E2A TELEMETRY

NO. 4 ESS NETWORK MANAGEMENT CENTRAL AND REMOTE MAINTENANCE

CONTENTS PAGE

1. INTRODUCTION

1.01 This section provides the maintenance procedures for the E2A equipment used in the Number 4 Electronic Switching System-Network Management (No. 4 ESS-NM). The E2A equipment includes a J92621J central unit and a J92621H remote unit.

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

1.03 The maintenance procedures used in this section incorporate the use of the E-telemetry station test set. However, if a test set is not available for maintenance, Flowcharts 1 through 6 (FC-1—FC-6) provide a guide to troubleshooting the E2A equipment on a system basis.

2. E2A CENTRAL (J92621J) MAINTENANCE

2.01 Chart 1 provides, in step-procedure form, maintenance procedures for the E2A central unit. Maintenance is accomplished through the use of the E-telemetry station test set, the network management remote and distribution (NMR&D) unit, and the network management display (NMD) wall or console unit.

CHART 1

E2A No. 4 ESS-NM CENTRAL MAINTENANCE

APPARATUS:

E-Telemetry Station Test Set (KS-20937,L1)

General Purpose Plug-in (KS-20937,L4)

E2A Test Cable (KS-20937,L6)

Volt-Ohm-Milliammeter (KS-14510,L1)

Spare Circuit Packs

NOTICE
Not for use or disclosure outside the
Bell System except under written agreement

CHART 1 (Cont)

STEP	PROCEDURE

Caution: Remove power from bay before removing or replacing any circuit pack.

1 Ensure that the POWER ON switches are depressed on the NMR&D unit and that the -48V fuse (3A) is good and installed for the E2A control.

2 Measure the voltages on terminal strips TSC and TSD between the terminals indicated and ground (GND).

Requirement: The voltages shall be as indicated below:

TERMINAL STRIP	TERMINAL	VOLTAGE LEVEL
TSC	+5	+5 ±0.25 Vdc
TSC	+15	+15 ±1
TSC	−15	−15 ±1
TSD	+5	+5 ±0.25 Vdc

If the requirement is not met, replace CP 12 in power module 1 for voltages associated with terminal strip TSC, or CP 12 in power module 2 for the voltage associated with TSD.

3 On the 202T data set, depress and hold the LT (local test) key for approximately 15 seconds.

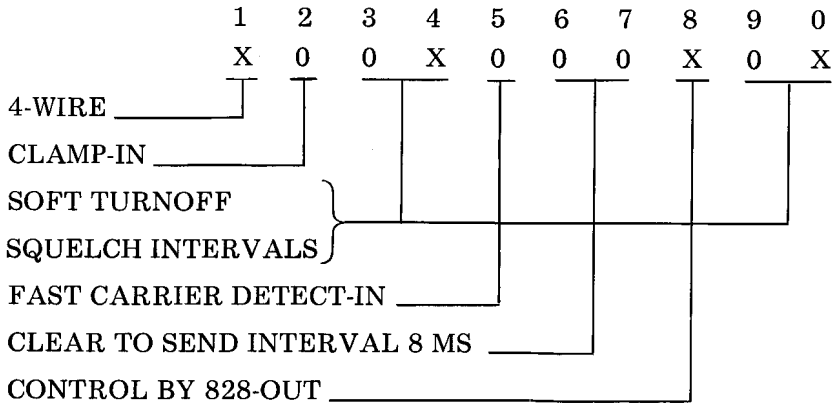
Requirements: The MR, RS, CS, CO, and TM lamps shall light and remain lighted for the duration of time that the LT key is depressed. If the TM lamp goes off during the 15-second period, repeat Step 3 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

4 Once the original data set or the new data set has met the requirements in Step 3, ensure that the following options in the data set are as indicated below:

- Set shorting plug E21 to E23 for CARRIER DETECT RESET-IN.
- Set shorting plug E25 to E26 for CONTINUOUS CARRIER-OUT.
- Set screw switch S1 (inside data set housing) to open for SIGNAL GROUND NOT CONNECTED TO FRAME GROUND.
- Set rocker switch S2 to the following positions (x = rocker down on number side):

CHART 1 (Cont)

STEP	PROCEDURE



5 Set rockers on switch S3 to the following positions for 4-wire operation (x = rocker down on number side):

1	2	3	4	5	6	7	8	9	0
0	0	x	x	0	0	0	x	x	x

6 Once the requirement in Step 3 is met and the proper options are set, there is reasonable assurance that the data set is in proper working condition. Additional problems are probably within the remote circuitry. Steps 6 through 17 isolate the central circuit problems with the data set disconnected.

7 Insert and connect the general pupose plug-in unit into the E-telemetry station test set.

8 Locate and remove plug P1 from the 202T data set.

9 Mate the female pin connector of the E2A test cable to the P1 plug removed from the data set in Step 8. Plug the other end of the E2A test cable into the J2 connector on the E-telemetry station test set.

10 Set the controls on the E-telemetry station test set as indicated below:

CHART 1 (Cont)

STEP	PROCEDURE

SWITCH	POSITION
SYSTEM	E2A
PARITY	B
BIT RATE	1200
MODE	ANSWER
ENABLE	NORMAL
DISPLAY ERROR WORD	OFF
DISPLAY WORD SELECT	1
POWER	OFF
RCU	OFF
MESSAGE LENGTH	16
WORD 1 through WORD 4	1000000000000000

11 Move the POWER switch on the E-telemetry station test set to the ON position.

12 Depress, in order, the MASTER CLEAR and START pushbuttons.

Requirement: The TMT, RCV, VALID WORD, and WORD 1 through WORD 4 lamps, on the E-telemetry station test set shall blink. If the requirement is not met, replace all of the following circuit packs at the E2A central:

CP 1	CP 14
CP 2	CP 15
CP 3	CP 16
	CP 36

Inspect CP8 for proper strapping connections per Note 104 of SD-1C545-01-D1. After all of the above CPs are replaced, determine the defective CP(s) by inserting the original CPs back in the unit one by one. Repeat Step 12 after each replacement until the unit malfunctions. The last originally installed CP is defective and shall be replaced with a spare. Continue with this procedure until all original CPs have been checked.

CHART 1 (Cont)

STEP	PROCEDURE
	Lamp Test
13	On the E-telemetry station test set, set switch 2 of WORD 2 to the 1 (up) position. ***Requirement:*** The NMD console or NMD wall unit lamps designated in Table A for WORD 2, switch 2, shall light. If the requirement is met, continue with Step 14. If the requirement is not met, perform the procedure in Flowcharts 7 through 9.
14	Return switch 2 of WORD 2 to the 0 (down) position. ***Requirement:*** The lamps associated with switch 2 of WORD 2 shall extinguish. If the requirement is not met, disconnect the plug on the E2A equipment (P1, P2, P3, P4) as indicated in Table A. If the lamp(s) then extinguishes, replace the CP 17 in the location specified by Table A and repeat Steps 13 and 14. If after removing the plug from the E2A equipment the lamp(s) remains lighted, replace the FB 586 CP(s) associated with the lamp(s). See Table A.
15	Repeat the procedure used in Steps 13 and 14 for each remaining switch in WORD 2 through WORD 4 per Table A.
16	Set WORD 1 switches 2, 3, 4, and 5 to each set of positions as shown in Table B. ***Requirement:*** After each setting, the numeric shall display the number opposite each set of positions as shown in Table B. If the requirement is met, continue with Step 17. If the requirement is not met, replace the E2A CP 17, and the NMR&D CPs FB 586 and FB 587 in the locations specified in Table C for the WORD/SWITCH settings.
17	Repeat Step 16 for each remaining set of WORD/SWITCH combinations as shown in Table C.

3. E2A REMOTE (J92621H) MAINTENANCE

3.01 Chart 2 provides the maintenance procedures for the No. 4 ESS-NM remote. The first five steps check the 202T data set for proper operation and to ensure that the proper options are set. The remainder of the steps check the E2A remote with the 202T data set disconnected.

