E2A TELEMETRY
SWITCHING CONTROL CENTER
CENTRAL AND REMOTE MAINTENANCE

CONTENTS PAGE

1. INTRODUCTION

1.01 This section provides the maintenance procedures for the E2A telemetry equipment used in Switching Control Center Systems (SCCS). This issue contains maintenance information for the No. 1 Electronic Switching System (No. 1 ESS), No. 2B/3 ESS, No. 2 ESS/Automatic Intercept System (No. 2 ESS/AIS), and the Traffic Service Position System/Electronic Translator System (TSPS/ETS). The procedures include tests for the critical indicator (CI) central, the command and display (C&D) central, and the E2A remotes at the central offices.

1.02 This section is reissued to include information on the No. 2B/3 ESS, No. 2 ESS/AIS, and TSPS/ETS. Since this is a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 When a step-procedure chart refers to a table, ensure that the table referred to is for the system being maintained. See Table B for a list of the systems being maintained by this section and the associated table.

2. CRITICAL INDICATOR CENTRAL (J92621-D)

2.01 Maintenance of the critical indicator (CI) central is accomplished through the use of the E-telemetry station test set and the critical indicator panels (CIP) at the SCC. Chart 1 presents a step-procedure method of performing the maintenance of the CI central. This test assumes that the CIPs and the wiring from the CI central to the CIPs are in proper operating condition. Before starting the test, check all lamps on each CIP by operating the lamp test switch located on the bottom of each CIP. If any lamps do not light, replace before proceeding.

CHART 1

CI CENTRAL TESTING AND MAINTENANCE

APPARATUS:

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

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

CHART 1 (Cont)

APPARATUS:

E2A Test Cable (KS-20937,L6)

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

STEP	PROCEDURE

Note: Before any testing of the central unit is begun, set all switches in the SCC equipment to the audible off position. Ensure that the +5 Vdc, +15 Vdc, and -15 Vdc power sources are being supplied to the unit on the TSA terminal strip.

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

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

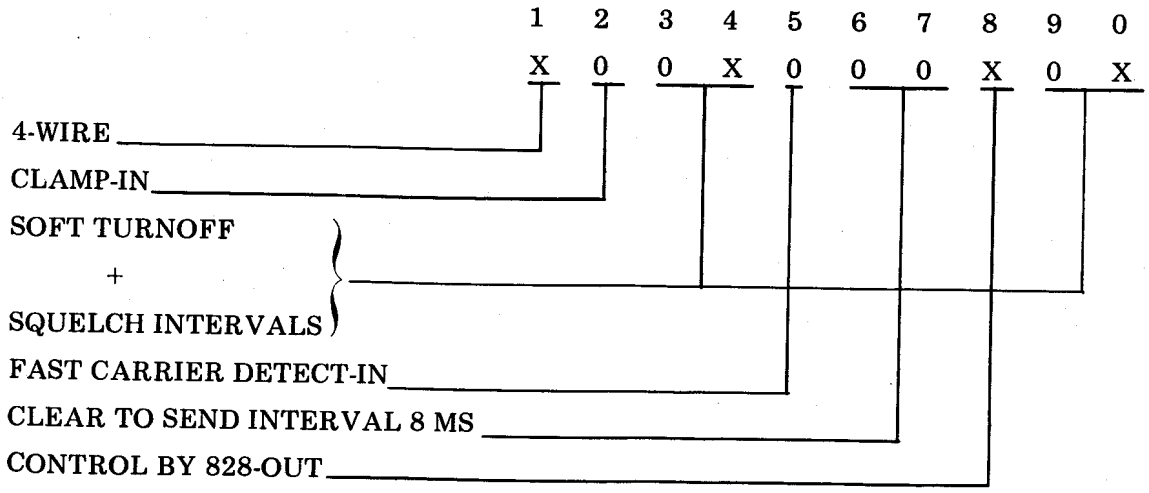
Requirements: The MR, RS, CS, CO, and TM lamps shall light and remain lighted for the duration of time that the LT key is depressed. If the TM lamp goes off during the 15-second period, repeat Step 1 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

2 Once the original data set or the new data set has met the requirements in Step 1, ensure that the following options in the data set are set as indicated below:

- Set shorting plug E21 to E23 for CARRIER DETECT RESET-IN.
- Set shorting plug E25 and 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



- Set rocker 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

3 Once the requirement in Step 1 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 4 through 13 isolate the central circuit problems with the data set disconnected.

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

5 Locate and remove plug P1 from the 202T data set at the CI central unit.

6 Mate the female pin connector of the E2A test cable to the P1 plug removed from the data set in Step 5. Plug the other end of the E2A test cable to the J2 connector on the E-telemetry station test set.

7 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	CONT.
ENABLE	NORMAL
DISPLAY ERROR WORD	OFF
DISPLAY WORD SELECT	1
POWER	OFF
RCU	OFF
MESSAGE LENGTH	1
WORD 1	10000000000000000
WORDS 2 through 4	00000000000000000

8 Move the POWER switch to the ON (up) position.

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

Requirement: The RCV and TMT lamps on the station test set shall blink. If they do not blink, repeat Step 9. Information lamps, numbers 2, 13, 16, and 17 shall be lighted. Information lamps, numbers 4 through 7 (or only as many remote stations that are active) shall light in a sequential and cyclic manner as shown in Table A. If the second part of the requirement is not met, check the cross-connections on CP 8 per note 104 on SD-1C541-01. If the cross-connect is correct, replace all the followng circuit packs (CP):

CP1
CP2
CP3
CP13 or 36
CP14
CP15
CP16

CHART 1 (Cont)

STEP	PROCEDURE

To determine the defective CP(s), replace the original CP(s) back in the central unit one at a time, repeating Step 9 after each replacement, until the unit malfunctions. The last originally installed CP is defective and shall be replaced with a spare.

TABLE A

STATION ADDRESS LAMPS

4	5	6	7
0	0	0	0
1	0	0	0
0	1	0	0
1	1	0	0
0	0	1	0
1	0	1	0
0	1	1	0
1	1	1	0
0	0	0	1
1	0	0	1
0	1	0	1
1	1	0	1
0	0	1	1
1	0	1	1
0	1	1	1
1	1	1	1

Legend:

1 — Lamp Lighted
0 — Lamp Extinguished

TABLE B

SYSTEM	ASSOCIATED TABLE
NO. 1 ESS — CRITICAL INDICATORS	C
NO. 2B ESS — CRITICAL INDICATORS	D
NO. 3 ESS — CRITICAL INDICATORS	E
NO. 2 ESS — CRITICAL INDICATORS	F
AIS — CRITICAL INDICATORS	G
TSPS/ETS — CRITICAL INDICATORS	H
NO. 1 ESS — C&D CENTRAL GROUP REPORT COMMANDS	I
NO. 2 ESS/AIS — C&D CENTRAL GROUP REPORT COMMANDS	J
TSPS/ETS — C&D CENTRAL GROUP REPORT COMMANDS	K
NO. 1 ESS — C&D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)	L
TSPS/ETS — C&D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)	M
NO. 2 ESS/AIS — C&D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)	N
NO. 1 ESS — C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)	O
NO. 2 ESS/AIS — C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)	P
TSPS/ETS — C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)	Q
NO. 1 ESS — REMOTE STATUS POINTS	R
NO. 2 ESS/AIS — REMOTE STATUS POINTS	S
NO. 2B/ESS — REMOTE STATUS POINTS	T
TSPS/ETS — REMOTE STATUS POINTS	U
NO. 1 ESS — REMOTE RELAY OUTPUT MAINTENANCE	V
NO. 2 ESS/AIS — REMOTE RELAY OUTPUT MAINTENANCE	W
NO. 2B/3 ESS — REMOTE RELAY OUTPUT MAINTENANCE	X
TSPS/ETS — REMOTE RELAY OUTPUT MAINTENANCE	Y
NO. 1 ESS — REMOTE RELAY OUTPUT MAINTENANCE	Z
NO. 2 ESS/AIS — REMOTE RELAY OUTPUT MAINTENANCE	AA
TSPS/ETS — REMOTE RELAY OUTPUT MAINTENANCE	BB

CHART 1 (Cont)

STEP	PROCEDURE
10	Move switch number 3 in WORD 1, on the general purpose plug-in unit, to the 1 (up) position. ***Requirement:*** The CRITICAL lamp shall light in sequential order on all the CIPs. If the requirement is not met, replace CP 17 and CP 18 and repeat the step.
11	Depress the ALM REL key on the central office select unit (COSJU). This step is only required for latching alarms (see Tables C through H).
12	Return switch number 3 in WORD 1 to the 0 (down) position. ***Requirement:*** All CRITICAL lamps shall extinguish. If the requirement is not met, replace CP 17 and CP 18 and repeat the step.
13	Repeat the procedure used in Steps 10 through 12 for each remaining switch (4-17) in the appropriate table (Table C, D, E, F, G, or H). ***Requirement:*** The corresponding CIP lamp shall light as shown in Table B. If any part of the above requirement fails, replace CP 17 and CP 18 and repeat the step. Determine the defective CP(s) by replacing the original CP(s) back in the central, one at a time, until the unit malfunctions. The last CP replaced is defective and shall be replaced with a spare.

TABLE C

NO. 1 ESS – CRITICAL INDICATORS

WORD 1 SWITCH NUMBER	CORRESPONDING CIP LAMP LIGHTED
2	CKT LIM
3	CRITICAL*
4	MAJOR*
5	MINOR*
6	SYS EMER*
7	CC
8	SP
9	PS
10	CS
11	PERIPH A
12	PERIPH B
13	BLDG/PWR
14	FORCED
15	BLDG INH
16	TRAFFIC
17	—

* Latching Alarms

TABLE D

NO. 2B ESS – CRITICAL INDICATORS

WORD 1 SWITCH NUMBER	CORRESPONDING CIP LAMP LIGHTED
2	CKT LIM
3	CRITICAL*
4	MAJOR*
5	MINOR*
6	SYS EMER*
7	CU
8	NET
9	SCAN
10	AMA
11	MAS
12	MISC
13	BLDG/PWR
14	FORCED
15	BLDG INH
16	TRAFFIC
17	—

* Latching Alarms

TABLE E

NO. 3 ESS – CRITICAL INDICATORS

WORD 1 SWITCH NUMBER	CORRESPONDING CIP LAMP LIGHTED
2	CKT LIM
3	CRITICAL*
4	MAJOR*
5	MINOR*
6	SYS EMER*
7	SYC
8	RT
9	AMA
10	—
11	PERIPH A
12	PERIPH B
13	BLDG/PWR
14	FORCED
15	BLDG INH
16	TRAFFIC
17	—

* Latching Alarms

TABLE F

NO. 2 ESS – CRITICAL INDICATORS

WORD 1 SWITCH NUMBER	CORRESPONDING CIP LAMP LIGHTED
2	CKT LIM
3	CRITICAL*
4	MAJOR*
5	MINOR*
6	SYS EMER*
7	INT DIS
8	NET
9	SCAN
10	AMA
11	—
12	MISC
13	BLDG/PWR
14	FORCED
15	BLDG INH
16	TRAFFIC
17	—

* Latching Alarms

TABLE G

AIS – CRITICAL INDICATORS

WORD 1 SWITCH NUMBER	CORRESPONDING CIP LAMP LIGHTED
2	CKT LIM
3	CRITICAL*
4	MAJOR*
5	MINOR*
6	SYS EMER*
7	INT DIS
8	FI
9	CN
10	AN
11	PERIPH A
12	PERIPH B
13	BLDG/PWR
14	FORCED
15	BLDG INH
16	TRAFFIC
17	—

* Latching Alarms

TABLE H

TSPS/ETS – CRITICAL INDICATORS

WORD 1 SWITCH NUMBER	CORRESPONDING CIP LAMP LIGHTED
2	CKT LIM
3	CRITICAL*
4	MAJOR*
5	MINOR*
6	SYS EMER*
7	PROC
8	STORE
9	SPC PU
10	BASE PU
11	PSS/RTA
12	—
13	BLDG/PWR
14	FORCED
15	BLDG/INH
16	TRAFFIC
17	—

* Latching Alarms

3. COMMAND AND DISPLAY CENTRAL (J92621-C, -P)

3.01 The command and display (C&D) central unit is located within the SCC console. To check the C&D central unit, it is necessary to ensure that the keys, lamps, and interface to the C&D central unit are in proper operating condition.

3.02 Before any tests are initiated, turn the console power switch on, depress the LOC LAMP TEST pushbutton switch, and note any lamps or keys which do not light. Replace defective lamps before proceeding.

3.03 Chart 2 describes in detail the equipment needed and the procedure for troubleshooting the group report commands sent by the C&D central unit.

CHART 2

C&D CENTRAL GROUP REPORT COMMAND TROUBLESHOOTING

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), or equivalent

STEP	PROCEDURE

Note: Before starting the step-procedure testing of the central, a preliminary test should be performed as follows: Remove the cover from the console, turn the console power switch to on, and check that the +5, +15, and -15 Vdc power sources are supplied to the C&D central unit on terminal strip TSA. If all the voltages are present, proceed with Step 1. If any voltages are not present, repair or replace the power supply as necessary.

