N/E	EOR 2 N/E	EOR 20 N/E	EOR 42 N/E	EOR 66 N/E
PL N/E MN	FOCF N/E MN	PAF N/E MN	PACO N/E ID	LCS N/E MN	I N/E ID	EC N/E ID	OMS N/E ID
CCCF N/E MN	TPF N/E MN	RLTCF N/E MJ	RLSTCF N/E MN	SLTCF N/E MN		LORP N/E MN	AJGF N/E MJ
BLTCF 1 N/E MJ	BLTCF 2 N/E MJ	BLSTCF 1 N/E MN	BLSTCF 2 N/E MN	FLBCIA N/E MN	SLBCIA N/E MN		

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
PH	Pilot Hit	There is one alarm for each 2.976, 20.992, 42.880 and 66.048-MHz pilot. The PH indicates a drop in pilot level in excess of 3 dB. The pilot level change is not sufficient to activate the PL alarm. A ±5.0 dB level change to the 42.880 MHz (only) pilot causes the line to switch.
EOR	End of Range	One indicator is provided for each pilot. The alarm is activated by ±5 dB for all pilots and indicates that the E-3 memory is at the end of its range.
PL	Pilot Loss	All four pilots are multipled for one alarm indication. The alarm indicates a drop in level of 7 dB for 2,976-, 20.992-, or 66.048-MHz or 8 dB for 42.880-MHz-pilot. Memories are automatically inhibited and maintain the last pre-pilot-loss settings.
FOCF	Fuse or Converter Failure	One alarm is provided per bay and indicates a blown fuse or converter failure with loss of power to line bay transmission circuits, E-3 equalizer control circuits or LPSS-3 switching.
PAF	Power Alarm Failure	This alarm indicates failure of the fuse and converter circuit or loss of power into the line bay. These circuits are fed from Fuse F49.
LCS	Local Control Status	For one line, the transmitting regulating repeater has switched from the common buried thermistor mode of control to a local control via a potentiometer.
CCCF	Common Control Circuit Failure (stand-by line display only)	All transmitting regulating repeaters have switched from the buried thermistor control mode to a local potentiometer mode, indicating failure in the common control circuitry.
TPF	Transmitting Pilot Failure	Loss of the 42.880-MHz (regular) or 20.992-MHz (standby) line pilot. The failure is in the line bay at switching power feed stations and in the pilot generator or line bay at terminal and terminal main stations.

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
RLTCF	Regular Line Thru Circuit Failure	Failure of both sides of the regular thru line due to failure of line interconnect modules or failure of working modules with switch failure (Absence of jumbogroup pilot on line side of line interconnect module switch.)
RLSTCF	Regular Line Spare Thru Circuit Failure	On one side (either A or B) of the regular thru line, failure of line interconnect module. (Absence of jumbogroup pilot at alternate output of interconnect switch.)
SLTCF	Spare Line Thru Circuit Failure	Thru circuit failure of the spare line due to regular interconnect module failure. The patching spare is available, but switching occurs (absence of 42.880 pilot at output).
LORP	Loss of Receive Pilot	Loss of jumbogroup pilot input to the receiving line interconnect circuit on thru jumbogroup. This alarm inhibits switching of interconnect modules and inhibits output alarms (RLTCF & RLSTCF).
AJGF	Added Jumbogroup Failure	Failure of a jumbogroup added to the line at this station. There is loss of jumbogroup pilot at transmitting line connecting circuit due to circuit failure at basic jumbogroup trunk bay, JMX, transmitting line connect circuit or interbay cabling.
BLTCF	Branch Line Thru Circuit Failure	Same as RLTCF except that it is for a branch line.
BLSTCF	Branch Line Spare Thru Circuit Failure	Same as RLSTCF except that it is for a branch line.
FLBCIA	First Line Branching Circuit Input Alarm	Loss of jumbogroup pilot input to the receiving line interconnect circuit on thru-branched jumbogroups. This alarm inhibits switching of interconnect modules and inhibits output alarms (BLTCF & BLSTCF).

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
SLBCIA	Second Line Branching Circuit Input Alarm	Same as FLBCIA but is for the second branching line.

INDICATION SYMBOL	INDICATION	INDICATION DEFINITION
PACO	Power Alarm Cutoff	The key on the Summary alarm panel has been operated, providing a local maintenance alarm cutoff to the power alarm circuit and disabling the FOCF and PAF alarms. The key cannot be reset remotely.
I	Inhibit	The equalizer memory is inhibited from regulating either on a remote (inhibit or reset) command or automatically from a PL alarm.
EC	Equalize Check	The equalizer has reached one end of its predetermined range as set on the rear of the equalizer, indicating possible need for re-equalization or equipment replacement. (See Table A.)
OMS	Optional Memory Status	The OPT MEM key has been operated in the T/R bay at the station. Any PH or PL alarms are held in effect until the remote command (EOM) is sent. A reset optional memory command can be sent by the E-2 central.

TABLE A

EQUALIZER CHECK LIMITS		
EC 2	—0.6	+1.0
EC 20	—0.9	+0.9
EC 48	—0.9	+0.9
EC 66	—2.5	+2.5

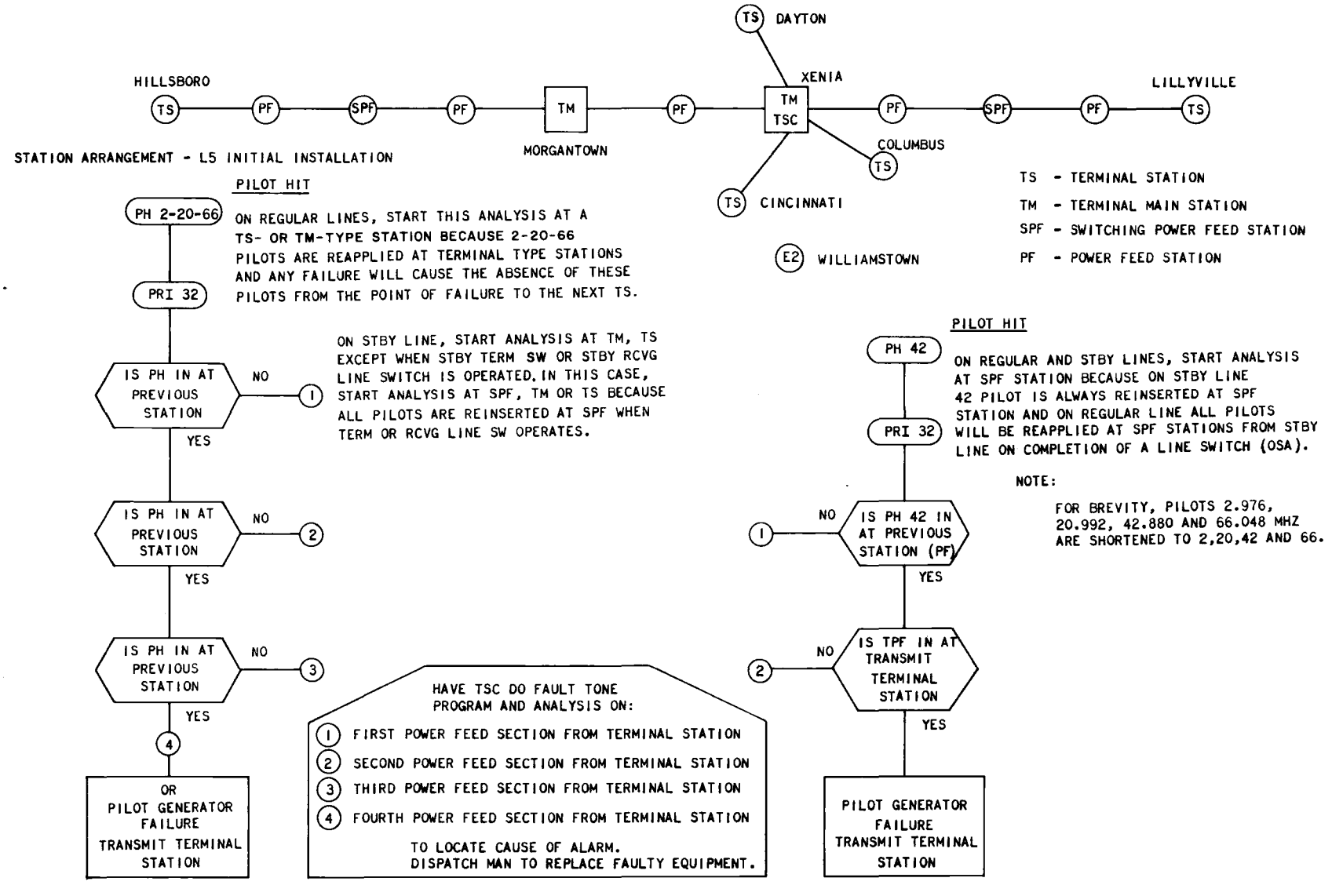


Fig. 3—T/R Line Bay—Pilot Hit Alarm

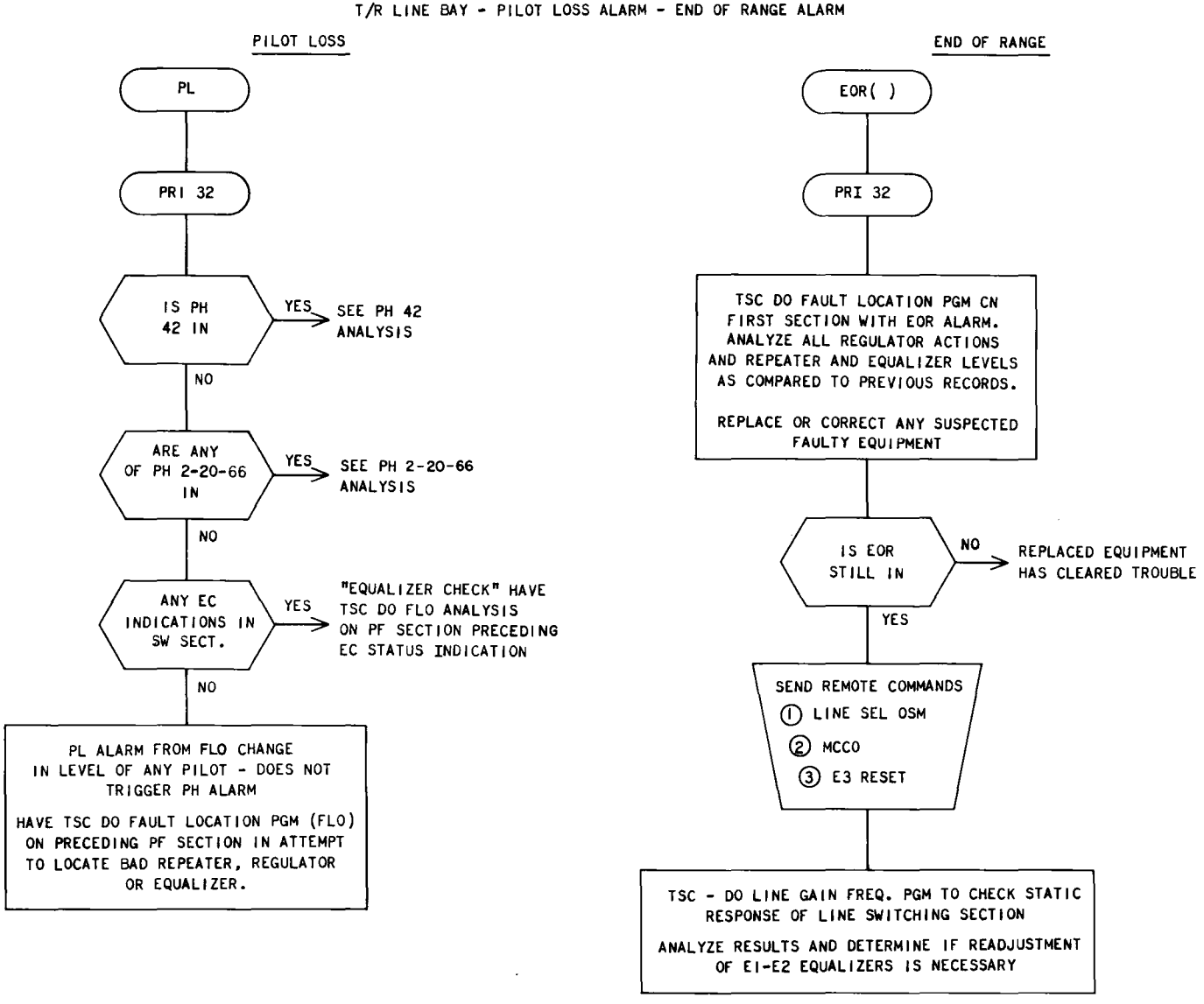


Fig. 4—T/R Line Bay—Pilot Loss Alarm—End-of-Range Alarm

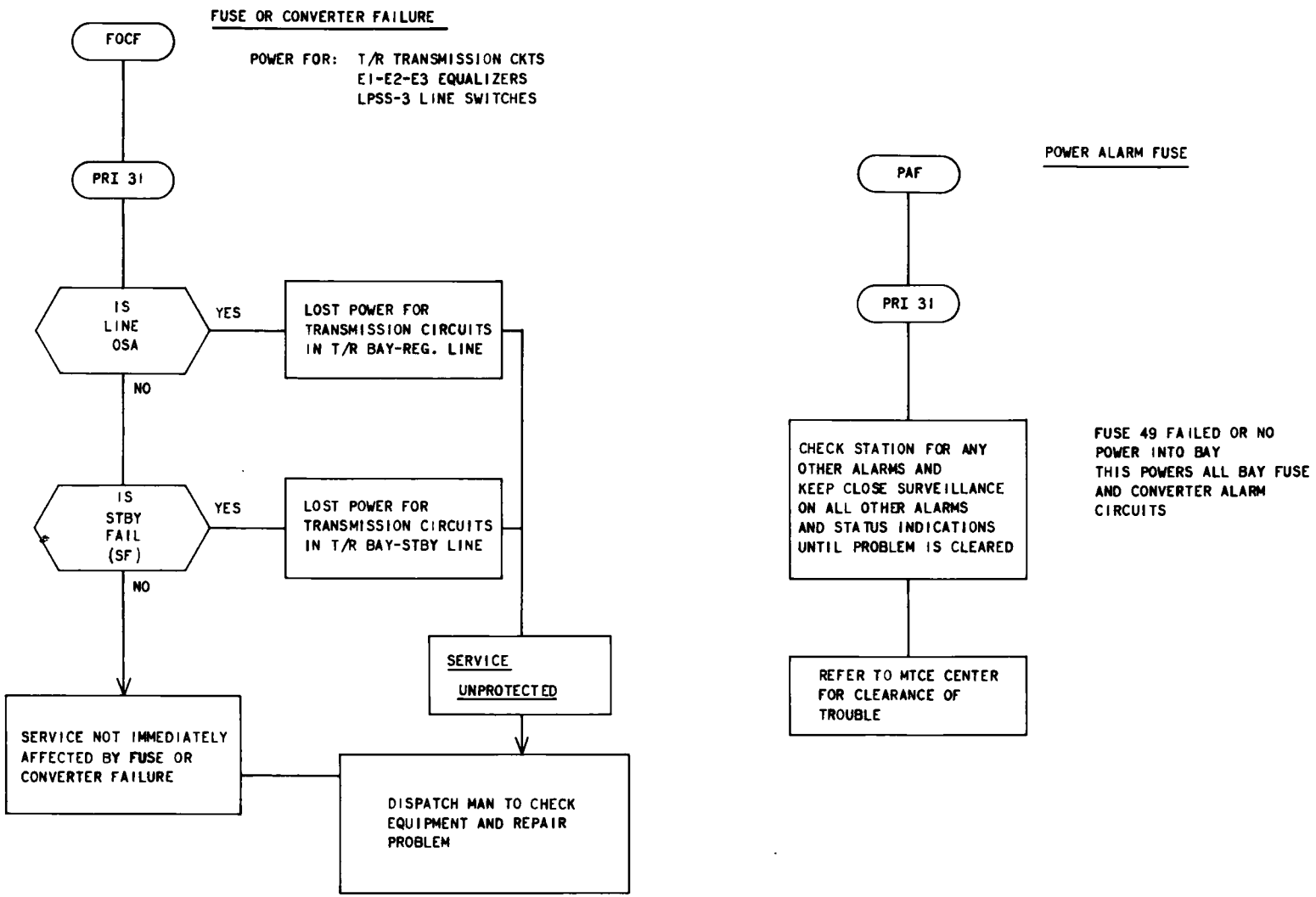
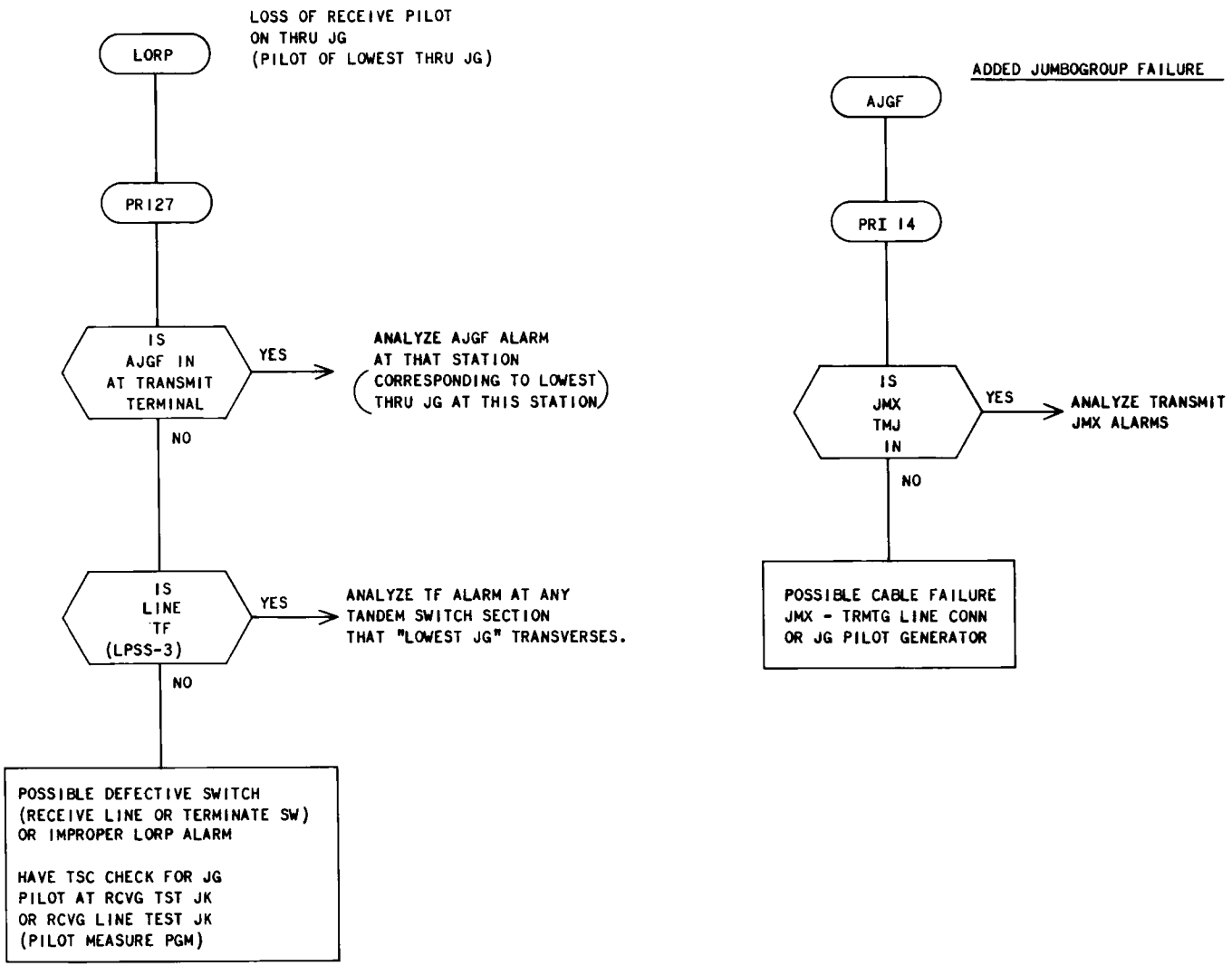