TABLE A

NUMBER 4 ESS/NM CENTRAL

E – TELEMETRY STATION TEST SET		LIGHTED LAMP ON CONSOLE OR WALL		E2A CP 17 LOCATION	NMR&D FB 586 LOCATION (SEE FIG. 2)	ASSOCIATED	
WORD	SWITCH	SD REF.*___ FIG. 1 REF.				PLUG	PIN
2	2	TPIFR	7	BE	12-05	P2	1
		TGCCH5W	83	BF	12-11	P2	49
		MCCBG	105	BH	12-18	P3	33
		COFLCAM	141	BJ	12-29	P4	17
	3	TPIHR	9	BE	12-05	P2	2
		TGCCH5Y	84	BF	12-11	P2	50
		MCROCG	106	BH	12-18	P3	34
		COFLDCC	142	BJ	12-29	P4	18
	4	TPIS	11	BE	12-05	P2	3
		TGNSD1W	85	BF	12-11	P2	51
		MCRECR	107	BH	12-18	P3	35
		COFLDIS	143	BJ	12-29	P4	19
	5	TPIH	13	BE	12-05	P2	4
		TGNSD1Y	86	BF	12-11	P2	52
		MCRECG	108	BH	12-18	P3	36
		COFLCR	144	BJ	12-29	P4	20
	6	TPOFR	8	BE	12-05	P2	5
		TGNSD2W	87	BF	12-11	P2	53
		HTRTO	112	BH	12-18	P3	37
		TCSTMF	149	BJ	12-29	P4	21
	7	TPOHR	10	BE	12-05	P2	6
		TGNSD2Y	88	BF	12-11	P2	54
		HTRCO	117	BH	12-18	P3	38
		TCSTDP	150	BJ	12-29	P4	22
	8	TPOS	12	BE	12-05	P2	7
		TGNSD3W	89	BF	12-11	P2	55
		TGSTRO	123	BH	12-18	P3	39
		TCSTCC	151	BJ	12-29	P4	23
	9	TPOH	14	BE	12-05	P2	8
		TGNSD3Y	90	BF	12-11	P2	56
		TGOCRR	125	BH	12-18	P3	40
		TCADD	152	BJ	12-29	P4	24
	10	CDIMAW	15	BE	12-06	P2	9
		TGNSD4W	91	BF	12-12	P2	57
		TGOCRTS	126	BH	12-19	P3	41
		TCRESP	153	BJ	12-28	P4	25
	11	CDIMAY	16	BE	12-06	P2	10
		TGNSD4Y	92	BF	12-12	P2	58
		TGOCRTR	127	BH	12-19	P3	42
		TCINC	154	BJ	12-28	P4	26

* See network management remote and distribution circuit, SD-4A075-01, sheets D1 and D2.

TABLE A (Cont)

NUMBER 4 ESS/NM CENTRAL

E – TELEMETRY STATION TEST SET		LIGHTED LAMP ON CONSOLE OR WALL		E2A CP 17 LOCATION	NMR&D FB 586 LOCATION (SEE FIG. 2)	ASSOCIATED	
WORD	SWITCH	SD REF.*___ FIG. 1 REF.				PLUG	PIN
2	12	CDIMAR	17	BE	12-06	P2	11
		TGNSD5W	93	BF	12-12	P2	59
		TGOCRO	128	BH	12-19	P3	43
		OPPP2	157	BJ	12-28	P4	27
	13	CDNC	18	BE	12-06	P2	12
		TGNSD5Y	94	BF	12-12	P2	60
		TGDOCM3	129	BH	12-19	P3	44
		OPPP1	158	BJ	12-28	P4	28
	14	CDTO	19	BE	12-06	P2	13
		TGOOS1W	95	BF	12-12	P2	61
		TGDOCO	132	BH	12-19	P3	45
		OOVRT	159	BJ	12-28	P4	29
	15	CDIQ	20	BE	12-06	P2	14
		TGOOS1Y	96	BF	12-12	P2	62
		MCMC	109	BH	12-19	P3	46
		OOVMFI	160	BJ	12-28	P4	30
	16	CDCAMA	21	BE	12-06	P2	15
		TGOOS2W	97	BF	12-12	P2	63
		HTRTA	110	BH	12-19	P3	47
		OOVDPI	161	BJ	12-28	P4	31
	17	CDOF	22	BE	12-06	P2	16
		TGOOS2Y	98	BF	12-12	P2	64
		HTRTM	111	BH	12-19	P3	48
		OOVCCI	162	BJ	12-28	P4	32
3	2	CDIF	23	BE	12-07	P2	17
		TGOOS3W	99	BG	12-13	P3	1
		HTRCA	114	BH	12-20	P3	49
		OOVINT	163	BK	12-27	P4	33
	3	CDPSFS	24	BE	12-07	P2	18
		TGOOS3Y	100	BG	12-13	P3	2
		HTRCM	115	BH	12-20	P3	50
		ICDA	164	BK	12-27	P4	34
	4	CDVAIW	25	BE	12-07	P2	19
		TGOOS4W	101	BG	12-13	P3	3
		HTRCR	116	BH	12-20	P3	51
		ICLA	165	BK	12-27	P4	35
	5	CDC	26	BE	12-07	P2	20
		TGOOS4Y	102	BG	12-13	P3	4
		HTRCIA	118	BH	12-20	P3	52
		ICLT	166	BK	12-27	P4	36

* See network management remote and distribution circuit, SD-4A075-01, sheets D1 and D2.

TABLE A (Cont)

NUMBER 4 ESS/NM CENTRAL

E – TELEMETRY STATION TEST SET		LIGHTED LAMP ON CONSOLE OR WALL SD REF.* FIG. 1 REF.		E2A CP 17 LOCATION	NMR&D FB 586 LOCATION (SEE FIG. 2)	ASSOCIATED	
WORD	SWITCH					PLUG	PIN
3	6	TGOFL1W	55	BE	12-07	P2	21
		TGOOS5W	103	BG	12-13	P3	5
		HTRCID	119	BH	12-20	P3	53
		ICDM	167	BK	12-27	P4	37
	7	TGOFL1Y	56	BE	12-07	P2	22
		TGOOS5Y	104	BG	12-13	P3	6
		HTRCRA	120	BH	12-20	P3	54
		DSMC1MF	170	BK	12-27	P4	38
	8	TGOFL2W	57	BE	12-07	P2	23
		CDINMW	27	BG	12-13	P3	7
		HTRCRD	121	BH	12-20	P3	55
		DSMC1DP	171	BK	12-27	P4	39
	9	TGOFL2Y	58	BE	12-07	P2	24
		CDINMY	28	BG	12-13	P3	8
		HTRLO	113	BH	12-20	P3	56
		DSMC1CC	172	BK	12-27	P4	40
	10	TGOFL3W	59	BE	12-08	P2	25
		CDINMR	29	BG	12-14	P3	9
		TGSTRA	122	BH	12-21	P3	57
		DSMC2MF	175	BK	12-26	P4	41
	11	TGOFL3Y	60	BE	12-08	P2	26
		CDINNW	30	BG	12-14	P3	10
		TGOCRA	124	BH	12-21	P3	58
		DSMC2DP	176	BK	12-26	P4	42
	12	TGOFL4W	61	BE	12-08	P2	27
		CDINNY	31	BG	12-14	P3	11
		DSMC2CC	177	BK	12-26	P4	43
	13	TGOFL4Y	62	BE	12-08	P2	28
		CDINNR	32	BG	12-14	P3	12
		DSDOCA	178	BK	12-26	P4	44
	14	TGOFL5W	63	BE	12-08	P2	29
		CDIHMW	33	BG	12-14	P3	13
		COOSMFT	145	BK	12-26	P4	45
	15	TGOFL5Y	64	BE	12-08	P2	30
		CDIHMY	34	BG	12-14	P3	14
		COOSMFI	146	BK	12-26	P4	46

*See network management remote and distribution circuit, SD-4A075-01, sheets D1 and D2.