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

1 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 1 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

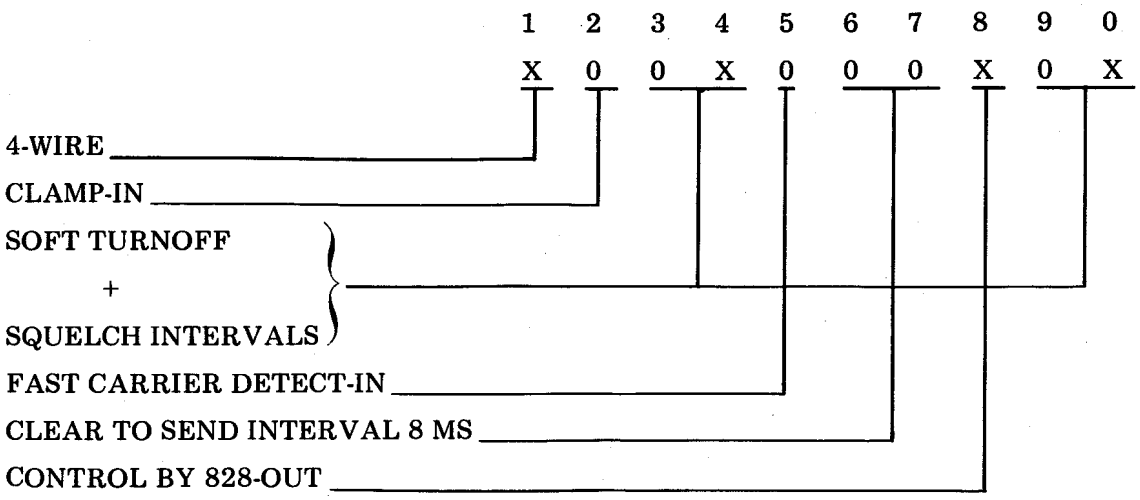
2 Once the original data set or the new data set has met the requirements in Step 1, ensure that the following options in the data set are set as indicated below:

- Set shorting plug E21 to E23 for CARRIER DETECT RESET-IN.
- Set shorting plug E25 to E26 for CONTINUOUS CARRIER-OUT.

CHART 2 (Cont)

STEP	PROCEDURE

- 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 positons (x = rocker down on number side):



- 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

3 Once the requirement in Step 1 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 4 through 14 isolate the central circuit problems with the data set disconnected.

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

5 Locate and remove plug P1 from the 202T data set at the central unit.

6 Mate the female pin connector of the E2A test cable to the P1 plug removed in Step 5. Connect the other end of the test cable to the J2 connector on the E-telemetry station test set.

CHART 2 (Cont)

STEP	PROCEDURE

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

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	10000000000000000

8 Press the SCC console power switch on.

Requirement: The CSL PWR ON lamp shall light.

9 Move the POWER switch on the E-telemetry station test set to the ON (up) position.

10 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; lamps 17, 16 and 13 of the information word shall display 000, 001, 010, 100 (17, 16, 13—17, 16, 13) in a sequential and cyclic order.

Note: 1—Lighted lamp
0—Extinguished lamp

If the requirement is not met, replace all of the following circuit packs:

CP1
CP2
CP3
CP13 or 36
CP14
CP15
CP16

CHART 2 (Cont)

STEP	PROCEDURE
	Inspect CP 8 for proper strapping connections per note 104 of SD-1C540-01-D1. After all of the above CPs are replaced, determine the defective CP(s) by inserting the original CP(s) back in the central unit one by one. Repeat Step 10 after each replacement until the unit malfunctions. The last originally installed CP is defective and shall be replaced with a spare.
11	Depress the TLM ALM RLS key.
12	On the E-telemetry station test set, set switch 2 of WORD 1 to the 1 (up) position. ***Requirement:*** The console lamps designated per Tables I, J, or K (depending on system) shall light. If no lamps light, replace CP 18 and repeat the step. If any part of the requirement is not met, replace CP 17 in the location(s) specified by the appropriate table for the unlighted lamp(s).
13	Return switch 2 of WORD 1 to the 0 (down) position. ***Requirement:*** The console lamps designated per Table I, J, or K (depending on system), shall extinguish. If the requirement is not met, replace CP 17 in the location specified by the appropriate table and repeat the step.
14	Repeat the procedure used in Steps 12 and 13 for each switch (2-17) in WORD 1 through WORD 4 per Table I, J, or K (depending on system).

TABLE I

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
1	2	SYSTEM ALARMS — DT DEL ALM	BG
		PROCESSOR STATUS — SIGNAL PROC 0 — ACT	BE
	3	CRITICAL	BD
		SYSTEM ALARMS — MCC PWR ALM	BG
		PROCESSOR STATUS — SIGNAL PROC 1 — ACT	BE
	4	MAJOR	BD
		SYSTEM ALARMS — COML PWR	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — STOP	BE
	5	MINOR	BD
		SYSTEM STATUS — RPTD T OUT	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — CLK	BE
		HARDWARE CONFIGURATION — RPTD T OUT	BG
	6	SYSTEM STATUS — EA PH IN PROG	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — STOP	BE
		PROGRAM INTERRUPT CONTROL — EA PH IN PROG	BG
	7	SYSTEM STATUS — MISC TBL	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — CLK	BE
	8	SYSTEM ALARMS — 4A TMR PWR ALM	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — SEND 0	BE
	9	SYSTEM STATUS — TRK MB OVFL	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — PS BUS — RCV 0	BE
	10	SYSTEM STATUS — DIAGS IN PROG	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — PS BUS — SEND 0	BE
	11	SYSTEM STATUS — OFF NOR	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — PS BUS — RCV 0	BE
	12	PROCESSOR STATUS — CENTRAL CONTROL 0 — PS BUS — SEND 1	BE
		HARDWARE CONFIGURATION — INVD	BG
	13	SYSTEM STATUS — CO ALM INH	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — PS BUS — RCV 1	BE
	14	PROCESSOR STATUS — CENTRAL CONTROL 1 — PS BUS — SEND 1	BE
		SYSTEM INDICATORS — L SRV REQ HPR UNLD RT — MIN	BG
	15	PROCESSOR STATUS — CENTRAL CONTROL 1 — PS BUS — RCV 1	BE
		SYSTEM INDICATORS — L SRV REQ HPR UNLD RT — MID	BG

TABLE I (Cont)

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
1	16	PROCESSOR STATUS — CENTRAL CONTROL 0 — CS BUS — SEND 0	BE
		SYSTEM INDICATORS — L SRV REQ HPR UNLD RT — MAX	BG
	17	PROCESSOR STATUS — CENTRAL CONTROL 0 — CS BUS — RCV 0	BE
2	2	PERIPHERAL STATUS — LINE SWITCH P	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — CS BUS — SEND 0	BE
		PROGRAM DISPLAY — 8	BJ
		HARDWARE CONFIGURATION — EA DIS T OUT	BC
	3	PERIPHERAL STATUS — LINE SWITCH S	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — CS BUS — RCV 0	BE
		PROGRAM DISPLAY — 9	BJ
		TRAFFIC CONTROL — ENAB	BC
	4	PERIPHERAL STATUS — JUNCTOR SWITCH P	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — CS BUS — SEND 1	BE
		PROGRAM DISPLAY — 10	BJ
		TRAFFIC CONTROL — EMER MAN SRV (KEY)	BC
	5	PERIPHERAL STATUS — JUNCTOR SWITCH S	BG
		PROCESSOR STATUS — CENTRAL CONTROL 0 — CS BUS — RCV 1	BE
		PROGRAM DISPLAY — 11	BJ
		PROGRAM CONTROL — BLK	BC
	6	PERIPHERAL STATUS — SLN & TRK SW P	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — CS BUS — SEND 1	BE
		PROGRAM DISPLAY — 12	BJ
		PROGRAM CONTROL — 0	BC
	7	PERIPHERAL STATUS — SLN & TRK SW S	BG
		PROCESSOR STATUS — CENTRAL CONTROL 1 — CS BUS — RCV 1	BE
		PROGRAM DISPLAY — 13	BJ
		PROGRAM CONTROL — 1	BC
	8	SYSTEM STATUS — DISJN	BE
		PERIPHERAL STATUS — JUNCTOR P	BG
		PROGRAM DISPLAY — 14	BJ

TABLE I (Cont)

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
2		PROGRAM CONTROL – 2	BC
	9	SYSTEM STATUS – MULT TBL	BE
		PERIPHERAL STATUS – JUNCTOR S	BG
		PROGRAM DISPLAY – 15	BJ
		PROGRAM CONTROL – 3	BC
	10	SYSTEM ALARMS – MISCELLANEOUS – A	BE
		PERIPHERAL STATUS – TRUNKS P	BG
		PROGRAM DISPLAY – 16	BJ
		PROGRAM CONTROL – 4	BC
	11	SYSTEM ALARMS – MISCELLANEOUS – B	BE
		PERIPHERAL STATUS – TRUNKS S	BG
		PROGRAM DISPLAY – 17	BJ
		PROGRAM CONTROL – 5	BC
	12	SYSTEM ALARMS – MISCELLANEOUS – C	BE
		PERIPHERAL STATUS – MASTER SCAN P	BG
		PROGRAM DISPLAY – 18	BJ
		PROGRAM CONTROL – 6	BC
	13	SYSTEM ALARMS – MISCELLANEOUS – D	BE
		PERIPHERAL STATUS – MASTER SCAN S	BG
		PROGRAM DISPLAY – 19	BJ
		PROGRAM CONTROL – 7	BC
	14	SYSTEM ALARMS – MISCELLANEOUS – E	BE
		PERIPHERAL STATUS – CPD P	BG
		PROGRAM DISPLAY – 20	BJ
		PROGRAM CONTROL – 8	BC
	15	SYSTEM ALARMS – MISCELLANEOUS – F	BE
		PERIPHERAL STATUS – CPD S	BG
		PROGRAM DISPLAY – 21	BJ
		PROGRAM CONTROL – 9	BC
	16	PERIPHERAL STATUS – RING & TONE P	BG
		PROGRAM DISPLAY – 22	BJ
		PROGRAM CONTROL – 10	BC
	17	PERIPHERAL STATUS – RING & TONE S	BG

TABLE I (Cont)

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
2		PROGRAM DISPLAY – 23	BJ
		PROGRAM CONTROL – 11	BC
3	2	SYSTEM STATUS – EMER MAN SRV – INDICATOR	BJ
		PROCESSOR STATUS – CENTRAL CONTROL 0 – OFF LINE	BF
		SYSTEM INDICATORS – QUEUES ACTIVE – RECEIVERS – CTT	BH
		TRAFFIC CONTROL – EMER MAN SRV	BJ
		PROGRAM CONTROL – 12	BC
	3	SYSTEM STATUS – OG LOAD CONT	BJ
		PROCESSOR STATUS – CENTRAL CONTROL 0 – PWR	BF
		SYSTEM INDICATORS – QUEUES ACTIVE – RECEIVERS – CDP	BH
		PROGRAM CONTROL – 13	BC
	4	PROCESSOR STATUS – CENTRAL CONTROL 0 – TBL	BF
		SYSTEM INDICATORS – CC OVLD	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – RECEIVERS – MF	BH
		PROGRAM CONTROL – 14	BC
	5	PROCESSOR STATUS – CENTRAL CONTROL 0 – ACT	BF
		SYSTEM INDICATORS – RCVR OVLD	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – RECEIVERS – RP	BH
		HARDWARE CONFIGURATION – CCO ACT	BF
		PROGRAM CONTROL – 15	BC
	6	PROCESSOR STATUS – CENTRAL CONTROL 1 – OFF LINE	BF
		SYSTEM INDICATORS – LLC ENAB	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – RECEIVERS – TDP	BH
		PROGRAM CONTROL – 16	BC
	7	PROCESSOR STATUS – CENTRAL CONTROL 1 – PWR	BF
		SYSTEM INDICATORS – DT DEL	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – TRANSMITTERS – MF	BH
		PROGRAM CONTROL – 17	BC
	8	SYSTEM STATUS – INC LOAD CONT	BJ
		PROCESSOR STATUS – CENTRAL CONTROL 1 – TBL	BF
		SYSTEM INDICATORS – QUEUES ACTIVE – TRANSMITTERS – DP	BH
		PROGRAM CONTROL – 18	BC

TABLE I (Cont)

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
3	9	PROCESSOR STATUS – CC BUS POWER – PS BUS 0	BJ
		PROCESSOR STATUS – CENTRAL CONTROL 1 – ACT	BF
		SYSTEM INDICATORS – QUEUES ACTIVE – TRANSMITTERS – RP	BH
		HARDWARE CONFIGURATION – PS0 PWR ON	BJ
		HARDWARE CONFIGURATION – CC1 ACT	BF
		PROGRAM CONTROL – 19	BC
	10	PROCESSOR STATUS – SIGNAL PROC 0 – TBL	BF
		PROCESSOR STATUS – CC BUS POWER – PS BUS 1	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – REGISTERS – ORIG	BH
		HARDWARE CONFIGURATION – PSB1 PWR ON	BJ
		PROGRAM CONTROL – 20	BC
	11	PROCESSOR STATUS – SIGNAL PROC 0 – PWR	BF
		PROCESSOR STATUS – CC BUS POWER – CS BUS 0	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – REGISTERS – RING	BH
		HARDWARE CONFIGURATION – CSB0 PWR ON	BJ
		PROGRAM CONTROL – 21	BC
	12	PROCESSOR STATUS – SIGNAL PROC 0 – STOP	BF
		PROCESSOR STATUS – CC BUS POWER – CS BUS 1	BJ
		SYSTEM INDICATORS – QUEUES ACTIVE – REGISTERS – DISC	BH
		HARDWARE CONFIGURATION – CSB1 PWR ON	BJ
		HARDWARE CONFIGURATION – SP0 STOP	BF
		PROGRAM CONTROL – 22	BC
	13	SYSTEM ALARMS – TTY – LOC	BJ
		PROCESSOR STATUS – SIGNAL PROC 1 – TBL	BF
		SYSTEM INDICATORS – QUEUES ACTIVE – REGISTERS – AMA	BH
	14	SYSTEM ALARMS – TTY – REM	BJ
		PROCESSOR STATUS – SIGNAL PROC 1 – PWR	BF
		SYSTEM INDICATORS – JOBS OMITTED DUE TO OVLD – RVFY	BH
	15	PROCESSOR STATUS – SIGNAL PROC 1 – STOP	BF
		SYSTEM INDICATORS – JOBS OMITTED DUE TO OVLD – FCG	BH
		HARDWARE CONFIGURATION – SP1 STOP	BF
		PROGRAM INTERRUPT CONTROL – ENAB	BC

