NO. 1 AND NO. 2 SWITCHING CONTROL CENTER SYSTEM COMMON APPLICATION SYSTEM ACCEPTANCE TEST AND PERIODIC EVALUATION PROCEDURE

CONTENTS PAGE

1. GENERAL

1.01 This section provides acceptance testing procedures for the operating telephone company to verify operation of a newly installed No. 1 or No. 2 Switching Control Center System (SCCS). These tests will also verify the proper operation of an existing No. 1 or No. 2 SCCS.

1.02 This section is reissued for the following reasons:

(a) To add the following applications:

- No. 4 ESS
- Automatic Intercept System (AIS)
- Enhanced Private Switched Communications Service (EPSCS)
- Expanded 911 Service (E911)
- Voice Storage System (VSS).

(b) To add SCCS Control Console No. 1A (CC1A)

(c) To add restoral procedures to Test G

(d) To make minor changes.

Since this reissue is a general revision, arrows normally used to indicate changes have been omitted.

This reissue does not affect the Equipment Test List.

1.03 Abbreviations used in this section are listed in Part 4.

A. Test Description

Maintenance Channels Test

1.04 The capability to transmit to and receive from each served Stored Program Control System (SPCS) is tested. Logging of SPCS teletypewriter (TTY) messages by the SCCS is verified. The switching that allows TTY input or cathode ray tube (CRT) input to the SPCS is verified. Operation of workstations is tested.

Testing of CSS No. 1 Peripheral Devices

1.05 The operation of line printing devices is verified. The routing of alarms to the alarm video monitor is verified. The control of the Computer Subsystem (CSS) No. 1 over the alarm video monitor is verified. The CSS No. 1 is made to sound the critical, major, minor, and watchdog alarms.

Testing of Critical Indicator Panel

1.06 The critical indicator panel (CIP) lamps are tested.

Testing of Telemetry Alarm and Alarm Inhibit

1.07 This test verifies that telemetry critical indicator (CI) central will recognize a telemetry channel failure. The operation of the alarm inhibit circuitry is also verified.

Testing of Local Equipment Alarm

1.08 This test assures that the local equipment alarm sounds for a telemetry failure, a blown fuse, or a carrier failure.

Testing of SPCS Stunt Box

1.09 This test insures that the stunt box will allow transfer to the backup telemetry.

Communication List Between Critical Indicator Central and SPCS

1.10 From the SCCS, initiate an alarmable condition at the SPCS and verify that it is properly reported to the SCCS.

Workstation Test

1.11 The operation of a CC1A or SCC console and the communication between the console and an SPCS is tested. The ability of the central office selector and junction unit (COSJU) to provide CC1A or hardwire SCC console access to an SPCS and to retire telemetry generated alarms in the SCCS is verified. Proper SPCS stunt box operation is tested. The reporting of SPCS alarms to the SCCS is tested. The ability to retire alarms in the SCCS is verified.

B. System Operation

1.12 The following situations may occur during normal system use as well as during acceptance tests and evaluation procedures.

1.13 When releasing full access (FA) by depressing the COSJU CHAN RLS switch, the TELEM indication may appear on the CIP for the office that was being accessed. If the AUD switch for that office is in the position to allow audible alarms, a telemetry audible alarm will accompany the CIP indication. Visual and audible alarm indications must be retired by dialing the correct office number on the COSJU audible alarm release dial and depressing the ALM RLS key.

1.14 If a control console 1A (CC1A) or hardwire SCC console is connected on-line with a served office, the CIP indicators associated with the newly connected office will be updated according to the data stored in the CC1A or hardwire SCC console. This data will be that which was stored in the CC1A or hardwire SCC console during the previous connection only if the newly connected office does not answer a CI central polling request. This problem can be corrected by removing power from the CC1A or hardwire SCC console and reapplying power to the CC1A or hardwire SCC console between successive connections to different served offices. This procedure insures that alarm indications present from one office are not transferred to a second office display on the CIP.

1.15 When lighted, the TELEM CIP indicator signifies that the E2A CI central has polled the E2A remote and the remote has not answered. However, if a CC1A or hardwire SCC console is on line with the end office, a TELEM CIP indication denotes that the CC1A or hardwire SCC console is not updating the A cabinet circuitry for that office. If the CC1A or hardwire SCC console is on line with an end office and is updating the A cabinet circuitry for that office, the TELEM CIP indicator will be extinguished and the rem lamp on the CC1A System Performance page will be lighted (REM lamp in the telemetry section of system alarms on the hardwire SCC console will be lighted). The SPCS provides a teletype message to the SCCS indicating a remote failure. The SCCS alerts on the message shown below and generates a major alarm.