Fig. 5—T/R Line Bay—Fuse or Converter Failure—Power Alarm Fuse



NOTE:
JUMBOGROUP SIGNAL ADMINISTRATION
MUST BE KNOWN TO PROPERLY ANALYZE
LORP ALARMS.

Fig. 6—T/R Line Bay—Line Interconnect Alarm Analysis

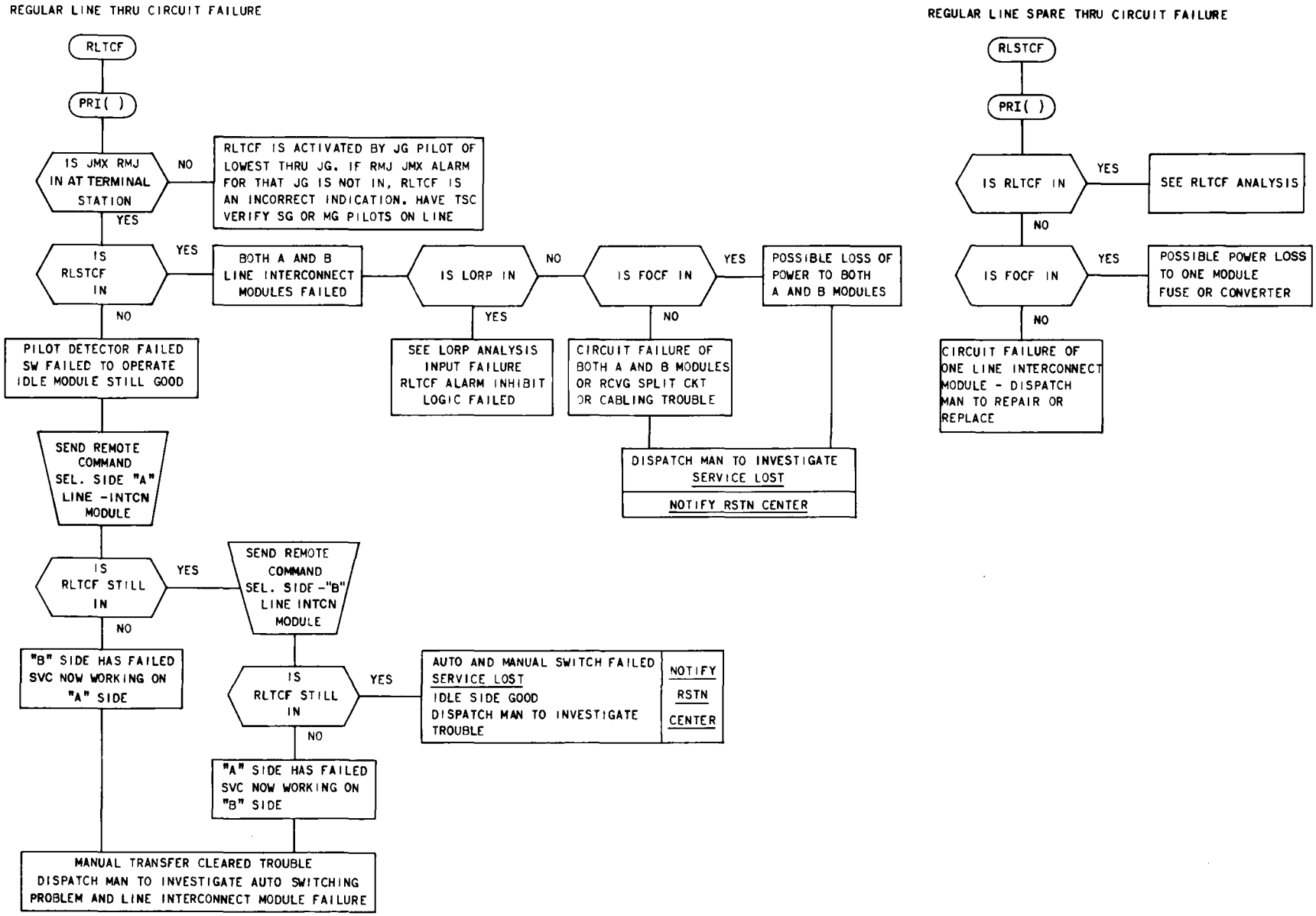


Fig. 7—T/R Line Bay—Line Interconnect Alarms

DISPLAY 6C

TSA-LINE ACCESS, RESTORATION, ORDER WIRE AND JUMBOGROUP FREQUENCY SUPPLY BAYS

OW CT BAY 1 ID 1	OW CT BAY 1 ID 2	OW CT BAY 1 3	OW CT BAY 1 4	OW CT BAY 2 1	OW CT BAY 2 2	OW CT BAY 2 3	OW CT BAY 2 4
LABFA S/W MN 1	LABFA S/W MN 3	LABFA S/W MN 5	LABFA S/W MN 7	LABFA S/W MN 9	JFS MJ 1	JFS MJ 2	JFS MJ 3
					JFS MN 1	JFS MN 2	JFS MN 3
CF S/W MN 1	CF S/W MN 3	CF S/W MN 5	CF S/W MN 7	CF S/W MN 9	JFS MJ 4	JFS MN 4	
OW CT BAY 3 ID 1	OW CT BAY 3 2	OW CT BAY 3 3	OW CT BAY 3 4	OW CT BAY 4 1	OW CT BAY 4 2	OW CT BAY 4 3	OW CT BAY 4 4
LABFA N/E MN 2	LABFA N/E MN 4	LABFA N/E MN 6	LABFA N/E MN 8	LABFA N/E MN 10	L5 RTB FA MN	TSA FA MN	OW FA MN
					L5 RTB FA MN		
CF N/E MN 2	CF N/E MN 4	CF N/E MN 6	CF N/E MN 8	CF N/E MN 10			

DISPLAY 6D

TSC-LINE ACCESS, RESTORATION, ORDER WIRE AND JUMBOGROUP FREQUENCY SUPPLY BAYS

OW CT BAY 1 ID 1	OW CT BAY 1 ID 2	OW CT BAY 1 ID 3	OW CT BAY 1 ID 4	OW CT BAY 2 ID 1	OW CT BAY 2 ID 2	OW CT BAY 2 ID 3	OW CT BAY 2 ID 4
LABFA S/W MN 1	LABFA S/W MN 3	LABFA S/W MN 5	LABFA S/W MN 7	LABFA S/W MN 9	JFS MJ 1	JFS MJ 2	JFS MJ 3
					JFS MN 1	JFS MN 2	JFS MN 3
CF S/W MN 1	CF S/W MN 3	CF S/W MN 5	CF S/W MN 7	CF S/W MN 9	JFS MJ 4	JFS MN 4	
OW CT BAY 3 ID 1	OW CT BAY 3 ID 2	OW CT BAY 3 ID 3	OW CT BAY 3 ID 4	OW CT BAY 4 ID 1	OW CT BAY 4 ID 2	OW CT BAY 4 ID 3	OW CT BAY 4 ID 4
LABFA N/E MN 2	LABFA N/E MN 4	LABFA N/E MN 6	LABFA N/E MN 8	LABFA N/E MN 10	L5 RTB FA MN	OW FA MN	CFA MN
				½	RSTN FA MN	DBFA MN	
CF N/E MN 2	CF N/E MN 4	CF N/E MN 6	CF N/E MN 8	CF N/E MN 10			

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
LABFA	Line Access Bay Fuse Alarm	The fuse failure may cause loss of voltage to line access switches, FLO power or metering and manual control panel, zero loss trunks or cable equalizers.
JFS	Jumbogroup Frequency Supply	These are a summary of all Major (MJ) or Minor (MN) alarms. (See Table B.)
L5 RTB FA	L-5 Restoration Trunk Bay Fuse Alarm	This fuse failure may prevent the restoration of failed L-5 lines via the restoration trunk bay.
TSA FA	Transmission Surveillance Auxiliary Fuse Alarm	This fuse failure may or may not disable automatic control via E-2 and manual capability in the TSA, depending on which of six fuses failed.
OW FA	Order Wire Fuse Alarm	A fuse failure in the order wire bay.
CFA	Console Fuse Alarm	This fuse failure may or may not disable both automatic and manual capability in the TSS, depending on which of five fuses failed.
RSTN FA	Restoration Fuse Alarm	A fuse failure in the restoration bay.
DBFA	Distribution Fuse Alarm	This fuse failure affects the TSC access switching distribution bay (route and function switches).
CF	Circuit Failure	One alarm is provided for each bay and indicates ground fault on FLO interstitial wires, +25 volt power loss or J87357A rectifier failure (power for FLOs).

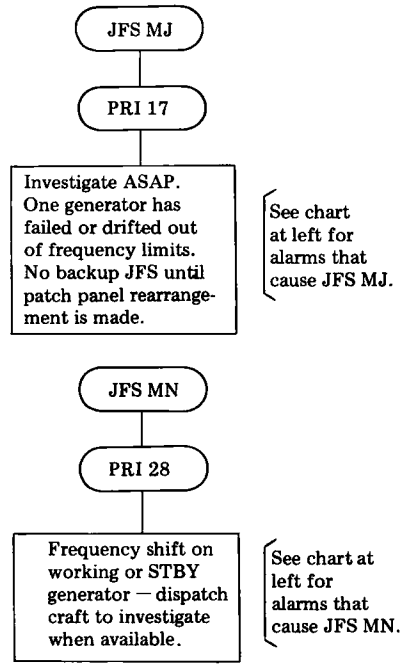
INDICATION SYMBOL	INDICATION NAME	INDICATION DEFINITION
OW CT	Order Wire Bay Cut Thru	The order wire is connected thru station to succeeding section on command.

TABLE B

JUMBOGROUP FREQUENCY SUPPLY (JFS) – ALARM DEFINITIONS

JFG ALARM LAMP	TYPE ALARM			ALARM DEFINITION
	MASTER	REGULAR	STANDBY	
Freq Offset $1/10^8$ HI $1/10^8$ LO (1 Part in 100 million)	ND ND	J J	J J	Frequency offset > $1/10^8$ (0.2 cycles at 20.48 MHz) exists between JFG input and output.
Freq Offset $1/10^6$	ND	J	J	Frequency offset > $1/10^6$ (20 cycles at 20.48 MHz) exists between JFG input and output.
Freq Offset $2/10^9$ HI $2/10^9$ LO	— —	N N	N N	Frequencv offset > $2.5/10^9$ (0.05 cycles at 20.48 MHz) exists between JFG input and output.
DC Power Fail	J	J	J	DC voltage, failure of +5.2 or +25A or +25B supplies.
EOR (EOR MJ)	J	J	J	Oscillator frequency control word memory at end of range. 39A OSC must be sent out for repair and readjustment.
Level Fail — JFG	J	J	J	Loss of output signal ±3 dB
Level Fail — Pilot	ND	J	J	JFG input signal failed. (Master — reference frequency) Regular — or master failed Standby —
Freq Alarm Fail	N	N	N	Frequency alarm circuit failure.
Drift Alarm (EOR MN)	N	N	N	—63 or +64 corrections have been applied to JFG frequency — $1/10^{10}$ per correction (.002 cycles at 20.48 MHz) Total correction $6.3/10^9$ (0.126 cycle at 20.48 MHz)
Gate Fail	N	J	J	64 kHz logic waveform into CP2 (Frequency Alarm CKT) has been interrupted.
ALARMS REPORTED BY E2				
JFS Bay MJ	J	J	J	Summary of ALL Major (J) alarms listed above.
JFS Bay MN	ND	N	N	Summary of ALL Minor (N) alarms listed above. (ND delayed minor)

Note: Alarms: J = Major N = Minor ND = Delayed Minor



DISPLAY 7A, 7B

LPSS-3

TF S/W MJ 1	TF S/W MJ 2	TF S/W MJ 3	TF S/W MJ 4	TF S/W MJ 5	SUM MJ S/W MJ	TCFA S/W MN	SPL DISPL S/W ID 1
OSA S/W MN 1	OSA S/W MN 2	OSA S/W MN 3	OSA S/W MN 4	OSA S/W MN 5	SF S/W MN	COFF S/W MN	SPL DISPL S/W ID 2
TF S/W MJ 6	TF S/W MJ 7	TF S/W MJ 8	TF S/W MJ 9	TF S/W MJ 10	OAFA S/W MN	CHAFA S/W MN	TSRF S/W MN
OSA S/W MN 6	OSA S/W MN 7	OSA S/W MN 8	OSA S/W MN 9	OSA S/W MN 10	OBFA S/W MN	CHBFA S/W MN	COMFA S/W MN
TF N/E MJ 1	TF N/E MJ 2	TF N/E MJ 3	TF N/E MJ 4	TF N/E MJ 5	SUM MJ N/E MJ	TCFA N/E MN	SPL DISPL N/E ID 1
OSA N/E MN 1	OSA N/E MN 2	OSA N/E MN 3	OSA N/E MN 4	OSA N/E MN 5	SF N/E MN	COFF N/E MN	SPL DISPL N/E ID 2
TF N/E MJ 6	TF N/E MJ 7	TF N/E MJ 8	TF N/E MJ 9	TF N/E MJ 10	OAFA N/E MN	CHAFA N/E MN	TSRF N/E MN
OSA N/E MN 6	OSA N/E MN 7	OSA N/E MN 8	OSA N/E MN 9	OSA N/E MN 10	OBFA N/E MN	CHBFA N/E MN	COMFA N/E MN

DISPLAY 7C, 7D

LPSS-3 SPECIAL DISPLAY #1

TSD ID 1	TSD ID 2	TSD ID 3	TSD ID 4	TSD ID 5	OSM ID 1	OSM ID 2	OSM ID 3
TSO ID 1	TSO ID 2	TSO ID 3	TSO ID 4	TSO ID 5	LN ID	RLN ID	SMCSO ID
LTO ID 1	LTO ID 2	LTO ID 3	LTO ID 4	LTO ID 5	STD ID	SSTF ID	
LTMM ID 1	LTMM ID 2	LTMM ID 3	LTMM ID 4	LTMM ID 5			
OSM ID 4	OSM ID 5	RSD STBY ID	RSD ID 1	RSD ID 2	RSD ID 3	RSD ID 4	RSD ID 5
STOM ID	STOVRD ID	STOA ID	MCSO ID 1	MCSO ID 2	MCSO ID 3	MCSO ID 4	MCSO ID 5
			SEL ID 1	SEL ID 2	SEL ID 3	SEL ID 4	SEL ID 5
			PRIOR ID 1	PRIOR ID 2	PRIOR ID 3	PRIOR ID 4	PRIOR ID 5

DISPLAY 8A, 8B

LPSS - 3 SPECIAL DISPLAY #2

TSD ID 6	TSD ID 7	TSD ID 8	TSD ID 9	TSD ID 10	OSM ID 6	OSM ID 7	OSM ID 8
TSO ID 6	TSO ID 7	TSO ID 8	TSO ID 9	TSO ID 10			
LTO ID 6	LTO ID 7	LTO ID 8	LTO ID 9	LTO ID 10			
LTMM ID 6	LTMM ID 7	LTMM ID 8	LTMM ID 9	LTMM ID 10			
OSM ID 9	OSM ID 10		RSD ID 6	RSD ID 7	RSD ID 8	RSD ID 9	RSD ID 10
			MCSO ID 6	MCSO ID 7	MCSO ID 8	MCSO ID 9	MCSO ID 10
			SEL ID 6	SEL ID 7	SEL ID 8	SEL ID 9	SEL ID 10
			PRIOR ID 6	PRIOR ID 7	PRIOR ID 8	PRIOR ID 9	PRIOR ID 10

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
TF	Total Fail	One alarm is provided for each regular line to indicate a failed line that has not switched to protection. A TF also appears when a protection line fails while carrying service from a failed regular line.
SUM MJ	Summary Alarm Major	A summation of events that totals a major alarm condition.
TCFA	Transmitter Clock Failure	The transmitter clock controls the generation of switching signals. A clock failure inhibits all protection switching but does not inhibit line terminate operation.
OSA	Out of Service Automatic	A regular line has switched to standby on signal overload or pilot deviation. When the 42.880-MHz deviates ±5.0 dB for more than 2.5 ms, a switch occurs. The other three pilots are used only for equalization. When the regular line is good for 20 seconds, the switch automatically releases.
SF	Standby Fail	The protection line has failed due to pilot deviation or power overload.
COFF	Converter or Fuse Failure	A converter failure or a blown fuse.
OAFA OBFA	Oscillator A Fail Oscillator B Fail	Switching signal A or B oscillator failure. Failure of either oscillator disables the switching signal complimentary check and increases the chance for errors. Switching may still be possible.
CHAFA CHBFA	Channel A Fail Channel B Fail	Switching signal receiver A or B failure. Failure of either receiver disables the switching signal complimentary check and increases the chance for errors. Switching may still be possible.
TSRF	Transmitting Switch Release Fail	The transmitting line switch failed to release or the receive initiator did not receive release verifier signal within five seconds of a line switch to normal. The line switching is inoperative.