TABLE I (Cont)

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
3	16	SYSTEM INDICATORS — JOBS OMITTED DUE TO OVLD — BLK RTY	BH
		PROGRAM INTERRUPT CONTROL — BOTH	BF
		HARDWARE CONFIGURATION — CC0 SEL ACT	BC
	17	TELEMETRY — REM PWR OFF	BH
		HARDWARE CONFIGURATION — CC1 SEL ACT	BC
		FUNC DATA	BF
4	2	PROCESSOR STATUS — CALL STORES — CC P	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — 30+	BH
		PROGRAM INTERRUPT CONTROL — A	BD
	3	PROCESSOR STATUS — CALL STORES — CC S	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — 15-30	BH
		PROGRAM INTERRUPT CONTROL — B	BD
	4	PROCESSOR STATUS — CALL STORES — SP P	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — 7.5-15	BH
		PROGRAM INTERRUPT CONTROL — C	BD
	5	PROCESSOR STATUS — CALL STORES — SP S	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — 3.8-7.5	BH
		PROGRAM INTERRUPT CONTROL — D	BD
	6	PROCESSOR STATUS — PROGRAM STORES MARKED IN TROUBLE — 0	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — 1.9-3.8	BH
		PROGRAM INTERRUPT CONTROL — E	BD
	7	PROCESSOR STATUS — PROGRAM STORES MARKED IN TROUBLE — 1	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — .94-1.9	BH
		PROGRAM INTERRUPT CONTROL — F	BD
	8	PROCESSOR STATUS — PROGRAM STORES MARKED IN TROUBLE — 2	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — .47-.94	BH
		PROGRAM INTERRUPT CONTROL — CLR EX	BD
	9	PROCESSOR STATUS — PROGRAM STORES MARKED IN TROUBLE — 3	BF
		SYSTEM INDICATORS — E-E RATE KC/15 MIN — -.47	BH
		HARDWARE CONFIGURATION — STOP SP 0	BD

TABLE I (Cont)

NO. 1 ESS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
4	10	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 4	BF
		PROGRAM DISPLAY – 0	BH
		HARDWARE CONFIGURATION – STOP SP 1	BD
	11	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 5	BF
		PROGRAM DISPLAY – 1	BH
		HARDWARE CONFIGURATION – PSB 0 OFF	BD
	12	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 6	BF
		PROGRAM DISPLAY – 2	BH
		HARDWARE CONFIGURATION – PSB 1 OFF	BD
	13	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 7	BF
		PROGRAM DISPLAY – 3	BH
		HARDWARE CONFIGURATION – CSB 0 OFF	BD
	14	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 8	BF
		PROGRAM DISPLAY – 4	BH
		HARDWARE CONFIGURATION – CSB 1 OFF	BD
	15	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 9	BF
		PROGRAM DISPLAY – 5	BH
		HARDWARE CONFIGURATION – SET MAN	BD
	16	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 10	BF
		PROGRAM DISPLAY – 6	BH
		CO ALM RLS – (KEY)	BD
	17	PROCESSOR STATUS – PROGRAM STORES MARKED IN TROUBLE – 11	BF
		PROGRAM DISPLAY – 7	BH

TABLE J

NO. 2 ESS/AIS – C & D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
1	2	SYSTEM STATUS — SERVICE LOSS	CF
		MISCELLANEOUS — COML PWR	CJ
	3	CRITICAL	CD
		MISCELLANEOUS — A	CJ
	4	MAJOR	CD
		SYSTEM STATUS — AUTO TEST INHIBIT	CG
		MISCELLANEOUS — B	CJ
	5	MINOR	CD
		SYSTEM STATUS — ALARMS TRANSFERRED	CG
		MISCELLANEOUS — C	CJ
	6	SYSTEM STATUS — FUSE ALARM	CG
		MISCELLANEOUS — D	CJ
	7	SYSTEM STATUS — MAINTENANCE CENTER — INTERRUPT DISABLE	CD
		STORE MARGIN TEST — PROGRAM STORE	CG
		MISCELLANEOUS — E	CJ
	8	STORE MARGIN TEST — CALL STORE	CG
		MISCELLANEOUS — F	CJ
	9	POWER CONTROL — TEST MODE REVERSAL ENABLE	CG
	10	POWER CONTROL — CONTROL UNIT SWITCH INHIBIT	CG
	11	SYSTEM STATUS — CONTROL UNIT 0 — STANDBY	CG
	12	SYSTEM STATUS — CONTROL UNIT 0 — OUT OF SERVICE	CG
1	14	SYSTEM STATUS — MAINTENANCE CENTER — OUT OF SERVICE	CG
	15	SYSTEM STATUS — MAINTENANCE CENTER — MANUAL	CG
	16	SYSTEM STATUS — MTCE FORCED	CJ
		SYSTEM STATUS — CONTROL UNIT 1 — OUT OF SERVICE	CG
		SYSTEM STATUS — SCCS FORCED	CJ
	17	SYSTEM STATUS — CONTROL UNIT 1 — STANDBY	CG
		SYSTEM STATUS — SERVICE LOSS	CJ
2	2	COMPARATOR INPUT SWITCHES — 0	CD
		SYSTEM STATUS — NET/FI	CG
	3	COMPARATOR INPUT SWITCHES — 1	CD

TABLE J (Cont)

NO. 2 ESS/AIS – C & D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
		DISPLAY BUFFER — CLEAR	CF
		SYSTEM STATUS — SCAN/MS	CG
	4	COMPARATOR INPUT SWITCHES — 2	CD
		MAINTENANCE CENTER FUNCTIONS — SYS RESET & CLR	CF
		SYSTEM STATUS — AMA/CN	CG
	5	COMPARATOR — INPUT SWITCHES — 3	CD
		TEST STATUS — PF	CF
		SYSTEM STATUS — MISC/MP	CG
	6	COMPARATOR INPUT SWITCHES — 4	CD
		MAINTENANCE CENTER MODE — MAN.	CF
		SYSTEM STATUS — BLDG/AN	CG
	7	COMPARATOR INPUT SWITCHES — 5	CD
		MAINTENANCE CENTER MODE — NORM	CF
		SYSTEM STATUS — CKT LIM/TK	CG
	8	COMPARATOR INPUT SWITCHES — 6	CD
		AUXILIARY FUNCTIONS — PROG EXEC	CF
		SYSTEM STATUS — TRAFFIC/TQ	CG
	9	COMPARATOR INPUT SWITCHES — 7	CD
		AUXILIARY FUNCTIONS — INHIBIT AUTO DISPLAY	CF
2	9	SYSTEM STATUS — DSP	CG
	10	COMPARATOR INPUT SWITCHES — 8	CD
		EMERGENCY ACTION — READY	CF
		SYSTEM STATUS — TOLL NET/MI	CG
	11	COMPARATOR INPUT SWITCHES — 9	CD
		EMERGENCY ACTION — GO	CF
		SYSTEM STATUS — OVLD	CG
	12	COMPARATOR INPUT SWITCHES — 10	CD
		EMERGENCY ACTION — TTY INIT	CF
		SYSTEM STATUS — XOS	CG
	13	COMPARATOR INPUT SWITCHES — 11	CD
		SYSTEM STATUS — XPER	CG

TABLE J (Cont)

NO. 2 ESS/AIS – C & D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
	14	COMPARATOR INPUT SWITCHES — 12	CD
		SYSTEM STATUS — XAMB	CG
		SYSTEM STATUS — CONTROL UNIT 0 — ACTIVE	CJ
	15	COMPARATOR INPUT SWITCHES — 13	CD
		DISPLAY BUFFER — 0	CG
		SYSTEM STATUS — CONTROL UNIT 1 — ACTIVE	CJ
	16	COMPARATOR INPUT SWITCHES — 14	CD
		AUXILIARY FUNCTIONS — LAMP PWR	CJ
	17	COMPARATOR INPUT SWITCHES — 15	CD
		AUXILIARY FUNCTIONS — LAMP TEST	CJ
3	2	COMPARATOR INPUT SWITCHES — 16	CE
		SYSTEM STATUS — SERVICE LOSS	CF
		DISPLAY BUFFER — 1	CH
	3	COMPARATOR INPUT SWITCHES — 17	CE
		TELEMETRY — REM PWR OFF	CF
		DISPLAY BUFFER — 2	CH
3	4	COMPARATOR INPUT SWITCHES — 18	CE
		DISPLAY BUFFER — 3	CH
	5	COMPARATOR INPUT SWITCHES — 19	CE
		MAINTENANCE CENTER FUNCTIONS — COMPARE PA-CIS	CF
		DISPLAY BUFFER — 4	CH
	6	COMPARATOR INPUT SWITCHES — 20	CE
		MAINTENANCE CENTER FUNCTIONS — COMPARE CSA-CIS	CF
		DISPLAY BUFFER — 5	CH
	7	COMPARATOR INPUT SWITCHES — 21	CE
		MAINTENANCE CENTER FUNCTIONS — DYN PS READ	CF
		DISPLAY BUFFER — 6	CH
	8	EMERGENCY ACTION — ENABLE	CE
		MAINTENANCE CENTER FUNCTIONS — DYN CS READ	CF
		DISPLAY BUFFER — 7	CH
	9	EMERGENCY ACTION — STABLE	CE

TABLE J (Cont)

NO. 2 ESS/AIS – C & D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
		SYSTEM STATUS – LOCK CU 0 ACT	CF
		DISPLAY BUFFER – 8	CH
	10	EMERGENCY ACTION – REC CHG/TAPE	CE
		SYSTEM STATUS – LOCK CU 1 ACT	CF
		DISPLAY BUFFER – 9	CH
	11	EMERGENCY ACTION – LINE TRFR	CE
		DISPLAY BUFFER – 10	CH
	12	DISPLAY BUFFER – 11	CH
3	13	SYSTEM STATUS – LOCK CU 0 ACTIVE	CE
		DISPLAY BUFFER – 12	CH
		SYSTEM STATUS – CONTROL UNIT 0 – RUN	CK
	14	SYSTEM STATUS – LOCK CU 1 ACTIVE	CE
		DISPLAY BUFFER – 13	CH
		SYSTEM STATUS – CONTROL UNIT 1 – RUN	CK
	15	DISPLAY BUFFER – 14	CH
		TTY CONTROL STATUS – PWR OFF – TA	CK
	16	DISPLAY BUFFER – 15	CH
		TTY CONTROL STATUS – PWR OFF – TB	CK
	17	DISPLAY BUFFER – 16	CH
		TTY CONTROL STATUS – DATA SET DISCONNECT – D2	CK
4	2	TTY CONTROL STATUS – DATA SET DISCONNECT – TRI ON	CE
		DISPLAY BUFFER – 17	CH
	3	TTY CONTROL STATUS – DATA SET DISCONNECT – REM MTCE	CE
		DISPLAY BUFFER – 18	CH
		TTY CONTROL STATUS – DATA SET DISCONNECT – D3	CK
	4	TTY CONTROL – LOC MTCE	CE
		DISPLAY BUFFER – 19	CH
		TTY CONTROL STATUS – DATA SET DISCONNECT – D4	CK
	5	MAINTENANCE CENTER FUNCTIONS – CMPR PA – CIS	CE
		DISPLAY BUFFER – 20	CH
		TTY CONTROL STATUS – DATA SET DISCONNECT – D5	CK

TABLE J (Cont)

NO. 2 ESS/AIS – C & D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
	6	MAINTENANCE CENTER FUNCTIONS — CMPR CSA-CIS	CE
		DISPLAY BUFFER — 21	CH
		TTY CONTROL STATUS — DATA SET DISCONNECT — D6	CK
	7	MAINTENANCE CENTER FUNCTIONS — DYN PS READ	CE
4	7	MAINTENANCE CENTER FUNCTIONS — COMPARE PA — CIS	CH
		TTY CONTROL STATUS — DATA SET DISCONNECT — D7	CK
	8	MAINTENANCE CENTER FUNCTIONS — DYN CS READ	CE
		MAINTENANCE CENTER FUNCTIONS — REPEAT EXECUTE ONE WORD	CH
		TTY CONTROL STATUS — TTY DISCONNECT — T2	CK
	9	MAINTENANCE CENTER MODE — ON-LINE INTERRUPT	CE
		MAINTENANCE CENTER MODE — ON-LINE INIT	CE
		MAINTENANCE CENTER FUNCTIONS — EXECUTE ONE WORD NO ADV	CH
		TTY CONTROL STATUS — TTY DISCONNECT — T3	CK
	10	TELEMETRY — ALL LAMPS ON	CE
		MAINTENANCE CENTER FUNCTIONS — EXECUTE ONE WORD & ADV	CH
		TTY CONTROL STATUS — TTY DISCONNECT — T4	CK
	11	TELEMETRY — ALL LAMPS OFF	CE
		MAINTENANCE CENTER FUNCTIONS — COMPARE EXT — CIS	CH
		TTY CONTROL STATUS — TTY DISCONNECT — T5	CK
	12	POWER CONTROL — CU 0 ACT	CE
		OFF-LINE LOAD & DISPLAY — LOAD	CH
		TTY CONTROL STATUS — TTY DISCONNECT — T6	CK
	13	POWER CONTROL — CU 1 ACT	CE
		OFF-LINE LOAD & DISPLAY — DISPLAY	CH
		TTY CONTROL STATUS — TTY DISCONNECT — T7	CK
	14	TTY CONTROL — RESET	CE
		TEST STATUS — FAIL	CH
		POWER CONTROL — MTCE CENTER CIRCUIT	CK
	15	MAINTENANCE CENTER MODE — OFF-LINE STOP	CH