SPL126 E2A REMOTE NOT BEING POLLED

1.16 If a direct distance dialing (DDD) data set is connected to a DDD driver provided in the J1C016AD unit (see SD-1P043) and the data set is on hook, a continuous local equipment alarm will sound due to an indicated carrier failure. The local equipment alarm for this indication is silenced by removing the DDD cable connection and equipping a JD dummy plug as discussed in the growth section of the program applications.

1.17 Certain No. 1 ESS generics require certain CIP indicators to be reset (extinguished) by pulsing the associated central pulse distributor (CPD) points during system initialization and thereafter, each time the master control center (MCC) interface circuit to the E2A remote is power cycled. Table A indicates the CIP indicators and CC1A or hardwire SCC console lamps that must be extinguished. The emergency power release part of Section 190-113-310 contains the procedure for pulsing the CPD points.

1.18 ***Lettered Steps:*** Depending on local conditions, a letter a, b, c etc. added to a step number in Part 3 of this section indicates an action which may or may not be required. The condition under which a lettered step or a series of lettered steps should be made is given in the action column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

2.01 No test equipment or tools are required in performing the procedures contained in this section.

TABLE A

CIP AND NO. 1 ESS SCC CONSOLE INDICATORS AND LAMPS
THAT REMAIN LIGHTED AFTER POWER RESTORAL (NOTE 1)

GENERIC	WITH CN1100IH	WITHOUT CN1100IH
CTX-6 All generics if translations for CIP and console lamps are assigned	CIP: TRAFFIC FORCED PS BLDG/PWR PERIPH A PERIPH B CS CC1A — SYSTEM ALARMS: coml_pwr CC1A — SYSTEM STATUS: co_alm_inh HARDWIRE SCC CONSOLE— SYSTEM ALARMS: COML PWR HARDWIRE SCC CONSOLE— SYSTEM STATUS: CO ALM INH	CIP: TRAFFIC SYS NOR FORCED BLDG/PWR CC1A — SYSTEM ALARMS: coml_pwr CC1A — SYSTEM STATUS: co_alm_inh HARDWIRE SCC CONSOLE— SYSTEM ALARMS: COML PWR DT DEL ALM HARDWIRE SCC CONSOLE— SYSTEM STATUS: CO ALM INH
CTX-7, Issue 8 and later issues 1E3	None (Note 2)	None (Note 2)

Note 1: When power is restored to the MCC interface circuit, the lamps listed in this table will light. To reset the lamps, the corresponding CPD points must be pulsed using a T-CPD input message.

Note 2: For blocks marked None, CPD points are automatically reset by program control so that the T-CPD input message is not needed.

3. METHOD

A. Testing Primary and Secondary Maintenance Channels

3.01 For a No. 2 SCCS office, initialize both the logger and alerter for the maintenance channel under test. The initialization procedure is contained in the installation section of the appropriate program applications document. For a system already in service, the logger and alerter should already be running and need not be initialized.

From a Workstation CRT

STEP	ACTION	VERIFICATION
1	Choose a primary maintenance channel to be tested and set the associated BSCC/ASCC switch located on the front of the AR745 to the ASCC position. This switch affects the three channels associated with the AR745 circuit pack. When equipped with the AR745B circuit pack, assure that the C-switch for the selected channel is depressed.	
2	Log in at a workstation CRT.	
3	Obtain the monitor mode for the SPCS office and primary maintenance channel to be tested.	
4	Depending on the type of SPCS being tested, type one of the following messages and verify the response:	Assure that SPCS office identification agrees with records of office identification vs channel name.
	No. 1 ESS — WHO–RU-(IM-1A001)	Verify ID01 response for No. 1 ESS (OM-1A001).
	No. 101 ESS — ST-(IM-1H000)	Verify STa response for No. 101 ESS (OM-1H000). However, this does not produce an office identification.
	No. 2 ESS — M TT:TIM!(IM-2H200)	Verify MR TT aaa response for No. 2 ESS (OM-2H200).
	No. 2B ESS — OP:CLK!(IM-2H200)	Verify OP CLK response for No. 2B ESS. However, this does not produce an office identification (OM-2H200).
	No. 3 ESS — OP:CLK!(IM-3H300)	Verify OP CLK day for No. 3 ESS (OM-3H300).
	TSPS — CLK-33-date.(IM-1B100)	Verify CLK 30 for TSPS (OM-1B100). However, this does not produce an office identification.
	No. 1A ESS — WHO-RU-(IM-6A001)	Verify ID01 response for No. 1A ESS (OM-6A001).