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
COMFA	Command Fail	The switch signal receiver either did not receive any command after the start pulse or received an incomplete or erroneous command. The alarm clears when the first complete command is received.

INDICATION SYMBOL	INDICATION NAME	INDICATION DEFINITION
SPL DISPL	Special Display	This is a summary indication of an input to one of the LPSS-3 special displays (1 or 2).
TSD	Transmitting Line Switch Disable	A switch cannot be completed due to the transmitting line switch being disabled. This feature is used for switch initiator maintenance.
OSM	Out of Service Manual	A regular line has been manually switched to the standby line.
RSD STBY	Receive Line Switch Disabled	A switch cannot be completed because the receive switch logic has been disabled. This feature is used for switch initiator maintenance.
TSO	Transmitting Line Switch Operate	This indicates that the transmitting line switch is operated as during an automatic or manual switch to standby.
LN	Lock Normal	The lock normal releases any automatic switch already in force and prevents line switches to standby.
RLN	Restoration Lock Normal	Any switch in force is released and other switches prevented while the protection line is being used for restoration purposes.
SMCSO	Standby Message Cut-off Switch Operated	The cut-off switch is operated to remove signal input to the standby line while frequency runs or equalization measurements are being made.

INDICATION SYMBOL	INDICATION NAME	INDICATION DEFINITION
STOM	Standby Terminate Operate-Manual	The standby line has been manually terminated by physical operation of STBY TERM OPR MAN and LINE TERM MASTER keys or remote command. Unlike regular lines, the standby line can be terminated even though failed. Release is accomplished by simultaneous operation of STBY TERM MAN RLS and LINE TERM MASTER.
STOVRD	Standby Terminate Override	A standby termination may be released and any new standby termination inhibited by simultaneous operation of STBY TERM OVRD OPR and LINE TERM MASTER.
STOA	Standby Terminate Operate-Auto	Overload of the standby line results in an automatic standby termination, provided no line switches or standby override is in effect at the time. Equalization tone reinsertion is provided to hold up the line in the next section.
MSCO	Message Cut-off Switch Operate	This switch, when operated, cuts off the message normally supplied to the line and supplies a signal in access point to the transmit end of the line. The switch is used during equalization and other out-of-service testing.
LTO	Line Terminate Operate	The line terminate switch has operated either manually or automatically due to overload.
STD	Signaling Transmitter Disabled	A switch cannot be completed due to the signaling transmitter being disabled.
SEL	Select Line Manual	This selection of the desired regular channel is the first step in the manual switching operation.
LTMM	Line Terminate Mode Manual	During initiator maintenance, the line terminate switch is put in the manual mode to prevent false automatic terminations.
SSTF	Signaling System Test Fail	If remote command "signaling system test" response is negative, this status ID comes up.
PRIOR	Priority Line	This line has first priority to be switched in event of a failure. It also preempts any other line that has already switched on an automatic basis should the priority line fail.

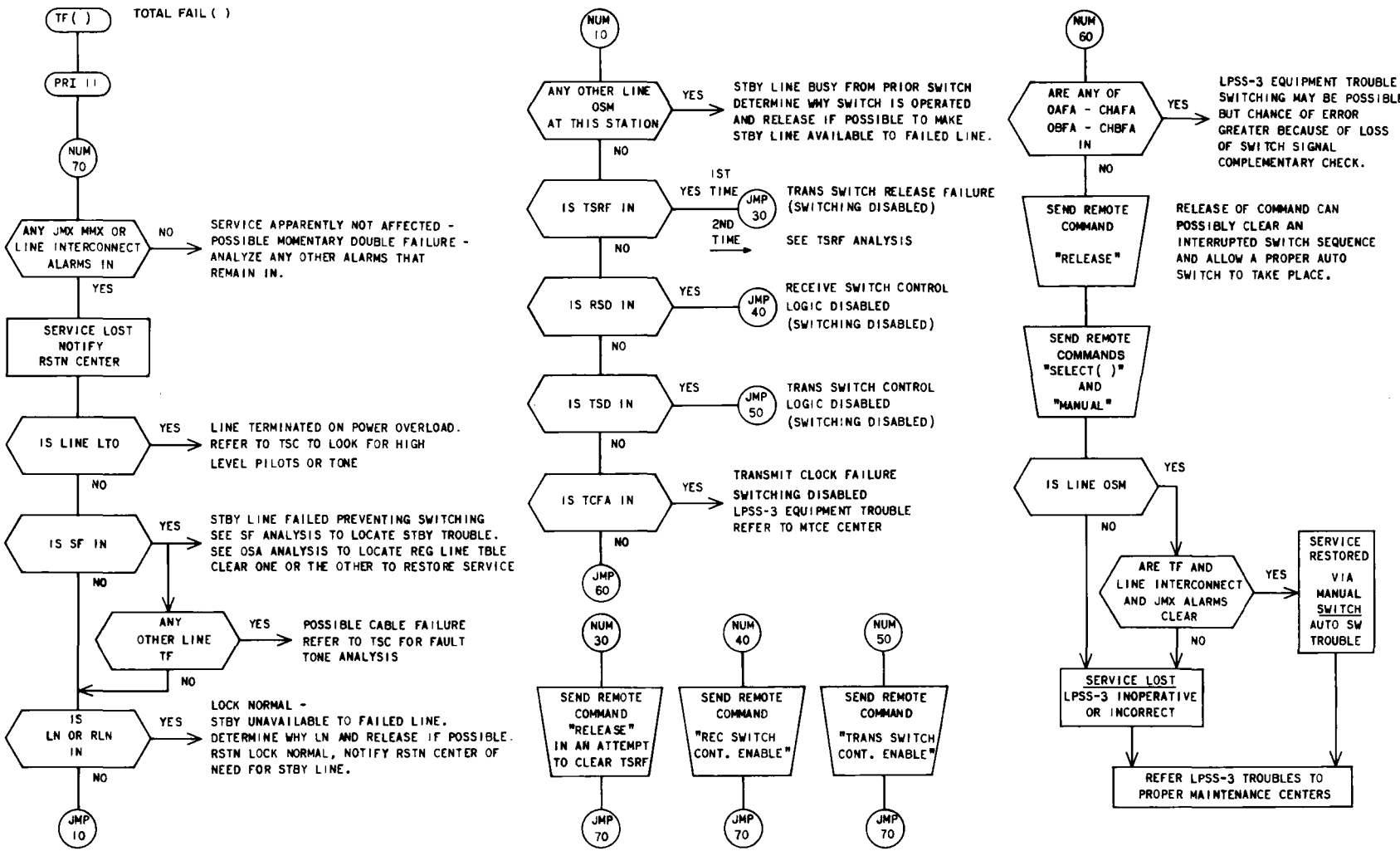


Fig. 8—Line Protection Switching System-3—Total Fail Analysis

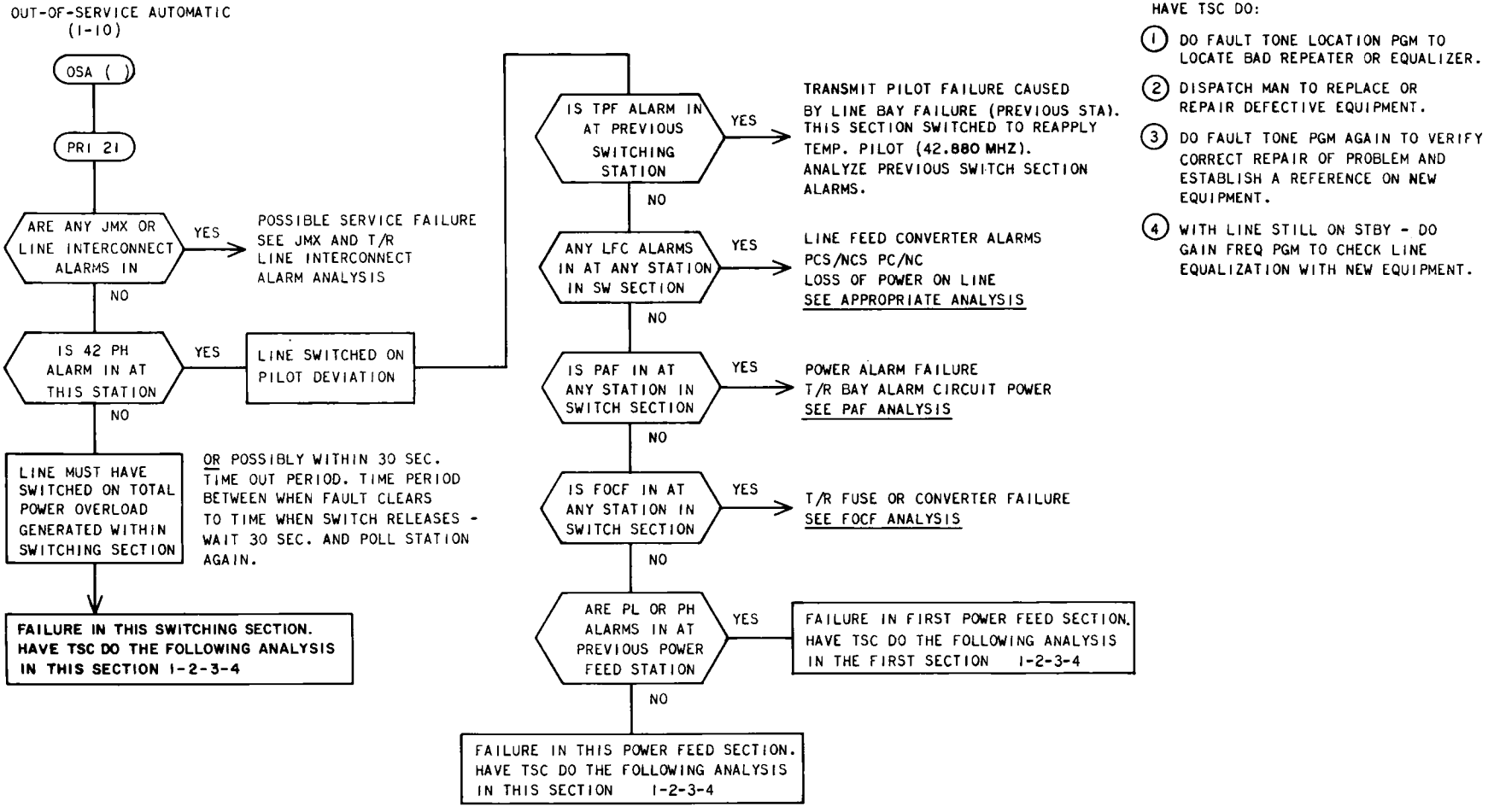


Fig. 9—Line Protection Switching System-3—Out-of-Service Auto

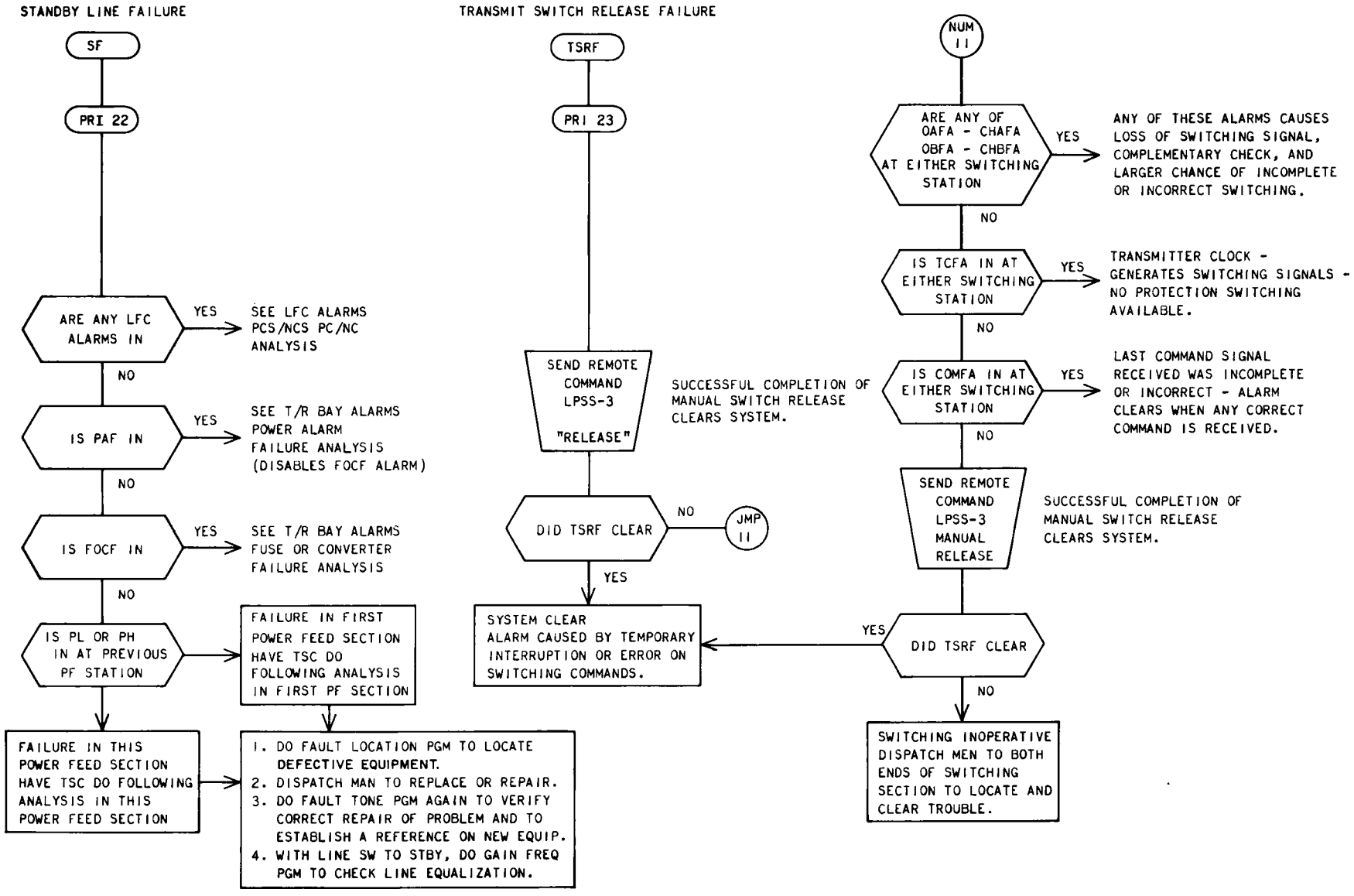


Fig. 10—Line Protection Switching System-3—Standby Fail Alarm—Transmit Switch Release Failure