TABLE A (Cont)

NUMBER 4 ESS/NM CENTRAL

E – TELEMETRY STATION TEST SET		LIGHTED LAMP ON CONSOLE OR WALL		E2A CP 17 LOCATION	NMR&D FB 586 LOCATION (SEE FIG. 2)	ASSOCIATED	
WORD	SWITCH	SD REF.* FIG. 1 REF.				PLUG	PIN
3	16	TGACH1W	65	BE	12-08	P2	31
		CDIMHR	35	BG	12-14	P3	15
		COOSCAM	147	BK	12-26	P4	47
	17	TGACH1Y	66	BE	12-08	P2	32
		CDIHNW	36	BG	12-14	P3	16
		COOSDCC	148	BK	12-26	P4	48
4	2	TGACH2W	67	BF	12-09	P2	33
		CDIHNY	37	BG	12-16	P3	17
		EQCHR	136	BJ	12-32	P4	1
	3	TGACH2Y	68	BF	12-09	P2	34
		CDIHNR	38	BG	12-16	P3	18
		EQTEL	138	BJ	12-32	P4	2
	4	TGACH3W	69	BF	12-09	P2	35
		CDIFNW	39	BG	12-16	P3	19
		OPPP4	155	BJ	12-32	P4	3
	5	TGACH3Y	70	BF	12-09	P2	36
		CDIFNY	40	BG	12-16	P3	20
		OPPP3	156	BJ	12-32	P4	4
	6	TGACH4W	71	BF	12-09	P2	37
		CDIFNR	41	BG	12-16	P3	21
		DSMC3MF	179	BJ	12-32	P4	5
	7	TGACH4Y	72	BF	12-09	P2	38
		CDISPW	42	BG	12-16	P3	22
		DSMC3DP	180	BJ	12-32	P4	6
	8	TGACH5W	73	BF	12-09	P2	39
		CDISPY	43	BG	12-16	P3	23
		DSMC3CC	181	BJ	12-32	P4	7
	9	TGACH5Y	74	BF	12-09	P2	40
		CDISPR	44	BG	12-16	P3	24
		DSMAN	173	BJ	12-32	P4	8
	10	TGCCH1W	75	BF	12-10	P2	41
		DSOVR	174	BJ	12-31	P4	9
	11	TGCCH1Y	76	BF	12-10	P2	42
		ICALR	168	BJ	12-31	P4	10
	12	TGCCH2W	77	BF	12-10	P2	43
		EQCRIT	133	BJ	12-31	P4	11

* See network management remote and distribution circuit, SD-4A075-01, sheets D1 and D2.

TABLE A (Cont)

NUMBER 4 ESS/NM CENTRAL

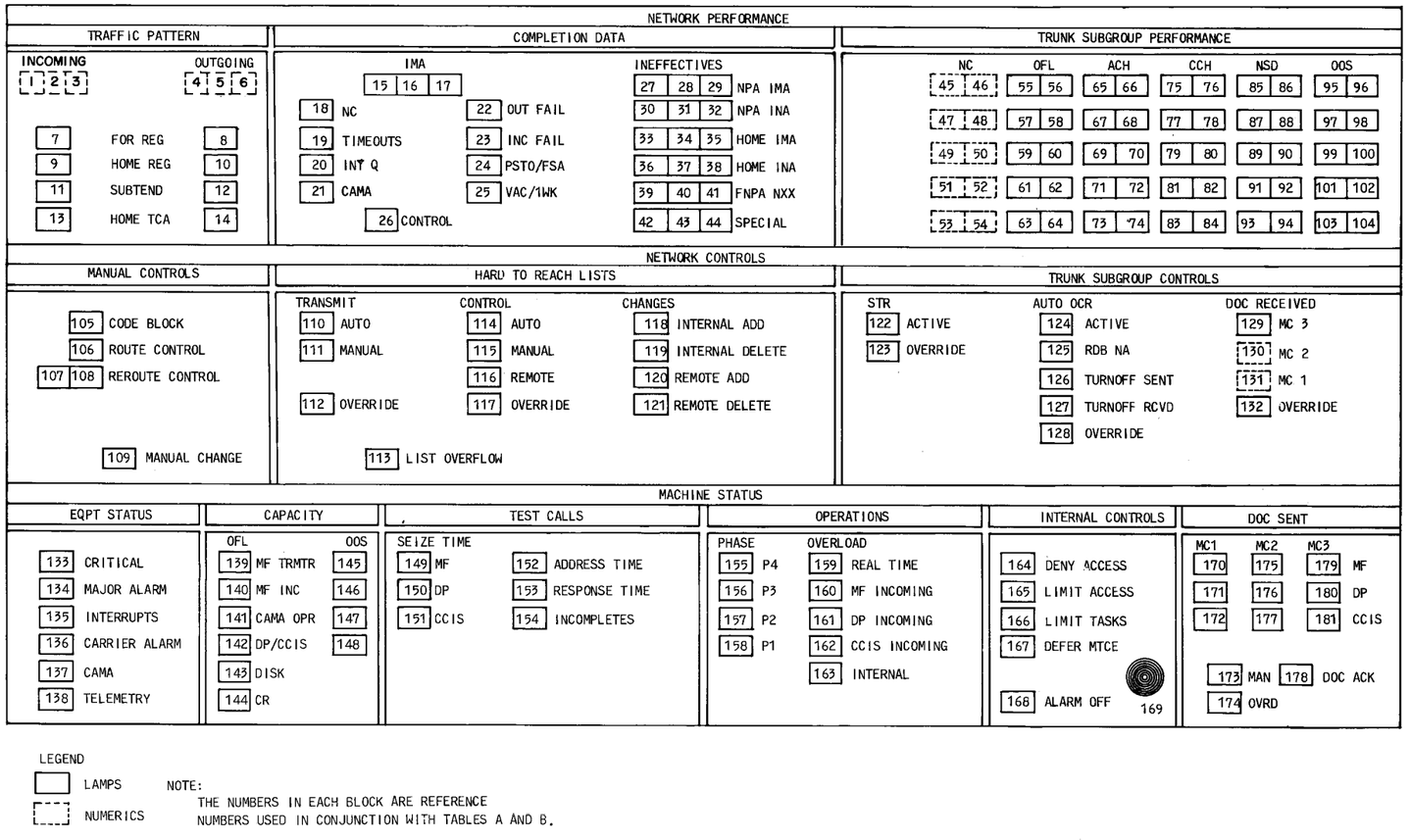
E – TELEMETRY STATION TEST SET		LIGHTED LAMP ON CONSOLE OR WALL SD REF.* FIG. 1 REF.		E2A CP 17 LOCATION	NMR&D FB 586 LOCATION (SEE FIG. 2)	ASSOCIATED	
WORD	SWITCH					PLUG	PIN
4	13	TGCCH2Y	78	BF	12-10	P2	44
		EQMAJ	134	BJ	12-31	P4	12
	14	TGCCH3W	79	BF	12-10	P2	45
		EQINT	135	BJ	12-31	P4	13
	15	TGCCH3Y	80	BF	12-10	P2	46
		EQCAMA	137	BJ	12-31	P4	14
	16	TGCCH4W	81	BF	12-10	P2	47
		COFLMFT	139	BJ	12-31	P4	15
	17	TGCCH4Y	82	BF	12-10	P2	48
		COFLMFI	140	BJ	12-31	P4	16

* See network management remote and distribution circuit, SD-4A075-01, sheets D1 and D2.

TABLE B

STATION TEST SET WORD 2 through WORD 4 SWITCH SETTINGS				NUMERIC DISPLAY
2 OR 6 OR 10 OR 14	3 7 11 15	4 8 12 16	5 9 13 17	
0	0	0	0	0
1	0	0	0	0
0	1	0	0	2
1	1	0	0	3
0	0	1	0	4
1	0	1	0	5
0	1	1	0	6
1	1	1	0	7
0	0	0	1	8
1	0	0	1	9

LEGEND:
1 — Up Position
0 — Down Position



LEGEND

LAMPS

NUMERICS

NOTE:
THE NUMBERS IN EACH BLOCK ARE REFERENCE NUMBERS USED IN CONJUNCTION WITH TABLES A AND B.