STEP	ACTION	VERIFICATION
	No. 4 ESS — OP:CLK! (IM-4A000-01)	Verify OP CLK response for No. 4 ESS. However, this does not produce an office identification (OM-4A000-01).
	AIS — M TT TIM! (IM-1B200)	Verify MR TT aaa response for AIS (OM-1B200).
	EPSCS — OP:CLK! (IM-4C001)	Verify OP CLK response for EPSCS. However, this does not produce an office identification (OM-4C001).
	E911 — OP:CLK! (IM-1A700)	Verify OP CLK response for E911. However, this does not produce an office identification (OM-1A700).
	VSS — OP:CLK! (IM-5C001)	Verify OP CLK response for VSS. However, this does not produce an office identification (OM-5C001).
	Note: If input to the SPCS office appears garbled or does not appear at all, verify that the appropriate echoplexing and local options are provided per SD-1C502.	
5	Initiate the browse mode and browse the maintenance file to verify logger operation.	
6	Set BSCC/ASCC switch to BSCC position on AR745 or set the C-switch on AR745B to the release position (out).	
7	Perform Step 4.	The workstation CRT should not allow input to the SPCS office.
8	Set BSCC/ASCC switch to ASCC position on AR745 or set the C-switch on AR745B to the operate position (in).	
9	Repeat Steps 1 through 8 at each workstation CRT.	
10	Repeat Steps 1 through 9 substituting secondary maintenance channel for primary maintenance channel.	
11	Repeat Steps 1 through 10 substituting each served SPCS office name in turn.	
12	Log out at the workstation CRT.	

STEP	ACTION	VERIFICATION
From a Workstation TTY		
1	Choose a primary maintenance channel to be tested and set the associated BSCC/ASCC switch to BSCC position on the AR745 or release the C-switch on the AR745B.	
2	Log in at a workstation TTY and access the chosen SPCS office.	
3a	On DATASPEED® 40 teletype, depress INTRPT key.	Teletype messages being printed on the workstation TTY are stopped.
4b	On a 35-type TTY, VT100, or TEC CRT depress BREAK key.	Teletype messages being printed on the workstation TTY are stopped.
5	Depending on the type of SPCS being tested, type one of the following messages:	
	No. 1 ESS — WHO-RU-.(IM-1A001)	Verify ID01 response for No. 1 ESS (OM-1A001).
	No. 101 ESS — ST-.(IM-1H000)	Verify STa response for No. 101 ESS (OM-1H000). However, this does not produce an office identification.
	No. 2 ESS — M TT:TIM!(IM-2H200)	Verify MR TT aaa response for No. 2 ESS (OM-2H200).
	No. 2B ESS — OP:CLK!(IM-2H200)	Verify OP CLK response for No. 2B ESS. However, this does not produce an office identification (OM-2H200).
	No. 3 ESS — OP:CLK!(IM-3H300)	Veriy OP CLK day for No. 3 ESS (OM-3H300).
	TSPS — CLK-33-date.(IM-1B100)	Verify CLK 30 for TSPS (OM-1B100). However, this does not produce an office identification.
	No. 1A ESS — WHO-RU-.(IM-6A001)	Verify ID01 response for No. 1A ESS (OM-6A001).
	No. 4 ESS — OP:CLK!(IM-4A000-01)	Verify OP CLK response for No. 4 ESS. However, does not produce an office identification (OM-4A000-01).
	AIS — M TT TIM! (IM-1B200)	Verify MI TT aaa response for AIS (OM-1B200).
	EPSCS — OP:CLK! (IM-4C001)	Verify OP CLK response for EPSCS. However, this does not produce an office identification (OM-4C001).
	E911 — OP:CLK! (IM-1A700)	Verify OP CLK response for E911. However, this does not produce an office identification (OM-1A700).

STEP	ACTION	VERIFICATION
	VSS — OP:CLK! (IM-5C001)	Verify OP CLK response for VSS. However, this does not produce an office identification (OM-5C001).
6	Set BSCC/ASCC switch to ASCC position on AR745 or set the C-switch on AR745B to the operate position (in).	
7	Perform Step 5.	The workstation TTY should not allow input to the SPCS.
8	Set BSCC/ASCC switch to BSCC position on AR745 or depress the C-switch on AR745B to release position (out).	
9	Repeat Steps 1 through 8 at each workstation TTY.	
10	Repeat Steps 1 through 9 substituting secondary maintenance channel for primary maintenace channel.	
11	Repeat Steps 1 through 10 substituting each served SPCS office name in turn.	

B. Testing of CSS No. 1 Peripheral Devices

Line Printers

1	Operation of line printers is tested with the XMT input message (see appropriate input message manual).	

Alarm Monitors

2a	If a new SCCS system, initialize the alarm monitor(s) per the growth section of the appropriate program applications document.	
3a	Initialize alarming for each office. (See RC:MON and RC:RTG input messages in the appropriate input manual).	
4b	If an existing SCCS system, assure that alarm information is routed to the alarm monitor(s).	Visually check the alarm monitor screen for alarm messages.