TABLE J (Cont)

NO. 2 ESS/AIS – C & D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
		POWER CONTROL — OFF-LINE CONTROL UNIT	CK
	16	AUXILIARY FUNCTIONS — OFF-LINE STOPPED MANUAL	CH
4	16	POWER CONTROL — SEQUENCE FAILURE — BUS A	CK
4	17	SYSTEM STATUS — SERVICE LOSS	CH
		POWER CONTROL — SEQUENCE FAILURE — BUS B	CK

TABLE K

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
1	2	EMERGENCY RECOVERY — PROCESSOR 0 — 13	CJ
	3	CRITICAL	CD
		* MISCELLANEOUS — COML PWR	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 12	CJ
	4	MAJOR	CD
		SYSTEM STATUS — DISJOIN	CG
		HARDWARE CONFIGURATION — DISJOIN	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 11	CJ
	5	MINOR	CD
		PROGRAM CONTROL — FUNC DATA	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 10	CJ
	6	TTY — LOC	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 9	CJ
	7	TTY — REM	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 8	CJ
	8	MISCELLANEOUS — A	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 7	CJ
	9	MISCELLANEOUS — B	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 6	CJ
	10	MISCELLANEOUS — C	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 5	CJ
	11	MISCELLANEOUS — D	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 4	CJ
	12	MISCELLANEOUS — E	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 3	CJ
	13	MISCELLANEOUS — F	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 2	CJ
1	14	SYSTEM STATUS — RPTD T OUT	CG
		EMERGENCY RECOVERY — PROCESSOR 0 — 1	CJ

* TSPS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
	15	SYSTEM STATUS – MULT TBL	CG
		EMERGENCY RECOVERY – PROCESSOR 0 – 0	CJ
	16	* SYSTEM STATUS – SYSTEM MONITOR	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 19	CJ
	17	TELEMETRY – REM PWR OFF	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 18	CJ
2	2	HARDWARE CONFIGURATION – EA DIS T OUT	CD
		SYSTEM STATUS – DIAGS IN PROG	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 17	CJ
		SUBSYSTEM STATUS – 6	CL
		** SYSTEM STATUS – OVLD	CM
	3	PROGRAM CONTROL – BLK	CD
		HARDWARE CONFIGURATION – BUS 0 – 4	CF
		SYSTEM STATUS – CD OFF NORM	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 16	CJ
		SUBSYSTEM STATUS – 7	CL
	4	PROGRAM CONTROL – 0	CD
		HARDWARE CONFIGURATION – BUS 0 – 5	CF
		SYSTEM STATUS – CO ALM INHB	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 15	CJ
		SUBSYSTEM STATUS – 8	CL
	5	PROGRAM CONTROL – 1	CD
		HARDWARE CONFIGURATION – BUS 0 – 6	CF
		SPC STATUS – PROCESSOR 0 – STOP	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 14	CJ
		SUBSYSTEM STATUS – 9	CL
2	6	PROGRAM CONTROL – 2	CD
		HARDWARE CONFIGURATION – BUS 0 – 7	CF
		SPC STATUS – PROCESSOR 0 – CLK	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 13	CJ
		SUBSYSTEM STATUS – 10	CL

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
	7	PROGRAM CONTROL – 3	CD
		HARDWARE CONFIGURATION – BUS 1 – 0	CF
		SPC STATUS – PROCESSOR 0 – TBL	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 12	CJ
		SUBSYSTEM STATUS – 11	CL
	8	PROGRAM CONTROL – 4	CD
		HARDWARE CONFIGURATION – BUS 1 – 1	CF
		SPC STATUS – PROCESSOR 0 – OFF LINE	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 11	CJ
		SUBSYSTEM STATUS – 12	CL
	9	PROGRAM CONTROL – 5	CD
		HARDWARE CONFIGURATION – BUS 1 – 2	CF
		SPC STATUS – PROCESSOR 0 – ACT	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 10	CJ
		SUBSYSTEM STATUS – 13	CL
	10	PROGRAM CONTROL – 6	CD
		HARDWARE CONFIGURATION – BUS 1 – 3	CF
		SPC STATUS – PROCESSOR 0 – PWR	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 9	CJ
		SUBSYSTEM STATUS – 14	CL
	11	PROGRAM CONTROL – 7	CD
		HARDWARE CONFIGURATION – BUS 1 – 4	CF
		SPC STATUS – PROCESSOR 0 – STORE BUS – SEND 0	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 8	CJ
		* OFF NORMAL MAJOR – PST SET	CL
		** OFF NORMAL MAJOR – DIST REG – S	CL
	12	PROGRAM CONTROL – 8	CD
		HARDWARE CONFIGURATION – BUS 1 – 5	CF
		SPC STATUS – PROCESSOR 0 – STORE BUS – RCV 0	CG

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
2	12 (Cont)	EMERGENCY RECOVERY – PROCESSOR 1 – 7	CJ
		OFF NORMAL MAJOR – MNT OFF	CL
	13	PROGRAM CONTROL – 9	CD
		HARDWARE CONFIGURATION – BUS 1 – 6	CF
		SPC STATUS – PROCESSOR 0 – STORE BUS – SEND 1	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 6	CJ
		* OFF NORMAL MAJOR – FR OFF	CL
		** OFF NORMAL MAJOR – PFT – P	CL
	14	PROGRAM CONTROL – 10	CD
		HARDWARE CONFIGURATION – BUS 1 – 7	CF
		SPC STATUS – PROCESSOR 0 – STORE BUS – RCV 1	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 5	CJ
		* OFF NORMAL MAJOR – CLK OFF	CL
		** OFF NORMAL MAJOR – PFT – S	CL
	15	PROGRAM CONTROL – 11	CD
		HARDWARE CONFIGURATION – STATE CONT	CF
		SPC STATUS – PROCESSOR 1 – STOP	CG
		EMERGENCY RECOVERY – PROCESSOR 1 – 4	CJ
		OFF NORMAL MAJOR – INIT RESP	CL
	16	PROGRAM CONTROL – 12	CD
		HARDWARE CONFIGURATION – SET MANUAL	CF
		EMERGENCY RECOVERY – PROCESSOR 1 – 3	CJ
		CRITICAL – MAJOR – MINOR WILL FLASH	
		* OFF NORMAL MINOR – PRT INH	CL
		** OFF NORMAL MINOR – TTR 2	CL
	17	PROGRAM CONTROL – 13	CD
		CRITICAL – MAJOR – MINOR WILL FLASH	
		HARDWARE CONFIGURATION – SC ANS BUS 0 SELECT	CF
		EMERGENCY RECOVERY – PROCESSOR 1 – 2	CJ
		OFF NORMAL MINOR – ABN TASK	CL
		OFF NORMAL MINOR – TTY 3	CL

* TSPS Only
** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
3	2	PROGRAM CONTROL – 14	CE
		HARDWARE CONFIGURATION – SC ANS BUS 1 SELECT	CF
		SPC STATUS – PROCESSOR 1 – CLK	CH
		EMERGENCY RECOVERY – PROCESSOR 1 – 1	CK
		* OFF NORMAL MINOR – AMA SMP	CL
	3	PROGRAM CONTROL – 15	CE
		HARDWARE CONFIGURATION – INH ERROR DET	CF
		SPC STATUS – PROCESSOR 1 – TBL	CH
		EMERGENCY RECOVERY – PROCESSOR 1 – 0	CK
		* OFF NORMAL MINOR – TFC GEN	CL
		** OFF NORMAL MINOR – CPD TEL	CL
	4	PROGRAM CONTROL – 16	CE
		CD LAMP TEST	CF
		SPC STATUS – PROCESSOR 1 – OFF LINE	CH
		* TSPS PERIPHERAL STATUS – TRUNK LINE – P	CK
		** ETS PERIPHERAL STATUS – TAC – P	CK
		* OFF NORMAL MINOR – GROW ACT	CL
		** OFF NORMAL MINOR – TDT TBL	CL
	5	PROGRAM CONTROL – 17	CE
		ALARM RESET	CF
		SPC STATUS – PROCESSOR 1 – ACT	CH
		* TSPS PERIPHERAL STATUS – TRUNK LINK – S	CK
		** ETS PERIPHERAL STATUS – TAC – S	CK
		PROGRAM DISPLAY – PTD	CL
	6	PROGRAM CONTROL – 18	CE
		PROCESSOR POWER – PROC 0 – POWER OFF	CF
		SPC STATUS – PROCESSOR 1 – PWR	CH
		* TSPS PERIPHERAL STATUS – POSITION LINK – P	CK
		** ETS PERIPHERAL STATUS – SL G 1 – P	CK
		PROGRAM DISPLAY – 19	CL

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP17 LOCATION
3	7	PROGRAM CONTROL – 19	CE
		PROCESSOR POWER – PROC 0 – OOS	CF
		SPC STATUS – PROCESSOR 1 – STORE BUS – SEND 0	CH
		* TSPS PERIPHERAL STATUS – POSITION LINK – S	CK
		** ETS PERIPHERAL STATUS – SLG 1 – S	CK
		PROGRAM DISPLAY – 18	CL
	8	PROCESSOR POWER – PROC 0 – OFF NORMAL	CF
		SPC STATUS – PROCESSOR 1 – STORE BUS – RCV 0	CH
		* TSPS PERIPHERAL STATUS – MASTER SCAN – P	CK
		** ETS PERIPHERAL STATUS – SLG 3 – P	CK
		PROGRAM DISPLAY – 17	CL
	9	PROCESSOR POWER – PROC 1 – POWER OFF	CF
		SPC STATUS – PROCESSOR 1 – STORE BUS – SEND 1	CH
		* TSPS PERIPHERAL STATUS – MASTER SCAN – S	CK
		** ETS PERIPHERAL STATUS – SLG 3 – S	CK
		PROGRAM DISPLAY – 16	
	10	PROCESSOR POWER – PROC 0 – POWER OFF	CE
		PROCESSOR POWER – PROC 1 – OOS	CF
		SPC STATUS – PROCESSOR 1 – STORE BUS – RCV 1	CH
		* TSPS PERIPHERAL STATUS – COMM BUS TRNSL – A	CK
		** ETS PERIPHERAL STATUS – B/D LINKS – P	CK
		PROGRAM DISPLAY – 15	CL
	11	PROCESSOR POWER – PROC 0 – POWER ON	CE
		PROCESSOR POWER – PROC 1 – OFF NORMAL	CF
		SPC STATUS – STORE – P	CH
		* TSPS PERIPHERAL STATUS – COMM BUS TRNSL – B	CK
		** ETS PERIPHERAL STATUS – B/D LINKS – S	CK
		PROGRAM DISPLAY – 14	CL

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
3	12	PROCESSOR POWER — PROC 1 — POWER OFF	CE
		EMERGENCY ACTION — CALL PROC RECOV	CF
		SPC STATUS — STORE — S	CH
		* TSPS PERIPHERAL STATUS — AMA — A	CK
		** ETS PERIPHERAL STATUS — A LINKS — P	CK
		PROGRAM DISPLAY — 13	CL
	13	PROCESSOR POWER — PROC 1 — POWER ON	CE
		SPC STATUS — CDP BUS PWR — 0	CH
		* TSPS PERIPHERAL STATUS — AMA — B	CK
		** ETS PERIPHERAL STATUS — A LINKS — S	CK
		PROGRAM DISPLAY — 12	CL
	14	EMERGENCY ACTION — ENAB	CE
		SPC STATUS — CDP BUS PWR — 1	CH
		* TSPS PERIPHERAL STATUS — TIME OF DAY — A	CK
		** ETS PERIPHERAL STATUS — TRM — P	CK
		PROGRAM DISPLAY — 11	CL
	15	EMERGENCY ACTION — MNA	CE
		HARDWARE CONFIGURATION — INV	CF
		SPC STATUS — CPD — P	CH
		* TSPS PERIPHERAL STATUS — TIME OF DAY — B	CK
		** ETS PERIPHERAL STATUS — TRM — S	CK
		PROGRAM DISPLAY — 10	CL
	16	EMERGENCY ACTION — MJA	CE
		HARDWARE CONFIGURATION — BUS 0 ACTIVE	CF
		SPC STATUS — CPD — S	CH
		* TSPS PERIPHERAL STATUS — UNIV TRUNK — P	CK
		** ETS PERIPHERAL STATUS — SLG 2 — P	CK
		PROGRAM DISPLAY — 9	CL