Fig. 1—NM Console or Wall Unit Display Panel

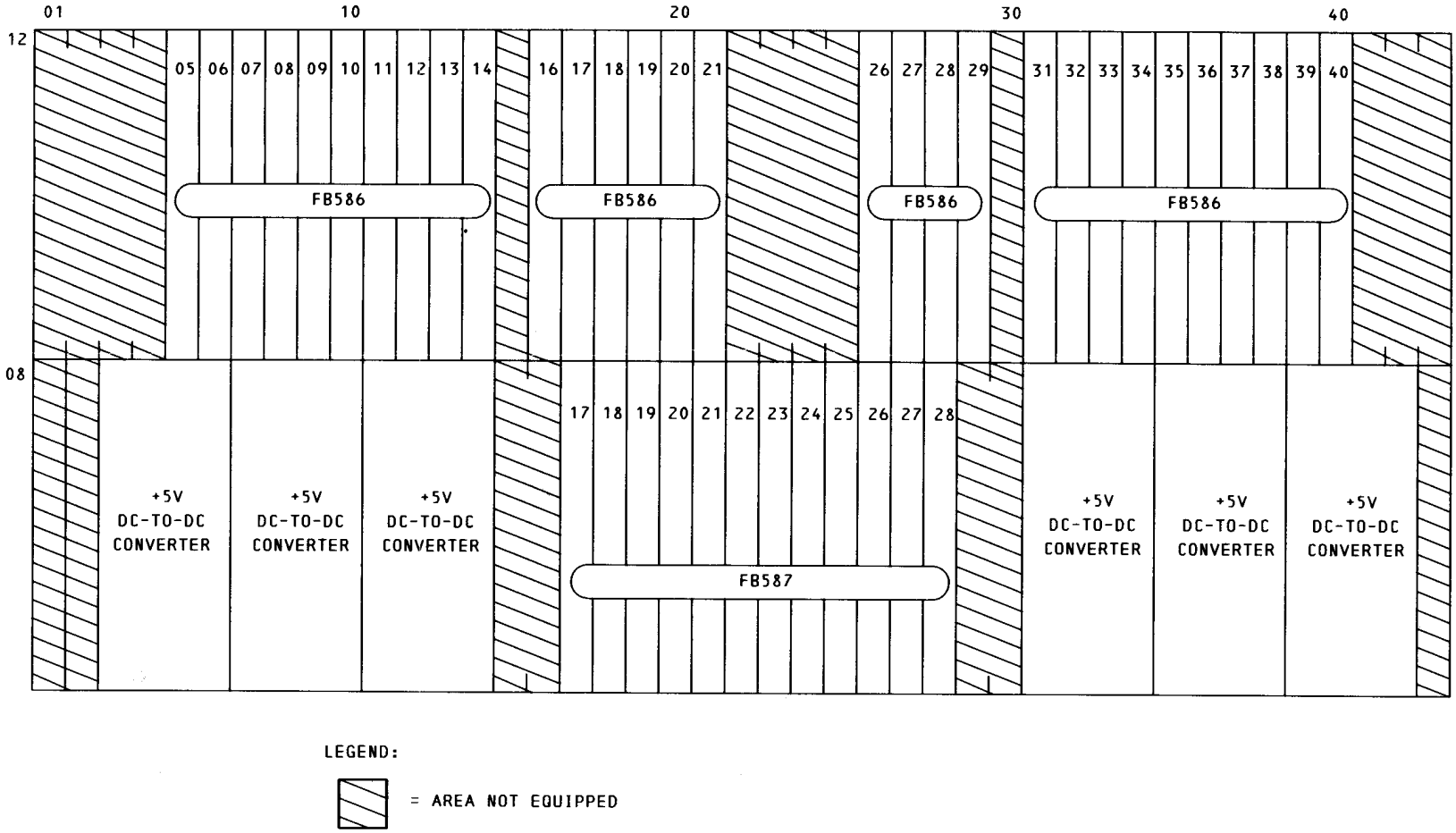


Fig. 2—Network Management—Remote and Distribution Unit (J4A011AB)

TABLE C*

NUMERIC (SEE FIG. 1)	STATION TEST SET SETTINGS					E2A CP 17 LOCATION	NMR&D CP FB 586 LOCATION (SEE FIG. 2)	NMR&D CP FB 587 LOCATION (SEE FIG. 2)
	WORD	SWITCHES						
46	1	2	3	4	5	BC	12-40	08-28
45	1	6	7	8	9	BC	12-40	08-28
48	1	10	11	12	13	BC	12-39	08-28
47	1	14	15	16	17	BC	12-39	08-27
50	2	2	3	4	5	BC	12-38	08-27
49	2	6	7	8	9	BC	12-38	08-27
52	2	10	11	12	13	BC	12-37	08-26
51	2	14	15	16	17	BC	12-37	08-26
54	3	2	3	4	5	BD	12-36	08-26
53	3	6	7	8	9	BD	12-36	08-23
3	3	10	11	12	13	BD	12-35	08-25
2	3	14	15	16	17	BD	12-35	08-25
1	4	2	3	4	5	BD	12-34	08-25
6	4	6	7	8	9	BD	12-34	08-24
5	4	10	11	12	13	BD	12-33	08-24
4	4	14	15	16	17	BD	12-33	08-24
130	4	10	11	12	13	BG	12-17	08-23
131	4	14	15	16	17	BG	12-17	08-23

*After replacing CP17, CP FB586, and CP FB587 determine the defective CP(s) by replacing the original CPs back in the respective unit one at a time until the unit malfunctions. The last original CP installed is defective and shall be replaced with a spare. Continue with this procedure until all original CPs have been checked.

CHART 2

E2A REMOTE (J92621H) MAINTENANCE

APPARATUS:

E-telemetry Station Test Set (KS-20937,L1)

General Purpose Plug-in (KS-20937,L4)

E2A Test Cable (KS-20937,L6)

Spare Circuit Packs

CHART 2 (Cont)

STEP	PROCEDURE

Caution:

- ***Prior to any remote maintenance, ensure that the central has been notified that maintenance is about to begin.***
- ***Remove power from bay before removing or replacing any circuit pack.***

1 Measure the voltages on terminal strips TSB and TSC between the terminals indicated and GND.

Requirement: The voltages shall be as indicated below:

TERMINAL STRIP	TERMINAL	VOLTAGE
TSB	USV	+24 ±2 Vdc
TSB	COB	−48 ±4 Vdc
TSB	−48	−48 ±4 Vdc
TSC	+5	+5 ±0.25 Vdc
TSC	+15	+15 ±1 Vdc
TSC	−15	−15 ±1 Vdc

If the requirement is not met, replace CP 12 in the power module for voltages associated with terminal strip TSC. If the voltages with terminal strip TSB are faulty, check local office battery supply to remote unit.

2 On the 202T data set, depress and hold the LT key for approximately 15 seconds.

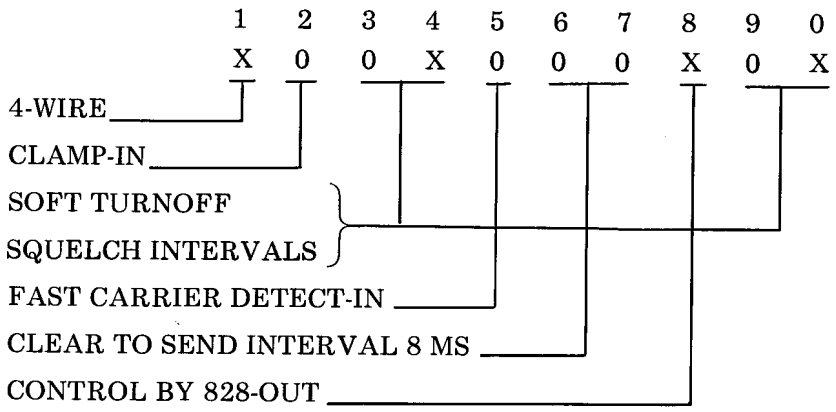
Requirements: The MR, RS, CS, CO, and TM lamps shall light and remain lighted for the duration of time that the LT key is depressed. If the TM lamp goes off during the 15-second period, repeat Step 2 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

3 Once the original data set or the new data set has met the requirements in Step 2, set the following options in the data set as indicated below:

- Set shorting plug E21 to E23 for CARRIER DETECT RESET-IN.
- Set shorting plug E25 to E26 for CONTINUOUS CARRIER-OUT.
- Set screw switch S1 (inside data set housing) to open for SIGNAL GROUND NOT CONNECTED TO FRAME GROUND.
- Set rocker switch S2 to the following positions (x = rocker down on number side):

CHART 2 (Cont)

STEP	PROCEDURE



4 Set rockers on switch S3 to the following positions for 4-wire operation (x = rocker down on another side):

1	2	3	4	5	6	7	8	9	0
0	0	x	x	0	0	0	x	x	x

5 Once the requirement in Step 2 is met and the proper options are set, there is reasonable assurance that the data set is in proper working condition. Additional problems are probably within the remote circutry. Steps 6 through 14 isolate the remote circuit problems with the data set disconnected.