Alarm Activator

5	Retire all alarms reported via the CSS No. 1. (See RETIRE input message in the input message manual.)	

STEP	ACTION	VERIFICATION
6	Transfer the alarm monitor function to a workstation CRT. (If at a workstation CRT, use RC:WS/OUT/ command followed by an RC:MON to transfer monitor).	No alarms on alarm monitor screen.
7	Delete the alarm monitor and alarm activator function. (See RC:MON input message.)	
8	Place all AUD switches in the up (inhibit) position to silence telemetry generated alarms.	
9	Check the operation of the alarm activator with the use of the EXERCISE:ALARM input message.	Verify proper operation per the program applications document and the input manual.
10	Reinitiate the alarm monitor and alarm activator functions. (See RC:MON input message.)	
11	Reroute alarms to the alarm monitor. (See RC:MON input message.)	Alarms should be reported on the alarm monitor screen.
12	If desired, place all AUD switches in the down (allow) position.	

C. Testing of Critical Indicator Panel

3.02 Perform this test one module at a time since all four modules (16 office displays) lighted simultaneously may produce excessive current drain.

STEP	ACTION	VERIFICATION
1	Operate the lamp test switch at the bottom of the CIP module.	All lamps in the module and its duplicate (if provided) should light. There are two bulbs behind each indication and each should light.

D. Testing of Telemetry Alarm and Alarm Inhibit

3.03 The following test will verify that the telemetry critical indicator central will recognize a telemetry channel failure and that the alarm inhibit circuitry in the A cabinet is functioning. The test should be run on each channel connected to a remote telemetry unit.

STEP	ACTION	VERIFICATION
1	Place AIN switch in the down (inhibit) position to inhibit local equipment alarms.	
2	Place AUD switch for one of the served SPCS offices in the down (allow) position.	
	Note: If AR909 card is inserted in any one equipped data set slot and if there is no	

STEP	ACTION	VERIFICATION
	carrier, an alarm will sound. Remove to silence.	
3	Insert plastic plug into the receive side of the telephone company provided multiport bridge LINE OUT jack.	The TELEM CIP indicator is lighted in not more than one minute for the office corresponding to the facility that was plugged out. The telemetry audible alarm is sounded.
4	For the SPCS office chosen in Step 2, operate the AUD switch to the up (inhibit) position.	The telemetry audible alarm is silenced. The AUD OFF CIP indicator for the SPCS office being tested is lighted.
5	Remove plug inserted in Step 3.	TELEM CIP indicator is extinguished in less than a minute.
6	Repeat Steps 2 through 5 for all telemetry channels substituting each AUD switch in turn.	
7	Return AIN switch to up (allow) position to allow the sounding of local equipment alarms.	

E. Testing of Local Equipment Alarm

3.04 Inputs to the local equipment alarm include critical indicator (CI) central failure, carrier failures detected by the 108 type data sets in the A cabinet, carrier failures detected by DDD type data sets equipped externally to the A cabinet but cabled to the drivers provided in the A cabinet, and fuse alarms in the A and B equipment cabinets.

3.05 All local alarm conditions must be cleared or reset before proceeding with testing. The following test should be performed with all AUD switches in the up (inhibit) position to prevent telemetry reported alarms from sounding while the local equipment alarm is being checked. The AIN switch controls the sounding of the local equipment alarm. Placing the AIN switch in the up position allows the local equipment alarm to sound.

STEP	ACTION	VERIFICATION
1	Clear all local alarm conditions.	
2	Place AIN switch in the up (allow) position.	
3	Place all AUD switches in the up (inhibit) position.	
4	Remove the P1 plug (left connector) from the rear of the data set in the E2A telemetry CI central unit (J92621D) located at the top of the A cabinet.	The local equipment alarm should sound and the lamp on the front of CP13 (or CP36) in the J92621D unit should light.
5	Place AIN switch in the down (inhibit) position.	The local equipment alarm should be silenced.
6	Insert the P1 plug into the data set and place AIN switch in the up (allow) position.	Local equipment alarm should sound.

STEP	ACTION	VERIFICATION
7	Momentarily operate the spring loaded toggle switch on CP13 (or CP36) in the J92621D unit to the up position.	The lamp on the front of CP13 (or CP36) should be extinguished and the alarm should be silenced.
8	Insert a blown fuse in the J1C016BC (FCI16A) location in the B cabinet.	The local equipment alarm should sound.
9	Replace the blown fuse with a good fuse.	The local equipment alarm should be silenced.
10	Insert a blown fuse in a spare location to the right of the indicator fuses on the J1C016AE unit (located beneath the AUD switches) in the A cabinet.	The local equipment alarm should sound.
11	Remove the blown fuse that was inserted in Step 10 and replace with good fuse.	The local equipment alarm should be silenced.
12	Remove the PCH-1 plug located in the rear of the B cabinet.	The local equipment alarm should sound and the carrier fail light on the front of the associated data sets should be lighted.
13	Replace the PCH-1 plug.	The local equipment alarm should be silenced and the carrier fail light should extinguish.