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
3	17	EMERGENCY ACTION — SIA	CE
		HARDWARE CONFIGURATION — BUS 1 ACTIVE	CF
		SPC STATUS — STORE BUS PWR — 0	CH
		* TSPS PERIPHERAL STATUS — UNIV TRUNK — S	CK
		** ETS PERIPHERAL STATUS — SLG 2 — S	CK
		PROGRAM DISPLAY — 8	CL
4	2	EMERGENCY ACTION — SIB	CE
		SPC STATUS — STORE BUS PWR — 1	CH
		* TSPS PERIPHERAL STATUS — SOG — A	CK
		** ETS PERIPHERAL STATUS — SLG 4 — P	CK
		PROGRAM DISPLAY — 7	CM
	3	EMERGENCY ACTION — AA	CE
		SPC STATUS — SCAN ANS BUS ACT — 0	CH
		* TSPS PERIPHERAL STATUS — SOG — B	CK
		** ETS PERIPHERAL STATUS — SLG 4 — S	CK
		PROGRAM DISPLAY — 6	CM
	4	EMERGENCY ACTION — AB	CE
		SPC STATUS — SCAN ANS BUS ACT — 1	CH
		* TSPS PERIPHERAL STATUS — MISC — P	CK
		** ETS PERIPHERAL STATUS — C LINKS — P	CK
		PROGRAM DISPLAY — 5	CM
	5	EMERGENCY ACTION — AC	CE
		SPC STATUS — MSC-0 — P	CH
		* TSPS PERIPHERAL STATUS — MISC — S	CK
		** ETS PERIPHERAL STATUS — C LINKS — S	CK
		PROGRAM DISPLAY — 4	CM
	6	EMERGENCY ACTION — AD	CE
		SPC STATUS — MSC-0 — S	CH
		* CIRCUIT STATUS — UNIV TRKS	CK
		** CIRCUIT STATUS — DAS P	CK

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
4	6 (Cont)	PROGRAM DISPLAY – 3	CM
	7	EMERGENCY ACTION – AE	CE
		SPC STATUS – PTU – P	CH
		* CIRCUIT STATUS – SRV CKTS	CK
		** CIRCUIT STATUS – DAS S	CK
		PROGRAM DISPLAY – 2	CM
	8	EMERGENCY ACTION – CLEAR EXEC	CE
		SPC STATUS – PUA BUS POWER – 0	CH
		* CIRCUIT STATUS – SPL TRKS	CK
		PROGRAM DISPLAY – 1	CM
	9	HARDWARE CONFIGURATION – PROC 0 SELECT	CE
		SPC STATUS – PUA BUS POWER – 1	CH
		* TRAFFIC STATUS – OVLD	CK
		PROGRAM DISPLAY – 0	CM
	10	HARDWARE CONFIGURATION – PROC 1 SELECT	CE
		SPC STATUS – MSD – P	CH
		* TRAFFIC STATUS – POS Q OVF	CK
		* CIRCUIT STATUS – POS	CM
	11	HARDWARE CONFIGURATION – BUS 0 SELECT	CE
		SPC STATUS – MSD – S	CH
		* SUBSYSTEM STATUS – M	CK
		** P LINKS – P	CM
	12	HARDWARE CONFIGURATION – BUS 1 SELECT	CE
		EMERGENCY RECOVERY – PROCESSOR 0 – 19	CH
		* SUBSYSTEM STATUS – 0	CK
		** P LINKS – S	CM

* TSPS Only

** ETS Only

TABLE K (Cont)

TSPS/ETS – C&D CENTRAL GROUP REPORT COMMANDS (Cont)

WORD	SWITCH	CONSOLE LAMPS AND KEYS LIGHTED	CP 17 LOCATION
4	13	HARDWARE CONFIGURATION – BUS 0 – 0	CE
		EMERGENCY RECOVERY – PROCESSOR 0 – 18	CH
		* SUBSYSTEM STATUS – 1	CK
		** SCM SDM – P	CM
	14	HARDWARE CONFIGURATION – BUS 0 – 1	CE
		EMERGENCY RECOVERY – PROCESSOR 0 – 17	CH
		* SUBSYSTEM STATUS – 2	CK
		** SCM SDM – S	CM
	15	HARDWARE CONFIGURATION – BUS 0 – 2	CE
		EMERGENCY RECOVERY – PROCESSOR 0 – 16	CH
		* SUBSYSTEM STATUS – 3	CK
		** DIST REG – P	CM
	16	HARDWARE CONFIGURATION – BUS 0 – 3	CE
		EMERGENCY RECOVERY – PROCESSOR 0 – 15	CH
		* SUBSYSTEM STATUS – 4	CK
		** SCAN – P	CM
	17	EMERGENCY RECOVERY – PROCESSOR 0 – 14 CRITICAL – MAJOR – MINOR WILL FLASH	CH
		* SUBSYSTEM STATUS – 5	CK
		** SCAN – S	CM

* TSPS Only
** ETS Only

3.04 Chart 3 describes in detail the equipment needed and the procedure for troubleshooting the relay output commands from the C&D central unit.

CHART 3

C&D CENTRAL RELAY OUTPUT COMMAND TROUBLESHOOTING

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), or equivalent

STEP	PROCEDURE

Note: Before starting the step-procedure testing of the central, a preliminary test should be performed as follows: Remove the cover from the console, turn the console power switch to ON and check that the +5, +15, and -15 Vdc power sources are supplied to the C&D central unit on terminal strip TSA. If all the voltages are present, proceed with Step 1. If any voltages are not present, repair or replace the power supply as necessary.

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

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

Requirement: 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 1 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

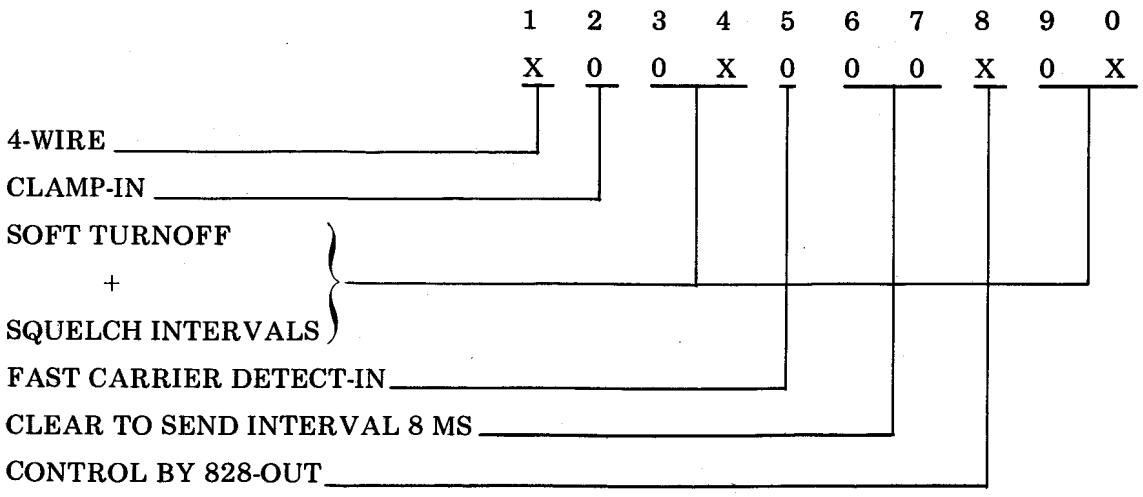
2 Once the original data set or the new data set has met the requirements in Step 1, ensure that the following options in the data set are set as indicated below:

- 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.

CHART 3 (Cont)

STEP	PROCEDURE

• Set rocker switch S2 to the following positions (x = rocker down on number side):



• 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

3 Once the requirement in Step 1 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 4 through 14 isolate the central circuit problems with the data set disconnected.

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

5 Locate and remove plug P1 from the 202T data set at the central unit.

6 Mate the female pin connector of the E2A test cable to the P1 plug removed in Step 5. Connect the other end of the test cable into the J2 connector on the E-telemetry station test set.

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

CHART 3 (Cont)

STEP	PROCEDURE

SWITCH	POSITION
SYSTEM	E2A
PARITY	B
BIT RATE	1200
MODE	CONT
ENABLE	NORMAL
DISPLAY ERROR WORD	OFF
DISPLAY WORD SELECT	3
POWER	OFF
RCU	OFF
MESSAGE LENGTH	16
WORD 1 through WORD 4	10000000000000000

8 Turn the SCC console unit power switch on.

9 Move the station test set POWER switch to the ON (up) position.

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

Requirement: The TMT, RCV, VALID WORD, and WORD 1 through WORD 4 lamps shall blink. If the requirement is not met, repeat the step. If the requirement is still not met, replace all of the following CPs:

CP 1
CP 2
CP 3
CP 13
CP 14
CP 15
CP 16

Inspect CP 8 for proper strapping connections per note 104 of SD-1C540-01-D1. Determine the defective CP(s) by inserting the original CP(s) back in the central unit, one at a time. Repeat Step 11 after each replacement until the unit malfunctions. The last original CP installed is defective and shall be replaced with a spare.

11 Depress the TLM ALM RLS key.

Requirement: All console lamps shall extinguish except CLS PWR ON.

CHART 3 (Cont)

STEP	PROCEDURE
12	Depress each switch on the SCC console per Table L, M, or N (depending on system). ***Requirement:*** The INFORMATION lamps on the E-telemetry station test set shall light as indicated in Table L, M, or N. A lighted lamp is indicated by a "1," and an extinguished lamp is indicated by a "0." If the requirement is not met, replace CP 21 in the location specified by the appropriate table. If the lamps indicated do not light after replacing CP 21, depress a few other switches and note whether they operate properly. If no switches operate properly, replace CPs 19 and 20 and repeat the step.
13	Depress and hold the RLS-OVRD key, and at the same time depress any of the locking keys that are extinguished. ***Requirement:*** INFORMATION lamp No. 2 (Bit 2) will extinguish and remain extinguished indicating a release command has been forced.
14	On the E-telemetry station test set, set WORD 2 switches 2 through 16 to position 1 (up). Set WORD 3 switches 2 through 13 to position 1 (up). ***Requirement:*** All LOCKING KEY lamps should be illuminated.
15	With the locking keys illuminated, depress and release each switch on the SCC console per Table L, M, or N and observe INFORMATION lamp No. 2. ***Requirement:*** INFORMATION lamp No. 2 should remain extinguished.
16	Depress and hold the OPR OVRD key, and at the same time depress any of the locking keys which are illuminated. ***Requirement:*** INFORMATIONN lamp No. 2 illuminates and remains illuminated indicating an operate command has been forced.
17	Depress each switch listed in Table O, P, or Q (depending on system). ***Requirement:*** The INFORMATION lamps on the E-telemetry station test set shall light per Table O, P, or Q with lamp number 2 momentarily lighting. If the requirement is not met, replace CP 21 in the location specified by the appropriate table. If the lamps indicated do not light after replacing CP 21, depress a few other switches and note whether they operate properly. If no switches operate properly, replace CPs 19 and 20 and repeat the step.
18	Release each switch on the SCC console per Table O, P, or Q. ***Requirement:*** The INFORMATION lamps shall light as indicated per Table O, P, or Q with lamp number 2 extinguished (zero).

TABLE L

NO. 1 ESS – C & D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)

SWITCH NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1–2–3–4–5	6–7–8–9	10-11-12-13-14	15-16-17	
HARDWARE CONFIGURATION — EA DIS T OUT	1*000	0000	00000	000	BA
TRAFFIC CONTROL — ENAB	1*000	1000	00000	000	BA
EMER MAN SRV	1*000	0100	00000	000	BA
PROGRAM CONTROL — BLK	1*000	1100	00000	000	BA
0	1*000	0010	00000	000	BA
1	1*000	1010	00000	000	BA
2	1*000	0110	00000	000	BA
3	1*000	1110	00000	000	BA
4	1*000	0001	00000	000	BA
5	1*000	1001	00000	000	BA
6	1*000	0101	00000	000	BA
7	1*000	1101	00000	000	BA
8	1*000	0011	00000	000	BA
9	1*000	1011	00000	000	BA
10	1*000	0111	00000	000	BA
11	1*000	1111	00000	000	BA
12	1*000	0000	10000	000	BA
13	1*000	1000	10000	000	BA
14	1*000	0100	10000	000	BA
15	1*000	1100	10000	000	BA
16	1*000	0010	10000	000	BA
17	1*000	1010	10000	000	BA
18	1*000	0110	10000	000	BA
19	1*000	1110	10000	000	BA

Legend:
1 — Lamp Illuminated
0 — Lamp Extinguished
* — Lamp Illuminated for Operate or Extinguished for Release

TABLE L (Cont)

NO. 1 ESS – C & D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)

SWITCH NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
20	1 * 0 0 0	0 0 0 1	1 0 0 0 0	0 0 0	BA
21	1 * 0 0 0	1 0 0 1	1 0 0 0 0	0 0 0	BA
22	1 * 0 0 0	0 1 0 1	1 0 0 0 0	0 0 0	BA

Legend:
1 — Lamp Illuminated
0 — Lamp Extinguished
* — Lamp Illuminated for Operate or Extinguished for Release