6 Insert and connect the general purpose plug-in unit into the E-telemetry station test set.

7 Locate and remove plug P1 from the 202T data set at the remote unit.

8 Mate the female pin connector of the E2A test cable to the P1 plug removed from the data set in Step 7. Plug the other end of the test cable into the J2 connector on the E-telemetry station test set.

9 Set the controls on the E-telemetry station test set as indicated below:

CHART 2 (Cont)

STEP	PROCEDURE

SWITCH	POSITION
POWER	OFF
SYSTEM	E2A
PARITY	B
BIT RATE	1200
MODE	CONT
ENABLE	NORMAL
DISPLAY ERROR WORD	OFF
DISPLAY WORD SELECT	1
MESSAGE LENGTH	1
RCU	OFF
WORD 1	01011111111000001
WORD 2 through WORD 4	00000000000000000

10 Move the POWER switch to the ON position.

11 Depress in order, the MASTER CLEAR and START pushbutton switches.

Requirement: The TMT, RCV, and VALID WORD lamps shall blink. If the requirement is met, continue with Step 12. If the requirement is not met, repeat Step 11. If the requirement is still not met or the ERROR WORD lamp blinks, replace all of the following circuit packs:

CP 1
CP 2
CP 3
CP 5
CP 7
CP 48

Inspect CP 34 for proper cross-connections per Note 105 of SD-1C544-01-D1. If the requirement in Step 11 can now be met, determine the defective CP as follows:

Insert the original CPs back in the remote unit, one at a time, repeating Step 11 after each replacement until the unit malfunctions. The last original CP installed is defective and shall be replaced with a spare.

CHART 2 (Cont)

STEP	PROCEDURE
	If the remote still fails to operate correctly after replacing all the designated CPs, either a spare CP is defective or the BRM backplane wiring is faulty. When this occurs, refer to SD-1C533-01 and SD-1C544-01.
12	Hold the TEST switch on CP 34 in the 1 (up) position. ***Requirement:*** INFORMATION lamps 1 through 17 shall light. If this requirement is not met, replace the appropriate CP 9 corresponding to the station test set DISPLAY WORD SELECT switch setting per Table D. If lamps 2-17 do not light after replacing the appropriate CP 9, replace CP 7 in location AH and repeat the step. If lamps remain extinguished, consult SD-1C533 and SD-1C544 for backplane problems.
13	Hold the TEST switch on CP 34 in the 0 (down) position. ***Requirement:*** INFORMATION lamp number 1 shall remain lighted, and lamps 2 through 17 shall extinguish. If the requirement is not met, replace the appropriate CP corresponding to the station test set DISPLAY WORD SELECT switches per Table D.
14	Repeat the procedure used in Steps 12 and 13 for each remaining DISPLAY WORD SELECT switch setting per Table D.

4. REFERENCES

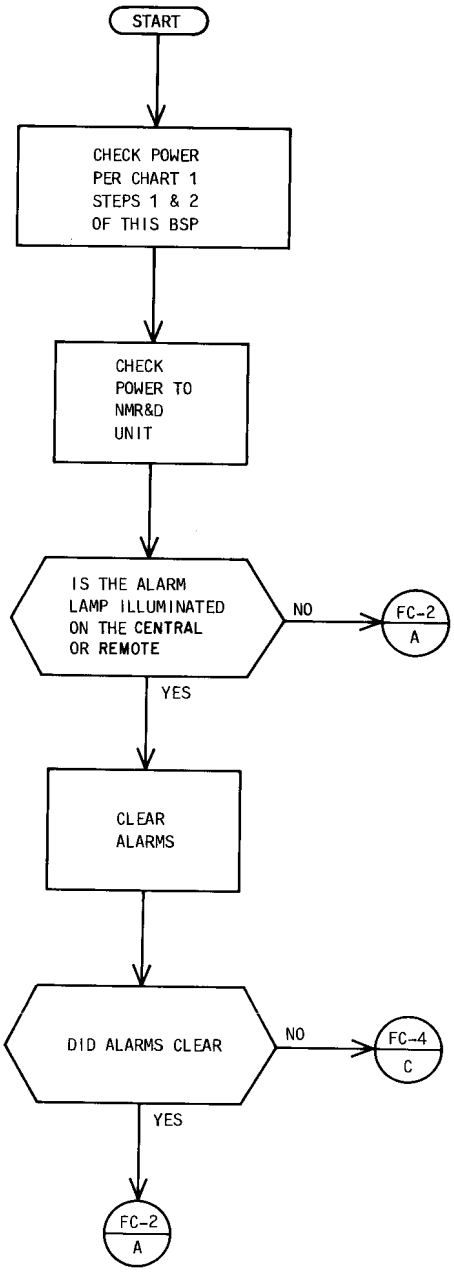
4.01 The following Bell System Practices (BSPs) and schematic drawings (SDs) provide additional information pertaining to the operation and maintenance of the E2A number 4 ESS Network Management central and remote units.

SECTION	TITLE
103-117-101	E-Telemetry Station Test Set—Description, Operation, and Maintenance
234-151-020	No. 4 ESS-NM—TOPP
592-031-100	Data Set 202T—Description and Operation
592-031-300	Data Set 202T—Maintenance
592-031-500	Data Set 202T—Test Procedures
234-110-112	No. 4 ESS Network Management Display Panels and Network, Management Remote and Distribution Unit—Description
234-110-113	No. 4 ESS Network Management Display Panels and Network, Management Remote and Distribution Unit—Theory