F. Testing of the SPCS Stunt Box

3.06 The SPCS stunt box is a modification to the SPCS TTY to allow the acceptance of messages from the SCCS and to produce the capability to perform certain actions as directed by the SCCS. One such action is transferring to the backup telemetry facility.

Note 1: On the model 40 CRT, the SUB character is equivalent to CONTROL U. On model 35 TTY, VT100, and the TEC CRT, the SUB character is equivalent to CONTROL Z.

Note 2: At this time, the backup telemetry facility connections do not exist. Therefore, such a transfer will produce a telemetry failure indication.

STEP	ACTION	VERIFICATION
1	Place AIN switch in the down (inhibit) position to inhibit local equipment alarms.	
2	Place AUD switch for one of the served SPCS offices in the down (allow) position.	
3	Log in at a workstation and monitor the selected office.	SPCS TTY output messages should be received at the workstation CRT (or TTY).
4a	If using the DATASPEED 40 TTY, to transfer to the backup telemetry facility, type SUB S!	

STEP	ACTION	VERIFICATION
5a	Type the CONTROL key and D key simultaneously.	TELEM CIP indicator is lighted for the monitored office and the telemetry audible alarm is sounded.
6b	If using model 35 TTY, VT100 or TEC CRT, to transfer to the backup telemetry facility type. SUB S	TELEM CIP indicator is lighted for the monitored office and the telemetry audible alarm is sounded.
7a	If using DATASPEED 40 TTY, to transfer from backup telemetry facility, type SUB P!	
8a	Type the CONTROL key and D key simultaneously.	
9b	If using model 35 TTY, VT100, or TEC CRT, to transfer from backup telemetry facility, type SUB P	
10	Operate AUD switch to the up (inhibit) position.	TELEM CIP indicator is extinguished and the telemetry audible alarm is silenced. The AUD OFF CIP indicator for the SPCS office being tested is lighted.
11	Repeat Steps 2 through 10 for all telemetry channels substituting each AUD switch in turn.	
12	Return AIN switch to up (allow) postion to allow local equipment alarms to sound.	
13	Log out at the workstation.	

G. Testing of Communication Between Critical Indicator Central and SPCS

3.07 Procedures for establishing a real-time interface between the SCCS and a particular type SPCS can be found in the appropriate application program applications document or the apppropriate application Bell System Practice (BSP).

STEP	ACTION	VERIFICATION
1	Establish a monitor connection on the maintenance channel with the first end office.	
2a	If a No. 1 ESS office, remove a CC from service by typing: CC—REMOVE—.	

STEP	ACTION	VERIFICATION
3a	Restore the CC to service by typing:	The CC CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
	CC—RESTORE—.	The CC CIP indicator should extinguish.
4a	If a TSPS office, remove a PROC from service by typing:	
	PRX-04-REMOVE.	The PROC CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
5b	Restore the PROC to service by typing:	The PROC CIP indicator should extinguish.
	PRX-05-RESTORE	
6c	If a No. 2 ESS office, remove NET from service by typing:	
	M NW:RMV:fg h-!	
	h = line scanner controller of interest	The NET CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
7c	Restore the NET to service by typing:	
	M NW:RST:fg h-!	The NET CIP indicator should extinguish.
8d	If a No. 2B ESS office, remove a CC from service by typing:	
	M CU:RMV!	The CC CIP indicator should light for only that office display which corresponds to the office identify established in Step 1.
9d	Restore the CU to service by typing:	
	M CU:RST!	The CU CIP indicator should extinguish.
10e	If a No. 3 ESS, remove a SYC from service by typing:	
	RMV:CU!	The SYC CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
11e	Restore the SYC to service by typing:	
	RST:CU!	

STEP	ACTION	VERIFICATION
12f	If a No. 1A ESS, remove a CC from service by typing: RMV:CC a! a = member number of CC to be removed (0 or 1)	The CC CIP indicator should light for only that office display which corresponds to the office established in Step 1.
13f	Restore the CC to service by typing: RST:CC a!	The CC CIP indicator should extinguish.
14g	If a No. 4 ESS, remove a CC from service by typing: RMV:CC a! a = member number of CC to be removed (0 or 1)	The CC CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
15g	Restore the CC to service by typing: RST:CC a!	The CC CIP indicator will extinguish.
16h	If an AIS office, remove a CU from service by typing: M CU RMV a! a = member number of CU to be removed (0 or 1).	The CU CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
17h	Restore the CU to service by typing: M CU RST a!	The CU CIP indicator will extinguish.
18i	If an EPSCS office, remove a CU from service by typing: RMV:CU!	The CU CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
19i	Restore the CU to service by typing: RST:CU!	The CU CIP indicator will extinguish.