TABLE M

TSPS/ETS – C&D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
EA DIS T OUT	1*000	0000	00000	000	CA
BLK	1*000	1000	00000	000	CA
0	1*000	0100	00000	000	CA
1	1*000	1100	00000	000	CA
2	1*000	0010	00000	000	CA
3	1*000	1010	00000	000	CA
4	1*000	0110	00000	000	CA
5	1*000	1110	00000	000	CA
6	1*000	0001	00000	000	CA
7	1*000	1001	00000	000	CA
8	1*000	0101	00000	000	CA
9	1*000	1101	00000	000	CA
10	1*000	0011	00000	000	CA
11	1*000	1011	00000	000	CA
12	1*000	0111	00000	000	CA
13	1*000	1111	00000	000	CA
14	1*000	0000	10000	000	CA
15	1*000	1000	10000	000	CA
16	1*000	0100	10000	000	CA
17	1*000	1100	10000	000	CA
18	1*000	0010	10000	000	CA
19	1*000	1010	10000	000	CA

Legend:
1 — Lamp Illuminated
0 — Lamp Extinguished
* — Lamp Illuminated for Operate or Extinguished for Release as Specified by Test

TABLE N

NO. 2 ESS/AIS – C&D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1-2-3-4-5	6-7-8-9	10-11-12-13-14	15-16-17	
COMP. INPUT SWITCHES 0	1*000	0000	00000	000	CA
1	1*000	1000	00000	000	CA
2	1*000	0100	00000	000	CA
3	1*000	1100	00000	000	CA
4	1*000	0010	00000	000	CA
5	1*000	1010	00000	000	CA
6	1*000	0110	00000	000	CA
7	1*000	1110	00000	000	CA
8	1*000	0001	00000	000	CA
9	1*000	1001	00000	000	CA
10	1*000	0101	00000	000	CA
11	1*000	1101	00000	000	CA
12	1*000	0011	00000	000	CA
13	1*000	1011	00000	000	CA
14	1*000	0111	00000	000	CA
15	1*000	1111	00000	000	CA
16	1*000	0000	10000	000	CA
17	1*000	1000	10000	000	CA
18	1*000	0100	10000	000	CA
19	1*000	1100	10000	000	CA
20	1*000	0010	10000	000	CA
21	1*000	1010	10000	000	CA
EMERGENCY ACTION ENABLE	1*000	0110	10000	000	CA
STABLE	1*000	1110	10000	000	CA

Legend:
1 — Lamp Illuminated
0 — Lamp Extinguished
* — Lamp Illuminated for Operate or Extinguished for Release as Specified by Test

TABLE N (Cont)

NO. 2 ESS/AIS – C&D CENTRAL RELAY OUTPUT COMMANDS (LOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
REC CHG TAPE	1 * 0 0 0	0 0 0 1	1 0 0 0 0	0 0 0	CA
LINE TRFR	1 * 0 0 0	1 0 0 1	1 0 0 0 0	0 0 0	CA
POWER	1 * 0 0 0	0 1 0 1	1 0 0 0 0	0 0 0	CA
LOCK CU 0 ACT	1 * 0 0 0	1 1 0 1	1 0 0 0 0	0 0 0	CA
LOCK CU 1 ACT	1 * 0 0 0	0 0 1 1	1 0 0 0 0	0 0 0	CA
TRI ON	1 * 0 0 0	0 0 0 0	0 1 0 0 0	0 0 0	CB
REM MTCE	1 * 0 0 0	1 0 0 0	0 1 0 0 0	0 0 0	CB
LOC MTCE	1 * 0 0 0	0 1 0 0	0 1 0 0 0	0 0 0	CB
CMPR PA – CIS	1 * 0 0 0	1 1 0 0	0 1 0 0 0	0 0 0	CB
CMPR CSA – CIS	1 * 0 0 0	0 0 1 0	0 1 0 0 0	0 0 0	CB
DYN PS READ	1 * 0 0 0	1 0 1 0	0 1 0 0 0	0 0 0	CB
DYN CS READ	1 * 0 0 0	0 1 1 0	0 1 0 0 0	0 0 0	CB
ON LINE INIT	1 * 0 0 0	1 1 1 0	0 1 0 0 0	0 0 0	CB

Legend:
1 – Lamp Illuminated
0 – Lamp Extinguished
* – Lamp Illuminated for Operate or Extinguished for Release as Specified by Test

TABLE O

NO. 1 ESS – C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)

SWITCH NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS																CP21 LOCATION
	1	-2	-3	-4	-5	6	-7	-8	-9	10	-11	-12	-13	-14	15	-16	-17	
ALL LAMPS OFF	1	Ø	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	BA
ALL LAMPS ON	1	Ø	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	BA
PROGRAM INTERRUPT CONTROL –ENAB	1	Ø	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	BA
HARDWARE CONFIGURATION –CC 0 SEL ACT	1	Ø	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	BA
–CC 1 SEL ACT	1	Ø	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	BA
PROGRAM INTERRUPT CONTROL –A	1	Ø	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	BB
–B	1	Ø	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	BB
–C	1	Ø	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	BB
–D	1	Ø	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	BB
–E	1	Ø	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	BB
–F	1	Ø	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	BB
–CLR EX	1	Ø	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	BB
HARDWARE CONFIGURATION –STOP SPO	1	Ø	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	BB
–STOP SP1	1	Ø	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	BB
–PSB0 PWR OFF	1	Ø	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	BB
–PSB1 PWR OFF	1	Ø	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	BB
–CSB0 PWR OFF	1	Ø	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	BB
–CSB1 PWR OFF	1	Ø	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	BB
–SET MAN	1	Ø	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	BB
CO ALM RLS	1	Ø	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	BB

Legend:
1 — Lamp Lighted
0 — Lamp Extinguished
Ø — Lamp Momentarily Lights

TABLE P

NO. 2 ESS/AIS – C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
ALL LAMPS OFF	1 Ø 0 0 0	0 1 1 1	1 1 1 1 1	1 1 1	CB
ALL LAMPS ON	1 Ø 0 0 0	1 1 1 1	1 1 1 1 1	1 1 1	CB
CU 0 ACT	1 Ø 0 0 0	0 1 0 1	0 1 0 0 0	0 0 0	CB
CU 1 ACT	1 Ø 0 0 0	1 1 0 1	0 1 0 0 0	0 0 0	CB
RESET	1 Ø 0 0 0	0 0 1 1	0 1 0 0 0	0 0 0	CB
CLEAR BUFFER	1 Ø 0 0 0	1 0 0 0	1 1 0 0 0	0 0 0	CB
SYSTEM RESET & CLEAR	1 Ø 0 0 0	0 1 0 0	1 1 0 0 0	0 0 0	CB
PF	1 Ø 0 0 0	1 1 0 0	1 1 0 0 0	0 0 0	CB
MAN.	1 Ø 0 0 0	0 0 1 0	1 1 0 0 0	0 0 0	CB
NORM	1 Ø 0 0 0	1 0 1 0	1 1 0 0 0	0 0 0	CB
PROG EXEC	1 Ø 0 0 0	0 1 1 0	1 1 0 0 0	0 0 0	CB
INHIBIT AUTO DISPLAY	1 Ø 0 0 0	1 1 1 0	1 1 0 0 0	0 0 0	CB
READY	1 Ø 0 0 0	0 0 0 1	1 1 0 0 0	0 0 0	CB
GO	1 Ø 0 0 0	1 0 0 1	1 1 0 0 0	0 0 0	CB
TTY INIT	1 Ø 0 0 0	0 1 0 1	1 1 0 0 0	0 0 0	CB

Legend:

1 — Lamp Lighted
0 — Lamp Extinguished
0 — Lamp Momentarily Lights

TABLE Q

TSPS/ETS – C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
ALL LAMPS OFF	1 Ø 0 0 0	0 1 1 1	1 1 1 1 1	1 1 1	CA
ALL LAMPS ON	1 Ø 0 0 0	1 1 1 1	1 1 1 1 1	1 1 1	CA
PROC 0 POWER OFF	1 Ø 0 0 0	0 0 0 1	1 0 0 0 0	0 0 0	CA
PROC 0 POWER ON	1 Ø 0 0 0	1 0 0 1	1 0 0 0 0	0 0 0	CA
PROC 1 POWER OFF	1 Ø 0 0 0	0 1 0 1	1 0 0 0 0	0 0 0	CA
PROC 1 POWER ON	1 Ø 0 0 0	1 1 0 1	1 0 0 0 0	0 0 0	CA
ENAB	1 Ø 0 0 0	0 0 1 1	1 0 0 0 0	0 0 0	CA
MNA	1 Ø 0 0 0	1 0 1 1	1 0 0 0 0	0 0 0	CA
MJA	1 Ø 0 0 0	0 1 1 1	1 0 0 0 0	0 0 0	CA
SIA	1 Ø 0 0 0	1 1 1 1	1 0 0 0 0	0 0 0	CA
SIB	1 Ø 0 0 0	0 0 0 0	0 1 0 0 0	0 0 0	CB
AA	1 Ø 0 0 0	1 0 0 0	0 1 0 0 0	0 0 0	CB
AB	1 Ø 0 0 0	0 1 0 0	0 1 0 0 0	0 0 0	CB
AC	1 Ø 0 0 0	1 1 0 0	0 1 0 0 0	0 0 0	CB
AD	1 Ø 0 0 0	0 0 1 0	0 1 0 0 0	0 0 0	CB
AE	1 Ø 0 0 0	1 0 1 0	0 1 0 0 0	0 0 0	CB
CLEAR EXEC	1 Ø 0 0 0	0 1 1 0	0 1 0 0 0	0 0 0	CB
PROC 0 SELECT	1 Ø 0 0 0	1 1 1 0	0 1 0 0 0	0 0 0	CB
PROC 1 SELECT	1 Ø 0 0 0	0 0 0 1	0 1 0 0 0	0 0 0	CB
BUS 0 SELECT	1 Ø 0 0 0	1 0 0 1	0 1 0 0 0	0 0 0	CB
BUS 1 SELECT	1 Ø 0 0 0	0 1 0 1	0 1 0 0 0	0 0 0	CB

Legend:

1 — Lamp Lighted
0 — Lamp Extinguished
Ø — Lamp Momentarily Lights for Operate

TABLE Q (Cont)

TSPS/ETS – C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 17 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
BUS 0 0	1 Ø 0 0 0	1 1 0 1	0 1 0 0 0	0 0 0	CB
BUS 0 1	1 Ø 0 0 0	0 0 1 1	0 1 0 0 0	0 0 0	CB
BUS 0 2	1 Ø 0 0 0	1 0 1 1	0 1 0 0 0	0 0 0	CB
BUS 0 3	1 Ø 0 0 0	0 1 1 1	0 1 0 0 0	0 0 0	CB
BUS 0 4	1 Ø 0 0 0	1 0 0 0	1 1 0 0 0	0 0 0	CB
BUS 0 5	1 Ø 0 0 0	0 1 0 0	1 1 0 0 0	0 0 0	CB
BUS 0 6	1 Ø 0 0 0	1 1 0 0	1 1 0 0 0	0 0 0	CB
BUS 0 7	1 Ø 0 0 0	0 0 1 0	1 1 0 0 0	0 0 0	CB
BUS 1 0	1 Ø 0 0 0	1 0 1 0	1 1 0 0 0	0 0 0	CB
BUS 1 1	1 Ø 0 0 0	0 1 1 0	1 1 0 0 0	0 0 0	CB
BUS 1 2	1 Ø 0 0 0	1 1 1 0	1 1 0 0 0	0 0 0	CB
BUS 1 3	1 Ø 0 0 0	0 0 0 1	1 1 0 0 0	0 0 0	CB
BUS 1 4	1 Ø 0 0 0	1 0 0 1	1 1 0 0 0	0 0 0	CB
BUS 1 5	1 Ø 0 0 0	0 1 0 1	1 1 0 0 0	0 0 0	CB
BUS 1 6	1 Ø 0 0 0	1 1 0 1	1 1 0 0 0	0 0 0	CB
BUS 1 7	1 Ø 0 0 0	0 0 1 1	1 1 0 0 0	0 0 0	CB
STATE CONT	1 Ø 0 0 0	1 0 1 1	1 1 0 0 0	0 0 0	CB
SET MANUAL	1 Ø 0 0 0	0 1 1 1	1 1 0 0 0	0 0 0	CB
SC ANS BUS 0 SELECT	1 Ø 0 0 0	1 1 1 1	1 1 0 0 0	0 0 0	CB
SC ANS BUS 1 SELECT	1 Ø 0 0 0	0 0 0 0	0 0 1 0 0	0 0 0	CC
INH ERROR DET	1 Ø 0 0 0	1 0 0 0	0 0 1 0 0	0 0 0	CC

Legend:
1 — Lamp Lighted
0 — Lamp Extinguished
Ø — Lamp Momentarily Lights for Operate

TABLE Q (Cont)

TSPS/ETS – C&D CENTRAL RELAY OUTPUT COMMANDS (NONLOCKING KEYS)

SWITCH (KEY) NAME	E-TELEMETRY STATION TEST SET INFORMATION LAMP STATUS				CP 21 LOCATION
	1--2--3--4--5	6--7--8--9	10-11-12-13-14	15-16-17	
CD LAMP TEST	1 Ø 0 0 0	0 1 0 0	0 0 1 0 0	0 0 0	CC
ALARM RESET	1 Ø 0 0 0	1 1 0 0	0 0 1 0 0	0 0 0	CC

Legend:
1 — Lamp Lighted
0 — Lamp Extinguished
Ø — Lamp Momentarily Lights for Operate

4. E2A REMOTE (J92621-B, -AD, -AE, and -M)

4.01 Charts 4 and 5 describe in detail the equipment needed and the procedure for troubleshooting the SCC E2A remote units.