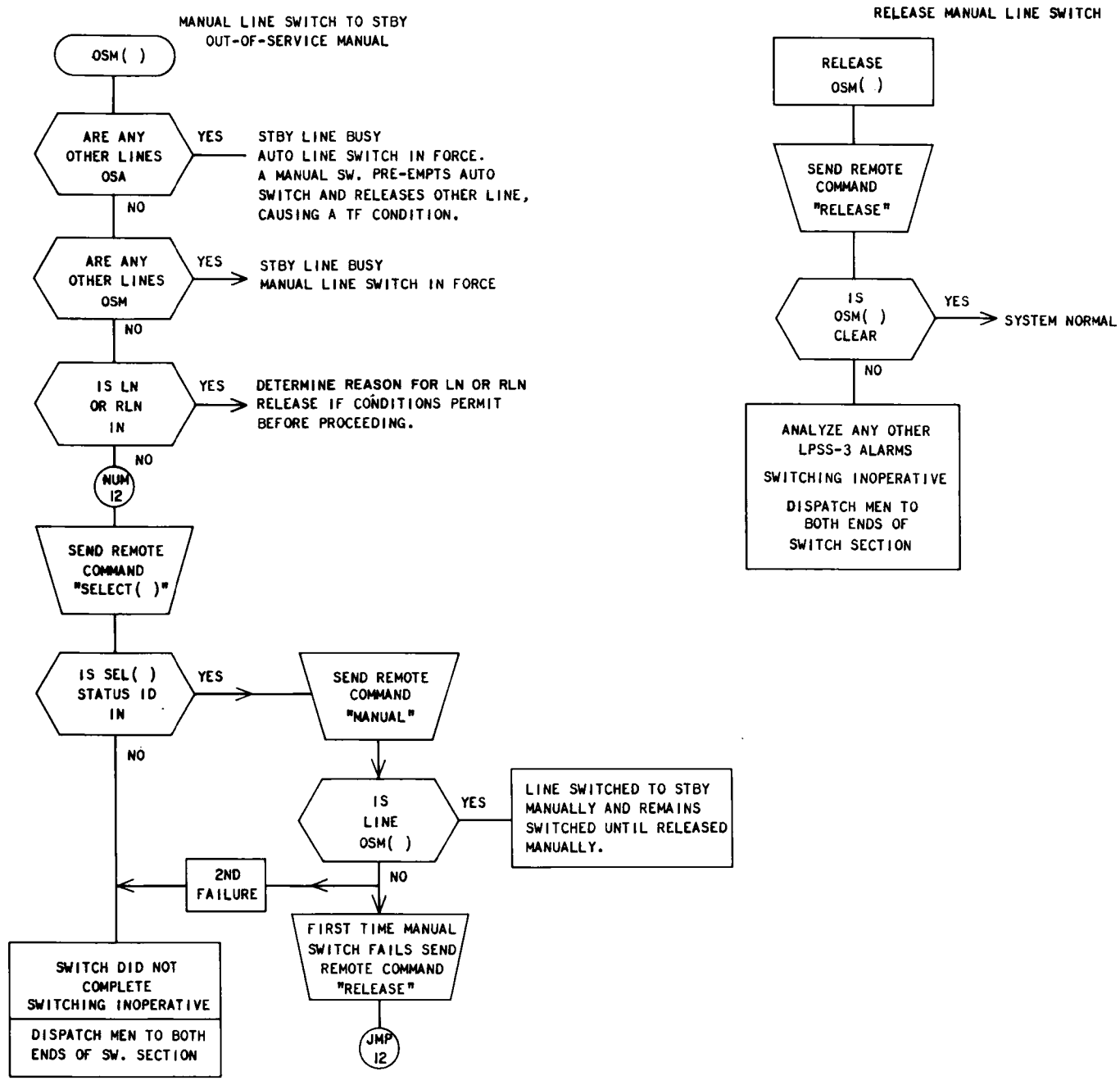


Fig. 11—Line Protection Switching System-3—Remote Commands to Operate and Release Manual Line Switch

DISPLAY 9A, 9B, 9C, 9D

JUMBOGROUP MULTIPLEX

TMJ POS 1 ID	TMN POS 1 ID	TMJ POS 2 ID	TMN POS 2 ID	TMJ POS 3 ID	TMN POS 3 ID	BAY ALARM COMMON MJ	
TL POS 1 ID	TL POS 1 ID	TA POS 2 ID	TL POS 2 ID	TA POS 3 ID	TL POS 3 ID	BAY ALARM COMMON MN	
TSWP POS 1 ID		TSWP POS 2 ID		TSWP POS 3 ID	FA TRANS MN		
RMJ POS 1 ID	RMN POS 1 ID	RMJ POS 2 ID	RMN POS 2 ID	RMJ POS 3 ID	RMN POS 3 ID	CONV COMMON ID	
RA POS 1 ID	RL POS 1 ID	RA POS 2 ID	RL POS 2 ID	RA POS 3 ID	RL POS 3 ID	SAC MN	
RSWP POS 1 ID		RSWP POS 2 ID		RSWP POS 3 ID	FA REC MN		

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
BAY ALARM COMMON MJ	Common Major Bay Alarm	A summary of transmit and receive major alarms.
BAY ALARM COMMON MN	Common Minor Bay Alarm	A summary of transmit and receive minor alarms.
SAC	Summary Alarm Circuit Power Alarm	A power failure of the summary alarm circuit. All other alarms and indications are disabled. The switching may work, but there is no positive indication of operations.
FA	Fuse Alarm	This is an indication of a fuse failure in the transmitting or receiving portion of the bay. The service should be protected by a transfer to standby circuits.
TMJ RMJ	Transmit Major Status Receive Major Status	This indication appears when there has been a 100-ms greater interruption to both the working and idle sides or when the switching fails to transfer service from the failed working side to the idle side. Since the status has memory, it is necessary to clear the indication by sending a reset command.

INDICATION SYMBOL	INDICATION NAME	INDICATION DEFINITION
TMN RMN	Transmit Minor Status Receive Minor Status	A 100-ms or greater interruption to the idle side. Since the status has memory, it is necessary to send a reset command to clear the indication
CONV COMMON	Common Converter Alarm	Failure of a converter common to both transmit and receive equipment. Service should be protected by transfer to spare equipment.
TA RA	Transmit Path A Receive Path A	A side is working and B side is idle.
TL RL	Transmit Lock Status Receive Lock Status	Service is locked to the working side and the switching is disabled.
TSWP TSWP	Transmit Switch Power Receive Switch Power	A loss of logic power to the transfer switches. The failure prevents transfers.

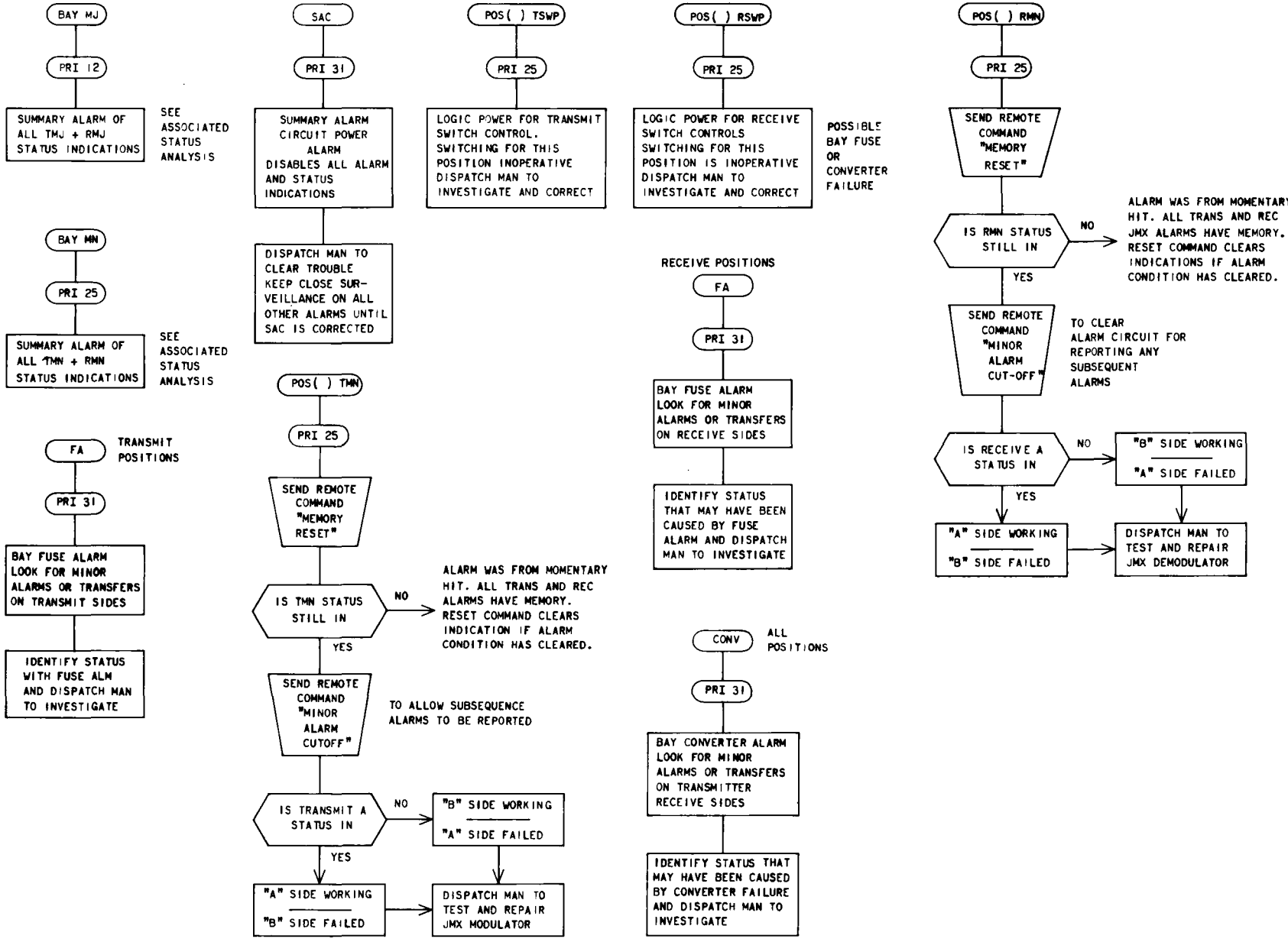


Fig. 12—Jumbogroup Multiplex (JMX)—Common and Minor Alarms

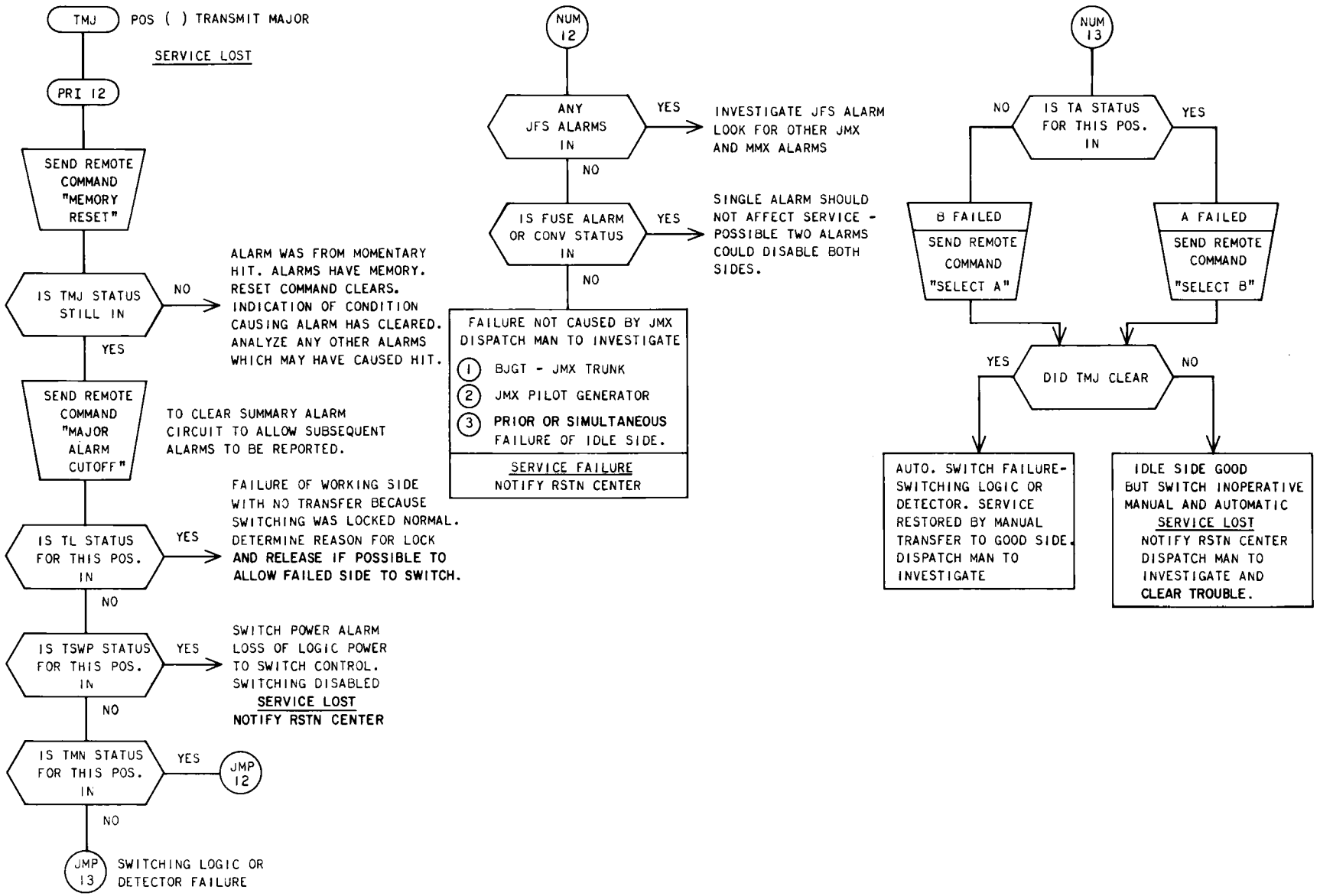


Fig. 13—Jumbogroup Multiplex (JMX)—Analysis and Corrective Action for Transmitting Major Alarms

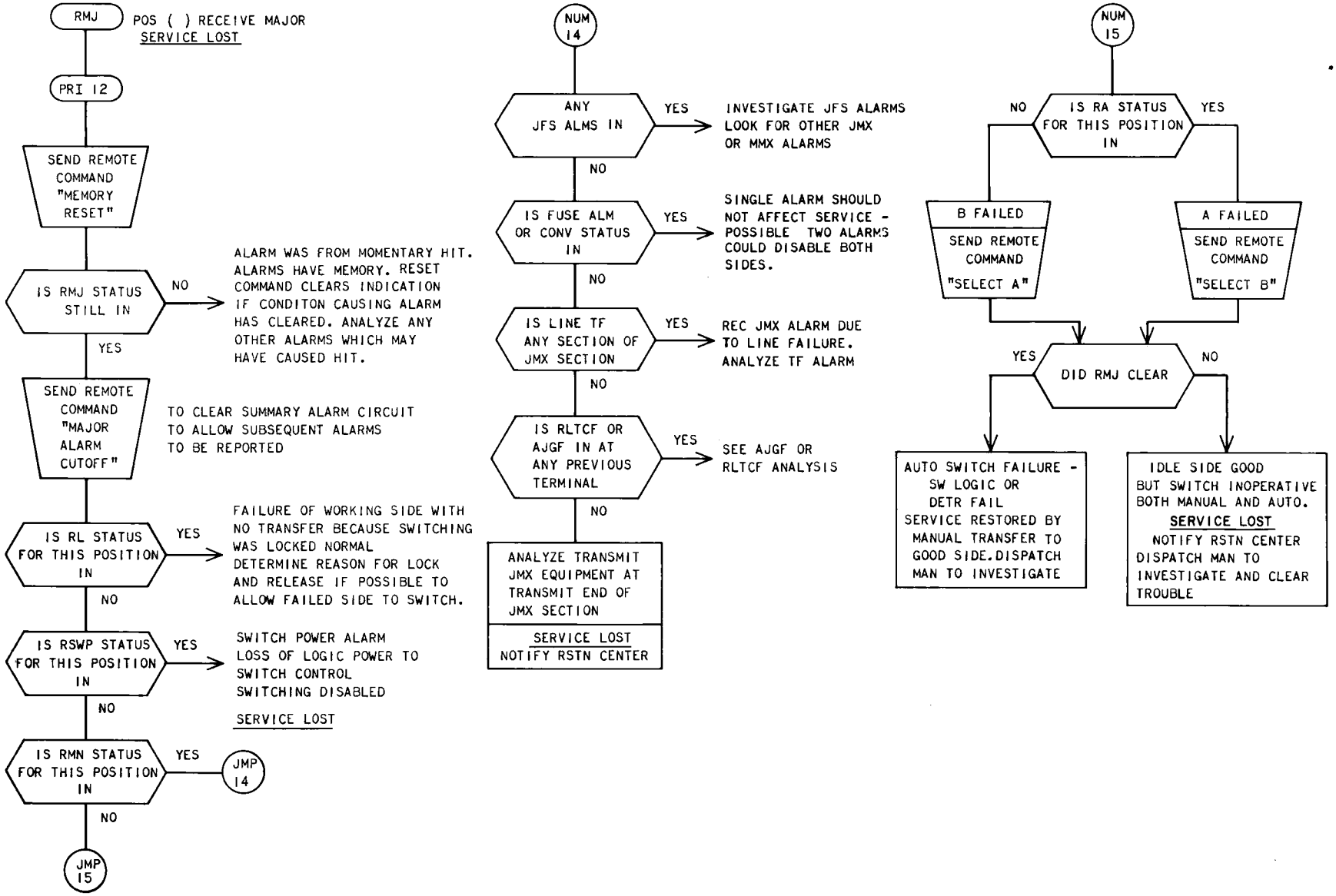


Fig. 14—Jumbogroup Multiplex (JMX)—Analysis and Corrective Action for Receiving Major Alarms