STEP	ACTION	VERIFICATION
20j	If an E911 office, remove a CU from service by typing:	
	RMV:CU!	The CU CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
21j	Restore the CU to service by typing:	
	RST:CU!	The CU CIP indicator will extinguish.
22k	If a TN office, remove a CU from service by typing:	
	RMV:CU a!	
	a = member number of CU to be removed (0 or 1).	The CU CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
23k	Restore the CU to service by typing:	
	RST:CU a!	The CU CIP indicator will extinguish.
24l	If a VSS office, remove a CU from service by typing:	
	RMV:CU!	The CU CIP indicator should light for only that office display which corresponds to the office identity established in Step 1.
25l	Restore the CU to service by typing:	
	RST:CU!	The CU CIP indicator will extinguish.
26	Repeat Steps 1 through 25 until all served SPCS offices have been tested.	

H. Workstation Test

3.08 This part checks the operation of CC1A or the hardwire SCC console and the central office selector and junction unit (COSJU) and checks the ability of the CC1A or hardwire SCC console to communicate with served SPCS offices. A gross check of some SPCS office functions and a verification of the functioning of E2A telemetry reported alarms is also made. The testing involves the use of the telephone company engineered and maintained data network. Before testing begins at the work station, SD-1C503 should be utilized to verify that the E2A CI central is strapped to poll exactly the number of offices connected on the multipoint data network and that the E2A remotes in the offices are strapped to addresses that are consecutive and start with address one. Failure of some of the following tests may be due to either an inoperative data network or malfunctioning SCCS equipment.

3.09 The display positions on the CIP for each SPCS are arbitrary and can be rearranged by moving cables on the rear of the CI interface and display circuit (J1C016AB). The CI updating cycle takes less than one second when no consoles

are on line with an SPCS and there are neither facility nor E2A remote failures (indicated by TELEM on the CIP). Each such failure and each CC1A or SCC console on line with an SPCS increases the cycle time by one second. This should be reflected in the following tests when the CIP is updated from the CC1A or SCC console.

Note: On the DATASPEED 40 CRT, the SUB character is equivalent to CONTROL U. On model 35 TTY, VT100, and the TEC CRT, the SUB character is equivalent to CONTROL Z.

STEP	ACTION	VERIFICATION
E2A Telemetry Communication (CC1A)		
	Note: If workstation is equipped with a hardwire SCC console, as opposed to a CC1A console, perform procedure beginning with Step 42.	
1	Place all AUD switches to the up (off) position to inhibit the sounding of telemetry reported major and minor alarms.	AUD OFF indicators on the CIP should be lighted.
2	Enter the monitor mode at a workstation CRT [(BSCC/ASCC switch for the selected SPCS office must be in the ASCC position on the AR745 or C-switch on AR745B must be in the operate position (in)] or connect a TTY to the workstation [BSCC/ASCC switch for the selected SPCC office must be in the BSCC position for AR745 or C-switch must be in release position (out) on AR745B].	
3	Connect a CC1A to a work station.	
4	Select an SPCS office channel on the COSJU in the full access (FA) mode.	On the COSJU, the FA key and the window on the channel select switch should both light. The CIP ON LINE indicator should be lighted for the office selected.
5	On the CC1A, momentarily operate the R key.	The telemetry alarm at the top of the page should retire. ***Note:*** If E2A lamp relights, communication with the SPCS has not been established. Probable causes might be cabling to the COSJU, a tip ring reversal on the IDF, or a facility problem.
6	On the CC1A, execute +lamps_on test.	This test will initiate a remote E2A test. A message should appear on the message line "E2A test and lamps on test passed."
7	On the CC1A, retire +lamps_on test by operating "+lamps_on" again.	Message should be erased and the screen returned to normal display.