CHART 4

REMOTE STATUS POINT 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), or equivalent

STEP	PROCEDURE

Note: Before starting the step-procedure testing of the E2A remote unit, a preliminary test should be performed to ensure that the +5, +15, and -15 Vdc power sources are supplied to the remote on terminal strips TSA and TSB. If any of the power sources are absent, replace CP 12 in location CA for J92621-B, or CP 12 in location EC for J92621-AD, -AE, and -M.

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

1 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 1 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

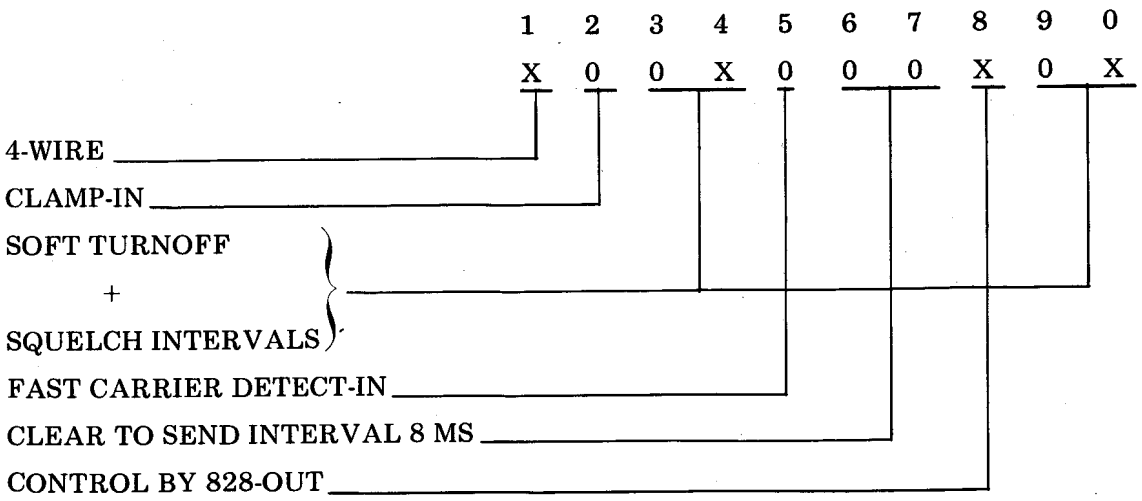
2 Once the original data set or the new data set has met the requirements in Step 1, ensure that the following options in the data set are set as indicated below:

- 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.

CHART 4 (Cont)

STEP	PROCEDURE

- Set rocker switch S2 to the following positions (x = rocker down on number side):



- Set rockets 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

3 Once the requirement in Step 1 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 4 through 12 isolate the remote circuit problems with the data set disconnected.

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

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

6 Mate the female pin connector of the E2A test cable to the P1 plug removed from the data set in Step 5. Plug the other end of the test cable into the J2 connector on the E-telemetry station test set.

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

CHART 4 (Cont)

STEP	PROCEDURE

SWITCH	POSITION
SYSTEM	E2A
PARITY	B
BIT RATE	1200
MODE	CONT
ENABLE	NORMAL
DISPLAY ERROR WORD	OFF
DISPLAY WORD SELECT	1
POWER	OFF
RCU	OFF
MESSAGE LENGTH	1
WORD 1	01011111111000000
WORD 2 through WORD 4	00000000000000000

8 Move the POWER switch to the ON (up) position.

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

Requirement: The TMT, RCV, and VALID WORD lamps shall blink. If the requirement is not met, repeat Step 9. If the requirement is still not met, replace ***all*** of the following CPs:

CP 1
CP 2
CP 3
CP 48
CP 5

Inspect CP 34 for proper connections per note 104 of SD-1C539-01-D1 for J92621-B, or SD-2P021-01-D1 for J92621-AD, -AE, and -M. Determine the defective CP(s) by inserting the original CP(s) back in the remote unit, one at a time. Repeat Step 9 after each replacement until the unit malfunctions. The last original CP installed is defective and shall be replaced with a spare. Continue with this procedure until all CPs have been checked.

10 Hold the TEST switch, on CP 34, in the 1 (up) position.

Requirement: INFORMATION lamps 1 through 17 shall light. If the requirement is not met, replace the CP in location AA (see Table R, S, T, or U (depending on system).

CHART 4 (Cont)

STEP	PROCEDURE
11	Hold the TEST switch on CP 34 in the 0 (down) position. ***Requirement:*** INFORMATION lamp 1 shall remain lighted, and lamps 2 through 17 shall extinguish. If the requirement is not met, replace the CP in location AA (see Table R, S, T, or U).
12	Repeat the procedure used in Steps 10 and 11 for each set of switch settings (WORD 1, switches 13 through 17, and the DISPLAY WORD SELECT switch) as shown in Table R, S, T, or U. ***Requirement:*** The INFORMATION lamps shall light as set forth in the requirements for Steps 10 and 11. If the requirements are not met, replace the associated CP (see Table R, S, T, or U) and repeat the test.

TABLE R

NO. 1 ESS – REMOTE STATUS POINTS

E-TELEMETRY STATION TEST SET WORD 1 SWITCH SETTINGS SWITCH NUMBER					DISPLAY WORD SELECT SWITCH POSITION	ASSOCIATED CPs	
13	14	15	16	17		CP NO.	CP LOCATION
0	0	0	0	0	1	6	AA
0	0	0	0	0	2	6	AB
0	0	0	0	0	3	6	AC
0	0	0	0	0	4	6	AD
0	0	0	0	1	1	10*	CC
0	0	0	0	1	2	10*	CD
0	0	0	0	1	3	9*	CE
0	0	0	0	1	4	9*	CE
0	0	0	1	0	1	9*	CF
0	0	0	1	0	2	9*	CF
0	0	0	1	0	3	9*	CG
0	0	0	1	0	4	9*	CG
0	0	0	1	0	5	9*	CH
0	0	0	1	0	6	9*	CH

* In addition to CP 9 or CP 10, replace CP 7 in location AH. Determine the defective CP as described in Step 10.

TABLE S

NO. 2 ESS/AIS – REMOTE STATUS POINTS

E-TELEMETRY STATION TEST SET WORD 1 SWITCH SETTINGS SWITCH NUMBER					DISPLAY WORD SELECT SWITCH POSITION	ASSOCIATED CPs	
13	14	15	16	17		CP NO.	CP LOCATION
0	0	0	0	0	1	6	AA
0	0	0	0	0	2	6	AB
0	0	0	0	0	3	6	AC
0	0	0	0	0	4	6	AD
0	0	0	0	0	5	9	FA
0	0	0	0	0	6	9	FA
0	0	0	0	1	1	9	EA
0	0	0	0	1	2	9	EA
0	0	0	0	1	3	53	EB
0	0	0	0	1	4	53	EB
0	0	0	1	0	1	9	FB
0	0	0	1	0	2	9	FB
0	0	0	1	0	3	9	FC
0	0	0	1	0	4	9	FC
0	0	0	1	1	1	6	AA

TABLE T

NO. 2B/3 ESS – REMOTE STATUS POINTS

E-TELEMETRY STATION TEST SET WORD 1 SWITCH SETTINGS SWITCH NUMBER					DISPLAY WORD SELECT SWITCH POSITION	ASSOCIATED CPs	
13	14	15	16	17		CP NO.	CP LOCATION
0	0	0	0	0	1	37	AA
0	0	0	0	0	2	37	AB
0	0	0	0	0	3	37	AC
0	0	0	0	0	4	37	AD
0	0	0	0	0	5	9	FA
0	0	0	0	0	6	9	FA
0	0	0	0	1	1	35	EA
0	0	0	0	1	2	35	EA
0	0	0	0	1	3	35	EB
0	0	0	0	1	4	35	EB
0	0	0	1	1	1	37	AA

TABLE U

TSPS/ETS – REMOTE STATUS POINTS

E-TELEMETRY STATION TEST SET WORD 1 SWITCH SETTINGS SWITCH NUMBER					DISPLAY WORD SELECT SWITCH POSITION	ASSOCIATED CPs	
13	14	15	16	17		CP NO.	CP LOCATION
0	0	0	0	0	1	6	AA
0	0	0	0	0	2	6	AB
0	0	0	0	0	3	6	AC
0	0	0	0	0	4	6	AD
0	0	0	0	0	5	9	FA
0	0	0	0	0	6	9	FA
0	0	0	0	1	1	9	EA
0	0	0	0	1	2	9	EA
0	0	0	0	1	3	9	EB
0	0	0	0	1	4	9	EB
0	0	0	1	0	1	9	FB
0	0	0	1	0	2	9	FB
0	0	0	1	0	3	9	FC
0	0	0	1	0	4	9	FC
0	0	0	1	0	5	9	FD
0	0	0	1	0	6	9	FD
0	0	0	1	0	7	9	FE
0	0	0	1	0	8	9	FE
0	0	0	1	1	1	9	AA

CHART 5

REMOTE RELAY OUTPUT MAINTENANCE

APPARATUS:

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

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

E2A Test Cable (KS-20937,L6)

E2A K1-1 Extender Board (KS-20937,L9)

E2A K1-4 Lamp Board (KS-20937,L12)

E2A K1-5 Lamp Board (KS-20937,L13)

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

STEP	PROCEDURE

Note: Before starting the step-procedure testing of the E2A remote unit, a preliminary test should be performed to ensure that the +5, +15, and -15 Vdc power sources are supplied to the remote on terminal strips TSA and TSB. If any of the power sources are absent, replace CP 12 in location CA for J92621-B, or CP 12 in location EC for J92621-AD, -AE, and M.

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

1 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 1 four additional times. If the TM lamp continues to go off, replace the data set and repeat the test.

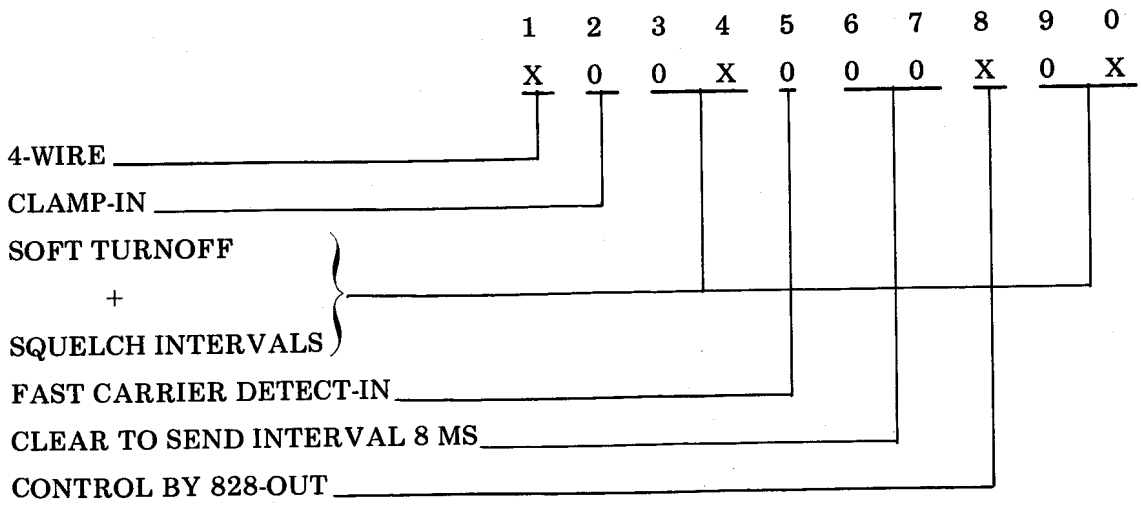
2 Once the original data set or the new data set has met the requirements in Step 1, ensure that the following options in the data set are set as indicated below:

- 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.

CHART 5 (Cont)

STEP	PROCEDURE

• Set rocker switch S2 to the following positions (x = rocker down on number side):



• 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

3 Once the requirement in Step 1 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 4 through 24 isolate the remote circuit problems with the data set disconnected.

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

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

6 Mate the female pin connector of the E2A test cable to the P1 plug removed from the data set in Step 5. Plug the other end of the test cable into the J2 connector on the E-telemetry station test set.

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

CHART 5 (Cont)

STEP	PROCEDURE

SWITCH	POSITION
SYSTEM	E2A
PARITY	B
BIT RATE	1200
MODE	CONT
ENABLE	NORMAL
DISPLAY ERROR WORD	OFF
DISPLAY WORD SELECT	1
POWER	OFF
RCU	OFF
MESSAGE LENGTH	3
WORD 1	01001111111011111
WORD 2	10011111111001111
WORD 3	10000000000000000
WORD 4	00000000000000000

8 Move the POWER switch to the ON position.

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

Requirement: RECEIVE lamps, numbers 1 and 12, shall light. If this requirement is not met, perform Chart 4 test (Remote Status Point Maintenance).

10 Remove CP 6 or CP 37 from location AA and insert the K1-1 extender board in its place.

11 Plug the removed CP 6 or CP 37 card into the end of the extender board.

12 Plug the K1-4 lamp board into the K1-1 extender board.

13 Set WORD 3 switch 2, on the test set, to the 1 (up) position.

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

Requirement: Lamp number 1, on the K1-4 lamp board, shall light. If the requirement is not met, replace the associated CP 6 or CP 37 and repeat the step.