DISPLAY 10A, 10B, 10C, 10D

BASIC JUMBOGROUP TRUNK BAY

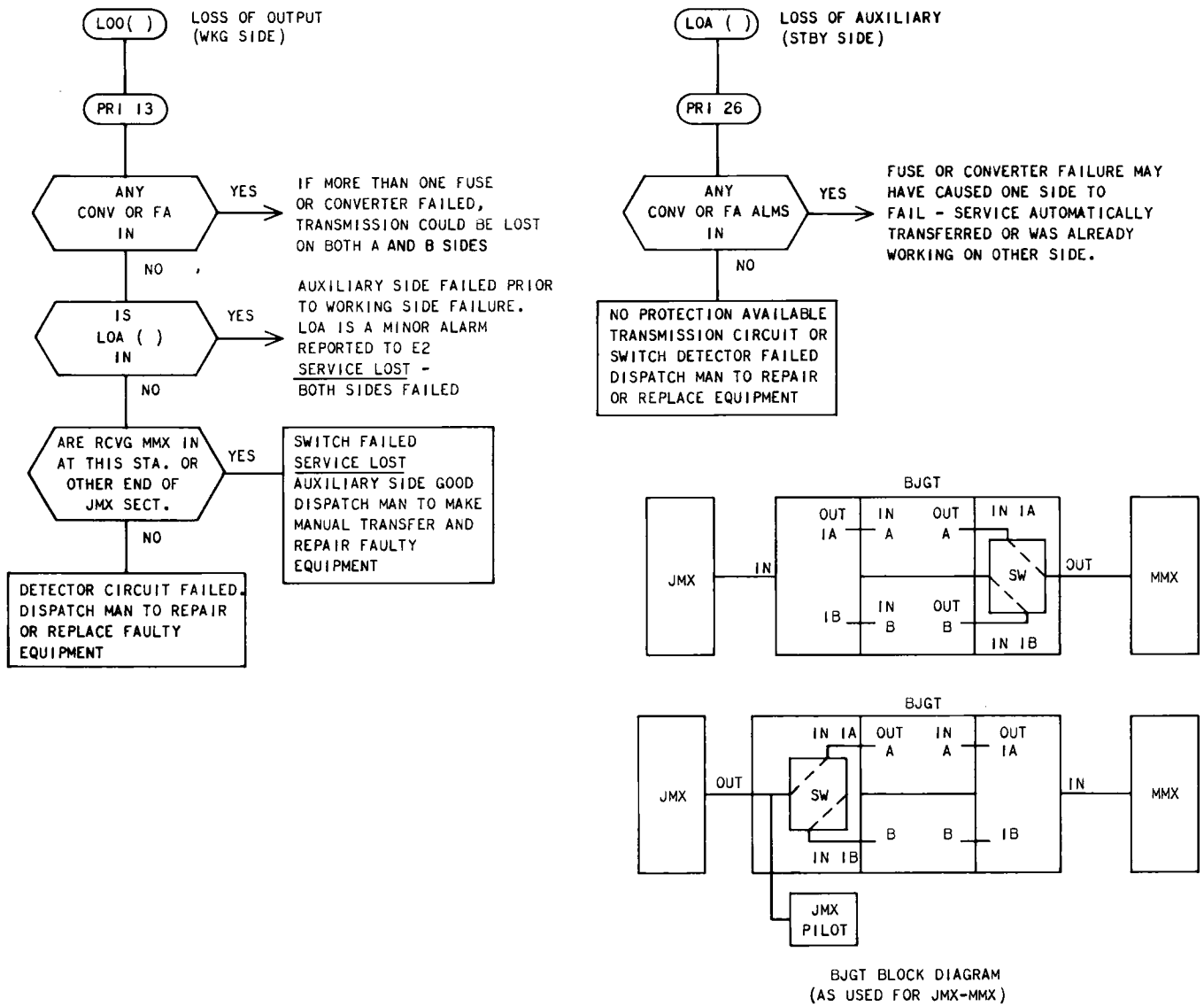
CONV MN 1	LOO MJ 1	LOO MJ 2	LOO MJ 3	LOO MJ 4	LOO MJ 5	LOO MJ 6	LOO MJ 7
CONV MN 2	LOA MN 1	LOA MN 2	LOA MN 3	LOA MN 4	LOA MN 5	LOA MN 6	LOA MN 7
CONV MN 3	LOP ID 1	LOP ID 2	LOP ID 3	LOP ID 4	LOP ID 5	LOP ID 6	LOP ID 7
CONV MN 4	FA MN						
CONV MN 5	LOO MJ 8	LOO MJ 9	LOO MJ 10	LOO MJ 11	LOO MJ 12	LOO MJ 13	LOO MJ 14
CONV MN 6	LOA MN 8	LOA MN 9	LOA MN 10	LOA MN 11	LOA MN 12	LOA MN 13	LOA MN 14
CONV MN 7	LOP ID 8	LOP ID 9	LOP ID 10	LOP ID 11	LOP ID 12	LOP ID 13	LOP ID 14
CONV MN 8							

ALARM SYMBOL	ALARM NAME	ALARM DEFINITION
CONV	Converter Alarm	This is a minor alarm since loss of one converter should not interrupt service. Each equipment panel has an A and a B side. If converter #1 feeds a certain combination of A & B panels, then converter #2 will feed the mating B & A panels. Switches in the equipment panels transfer the service to the good side when one converter fails.
LOO*	Loss of Output	This alarm warns of no output and a need to check for loss of service. The mastergroup pilot is missing on the output side due to simultaneous failure of regular and standby equipment or failure of the automatic transfer to operate.
LOA*	Loss of Auxiliary Side	Loss of the mastergroup pilot on the standby side. Both A and B sides can be conditioned to be either the working or standby side.
FA	Fuse Alarm	A bay fuse alarm.

INDICATION SYMBOL	INDICATION NAME	INDICATION DEFINITION
LOP*	Loss of Pilot	Loss of pilot is indicated when both the A&B sides simultaneously (within 50 ms) sense a loss of M.G. pilot. The pilot is probaby lost incoming to the BJGT Bay and may be due to power failure or trouble in the JMX, L4, MMX or WLEL circuitry.

* The LOO, LOA and LOP alarm and indication points have not been assigned a direction of transmission. Each of up to 14 panels may be assigned to transmit or receive to or from the JMX and the L4, MMX or WLEL equipment.

Note: An indication lock key is provided in the BJGT Bay to assist in locating intermittent hits. The key cannot be operated remotely, only manually at the station. When the key is in the normal position, all BJGT alarms automatically clear when the trouble clears.



BJGT BLOCK DIAGRAM
(AS USED FOR JMX-MMX)

Fig. 15—Basic Jumbogroup Trunk Bay (BJGT)—Loss of Output—Loss of Auxiliary Alarms

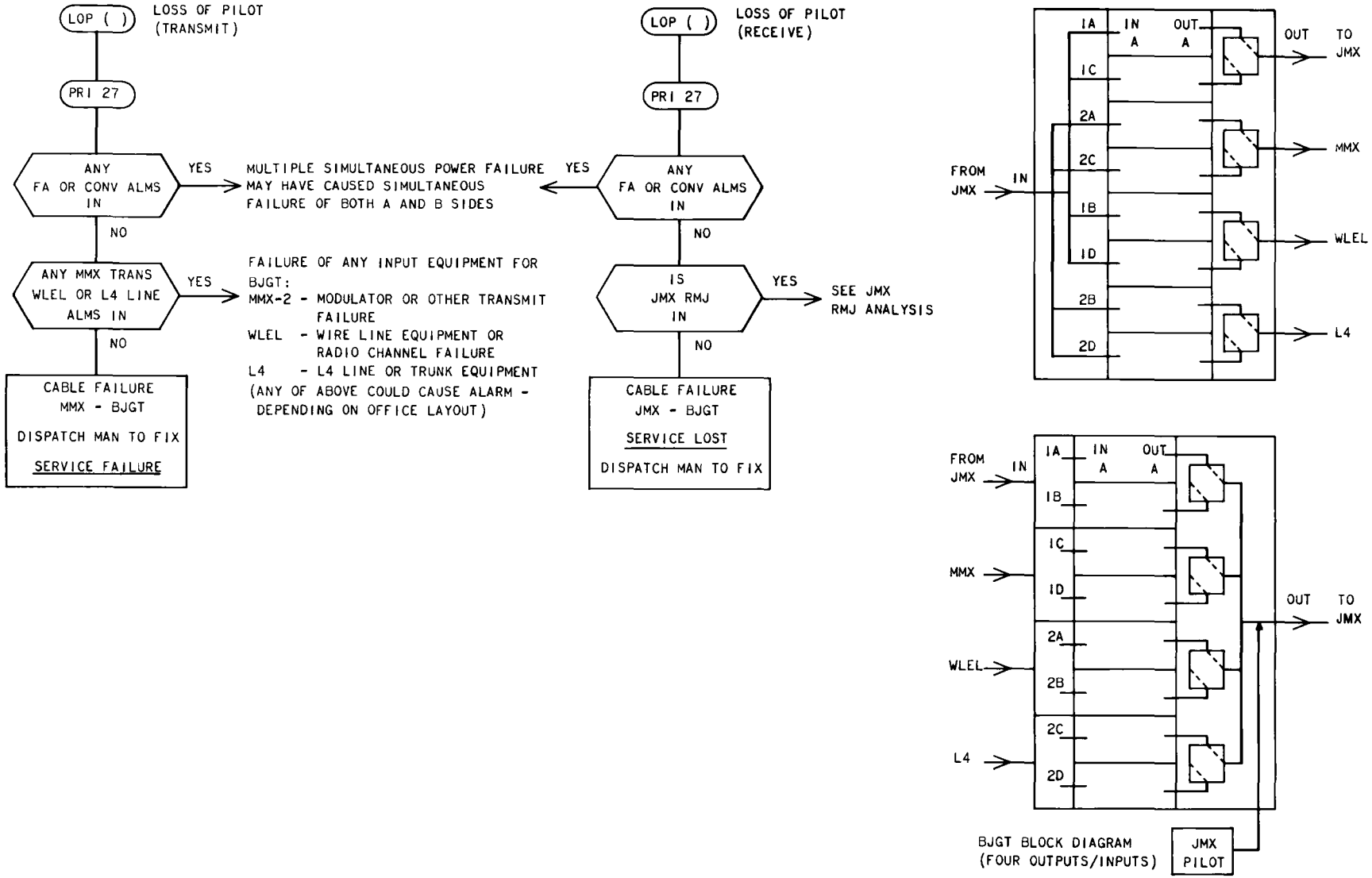


Fig. 16—Basic Jumbogroup Trunk Bay (BJGT)—Analyze Transmit and Receive Loss of Pilot Alarms

REMOTE SWITCHING

1.01 Appendix 3 provides remote switching commands and status display indications that may be expected as a result of the switching command.

REMOTE SWITCH COMMANDS

GROUP	SUBGROUP	EQUIPMENT
1	A & B	Emergency Power — Engines and Turbines
1	C & D	Line Feed Converters — S/W
1	E & F	Line Feed Converters — N/E
1	G & H	Line Feed Converters — Sidelegs
2	A — L	T/R Bays — S/W
3	A — L	T/R Bays — N/E
4	A — L	T/R Bays — Sidelegs
4	R	Line Access Bays
4	S	Order Wire Bays
5	A — L	LPSS-3 — S/W
6	A — L	LPSS-3 — N/E
7	A — L	LPSS-3 — Sidelegs
8	A — M	JMX Bays
9	A	BJGT Bays

The following commands have not as yet been used in the standard assignment arrangements:

GROUP	SUBGROUPS	GROUP	SUBGROUPS	GROUP	SUBGROUPS	GROUP	SUBGROUPS
1	J — S	5	M — S	8	N — S	14	A — L
2	M — S	6	M — S	9	C — S	15	A — S
3	M — S	7	M — S	13	A — S	16	A — S
4	M — P						

Group 9, Subgroup B has been reserved for LMX and Subgroups A — S of Groups 10, 11, and 12 for MMX. There has not been any attempt to make standard remote command assignments for LMX for MMX equipment.

REMOTE SWITCHING

SWITCH GROUP ____________________

GROUP NAME ____________________

NAME OF COMMAND	LINE	COMMAND			STATUS DISPLAY		BACKBONE										SIDELEGS					
		GROUP	SUBGROUP	BIT	DISPLAY	BIT																

REMOTE SWITCHING

SWITCH GROUP 1A & 1B

GROUP NAME Emergency Power

NAME OF COMMAND	LINE	COMMAND			STATUS DISPLAY		BACKBONE										SIDELEGS					
		GROUP	SUBGROUP	BIT	DISPLAY	BIT																
Power Restore		1	A	1																		
Engine #1 Start		1	A	2	2C	1																
Power Restore		1	A	3																		
Engine #2 Start		1	A	4	2C	3																
Power Restore		1	A	11																		
Turbine "A" Start		1	A	12	2C	17																
Power Restore		1	A	13																		
Turbine "B" Start		1	A	14	2C	19																
Power Restore		1	A	15																		
Turbine "C" Start		1	A	16	2C	21																
Power Restore		1	B	1																		
Turbine "D" Start		1	B	2	2C	23																
Power Restore		1	B	3																		
Turbine "E" Start		1	B	4	2C	25																

REMOTE SWITCHING

SWITCH GROUP 1C & 1D
GROUP NAME Line Feed Converters

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE										SIDELEGS					
Positive Converter Start S/W		1	C	1	3A	1																
Negative " " "		1	C	2	3A	2																
Positive " " "		1	C	3	3A	17																
Negative " " "		1	C	4	3A	18																
Positive " " "		1	C	5	3A	33																
Negative " " "		1	C	6	3A	34																
Positive " " "		1	C	7	3A	49																
Negative " " "		1	C	8	3A	50																
Positive " " "		1	C	9	3B	1																
Negative " " "		1	C	10	3B	2																
Positive " " "		1	C	11	3B	17																
Negative " " "		1	C	12	3B	18																
Positive " " "		1	C	13	3B	33																
Negative " " "		1	C	14	3B	34																
Positive " " "		1	C	15	3B	49																
Negative " " "		1	C	16	3B	50																
Positive " " "		1	D	1	3C	1																
Negative " " "		1	D	2	3C	2																
Positive " " "		1	D	3	3C	17																
Negative " " "		1	D	4	3C	18																
Positive " " "		1	D	5	3C	33																
Negative " " "		1	D	6	3C	34																

REMOTE SWITCHING

SWITCH GROUP 1E & 1F

GROUP NAME Line Feed Converters

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Positive Converter Start N/E		1	E	1	3A	9	
Negative " " "		1	E	2	3A	10	
Positive " " "		1	E	3	3A	25	
Negative " " "		1	E	4	3A	26	
Positive " " "		1	E	5	3A	41	
Negative " " "		1	E	6	3A	42	
Positive " " "		1	E	7	3A	57	
Negative " " "		1	E	8	3A	58	
Positive " " "		1	E	9	3B	9	
Negative " " "		1	E	10	3B	10	
Positive " " "		1	E	11	3B	25	
Negative " " "		1	E	12	3B	26	
Positive " " "		1	E	13	3B	41	
Negative " " "		1	E	14	3B	42	
Positive " " "		1	E	15	3B	57	
Negative " " "		1	E	16	3B	58	
Positive " " "		1	F	1	3C	9	
Negative " " "		1	F	2	3C	10	
Positive " " "		1	F	3	3C	25	
Negative " " "		1	F	4	3C	26	
Positive " " "		1	F	5	3C	41	
Negative " " "		1	F	6	3C	42	

REMOTE SWITCHING

SWITCH GROUP 1G & 1H
GROUP NAME Line Feed Converters

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE										SIDELEGS					
Positive Converter Start Sideleg		1	G	1																		
Negative " " "		1	G	2																		
Positive " " "		1	G	3																		
Negative " " "		1	G	4																		
Positive " " "		1	G	5																		
Negative " " "		1	G	6																		
Positive " " "		1	G	7																		
Negative " " "		1	G	8																		
Positive " " "		1	G	9																		
Negative " " "		1	G	10																		
Positive " " "		1	G	11																		
Negative " " "		1	G	12																		

REMOTE SWITCHING

SWITCH GROUP 2A & 2B
GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	S/W		2	A	1		
Remote Inhibit	"		2	A	2	3D	22
Remote Inhibit Release	"		2	A	3		
Remote Reset Optional Mem.	"		2	A	4	3D	24
Remote Alarm Cut-Off	"		2	A	5		
Remote Reset	S/W		2	B	1		
Remote Inhibit	"		2	B	2	4A	22
Remote Inhibit Release	"		2	B	3		
Remote Reset Optional Mem.	"		2	B	4	4A	24
Remote Alarm Cut-Off	"		2	B	5		
Sel. "A" Line Intcn. Mod.	"		2	B	6		
Sel. "B" Line Intcn. Mod.	"		2	B	7		
Remote SW Select "A" 1st	"		2	B	8		
Remote SW Select "B" 1st	"		2	B	9		
Remote SW Select "A" 2nd	"		2	B	10		
Remote SW Select "B" 2nd	"		2	B	11		