STEP	ACTION	VERIFICATION
8	Select the appropriate channel number on the COSJU audible release selector and momentarily operate ALM RLS key.	The CIP CRITICAL indicator should be extinguished and the audible alarm should be silenced.
9	On the CC1A, execute the "+lamps_off" test.	All fields in the on state will be turned off. A message should appear on the message line—"E2A test and lamps off test passed."
10	On the CC1A, retire the +lamps_off test by operating "+lamps_off" again.	Message should be erased and the screen returned to normal display.
11a	If using DATASPEED 40 teletype, type: SUB D!	
12a	Type CONTROL and D simultaneously.	On the CC1A, "cont_inh" will appear.
13a	For DATASPEED 40 TTY, type SUB E! CONTROL D ***Note:*** Depress the CONTROL and D keys simultaneously.	On the CC1A, "cont_inh" will extinguish.
14b	At the TEC CRT, VT100, or 35 TTY, type SUB D	On the CC1A, "cont_inh" will appear.
15b	Type SUB E	On the CC1A, "cont_inh" will extinguish.
16	Place AUD switch for the SPCS office under test in the down (allow) position.	
17c	If a No. 1 ESS office is to be tested, perform this step during light traffic hours for the No. 1 ESS.	
18c	At the work station CRT or TTY, type MCC-DGN-0.	The CIP CRITICAL, MAJOR, and MINOR indicators should light. The critical and minor alarms should sound.
19c	To stop the test, type MCC-DGN-1.	

STEP	ACTION	VERIFICATION
20c	Select the appropriate channel on the COSJU audible release selector and momentarily operate ALM RLS key. ***NOTE:*** Maintenance personnel must be in the SPCS office and have voice communication with the SCCS for the following step.	CIP indicators should reflect the status of the SPCS office. Audible alarms should be silenced.
21c	At the workstation CRT or TTY, type MCC-DGN-2.	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
22c	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
23d	If a TSPS office is to be tested, type TKT 07 TST	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
24d	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
25d	If a No. 2B ESS office is to be tested, type DGN:CU:77	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
26d	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
27e	If a No. 3 ESS office is to be tested, type DGN:CU:77	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
28e	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
29f	If a No. 1A ESS office is to be tested, type DGN:MCC:PH91. (This test takes about thirty minutes and requires interaction from the SCCS. See IM-6A001.)	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
30f	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.

STEP	ACTION	VERIFICATION
31h	If a No. 4 ESS office is to be tested, type DGN:MCC_0; RAW:PH91 (This test takes an hour or more and requires interaction from the SCCS. See IM-4A000-01).	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
32h	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
33i	If an AIS office is to be tested, type M CU DGN!	
34i	Select the appropriate channel on the COSJU audible release selector and mmomentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
35j	If an EPSCS office is to be tested, type EX:SSP!	All CIP indicators extinguish. Then, all light and extinguish one at a time.
36j	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
37k	If an E911 office is to be tested, type EX:SSP!	All CIP indicators extinguish. Then, all light and extinguish one at a time.
38k	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
39l	If a VSS office is to be tested, type EX:SSP!	All CIP indicators extinguish. Then, all light and extinguish one at a time.
40l	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
41	Repeat Steps 4 through 40L until all served SPCS offices have been tested. ***Note:*** No message is available to test a No. 2 ESS office.	

STEP	ACTION	VERIFICATION
E2A Telemetry Communication (Hardwire Console)		
42	Place all AUD switches to the up (off) position to inhibit the sounding of telemetry reported major and minor alarms.	AUD OFF indicators on the CIP should be lighted.
43	Enter the monitor mode at a workstation CRT [BSCC/ASCC switch for the selected SPCS office must be in the ASCC position on the AR745 or C-switch on AR745B must be in the operate position (in)] or connect a TTY to the workstation [BSCC/ASCC switch for the selected SPCC office must be in the BSCC position for AR745 or C-switch must be in release position (out) on AR745B].	
44	Connect an SCC console to a work station.	
45	Select an SPCS office channel on the COSJU in the full access (FA) mode.	On the COSJU, the FA key and the window on the channel select switch should both light. The CIP ON LINE indicator should be lighted for the office selected.
46	Momentarily operate TLM ALM RLS key on the SCC console.	Telemetry alarm indicators on the upper left corner of the SCC console display panel should be extinguished. ***Note:*** If REM lamp relights, communication with the SPCS has not been established. Probable causes might be cabling to the COSJU, a tip ring reversal on the IDF, or a facility problem.
47	Momentarily operate LOCAL LAMP TEST key on the SCC console.	All lamps on the SCC console should light. Power down and change bulbs, if necessary.
48	At the SCC console, operate ALL LAMPS ON key.	All SCC console lamps except CENT, REM, COM, OPER OVRD, RLS OVRD, TLM ALM RLS, ALL LAMPS OFF, and LOCAL LAMP TEST should light in about one second. All indicators on the CIP for the SPCS selected should light except TELEM and MESSAGE. The critical alarm should sound. The CIP indicators for other offices should not be affected.
49	Release ALL LAMPS ON key.	The SCC console display should reflect the state of the SPCS office. The CIP should reflect any system state being reported (normally all lamps will extinguish) except that the CRITICAL indicator remains lighted and the critical audible continues to sound.