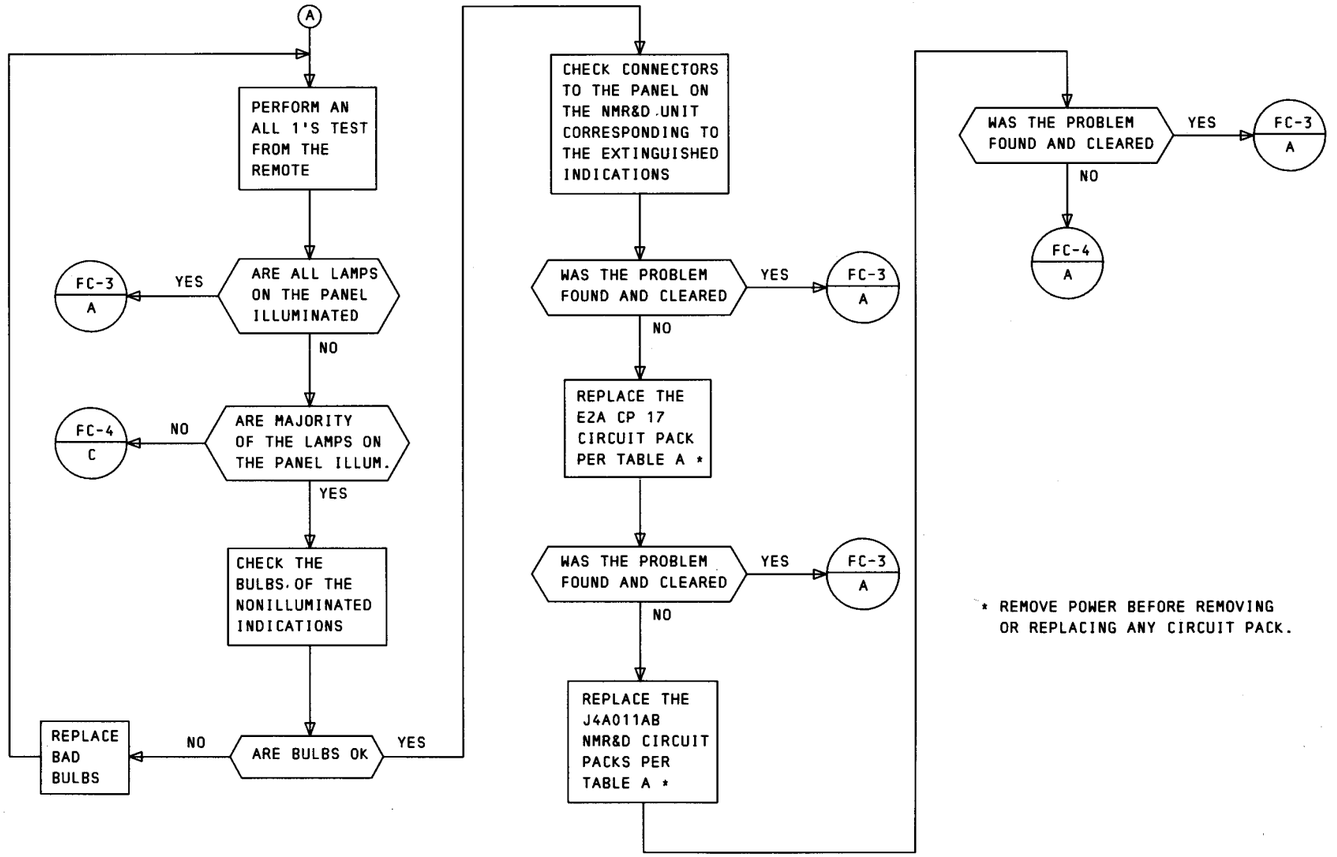
TABLE D

TEST SET DISPLAY WORD SELECT SWITCH	ASSOCIATED CP 9 LOCATION
1	BA
2	BA
3	BB
4	BB
5	BC
6	BC
7	BD
8	BD
9	BE
10	BE
11	BF
12	BF
13	BG
14	BG
15	BH
16	BH

DRAWING	TITLE
SD-1C533-01	E2A Telemetry System—Remote Circuit Modules
SD-1C534-01	E2A Telemetry System—Central Circuit Modules
SD-1C544-01	E2A Telemetry System—No. 4 ESS-NM—Remote Application Schematic
SD-1C545-01	E2A Telemetry System—No. 4 ESS-NM—Central Application Schematic
SD-4A073-01	No. 4 ESS Network Management Display Circuit (Console)
SD-4A074-01	No. 4 ESS Network Management Display Circuit (Wall)
SD-4A075-01	No. 4 ESS Network Management Remote and Distribution Unit Circuit