REMOTE SWITCHING

SWITCH GROUP 2C & 2D
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Remote Reset	S/W		2	C	1			
Remote Inhibit	"		2	C	2	4B	22	
Remote Inhibit Release	"		2	C	3			
Remote Reset Opt. Mem.	"		2	C	4	4B	24	
Remote Alarm Cut-Off	"		2	C	5			
Sel. "A" Line Intcn. Mod.	"		2	C	6			
Sel. "B" Line Intcn. Mod.	"		2	C	7			
Remote Sw Sel. "A" 1st.	"		2	C	8			
Remote Sw Sel. "B" 1st.	"		2	C	9			
Remote Sw Sel. "A" 2nd.	"		2	C	10			
Remote Sw Sel. "B" 2nd.	"		2	C	11			
Remote Reset	S/W		2	D	1			
Remote Inhibit	"		2	D	2	4C	22	
Remote Inhibit Release	"		2	D	3			
Remote Reset Opt. Mem.	"		2	D	4	4C	24	
Remote Alarm Cut-Off	"		2	D	5			
Sel. "A" Line Intcn. Mod.	"		2	D	6			
Sel. "B" Line Intcn. Mod.	"		2	D	7			
Remote Sw Sel. "A" 1st.	"		2	D	8			
Remote Sw Sel. "B" 1st.	"		2	D	9			
Remote Sw Sel. "A" 2nd.	"		2	D	10			
Remote Sw Sel. "B" 2nd.	"		2	D	11			

REMOTE SWITCHING

SWITCH GROUP 2E & 2F

GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Remote Reset	S/W		2	E	1			
Remote Inhibit	"		2	E	2	4D	22	
Remote Inhibit Release	"		2	E	3			
Remote Reset Opt. Mem.	"		2	E	4	4D	24	
Remote Alarm Cut-Off	"		2	E	5			
Sel. "A" Line Intcn. Mod.	"		2	E	6			
Sel. "B" Line Intcn. Mod.	"		2	E	7			
Remote Sw Sel. "A" 1st.	"		2	E	8			
Remote Sw Sel. "B" 1st.	"		2	E	9			
Remote Sw Sel. "A" 2nd	"		2	E	10			
Remote Sw Sel. "B" 2nd	"		2	E	11			
Remote Reset	S/W		2	F	1			
Remote Inhibit	"		2	F	2	5A	22	
Remote Inhibit Release	"		2	F	3			
Remote Reset Opt. Mem.	"		2	F	4	5A	24	
Remote Alarm Cut-off	"		2	F	5			
Sel. "A" Line Intcn. Mod.	"		2	F	6			
Sel. "B" Line Intcn. Mod.	"		2	F	7			
Remote Sw Sel. "A" 1st.	"		2	F	8			
Remote Sw Sel. "B" 1st.	"		2	F	9			
Remote Sw Sel. "A" 2nd.	"		2	F	10			
Remote Sw Sel. "B" 2nd.	"		2	F	11			

REMOTE SWITCHING

SWITCH GROUP 2G & 2H
GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	S/W		2	G	1		
Remote Inhibit	"		2	G	2	5B	22
Remote Inhibit Release	"		2	G	3		
Remote Reset Opt. Mem.	"		2	G	4	5B	24
Remote Alarm Cut-Off	"		2	G	5		
Sel. "A" Line Intcn.Mod.	"		2	G	6		
Sel. "B" Line Intcn.Mod.	"		2	G	7		
Remote Sw Sel. "A" 1st.	"		2	G	8		
Remote Sw Sel. "B" 1st.	"		2	G	9		
Remote Sw Sel. "A" 2nd.	"		2	G	10		
Remote Sw Sel. "B" 2nd.	"		2	G	11		
Remote Reset	S/W		2	H	1		
Remote Inhibit	"		2	H	2	5C	22
Remote Inhibit Release	"		2	H	3		
Remote Reset Opt. Mem.	"		2	H	4	5C	24
Remote Alarm Cut-Off	"		2	H	5		
Sel. "A" Line Intcn.Mod.	"		2	H	6		
Sel. "B" Line Intcn.Mod.	"		2	H	7		
Remote Sw Sel. "A" 1st.	"		2	H	8		
Remote Sw Sel. "B" 1st.	"		2	H	9		
Remote Sw Sel. "A" 2nd	"		2	H	10		
Remote Sw Sel. "B" 2nd.	"		2	H	11		

REMOTE SWITCHING

SWITCH GROUP 2J & 2K

GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	S/W		2	J	1		
Remote Inhibit	"		2	J	2	5D	22
Remote Inhibit Release	"		2	J	3		
Remote Reset Opt. Mem.	"		2	J	4	5D	24
Remote Alarm Cut-Off	"		2	J	5		
Sel. "A" Line Intcn.Mod.	"		2	J	6		
Sel. "B" Line Intcn.Mod.	"		2	J	7		
Remote Sw Sel. "A" 1st.	"		2	J	8		
Remote Sw Sel. "B" 1st.	"		2	J	9		
Remote Sw Sel. "A" 2nd	"		2	J	10		
Remote Sw Sel. "B" 2nd	"		2	J	11		
Remote Reset	S/W		2	K	1		
Remote Inhibit	"		2	K	2	6A	22
Remote Inhibit Release	"		2	K	3		
Remote Reset Opt. Mem.	"		2	K	4	6A	24
Remote Alarm Cut-Off	"		2	K	5		
Sel. "A" Line Intcn.Mod.	"		2	K	6		
Sel. "B" Line Intcn.Mod.	"		2	K	7		
Remote Sw Sel. "A" 1st.	"		2	K	8		
Remote Sw Sel. "B" 1st.	"		2	K	9		
Remote Sw Sel. "A" 2nd.	"		2	K	10		
Remote Sw Sel. "B" 2nd.	"		2	K	11		

REMOTE SWITCHING

SWITCH GROUP 2L
GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	S/W		2	L	1		
Remote Inhibit	"		2	L	2	6B	22
Remote Inhibit Release	"		2	L	3		
Remote Reset Opt. Mem.	"		2	L	4	6B	24
Remote Alarm Cut-Off	"		2	L	5		
Sel. "A" Line Intcn. Mod.	"		2	L	6		
Sel. "B" Line Intcn. Mod.	"		2	L	7		
Remote Sw Sel. "A" 1st.	"		2	L	8		
Remote Sw Sel. "B" 1st.	"		2	L	9		
Remote Sw Sel. "A" 2nd.	"		2	L	10		
Remote Sw Sel. "B" 2nd.	"		2	L	11		

SWITCH GROUP 3A & 3B
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Remote Reset	N/E		3	A	1			
Remote Inhibit	"		3	A	2	3D	30	
Remote Inhibit Release	"		3	A	3			
Remote Reset Opt. Mem.	"		3	A	4	3D	32	
Remote Alarm Cut-Off	"		3	A	5			
Remote Reset	N/E		3	B	1			
Remote Inhibit	"		3	B	2	4A	30	
Remote Inhibit Release	"		3	B	3			
Remote Reset Opt. Mem.	"		3	B	4	4A	32	
Remote Alarm Cut-Off.	"		3	B	5			
Sel. "A" Line Intcn. Mod.	"		3	B	6			
Sel. "B" Line Intcn.Mod.	"		3	B	7			
Remote Sw Sel. "A" 1st.	"		3	B	8			
Remote Sw Sel. "B" 1st.	"		3	B	9			
Remote Sw Sel. "A" 2nd.	"		3	B	10			
Remote Sw Sel. "B" 2nd.	"		3	B	11			

REMOTE SWITCHING

SWITCH GROUP 3C & 3D
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Remote Reset	N/E		3	C	1			
Remote Inhibit	"		3	C	2	4B	30	
Remote Inhibit Release	"		3	C	3			
Remote Reset Opt. Mem.	"		3	C	4	4B	32	
Remote Alarm Cut-Off	"		3	C	5			
Sel. "A" Line Intcn. Mod.	"		3	C	6			
Sel. "B" Line Intcn. Mod.	"		3	C	7			
Remote Sw Sel. "A" 1st.	"		3	C	8			
Remote Sw Sel. "B" 1st.	"		3	C	9			
Remote Sw Sel. "A" 2nd.	"		3	C	10			
Remote Sw Sel. "B" 2nd.	"		3	C	11			
Remote Reset	N/E		3	D	1			
Remote Inhibit	"		3	D	2	4C	30	
Remote Inhibit Release	"		3	D	3			
Remote Reset Opt. Mem.	"		3	D	4	4C	32	
Remote Alarm Cut-Off	"		3	D	5			
Sel. "A" Line Intcn. Mod.	"		3	D	6			
Sel. "B" Line Intcn. Mod.	"		3	D	7			
Remote Sw Sel. "A" 1st.	"		3	D	8			
Remote Sw Sel. "B" 1st.	"		3	D	9			
Remote Sw Sel. "A" 2nd.	"		3	D	10			
Remote Sw Sel. "B" 2nd.	"		3	D	11			

SWITCH GROUP 3E & 3F
GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	N/E		3	E	1		
Remote Inhibit	"		3	E	2	4D	30
Remote Inhibit Release	"		3	E	3		
Remote Reset Opt. Mem.	"		3	E	4	4D	32
Remote Alarm Cut-Off	"		3	E	5		
Sel. "A" Line Intcn. Mod.	"		3	E	6		
Sel. "B" Line Intcn. Mod.	"		3	E	7		
Remote Sw Sel. "A" 1st.	"		3	E	8		
Remote Sw Sel. "B" 1st.	"		3	E	9		
Remote Sw Sel. "A" 2nd.	"		3	E	10		
Remote Sw Sel. "B" 2nd.	"		3	E	11		
Remote Reset	N/E		3	F	1		
Remote Inhibit	"		3	F	2	5A	30
Remote Inhibit Release	"		3	F	3		
Remote Reset Opt. Mem.	"		3	F	4	5A	32
Remote Alarm Cut-Off	"		3	F	5		
Sel. "A" Line Intcn. Mod.	"		3	F	6		
Sel. "B" Line Intcn. Mod.	"		3	F	7		
Remote Sw Sel. "A" 1st.	"		3	F	8		
Remote Sw Sel. "B" 1st.	"		3	F	9		
Remote Sw Sel. "A" 2nd.	"		3	F	10		
Remote Sw Sel. "B" 2nd.	"		3	F	11		

REMOTE SWITCHING

SWITCH GROUP 3G & 3H
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY	STATUS BIT	BACKBONE										SIDELEGS					
Remote Reset	N/E		3	G	1																		
Remote Inhibit	"		3	G	2	5B	30																
Remote Inhibit Release	"		3	G	3																		
Remote Reset Opt. Mem.	"		3	G	4	5B	32																
Remote Alarm Cut-Off	"		3	G	5																		
Sel. "A" Line Intcn.Mod.	"		3	G	6																		
Sel. "B" Line Intcn.Mod.	"		3	G	7																		
Remote Sw Sel. "A" 1st.	"		3	G	8																		
Remote Sw Sel. "B" 1st.	"		3	G	9																		
Remote Sw Sel. "A" 2nd.	"		3	G	10																		
Remote Sw Sel. "B" 2nd.	"		3	G	11																		
Remote Reset	N/E		3	H	1																		
Remote Inhibit	"		3	H	2	5C	30																
Remote Inhibit Release	"		3	H	3																		
Remote Reset Opt. Mem.	"		3	H	4	5C	32																
Remote Alarm Cut-Off	"		3	H	5																		
Sel. "A" Line Intcn.Mod.	"		3	H	6																		
Sel. "B" Line Intcn. Mod.	"		3	H	7																		
Remote Sw Sel. "A" 1st.	"		3	H	8																		
Remote Sw Sel. "B" 1st.	"		3	H	9																		
Remote Sw Sel. "A" 2nd.	"		3	H	10																		
Remote Sw Sel. "B" 2nd.	"		3	H	11																		

REMOTE SWITCHING

SWITCH GROUP 3J & 3K
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Remote Reset	N/E		3	J	1			
Remote Inhibit	"		3	J	2	5D	30	
Remote Inhibit Release	"		3	J	3			
Remote Reset Opt. Mem.	"		3	J	4	5D	32	
Remote Alarm Cut-Off	"		3	J	5			
Sel. "A" Line Intcn Mod.	"		3	J	6			
Sel. "B" Line Intcn Mod.	"		3	J	7			
Remote Sw Sel. "A" 1st.	"		3	J	8			
Remote Sw Sel. "B" 1st.	"		3	J	9			
Remote Sw Sel. "A" 2nd.	"		3	J	10			
Remote Sw Sel. "B" 2nd.	"		3	J	11			
Remote Reset	N/E		3	K	1			
Remote Inhibit	"		3	K	2	6A	30	
Remote Inhibit Release	"		3	K	3			
Remote Reset Opt. Mem.	"		3	K	4	6A	32	
Remote Alarm Cut-Off	"		3	K	5			
Sel. "A" Line Intcn Mod.	"		3	K	6			
Sel. "B" Line Intcn Mod.	"		3	K	7			
Remote Sw Sel. "A" 1st.	"		3	K	8			
Remote Sw Sel. "B" 1st.	"		3	K	9			
Remote Sw Sel. "A" 2nd.	"		3	K	10			
Remote Sw Sel. "B" 2nd.	"		3	K	11			

REMOTE SWITCHING

SWITCH GROUP 3L
GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	N/E		3	L	1		
Remote Inhibit	"		3	L	2	6B	30
Remote Inhibit Release	"		3	L	3		
Remote Reset Opt. Mem.	"		3	L	4	6B	32
Remote Alarm Cut-Off	"		3	L	5		
Sel. "A" Line Intcn.Mod.	"		3	L	6		
Sel. "B" Line Intcn.Mod.	"		3	L	7		
Remote Sw Sel. "A" 1st.	"		3	L	8		
Remote Sw Sel. "B" 1st.	"		3	L	9		
Remote Sw Sel. "A" 2nd.	"		3	L	10		
Remote Sw Sel. "B" 2nd.	"		3	L	11		

REMOTE SWITCHING

SWITCH GROUP 4A & 4B
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY	STATUS BIT	BACKBONE										SIDELEGS					
Remote Reset	Sideleg		4	A	1																		
Remote Inhibit	"		4	A	2																		
Remote Inhibit Release	"		4	A	3																		
Remote Reset Opt. Mem.	"		4	A	4																		
Remote Alarm Cut-Off	"		4	A	5																		
Remote Reset	Sideleg		4	B	1																		
Remote Inhibit	"		4	B	2																		
Remote Inhibit Release	"		4	B	3																		
Remote Reset Opt. Mem.	"		4	B	4																		
Remote Alarm Cut-Off	"		4	B	5																		
Sel. "A" Line Intcn. Mod.	"		4	B	6																		
Sel. "B" Line Intcn. Mod.	"		4	B	7																		
Remote Sw Sel. "A" 1st.	"		4	B	8																		
Remote Sw Sel. "B" 1st.	"		4	B	9																		
Remote Sw Sel. "A" 2nd.	"		4	B	10																		
Remote Sw Sel. "B" 2nd.	"		4	B	11																		

REMOTE SWITCHING

SWITCH GROUP 4C & 4D
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE										SIDELEGS					
Remote Reset	Sideleg		4	C	1																		
Remote Inhibit	"		4	C	2																		
Remote Inhibit Release	"		4	C	3																		
Remote Reset Opt. Mem.	"		4	C	4																		
Remote Alarm Cut-Off	"		4	C	5																		
Sel. "A" Line Intcn. Mod.	"		4	C	6																		
Sel. "B" Line Intcn. Mod.	"		4	C	7																		
Remote Sw Sel. "A" 1st.	"		4	C	8																		
Remote Sw Sel. "B" 1st.	"		4	C	9																		
Remote Sw Sel. "A" 2nd.	"		4	C	10																		
Remote Sw Sel. "B" 2nd.	"		4	C	11																		
Remote Reset	Sideleg		4	D	1																		
Remote Inhibit	"		4	D	2																		
Remote Inhibit Release	"		4	D	3																		
Remote Reset Opt. Mem.	"		4	D	4																		
Remote Alarm Cut-Off	"		4	D	5																		
Sel. "A" Line Intcn. Mod.	"		4	D	6																		
Sel. "B" Line Intcn. Mod.	"		4	D	7																		
Remote Sw Sel. "A" 1st.	"		4	D	8																		
Remote Sw Sel. "B" 1st.	"		4	D	9																		
Remote Sw Sel. "A" 2nd.	"		4	D	10																		
Remote Sw Sel. "B" 2nd.	"		4	D	11																		

REMOTE SWITCHING

SWITCH GROUP 4E & 4F
GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	Sideleg		4	E	1		
Remote Inhibit	"		4	E	2		
Remote Inhibit Release	"		4	E	3		
Remote Reset Opt. Mem.	"		4	E	4		
Remote Alarm Cut-Off.	"		4	E	5		
Sel. "A" Line Intcn Mod.	"		4	E	6		
Sel. "B" Line Intcn Mod.	"		4	E	7		
Remote Sw Sel. "A" 1st.	"		4	E	8		
Remote Sw Sel. "B" 1st.	"		4	E	9		
Remote Sw Sel. "A" 2nd.	"		4	E	10		
Remote Sw Sel. "B" 2nd.	"		4	E	11		
Remote Reset	Sideleg		4	F	1		
Remote Inhibit	"		4	F	2		
Remote Inhibit Release	"		4	F	3		
Remote Reset Opt. Mem.	"		4	F	4		
Remote Alarm Cut-Off.	"		4	F	5		
Sel. "A" Line Intcn Mod.	"		4	F	6		
Sel. "B" Line Intcn Mod.	"		4	F	7		
Remote Sw Sel. "A" 1st.	"		4	F	8		
Remote Sw Sel. "B" 1st.	"		4	F	9		
Remote Sw Sel. "A" 2nd.	"		4	F	10		
Remote Sw Sel. "B" 2nd.	"		4	F	11		