15 Set WORD 3 switch 2, on the test set, to the 0 (down) position.

CHART 5 (Cont)

STEP	PROCEDURE
	Requirement: Lamp number 1, on the K1-4 lamp board, shall extinguish. If the requirement is not met, replace the associated CP 6 or CP 37 and repeat the step.
16	Repeat the procedure used in Steps 13 through 15 for all remaining WORD 3 switch settings listed in Table V, W, X, or Y (depending on the system) for the CP under test.
	Note: If a CP 6 or CP 37 is replaced while performing Step 16, repeat the test starting at Step 13.
17	Repeat the procedures used in Step 14 through 17 for all remaining CP 6s or CP 37s listed in Table V, W, X, or Y.
18	Remove the last CP 6 or CP 37 tested, the K1-4 lamp board, and the extender board. Reinsert the CP 6 or CP 37 in the module.
19	Remove the first CP 11 listed in Table Z, AA, or BB (depending on system), and insert the K1-1 extender board in its place.
20	Plug the CP 11 card into the end of the extender board.
21	Plug the K1-5 lamp board into the K-1 extender board.
22	Set WORD 3 switch 2, on the test set, to the 1 (up) position.
23	Depress, in order, the MASTER CLEAR and START pushbuttons.
	Requirement: Lamp number 1, on the K1-5 lamp board, shall light. If the requirement is not met, replace CP 11 and repeat the step.
24	Set WORD 3 switch 2, on the test set, to the 0 (down) position.
	Requirement: Lamp number 1, on the K1-5 lamp board shall extinguish. If the requirement is not met, replace CP 11 and repeat the step.
25	Repeat the procedures used in Steps 22 through 24 for all remaining WORD 3 switch settings listed in Table Z, AA, or BB for the CP under test.
	Note: If a CP 11 is replaced while performing Step 15, repeat the test starting at Step 21.
26	Repeat the procedure used in Steps 22 through 25 for all remaining CP 11s listed in Table Z, AA, or BB.

5. REFERENCES

5.01 The following is a list of Bell System Practices (BSPs), schematic diagrams (SDs), and circuit descriptions (CDs) which refer to or contain information on the E2A telemetry equipment used in switching control centers.

SECTION	TITLE
201-400-100	Switching Control Center—Overall Description
201-400-303	Basic Switching Control Center—Common Equipment—Trouble-shooting Procedures
201-653-102	E2A Telemetry—Switching Control Center—Description
592-031-100	Data Set 202T—Description and Operation
592-031-300	Data Set 202T—Maintenance
592-031-500	Data Set 202T—Transmitter-Receiver—Test Procedures

DRAWING	TITLE
1C533-01	E2A Telemetry System—Remote Circuit Modules
1C534-01	E2A Telemetry System—Central Circuit Modules
1C539-01	No. 1 ESS Remote Application Schematic
1C540-01	SCC C&D Console Central Application Schematic
1C541-01	SCC CI Central Application Schematic
1D243-01	202T Data Set Schematic
2P021-01	SCC Remote Application Schematic

TABLE V

NO. 1 ESS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES						LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	
6	AA	K1-4	0	0	0	0	0	0	1
6			1	0	0	0	0	0	2
6			0	1	0	0	0	0	3
6			1	1	0	0	0	0	4
6	AA	K1-4	0	0	1	0	0	0	5
6			1	0	1	0	0	0	6
6			0	1	1	0	0	0	7
6			1	1	1	0	0	0	8
6	AB	K1-4	0	0	0	1	0	0	1
6			1	0	0	1	0	0	2
6			0	1	0	1	0	0	3
6			1	1	0	1	0	0	4
6	AB	K1-4	0	0	1	1	0	0	5
6			1	0	1	1	0	0	6
6			0	1	1	1	0	0	7
6			1	1	1	1	0	0	8
6	AC	K1-4	0	0	0	0	1	0	1
6			1	0	0	0	1	0	2
6			0	1	0	0	1	0	3
6			1	1	0	0	1	0	4
6	AC	K1-4	0	0	1	0	1	0	5
6			1	0	1	0	1	0	6
6			0	1	1	0	1	0	7
6			1	1	1	0	1	0	8
6	AD	K1-4	0	0	0	1	1	0	1
6			1	0	0	1	1	0	2
6			0	1	0	1	1	0	3
6			1	1	0	1	1	0	4
6	AD	K1-4	0	0	1	1	1	0	5
6			1	0	1	1	1	0	6
6			0	1	1	1	1	0	7
6			1	1	1	1	1	0	8

TABLE W

NO. 2 ESS/AIS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES						LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	
6	AA	K1–4	0	0	0	0	0	0	1
			1	0	0	0	0	0	2
			0	1	0	0	0	0	3
			1	1	0	0	0	0	4
6	AA	K1–4	0	0	1	0	0	0	5
			1	0	1	0	0	0	6
			0	1	1	0	0	0	7
			1	1	1	0	0	0	8
6	AB	K1–4	0	0	0	1	0	0	1
			1	0	0	1	0	0	2
			0	1	0	1	0	0	3
			1	1	0	1	0	0	4
6	AB	K1–4	0	0	1	1	0	0	5
			1	0	1	1	0	0	6
			0	1	1	1	0	0	7
			1	1	1	1	0	0	8
6	AC	K1–4	0	0	0	0	1	0	1
			1	0	0	0	1	0	2
			0	1	0	0	1	0	3
			1	1	0	0	1	0	4
6	AC	K1–4	0	0	1	0	1	0	5
			1	0	1	0	1	0	6
			0	1	1	0	1	0	7
			1	1	1	0	1	0	8
6	AD	K1–4	0	0	0	1	1	0	1
			1	0	0	1	1	0	2
			0	1	0	1	1	0	3
			1	1	0	1	1	0	4
6	AD	K1–4	0	0	1	1	1	0	5
			1	0	1	1	1	0	6
			0	1	1	1	1	0	7
			1	1	1	1	1	0	8

TABLE X

NO. 2B/3 ESS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES						LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	
37	AA	K1–4	0	0	0	0	0	0	1
			1	0	0	0	0	0	2
			0	1	0	0	0	0	3
			1	1	0	0	0	0	4
37	AA	K1–4	0	0	1	0	0	0	5
			1	0	1	0	0	0	6
			0	1	1	0	0	0	7
			1	1	1	0	0	0	8
37	AB	K1–4	0	0	0	1	0	0	1
			1	0	0	1	0	0	2
			0	1	0	1	0	0	3
			1	1	0	1	0	0	4
37	AB	K1–4	0	0	1	1	0	0	5
			1	0	1	1	0	0	6
			0	1	1	1	0	0	7
			1	1	1	1	0	0	8
37	AC	K1–4	0	0	0	0	1	0	1
			1	0	0	0	1	0	2
			0	1	0	0	1	0	3
			1	1	0	0	1	0	4
37	AC	K1–4	0	0	1	0	1	0	5
			1	0	1	0	1	0	6
			0	1	1	0	1	0	7
			1	1	1	0	1	0	8
37	AD	K1–4	0	0	0	1	1	0	1
			1	0	0	1	1	0	2
			0	1	0	1	1	0	3
			1	1	0	1	1	0	4
37	AD	K1–4	0	0	1	1	1	0	1
			1	0	1	1	1	0	2
			0	1	1	1	1	0	3
			1	1	1	1	1	0	4

TABLE Y

TSPS/ETS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES						LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	
6	AA	K1—4	0	0	0	0	0	0	1
			1	0	0	0	0	0	2
			0	1	0	0	0	0	3
			1	1	0	0	0	0	4
6	AA	K1—4	0	0	1	0	0	0	5
			1	0	1	0	0	0	6
			0	1	1	0	0	0	7
			1	1	1	0	0	0	8
6	AB	K1—4	0	0	0	1	0	0	1
			1	0	0	1	0	0	2
			0	1	0	1	0	0	3
			1	1	0	1	0	0	4
6	AB	K1—4	0	0	1	1	0	0	5
			1	0	1	1	0	0	6
			0	1	1	1	0	0	7
			1	1	1	1	0	0	8
6	AC	K1—4	0	0	0	0	1	0	1
			1	0	0	0	1	0	2
			0	1	0	0	1	0	3
			1	1	0	0	1	0	4
6	AC	K1—4	0	0	1	0	1	0	5
			1	0	1	0	1	0	6
			0	1	1	0	1	0	7
			1	1	1	0	1	0	8
6	AD	K1—4	0	0	0	1	1	0	1
			1	0	0	1	1	0	2
			0	1	0	1	1	0	3
			1	1	0	1	1	0	4
6	AD	K1—4	0	0	1	1	1	0	5
			1	0	1	1	1	0	6
			0	1	1	1	1	0	7
			1	1	1	1	1	0	8

TABLE Z

NO. 1 ESS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES						LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	
11	CB	K1-5	0	0	0	0	0	1	1
11			1	0	0	0	0	1	2
11			0	1	0	0	0	1	3
11			1	1	0	0	0	1	4
11	CB	K1-5	0	0	1	0	0	1	5
11			1	0	1	0	0	1	6
11			0	1	1	0	0	1	7
11			1	1	1	0	0	1	8
11	CB	K1-5	0	0	0	1	0	1	9
11			1	0	0	1	0	1	10
11			0	1	0	1	0	1	11
11			1	1	0	1	0	1	12
11	CB	K1-5	0	0	1	1	0	1	13
11			1	0	1	1	0	1	14
11			0	1	1	1	0	1	15
11			1	1	1	1	0	1	16

TABLE AA

NO. 2 ESS/AIS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES						LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	
11	FG	K1–5	0	0	0	0	0	1	1
			1	0	0	0	0	1	2
			0	1	0	0	0	1	3
			1	1	0	0	0	1	4
11	FG	K1–5	0	0	1	0	0	1	5
			1	0	1	0	0	1	6
			0	1	1	0	0	1	7
			1	1	1	0	0	1	8
11	FG	K1–5	0	0	0	1	0	1	9
			1	0	0	1	0	1	10
			0	1	0	1	0	1	11
			1	1	0	1	0	1	12
11	FG	K1–5	0	0	1	1	0	1	13
			1	0	1	1	0	1	14
			0	1	1	1	0	1	15
			1	1	1	1	0	1	16
11	FH	K1–5	0	0	0	0	1	1	1
			1	0	0	0	1	1	2
			0	1	0	0	1	1	3
			1	1	0	0	1	1	4
11	FH	K1–5	0	0	1	0	1	1	5
			1	0	1	0	1	1	6
			0	1	1	0	1	1	7
			1	1	1	0	1	1	8
11	FH	K1–5	0	0	0	1	1	1	9
			1	0	0	1	1	1	10
			0	1	0	1	1	1	11
			1	1	0	1	1	1	12
11	FH	K1–5	0	0	1	1	1	1	13
			1	0	1	1	1	1	14
			0	1	1	1	1	1	15
			1	1	1	1	1	1	16

TABLE BB

TSPS/ETS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES							LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	12	
11	FG	K1—5	0	0	0	0	0	1	0	1
			1	0	0	0	0	1	0	2
			0	1	0	0	0	1	0	3
			1	1	0	0	0	1	0	4
11	FG	K1—5	0	0	1	0	0	1	0	5
			1	0	1	0	0	1	0	6
			0	1	1	0	0	1	0	7
			1	1	1	0	0	1	0	8
11	FG	K1—5	0	0	0	1	0	1	0	9
			1	0	0	1	0	1	0	10
			0	1	0	1	0	1	0	11
			1	1	0	1	0	1	0	12
11	FG	K1—5	0	0	1	1	0	1	0	13
			1	0	1	1	0	1	0	14
			0	1	1	1	0	1	0	15
			1	1	1	1	0	1	0	16
11	FH	K1—5	0	0	0	0	1	1	0	1
			1	0	0	0	1	1	0	2
			0	1	0	0	1	1	0	3
			1	1	0	0	1	1	0	4
11	FH	K1—5	0	0	1	0	1	1	0	5
			1	0	1	0	1	1	0	6
			0	1	1	0	1	1	0	7
			1	1	1	0	1	1	0	8
11	FH	K1—5	0	0	0	1	1	1	0	9
			1	0	0	1	1	1	0	10
			0	1	0	1	1	1	0	11
			1	1	0	1	1	1	0	12
11	FH	K1—5	0	0	1	1	1	1	0	13
			1	0	1	1	1	1	0	14
			0	1	1	1	1	1	0	15
			1	1	1	1	1	1	0	16

TABLE BB (Cont)

TSPS/ETS – REMOTE RELAY OUTPUT MAINTENANCE

TESTING		INSERT PLUG-IN	SET WORD 3 SWITCHES							LAMP LIGHTED ON PLUG-IN
CP	LOC		6	7	8	9	10	11	12	
11	FJ	K1—5	0	0	0	0	0	0	1	1
			1	0	0	0	0	0	1	2
			0	1	0	0	0	0	1	3
			1	1	0	0	0	0	1	4
11	FJ	K1—5	0	0	1	0	0	0	1	5
			1	0	1	0	0	0	1	6
			0	1	1	0	0	0	1	7
			1	1	1	0	0	0	1	8
11	FJ	K1—5	0	0	0	1	0	0	1	9
			1	0	0	1	0	0	1	10
			0	1	0	1	0	0	1	11
			1	1	0	1	0	0	1	12
11	FJ	K1—5	0	0	1	1	0	0	1	13
			1	0	1	1	0	0	1	14
			0	1	1	1	0	0	1	15
			1	1	1	1	0	0	1	16