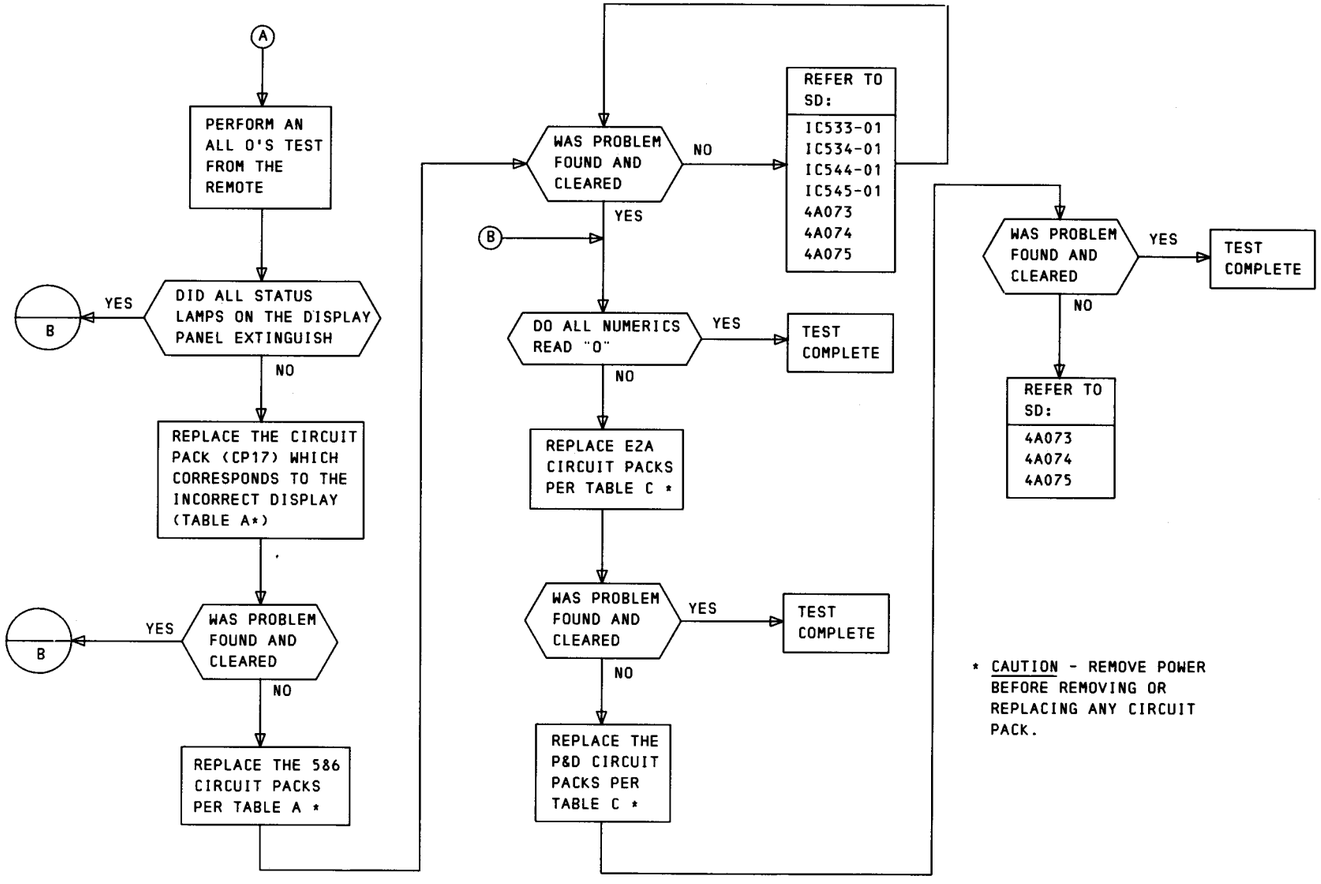


Flowchart 1—E2A No. 4 ESS Network Management Troubleshooting

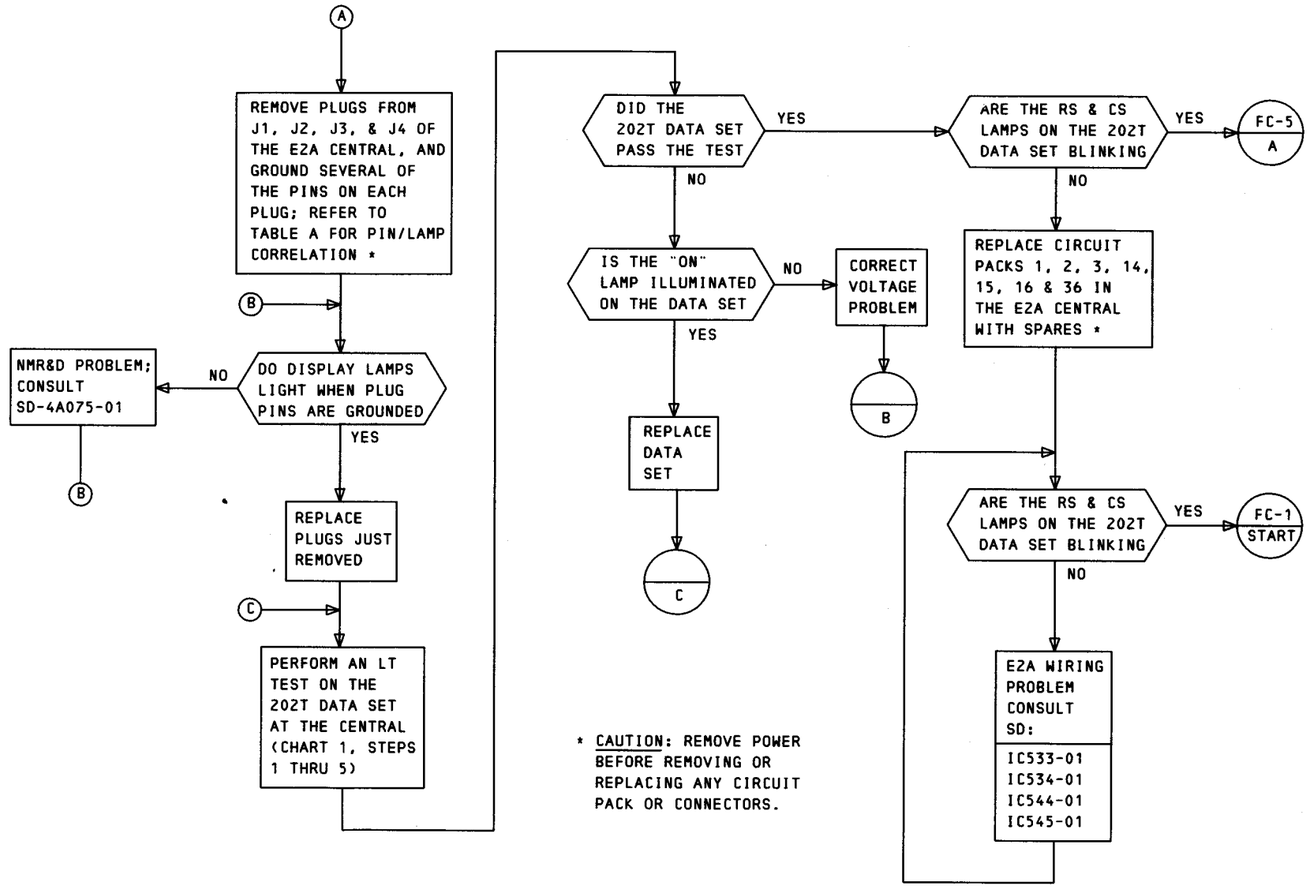


* REMOVE POWER BEFORE REMOVING OR REPLACING ANY CIRCUIT PACK.

Flowchart 2—E2A No. 4 ESS Network Management Troubleshooting

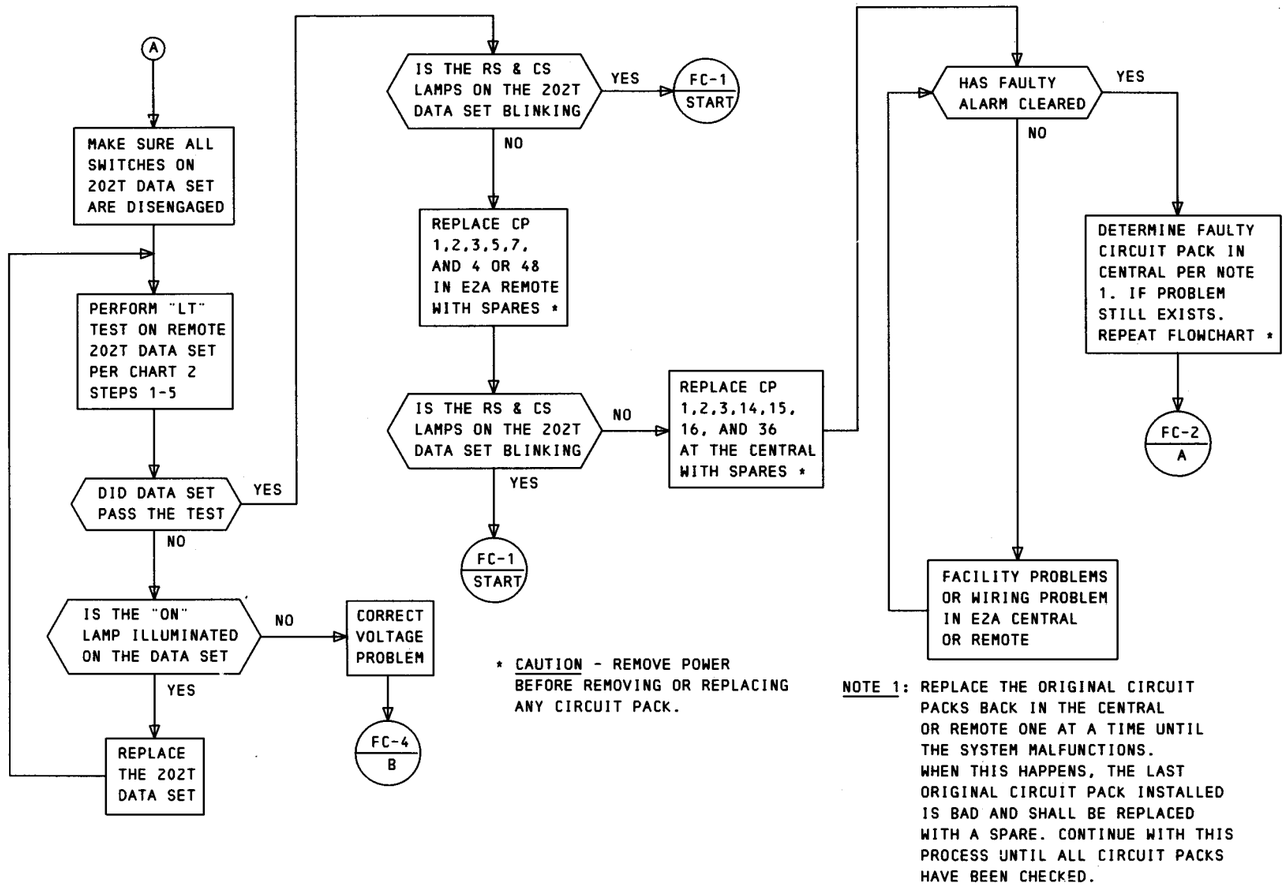


Flowchart 3—E2A No. 4 ESS Network Management Troubleshooting

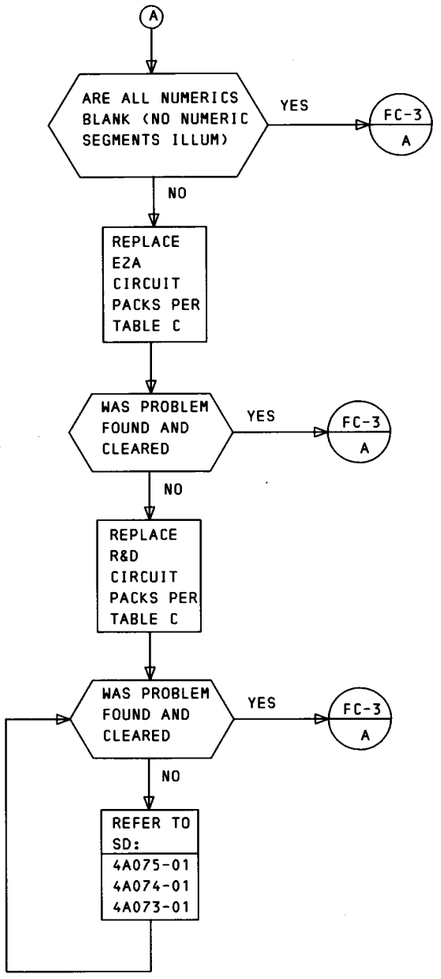


* CAUTION: REMOVE POWER BEFORE REMOVING OR REPLACING ANY CIRCUIT PACK OR CONNECTORS.