REMOTE SWITCHING

SWITCH GROUP 4G & 4H
GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Remote Reset	Sideleg		4	G	1			
Remote Inhibit	"		4	G	2			
Remote Inhibit Release	"		4	G	3			
Remote Reset Opt. Mem.	"		4	G	4			
Remote Alarm Cut-Off	"		4	G	5			
Sel. "A" Line Intcn. Mod.	"		4	G	6			
Sel. "B" Line Intcn. Mod.	"		4	G	7			
Remote Sw Sel. "A" 1st.	"		4	G	8			
Remote Sw Sel. "B" 1st.	"		4	G	9			
Remote Sw Sel. "A" 2nd.	"		4	G	10			
Remote Sw Sel. "B" 2nd.	"		4	G	11			
Remote Reset	Sideleg		4	H	1			
Remote Inhibit	"		4	H	2			
Remote Inhibit Release	"		4	H	3			
Remote Reset Opt. Mem.	"		4	H	4			
Remote Alarm Cut-Off	"		4	H	5			
Sel. "A" Line Intcn. Mod.	"		4	H	6			
Sel. "B" Line Intcn. Mod.	"		4	H	7			
Remote Sw Sel. "A" 1st.	"		4	H	8			
Remote Sw Sel. "B" 1st.	"		4	H	9			
Remote Sw Sel. "A" 2nd.	"		4	H	10			
Remote Sw Sel. "B" 2nd.	"		4	H	11			

REMOTE SWITCHING

SWITCH GROUP 4J & 4K

GROUP NAME T/R Bay

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE										SIDELEGS					
Remote Reset	Sideleg		4	J	1																		
Remote Inhibit	"		4	J	2																		
Remote Inhibit Release	"		4	J	3																		
Remote Reset Opt. Mem	"		4	J	4																		
Remote Alarm Cut-Off	"		4	J	5																		
Sel. "A" Line Intcn. Mod.	"		4	J	6																		
Sel. "B" Line Intcn. Mod.	"		4	J	7																		
Remote Sw Sel. "A" 1st.	"		4	J	8																		
Remote Sw Sel. "B" 1st.	"		4	J	9																		
Remote Sw Sel. "A" 2nd.	"		4	J	10																		
Remote Sw Sel. "B" 2nd.	"		4	J	11																		
Remote Reset	Sideleg		4	K	1																		
Remote Inhibit	"		4	K	2																		
Remote Inhibit Release	"		4	K	3																		
Remote Reset Opt. Mem.	"		4	K	4																		
Remote Alarm Cut-Off	"		4	K	5																		
Sel. "A" Line Intcn. Mod.	"		4	K	6																		
Sel. "B" Line Intcn. Mod.	"		4	K	7																		
Remote Sw Sel. "A" 1st.	"		4	K	8																		
Remote Sw Sel. "B" 1st.	"		4	K	9																		
Remote Sw Sel. "A" 2nd.	"		4	K	10																		
Remote Sw Sel. "B" 2nd.	"		4	K	11																		

REMOTE SWITCHING

SWITCH GROUP 4L

GROUP NAME T/R Bay

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Remote Reset	Sideleg		4	L	1		
Remote Inhibit	"		4	L	2		
Remote Inhibit Release	"		4	L	3		
Remote Reset Opt. Mem.	"		4	L	4		
Remote Alarm Cut-Off	"		4	L	5		
Sel. "A" Line Intcn. Mod.	"		4	L	6		
Sel. "B" Line Intcn. Mod.	"		4	L	7		
Remote Sw Sel. "A" 1st.	"		4	L	8		
Remote Sw Sel. "B" 1st.	"		4	L	9		
Remote Sw Sel. "A" 2nd.	"		4	L	10		
Remote Sw Sel. "B" 2nd.	"		4	L	11		

SWITCH GROUP 4R & 4S

GROUP NAME Line Access Bay & Order Wire Bay

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
TSA or TSC — LAB ACO #1 S/W		4	R	1		
" " " " " #3 "		4	R	2		
" " " " " #5 "		4	R	3		
" " " " " #7 "		4	R	4		
" " " " " #9 "		4	R	5		
" " " " " #2 N/E		4	R	6		
" " " " " #4 "		4	R	7		
" " " " " #6 "		4	R	8		
" " " " " #8 "		4	R	9		
" " " " " #10"		4	R	10		
Order Wire Cut Thru Bay 1 #1		4	S	1	6C/D	1
" " " " " 1 #2		4	S	2	6C/D	2
" " " " " 1 #3		4	S	3	6C/D	3
" " " " " 1 #4		4	S	4	6C/D	4
" " " " " 3 #1		4	S	5	6C/D	9
" " " " " 3 #2		4	S	6	6C/D	10
" " " " " 3 #3		4	S	7	6C/D	11
" " " " " 3 #4		4	S	8	6C/D	12
" " " " " 2 #1		4	S	9	6C/D	5
" " " " " 2 #2		4	S	10	6C/D	6
" " " " " 2 #3		4	S	11	6C/D	7
" " " " " 2 #4		4	S	12	6C/D	8
" " " " " 4 #1		4	S	13	6C/D	13
" " " " " 4 #2		4	S	14	6C/D	14
" " " " " 4 #3		4	S	15	6C/D	15
" " " " " 4 #4		4	S	16	6C/D	16

REMOTE SWITCHING

SWITCH GROUP 5A & 5B

GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Lock Normal	S/W		5	A	1	7C	22
Release	"		5	A	2		
Restoration Lock Normal	"		5	A	3	7C	23
Restoration Lock Norm. Rls.	"		5	A	4		
Manual			5	A	5		
Alarm Cut-Off	"		5	A	6		
Msg. Cut-Off Cont. Oper. #1	"		5	A	7	7C	28
" " " " 2	"		5	A	8	7C	29
" " " " 3	"		5	A	9	7C	30
" " " " 4	"		5	A	10	7C	31
" " " " 5	"		5	A	11	7C	32
" " " " 6	"		5	A	12	8A	28
" " " " 7	"		5	A	13	8A	29
" " " " 8	"		5	A	14	8A	30
" " " " 9	"		5	A	15	8A	31
" " " " 10	"		5	A	16	8A	32
Msg. Cut-Off Cont. Rls. #1	S/W		5	B	1		
" " " " 2	"		5	B	2		
" " " " 3	"		5	B	3		
" " " " 4	"		5	B	4		
" " " " 5	"		5	B	5		
" " " " 6	"		5	B	6		
" " " " 7	"		5	B	7		
" " " " 8	"		5	B	8		
" " " " 9	"		5	B	9		
" " " " 10	"		5	B	10		
Stdby Msg. Cut-Off Cont. Oper			5	B	11	7C	24
" " " " Rls.			5	B	12		
Signaling System Test			5	B	13		

REMOTE SWITCHING

SWITCH GROUP 5C & 5D
GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Trans. Sw Cont. Disable #1 S/W		5	C	1	7C	1
" " " " 2 "		5	C	2	7C	2
" " " " 3 "		5	C	3	7C	3
" " " " 4 "		5	C	4	7C	4
" " " " 5 "		5	C	5	7C	5
" " " " 6 "		5	C	6	8A	1
" " " " 7 "		5	C	7	8A	2
" " " " 8 "		5	C	8	8A	3
" " " " 9 "		5	C	9	8A	4
" " " " 10 "		5	C	10	8A	5
Standby Line Disable		5	C	11		
Priority Disable		5	C	12		
Trans. Sw Cont. Enable #1 S/W		5	D	1	7C	17
" " " " 2 "		5	D	2	7C	18
" " " " 3 "		5	D	3	7C	19
" " " " 4 "		5	D	4	7C	20
" " " " 5 "		5	D	5	7C	21
" " " " 6 "		5	D	6	8A	17
" " " " 7 "		5	D	7	8A	18
" " " " 8 "		5	D	8	8A	19
" " " " 9 "		5	D	9	8A	20
" " " " 10 "		5	D	10	8A	21
Standby Line Enable "		5	D	11		
Priority Enable "		5	D	12		

REMOTE SWITCHING

SWITCH GROUP 5E & 5F

GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND			STATUS DISPLAY		BACKBONE										SIDELEGS					
		GROUP	SUBGROUP	BIT	DISPLAY	BIT																
Recv. Sw Cont. Disable #1 S/W		5	E	1	7C	12																
" " " " 2 "		5	E	2	7C	13																
" " " " 3 "		5	E	3	7C	14																
" " " " 4 "		5	E	4	7C	15																
" " " " 5 "		5	E	5	7C	16																
" " " " 6 "		5	E	6	8A	12																
" " " " 7 "		5	E	7	8A	13																
" " " " 8 "		5	E	8	8A	14																
" " " " 9 "		5	E	9	8A	15																
" " " " 10 "		5	E	10	8A	16																
Recv. Sw Cont. Enable #1 S/W		5	F	1																		
" " " " 2 "		5	F	2																		
" " " " 3 "		5	F	3																		
" " " " 4 "		5	F	4																		
" " " " 5 "		5	F	5																		
" " " " 6 "		5	F	6																		
" " " " 7 "		5	F	7																		
" " " " 8 "		5	F	8																		
" " " " 9 "		5	F	9																		
" " " " 10 "		5	F	10																		

REMOTE SWITCHING

SWITCH GROUP 5G & 5H
GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Line Terminate Oper. #1 S/W		5	G	1	7C	33	
" " " 2 "		5	G	2	7C	34	
" " " 3 "		5	G	3	7C	35	
" " " 4 "		5	G	4	7C	36	
" " " 5 "		5	G	5	7C	37	
" " " 6 "		5	G	6	8A	33	
" " " 7 "		5	G	7	8A	34	
" " " 8 "		5	G	8	8A	35	
" " " 9 "		5	G	9	8A	36	
" " " 10 "		5	G	10	8A	37	
Stdby. Term. Oper. Manual "		5	G	11	7C	25	
Stdby. Term. Override Oper. "		5	G	12			
Line Terminate Rls. #1 S/W		5	H	1			
" " " 2 "		5	H	2			
" " " 3 "		5	H	3			
" " " 4 "		5	H	4			
" " " 5 "		5	H	5			
" " " 6 "		5	H	6			
" " " 7 "		5	H	7			
" " " 8 "		5	H	8			
" " " 9 "		5	H	9			
" " " 10 "		5	H	10			
Stdby. Term. Oper. Man. Rls. "		5	H	11			
Stdby. Term. Override Rls. "		5	H	12			

SWITCH GROUP 5J & 5K

GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Line Term. Mode Manual #1 S/W		5	J	1	7C	49
" " " " 2 "		5	J	2	7C	50
" " " " 3 "		5	J	3	7C	51
" " " " 4 "		5	J	4	7C	52
" " " " 5 "		5	J	5	7C	53
" " " " 6 "		5	J	6	8A	49
" " " " 7 "		5	J	7	8A	50
" " " " 8 "		5	J	8	8A	51
" " " " 9 "		5	J	9	8A	52
" " " " 10 "		5	J	10	8A	53
Line Term. Mode Rls. #1 S/W		5	K	1		
" " " " 2 "		5	K	2		
" " " " 3 "		5	K	3		
" " " " 4 "		5	K	4		
" " " " 5 "		5	K	5		
" " " " 6 "		5	K	6		
" " " " 7 "		5	K	7		
" " " " 8 "		5	K	8		
" " " " 9 "		5	K	9		
" " " " 10 "		5	K	10		

BACKBONE

SIDELEGS

REMOTE SWITCHING

SWITCH GROUP 5L
GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Select Line Manual #1 S/W		5	L	1	7C	44
" " " 2 "		5	L	2	7C	45
" " " 3 "		5	L	3	7C	46
" " " 4 "		5	L	4	7C	47
" " " 5 "		5	L	5	7C	48
" " " 6 "		5	L	6	8A	44
" " " 7 "		5	L	7	8A	45
" " " 8 "		5	L	8	8A	46
" " " 9 "		5	L	9	8A	47
" " " 10 "		5	L	10	8A	48

REMOTE SWITCHING

SWITCH GROUP 6A & 6B

GROUP NAME LPSS-3

BACKBONE

SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Lock Normal	N/E		6	A	1	7D	22
Release	"		6	A	2		
Restoration Lock Norm.	"		6	A	3	7D	23
Restoration Lock Norm. Rls.	"		6	A	4		
Manual	"		6	A	5		
Alarm Cut-Off	"		6	A	6		
Msg. Cut-Off Cont. Oper. #1	"		6	A	7	7D	28
" " " " 2	"		6	A	8	7D	29
" " " " 3	"		6	A	9	7D	30
" " " " 4	"		6	A	10	7D	31
" " " " 5	"		6	A	11	7D	32
" " " " 6	"		6	A	12	8B	28
" " " " 7	"		6	A	13	8B	29
" " " " 8	"		6	A	14	8B	30
" " " " 9	"		6	A	15	8B	31
" " " " 10	"		6	A	16	8B	32
Msg. Cut-Off Cont. Rls. #1	N/E		6	B	1		
" " " " 2	"		6	B	2		
" " " " 3	"		6	B	3		
" " " " 4	"		6	B	4		
" " " " 5	"		6	B	5		
" " " " 6	"		6	B	6		
" " " " 7	"		6	B	7		
" " " " 8	"		6	B	8		
" " " " 9	"		6	B	9		
" " " " 10	"		6	B	10		
Stdby. Msg. Cut-Off Cont. Oper.	"		6	B	11	7D	24
" " " " Rls.	"		6	B	12		
Signaling System Test	"		6	B	13		

REMOTE SWITCHING

SWITCH GROUP 6C & 6D
GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Trans. Sw Cont. Disable #1 N/E		6	C	1	7D	1
" " " " 2 "		6	C	2	7D	2
" " " " 3 "		6	C	3	7D	3
" " " " 4 "		6	C	4	7D	4
" " " " 5 "		6	C	5	7D	5
" " " " 6 "		6	C	6	8B	1
" " " " 7 "		6	C	7	8B	2
" " " " 8 "		6	C	8	8B	3
" " " " 9 "		6	C	9	8B	4
" " " " 10 "		6	C	10	8B	5
Stdby. Line Disable "		6	C	11		
Priority Disable "		6	C	12		
Trans. Sw Cont. Enable #1 N/E		6	D	1	7D	17
" " " " 2 "		6	D	2	7D	18
" " " " 3 "		6	D	3	7D	19
" " " " 4 "		6	D	4	7D	20
" " " " 5 "		6	D	5	7D	21
" " " " 6 "		6	D	6	8B	17
" " " " 7 "		6	D	7	8B	18
" " " " 8 "		6	D	8	8B	19
" " " " 9 "		6	D	9	8B	20
" " " " 10 "		6	D	10	8B	21
Standby Line Enable "		6	D	11		
Priority Enable "		6	D	12		

REMOTE SWITCHING

SWITCH GROUP 6E & 6F
GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Recv. Sw Cont. Disable #1 N/E		6	E	1	7D	12
" " " " 2 "		6	E	2	7D	13
" " " " 3 "		6	E	3	7D	14
" " " " 4 "		6	E	4	7D	15
" " " " 5 "		6	E	5	7D	16
" " " " 6 "		6	E	6	8B	12
" " " " 7 "		6	E	7	8B	13
" " " " 8 "		6	E	8	8B	14
" " " " 9 "		6	E	9	8B	15
" " " " 10 "		6	E	10	8B	16
Recv. Sw Cont. Enable #1 N/E		6	F	1		
" " " " 2 "		6	F	2		
" " " " 3 "		6	F	3		
" " " " 4 "		6	F	4		
" " " " 5 "		6	F	5		
" " " " 6 "		6	F	6		
" " " " 7 "		6	F	7		
" " " " 8 "		6	F	8		
" " " " 9 "		6	F	9		
" " " " 10 "		6	F	10		

REMOTE SWITCHING

SWITCH GROUP 6G & 6H
GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Line Terminate Oper. #1 N/E		6	G	1	7D	33	
" " " 2 "		6	G	2	7D	34	
" " " 3 "		6	G	3	7D	35	
" " " 4 "		6	G	4	7D	36	
" " " 5 "		6	G	5	7D	37	
" " " 6 "		6	G	6	8B	33	
" " " 7 "		6	G	7	8B	34	
" " " 8 "		6	G	8	8B	35	
" " " 9 "		6	G	9	8B	36	
" " " 10 "		6	G	10	8B	37	
Stdby. Term. Oper. Manual		6	G	11	7D	25	
Stdby. Term. Override Oper.		6	G	12			
Line Terminate Rls. #1 N/E		6	H	1			
" " " 2 "		6	H	2			
" " " 3 "		6	H	3			
" " " 4 "		6	H	4			
" " " 5 "		6	H	5			
" " " 6 "		6	H	6			
" " " 7 "		6	H	7			
" " " 8 "		6	H	8			
" " " 9 "		6	H	9			
" " " 10 "		6	H	10			
Stdby. Term. Oper. Man. Rls "		6	H	11			
Stdby. Term. Override Rls. "		6	H	12			

REMOTE SWITCHING

SWITCH GROUP 6J & 6K

GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Line Term. Mode Manual #1 N/E		6	J	1	7D	49
" " " " 2 "		6	J	2	7D	50
" " " " 3 "		6	J	3	7D	51
" " " " 4 "		6	J	4	7D	52
" " " " 5 "		6	J	5	7D	53
" " " " 6 "		6	J	6	8B	49
" " " " 7 "		6	J	7	8B	50
" " " " 8 "		6	J	8	8B	51
" " " " 9 "		6	J	9	8B	52
" " " " 10 "		6	J	10	8B	53
Line Term Mode Rls. #1 N/E		6	K	1		
" " " " 2 "		6	K	2		
" " " " 3 "		6	K	3		
" " " " 4 "		6	K	4		
" " " " 5 "		6	K	5		
" " " " 6 "		6	K	6		
" " " " 7 "		6	K	7		
" " " " 8 "		6	K	8		
" " " " 9 "		6	K	9		
" " " " 10 "		6	K	10		

SWITCH GROUP 6L

GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Select Line Manual #1 N/E		6	L	1	7D	44
" " " 2 "		6	L	2	7D	45
" " " 3 "		6	L	3	7D	46
" " " 4 "		6	L	4	7D	47
" " " 5 "		6	L	5	7D	48
" " " 6 "		6	L	6	8B	44
" " " 7 "		6	L	7	8B	45
" " " 8 "		6	L	8	8B	46
" " " 9 "		6	L	9	8B	47
" " " 10 "		6	L	10	8B	48

REMOTE SWITCHING

SWITCH GROUP 7A & B
GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Lock Normal Sideleg		7	A	1	7C/D	22
Release "		7	A	2		
Restoration Lock Normal "		7	A	3	7C/D	23
Rstn. Lock Norm. Rls. "		7	A	4		
Manual "		7	A	5		
Alarm Cut-Off "		7	A	6		
Msg. Cut-Off Cont. Oper. #1 "		7	A	7	7C/D	28
" " " " 2		7	A	8	7C/D	29
" " " " 3 "		7	A	9	7C/D	30
" " " " 4 "		7	A	10	7C/D	31
" " " " 5 "		7	A	11	7C/D	32
" " " " 6 "		7	A	12	8A/B	28
" " " " 7 "		7	A	13	8A/B	29
" " " " 8 "		7	A	14	8A/B	30
" " " " 9 "		7	A	15	8A/B	31
" " " " 10 "		7	A	16	8A/B	32
Msg. Cut-Off Cont. Rls. #1 "		7	B	1		
" " " " 2 "		7	B	2		
" " " " 3 "		7	B	3		
" " " " 4 "		7	B	4		
" " " " 5 "		7	B	5		
" " " " 6 "		7	B	6		
" " " " 7 "		7	B	7		
" " " " 8 "		7	B	8		
" " " " 9 "		7	B	9		
" " " " 10 "		7	B	10		
Stdby. Msg. Cont. CO Opr. "		7	B	11	7C/D	24
" " " " Rls. "		7	B	12		
Signaling System Test "		7	B	13		

REMOTE SWITCHING

SWITCH GROUP 7C & 7D
GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Trans. Sw Cont. Disable #1 Sideleg		7	C	1	7C/D	1	
" " " " 2 "		7	C	2	7C/D	2	
" " " " 3 "		7	C	3	7C/D	3	
" " " " 4 "		7	C	4	7C/D	4	
" " " " 5 "		7	C	5	7C/D	5	
" " " " 6 "		7	C	6	8A/B	1	
" " " " 7 "		7	C	7	8A/B	2	
" " " " 8 "		7	C	8	8A/B	3	
" " " " 9 "		7	C	9	8A/B	4	
" " " " 10 "		7	C	10	8A/B	5	
Standby Line Disable "		7	C	11			
Priority Disable "		7	C	12			
Trans. Sw. Cont. Enable #1 Sideleg		7	D	1	7C/D	17	
" " " " 2 "		7	D	2	7C/D	18	
" " " " 3 "		7	D	3	7C/D	19	
" " " " 4 "		7	D	4	7C/D	20	
" " " " 5 "		7	D	5	7C/D	21	
" " " " 6 "		7	D	6	8A/B	17	
" " " " 7 "		7	D	7	8A/B	18	
" " " " 8 "		7	D	8	8A/B	19	
" " " " 9 "		7	D	9	8A/B	20	
" " " " 10 "		7	D	10	8A/B	21	
Standby Line Enable "		7	D	11			
Priority Enable "		7	D	12			

REMOTE SWITCHING

SWITCH GROUP 7E & 7F

GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
Recv. Sw. Cont. Disable #1 Sideleg		7	E	1	7C/D	12	
" " " " 2 "		7	E	2	7C/D	13	
" " " " 3 "		7	E	3	7C/D	14	
" " " " 4 "		7	E	4	7C/D	15	
" " " " 5 "		7	E	5	7C/D	16	
" " " " 6 "		7	E	6	8A/B	12	
" " " " 7 "		7	E	7	8A/B	13	
" " " " 8 "		7	E	8	8A/B	14	
" " " " 9 "		7	E	9	8A/B	15	
" " " " 10 "		7	E	10	8A/B	16	
Recv. Sw. Cont. Enable #1 Sideleg		7	F	1			
" " " " 2 "		7	F	2			
" " " " 3 "		7	F	3			
" " " " 4 "		7	F	4			
" " " " 5 "		7	F	5			
" " " " 6 "		7	F	6			
" " " " 7 "		7	F	7			
" " " " 8 "		7	F	8			
" " " " 9 "		7	F	9			
" " " " 10 "		7	F	10			

REMOTE SWITCHING

SWITCH GROUP 7G & 7H
GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE	SIDELEGS
Line Term. Oper. #1 Sideleg		7	G	1	7C/D	33		
" " " 2 "		7	G	2	7C/D	34		
" " " 3 "		7	G	3	7C/D	35		
" " " 4 "		7	G	4	7C/D	36		
" " " 5 "		7	G	5	7C/D	37		
" " " 6 "		7	G	6	8A/B	33		
" " " 7 "		7	G	7	8A/B	34		
" " " 8 "		7	G	8	8A/B	35		
" " " 9 "		7	G	9	8A/B	36		
" " " 10 "		7	G	10	8A/B	37		
Stdby. Term. Oper. Manual "		7	G	11	7C/D	25		
Stdby. Term. Override Oper. "		7	G	12				
Line Term. Release #1 Sideleg		7	H	1				
" " " 2 "		7	H	2				
" " " 3 "		7	H	3				
" " " 4 "		7	H	4				
" " " 5 "		7	H	5				
" " " 6 "		7	H	6				
" " " 7 "		7	H	7				
" " " 8 "		7	H	8				
" " " 9 "		7	H	9				
" " " 10 "		7	H	10				
Stdby. Term. Oper. Man Rls. "		7	H	11				
Stdby. Term. Override Rls. "		7	H	12				

REMOTE SWITCHING

SWITCH GROUP 7J & 7K

GROUP NAME LPSS-3

BACKBONE SIDELEGS

NAME OF COMMAND	LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Line Term. Mode Man. #1 Sideleg		7	J	1	7C/D	49
" " " " 2 "		7	J	2	7C/D	50
" " " " 3 "		7	J	3	7C/D	51
" " " " 4 "		7	J	4	7C/D	52
" " " " 5 "		7	J	5	7C/D	53
" " " " 6 "		7	J	6	8A/B	49
" " " " 7 "		7	J	7	8A/B	50
" " " " 8 "		7	J	8	8A/B	51
" " " " 9 "		7	J	9	8A/B	52
" " " " 10 "		7	J	10	8A/B	53
Line Term. Mode Rls. #1 Sideleg		7	K	1		
" " " " 2 "		7	K	2		
" " " " 3 "		7	K	3		
" " " " 4 "		7	K	4		
" " " " 5 "		7	K	5		
" " " " 6 "		7	K	6		
" " " " 7 "		7	K	7		
" " " " 8 "		7	K	8		
" " " " 9 "		7	K	9		
" " " " 10 "		7	K	10		

REMOTE SWITCHING

SWITCH GROUP 7L
GROUP NAME LPSS-3

NAME OF COMMAND	LINE	COMMAND			STATUS DISPLAY		BACKBONE										SIDELEGS					
		GROUP	SUBGROUP	BIT	DISPLAY	BIT																
Select Line Manual #1 Sideleg		7	L	1	7C/D	44																
" " " 2 "		7	L	2	7C/D	45																
" " " 3 "		7	L	3	7C/D	46																
" " " 4 "		7	L	4	7C/D	47																
" " " 5 "		7	L	5	7C/D	48																
" " " 6 "		7	L	6	8A/B	44																
" " " 7 "		7	L	7	8A/B	45																
" " " 8 "		7	L	8	8A/B	46																
" " " 9 "		7	L	9	8A/B	47																
" " " 10 "		7	L	10	8A/B	48																

SWITCH GROUP 8A & 8B

GROUP NAME JMX

BACKBONE SIDELEGS

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT
Memory Reset	1st Bay		8	A	1		
Major Alarm Cut-Off	"		8	A	2		
Minor Alarm Cut-Off	"		8	A	3		
1st Trmtg. Lock	"		8	A	4	9A	18
1st Trmtg. Select A	"		8	A	5	9A	17
1st Trmtg. Select B	"		8	A	6		
1st Trmtg. Unlock	"		8	A	7		
2nd Trmtg. Lock	"		8	A	8	9A	20
2nd Trmtg. Select A	"		8	A	9	9A	19
2nd Trmtg. Select B	"		8	A	10		
2nd Trmtg. Unlock	"		8	A	11		
3rd Trmtg. Lock	"		8	A	12	9A	22
3rd Trmtg. Select A	"		8	A	13	9A	21
3rd Trmtg. Select B	"		8	A	14		
3rd Trmtg. Unlock	"		8	A	15		
1st Rcvg. Lock	1st Bay		8	B	1	9A	26
1st Rcvg. Select A	"		8	B	2	9A	25
1st Rcvg. Select B	"		8	B	3		
1st Rcvg. Unlock	"		8	B	4		
2nd Rcvg. Lock	"		8	B	5	9A	28
2nd Rcvg. Select A	"		8	B	6	9A	27
2nd Rcvg. Select B	"		8	B	7		
2nd Rcvg. Unlock	"		8	B	8		
3rd Rcvg. Lock	"		8	B	9	9A	30
3rd Rcvg. Select A	"		8	B	10	9A	29
3rd Rcvg. Select B	"		8	B	11		
3rd Rcvg. Unlock	"		8	B	12		

REMOTE SWITCHING

SWITCH GROUP 8C & 8D
GROUP NAME JMX

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
1st Trmtg. Rstn.	1st Bay		8	C	1			
2nd Trmtg. Rstn.	"		8	C	2			
3rd Trmtg. Rstn.	"		8	C	3			
1st Rcvg. Rstn.	"		8	C	4			
2nd Rcvg. Rstn.	"		8	C	5			
3rd Rcvg. Rstn.	"		8	C	6			
Memory Reset	2nd Bay		8	D	1			
Major Alarm Cut-Off	"		8	D	2			
Minor Alarm Cut-Off	"		8	D	3			
1st Trmtg. Lock	"		8	D	4	9B	18	
1st Trmtg. Select A	"		8	D	5	9B	17	
1st Trmtg. Select B	"		8	D	6			
1st Trmtg. Unlock	"		8	D	7			
2nd Trmtg. Lock	"		8	D	8	9B	20	
2nd Trmtg. Select A	"		8	D	9	9B	19	
2nd Trmtg. Select B	"		8	D	10			
2nd Trmtg. Unlock	"		8	D	11			
3rd Trmtg. Lock	"		8	D	12	9B	22	
3rd Trmtg. Select A	"		8	D	13	9B	21	
3rd Trmtg. Select B	"		8	D	14			
3rd Trmtg. Unlock	"		8	D	15			

REMOTE SWITCHING

SWITCH GROUP 8E & 8F
GROUP NAME JMX

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
1st Rcvg. Lock	2nd Bay		8	E	1	9B	26	
1st Rcvg. Select A	"		8	E	2	9B	25	
1st Rcvg. Select B	"		8	E	3			
1st Rcvg. Unlock	"		8	E	4			
2nd Rcvg. Lock	"		8	E	5	9B	28	
2nd Rcvg. Select A	"		8	E	6	9B	27	
2nd Rcvg. Select B	"		8	E	7			
2nd Rcvg. Unlock	"		8	E	8			
3rd Rcvg. Lock	"		8	E	9	9B	30	
3rd Rcvg. Select A	"		8	E	10	9B	29	
3rd Rcvg. Select B	"		8	E	11			
3rd Rcvg. Unlock	"		8	E	12			
1st Trmtg. Rstn.	2nd Bay		8	F	1			
2nd Trmtg. Rstn.	"		8	F	2			
3rd Trmtg. Rstn.	"		8	F	3			
1st Rcvg. Rstn.	"		8	F	4			
2nd Rcvg. Rstn.	"		8	F	5			
3rd Rcvg. Rstn.	"		8	F	6			

REMOTE SWITCHING

SWITCH GROUP 8G & 8H
GROUP NAME JMX

NAME OF COMMAND		LINE	COMMAND			STATUS DISPLAY		BACKBONE										SIDELEGS					
			GROUP	SUBGROUP	BIT	DISPLAY	BIT																
Memory Reset	3rd Bay		8	G	1																		
Major Alarm Cut-Off	"		8	G	2																		
Minor Alarm Cut-Off	"		8	G	3																		
1st Trmtg.-Lock	"		8	G	4	9C	18																
1st Trmtg.-Select A	"		8	G	5	9C	17																
1st Trmtg.-Select B	"		8	G	6																		
1st Trmtg.-Unlock	"		8	G	7																		
2nd Trmtg.-Lock	"		8	G	8	9C	20																
2nd Trmtg.-Select A	"		8	G	9	9C	19																
2nd Trmtg.-Select B	"		8	G	10																		
2nd Trmtg.-Unlock	"		8	G	11																		
3rd Trmtg.-Lock	"		8	G	12	9C	22																
3rd Trmtg.-Select A	"		8	G	13	9C	21																
3rd Trmtg.-Select B	"		8	G	14																		
3rd Trmtg.-Unlock	"		8	G	15																		
1st Rcvg.-Lock	3rd Bay		8	H	1	9C	26																
1st Rcvg.-Select A	"		8	H	2	9C	25																
1st Rcvg.-Select B	"		8	H	3																		
1st Rcvg.-Unlock	"		8	H	4																		
2nd Rcvg.-Lock	"		8	H	5	9C	28																
2nd Rcvg.-Select A	"		8	H	6	9C	27																
2nd Rcvg.-Select B	"		8	H	7																		
2nd Rcvg.-Unlock	"		8	H	8																		
3rd Rcvg.-Lock	"		8	H	9	9C	30																
3rd Rcvg.-Select A	"		8	H	10	9C	29																
3rd Rcvg.-Select B	"		8	H	11																		
3rd Rcvg.-Unlock	"		8	H	12																		

REMOTE SWITCHING

SWITCH GROUP 8J & 8K

GROUP NAME JMX

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE / SIDELEGS
1st Trmtg. Rstn.	3rd Bay		8	J	1			
2nd Trmtg. Rstn.	"		8	J	2			
3rd Trmtg. Rstn.	"		8	J	3			
1st Rcvg. Rstn.	"		8	J	4			
2nd Rcvg. Rstn.	"		8	J	5			
3rd Rcvg. Rstn.	"		8	J	6			
Memory Reset	4th Bay		8	K	1			
Major Alarm Cut-Off	"		8	K	2			
Minor Alarm Cut-Off	"		8	K	3			
1st Trmtg.-Lock	"		8	K	4	9D	18	
1st Trmtg.-Select A	"		8	K	5	9D	17	
1st Trmtg.-Select B	"		8	K	6			
1st Trmtg.-Unlock	"		8	K	7			
2nd Trmtg.-Lock	"		8	K	8	9D	20	
2nd Trmtg.-Select A	"		8	K	9	9D	19	
2nd Trmtg.-Select B	"		8	K	10			
2nd Trmtg.-Unlock	"		8	K	11			
3rd Trmtg.-Lock	"		8	K	12	9D	22	
3rd Trmtg.-Select A	"		8	K	13	9D	21	
3rd Trmtg.-Select B	"		8	K	14			
3rd Trmtg.-Unlock	"		8	K	15			

REMOTE SWITCHING

SWITCH GROUP 8L & 8M

GROUP NAME JMX

NAME OF COMMAND		LINE	COMMAND GROUP	COMMAND SUBGROUP	COMMAND BIT	STATUS DISPLAY DISPLAY	STATUS DISPLAY BIT	BACKBONE										SIDELEGS					
1st Rcvg.-Lock	4th Bay		8	L	1	9D	26																
1st Rcvg.-Select A	"		8	L	2	9D	25																
1st Rcvg.-Select B	"		8	L	3																		
1st Rcvg.-Unlock	"		8	L	4																		
2nd Rcvg.-Lock	"		8	L	5	9D	28																
2nd Rcvg.-Select A	"		8	L	6	9D	27																
2nd Rcvg.-Select B	"		8	L	7																		
2nd Rcvg.-Unlock	"		8	L	8																		
3rd Rcvg.-Lock	"		8	L	9	9D	30																
3rd Rcvg.-Select A	"		8	L	10	9D	29																
3rd Rcvg.-Select B	"		8	L	11																		
3rd Rcvg.-Unlock	"		8	L	12																		
1st Trmtg. Rstn.	4th Bay		8	M	1																		
2nd Trmtg. Rstn.	"		8	M	2																		
3rd Trmtg. Rstn.	"		8	M	3																		
1st Rcvg. Rstn.	"		8	M	4																		
2nd Rcvg. Rstn.	"		8	M	5																		
3rd Rcvg. Rstn.	"		8	M	6																		

REMOTE SWITCHING

SWITCH GROUP 9A
GROUP NAME BJGT

NAME OF COMMAND	LINE	COMMAND			STATUS DISPLAY		BACKBONE										SIDELEGS				
		GROUP	SUBGROUP	BIT	DISPLAY	BIT															
Alarm Cut-Off 1st Bay		9	A	1																	
" " 2nd Bay		9	A	2																	
" " 3rd Bay		9	A	3																	
" " 4th Bay		9	A	4																	