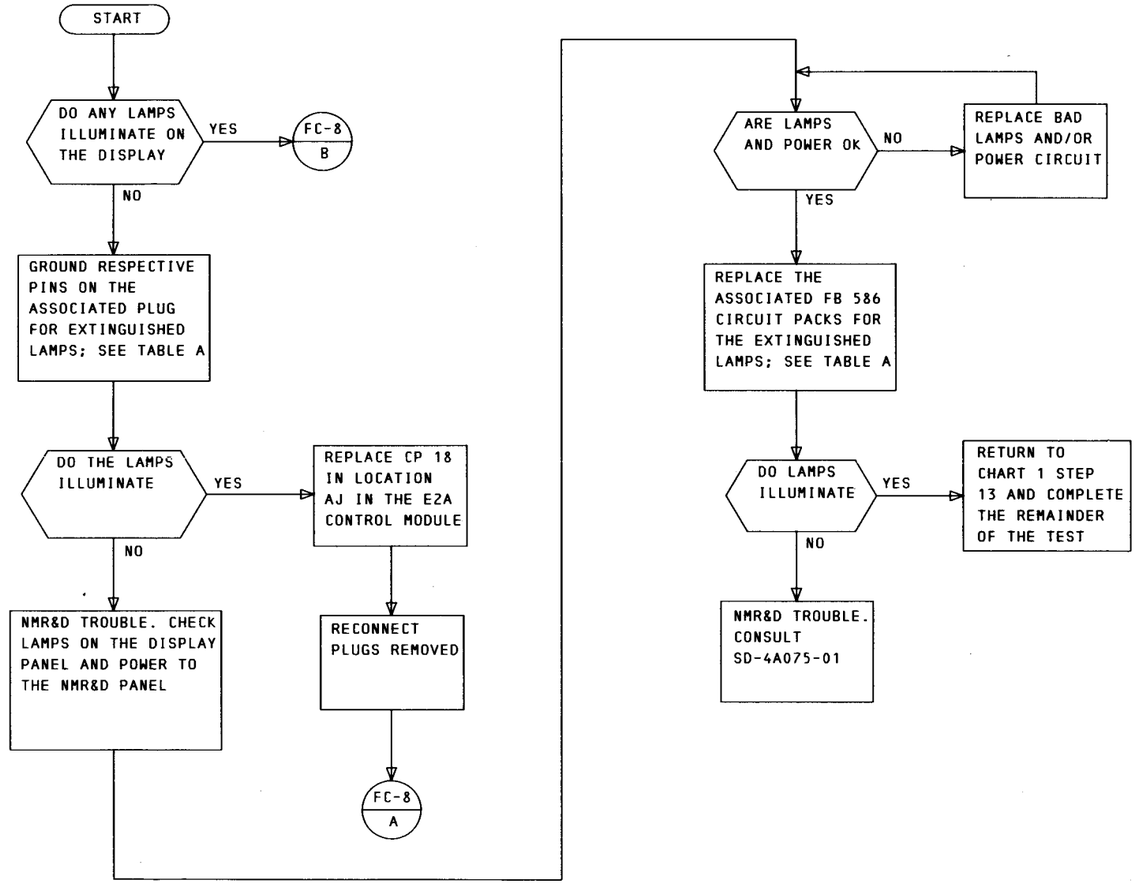
Flowchart 4—E2A No. 4 ESS Network Management Troubleshooting



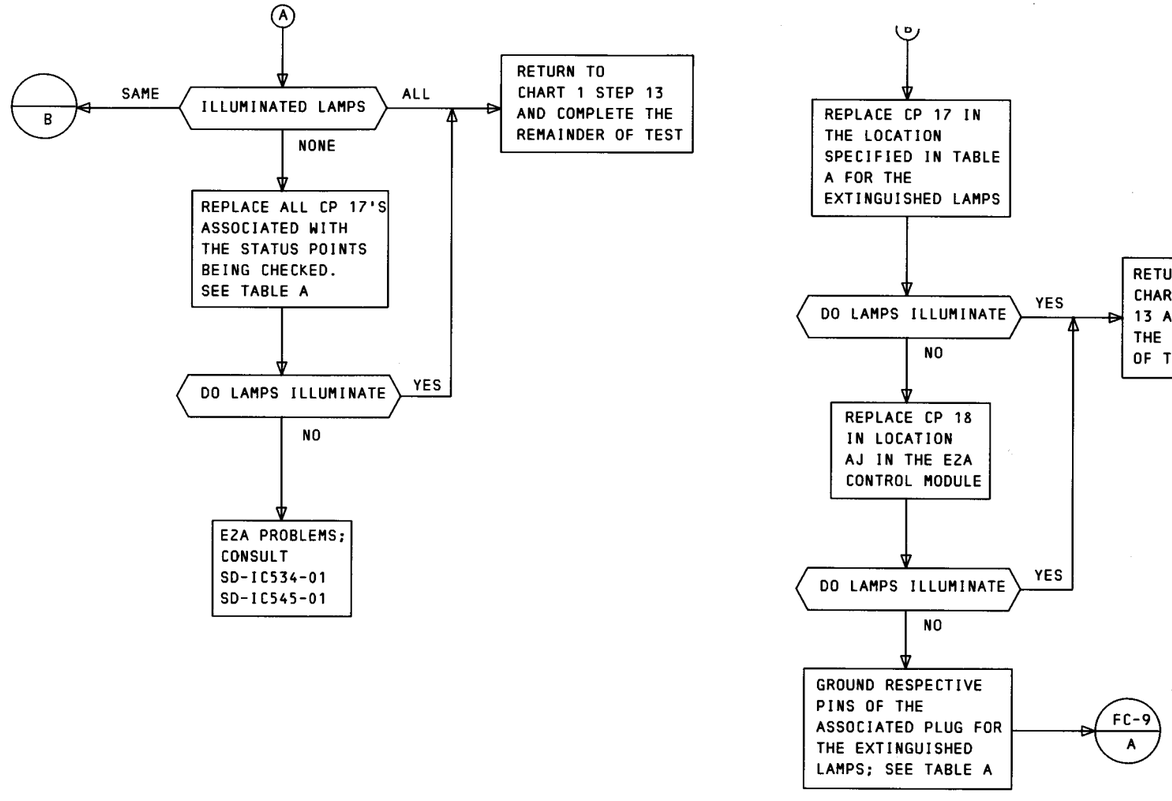
Flowchart 5—E2A No. 4 ESS Network Management Troubleshooting



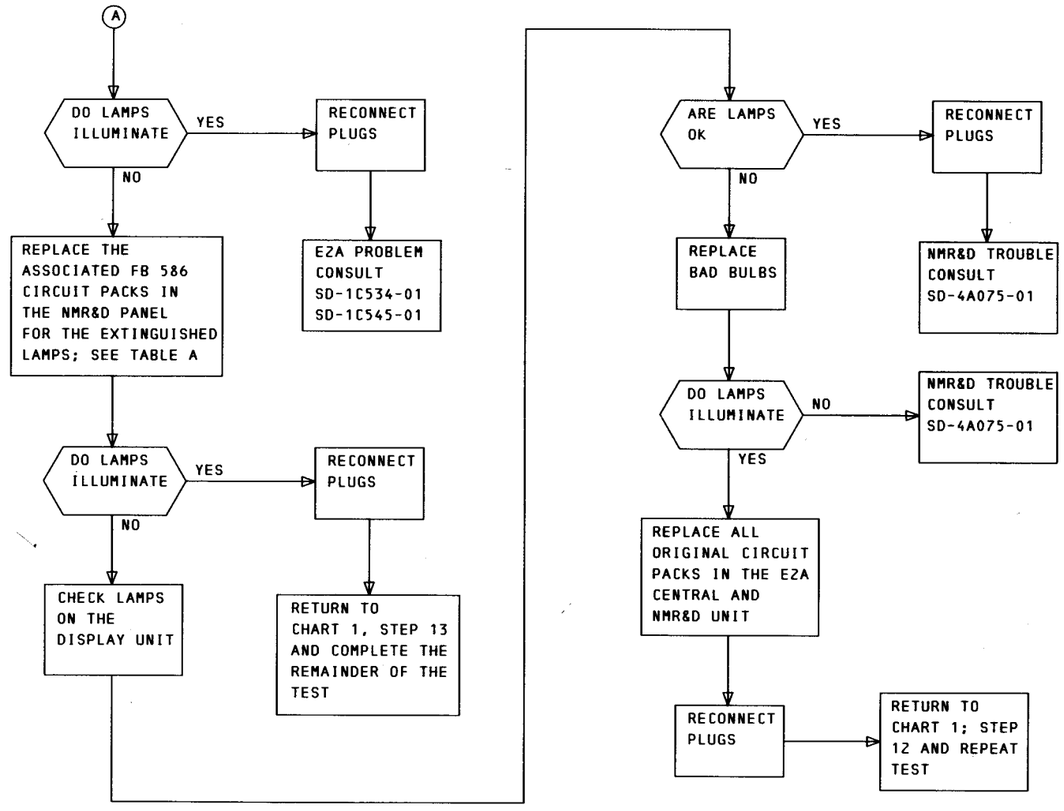
Flowchart 6—E2A No. 4 E2A No. 4 ESS Network Management Troubleshooting



Flowchart 7—Central Diagnostic



Flowchart 8—Central Diagnostic



Flowchart 9—Central Diagnostic