STEP	ACTION	VERIFICATION
50	Select the appropriate channel number on the COSJU audible release selector and momentarily operate ALM RLS key.	The CIP CRITICAL indicator should be extinguished and the audible alarm should be silenced.
51	At the SCC console, operate ALL LAMPS OFF key.	All SCC console lamps except CSL PWR ON should extinguish. All CIP indicators for the selected SPCS office should extinguish except ON LINE and AUD OFF. The CIP indicators for the other SPCS offices should not be affected.
52	Release ALL LAMPS OFF key.	The SCC console and CIP should reflect the state of the selected SPCS office.
53	When using DATASPEED 40 teletype, type SUB D!	
54	Type CONTROL and D keys simultaneously.	The REM PWR OFF lamp on the SCC console keyboard should light. If this lamp does not light, suspect that the stunt box modification was not made to the SPCS primary maintenance TTY.
55a	Type SUB E!	
	Type CONTROL and D keys simultnaeously,	The REM PWR OFF lamp should extinguish. This action may cause some CIP indicators to light. They will have to be extinguished using procedures found in the appropriate program applications document for the particular SPCS type.
56b	At TEC CRT, VT100, or 35 TTY, type SUB D	The REM PWR OFF lamp on the SCC console keyboard should light. If this lamp does not light, suspect that the stunt box modification was not made to the SPCS primary maintenance TTY.
57b	At TEC CRT, VT100, or 35 TTY, type SUB E	The REM PWR OFF lamp should extinguish. This action may cause some CIP indicators to light. They will have to be extinguished using procedures found in the appropriate program applications document for the particular SPCS type.

STEP	ACTION	VERIFICATION
58	Place AUD switch for the SPCS office under test in the down (allow) position.	
59c	If a No. 1 ESS office is to be tested, perform this step during light traffic hours for the No. 1 ESS.	
60c	At the workstation CRT or TTY, type	
	MCC-DGN-0.	The CIP CRITICAL, MAJOR, and MINOR indicators should light. The critical and minor alarms should sound.
61c	To stop the test, type MCC-DGN-1.	
62c	Select the appropriate channel on the COSJU audible release selector and momentarily operate ALM RLS key.	CIP indicators should reflect the status of the SPCS office. Audible alarms should be silenced.
	Note: Maintenance personnel must be in the SPCS office and have voice communication with the SCCS for the following step.	
63c	At the workstation CRT or TTY, type MCC-DGN-2.	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
64c	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
65d	If a TSPS office is to be tested, type	
	TKT 07 TST	MAJOR and SYS EMER CIP indicators sould light. Major alarm should sound.
66d	Select the appropriate channel on the COSJU audible release selector an momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
67e	If a No. 2B ESS office is to be tested, type	
	DGN:CU:77	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
68e	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
69f	If a No. 3 ESS office is to be tested, type	
	DGN:CU:77	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.

STEP	ACTION	VERIFICATION
70f	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
71g	If a No. 1A ESS office is to be tested, type DGN:MCC:PH91. (This test takes about 30 minutes and requires interaction from the SCCS. See IM-6A001.)	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
72g	Select the appropriate channel on the COSJU audible release selector and momentraily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
73h	If a No. 4 ESS office is to be tested, type DGN:MCC—0; RAW:PH91 (This test takes an hour or more and requires interaction from the SCCS. See IM-4A000-01.)	MAJOR and SYS EMER CIP indicators should light. Major alarm should sound.
74h	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
75i	If an AIS office is to be tested, type M CU DGN!	
76i	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
77j	If an EPSCS office is to be tested, type EX:SSP!	All CIP indicators extinguish. Then, all light and extinguish one at a time.
78j	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
79k	If an E911 office is to be tested, type EX:SSP!	All CIP indicators extinguish. Then, all light and extinguish one at a time.
80k	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
81l	If a VSS office is to be tested, type EX:SSP!	All CIP indicators extinguish. Then all light and extinguish one at a time.

STEP	ACTION	VERIFICATION
82l	Select the appropriate channel on the COSJU audible release selector and momentarily operate the ALM RLS key.	CIP should reflect the status of the SPCS office. Audible alarm should be silenced.
83	Repeat Steps 44 through 82l until all served SPCS offices have been tested. ***Note:*** No message is available to test a No. 2 ESS office.	
SCCS Alarm Release		
84	Assure that all AUD switches are in the down (allow) position.	
85	Pull the J3 plug (right connecctor) on the rear of the data set in the E2A CI central unit mounted at the top of the A cabinet.	***Note:*** If the served No. 1 ESS office has the features described in Issues 16AC of SD-1A121-02 (CN1100IH and translation CN1226IH), the alerter program should output a message via the alarm monitor reporting that the E2A remote in the SPCS office is not being polled.
86	When all TELEM CIP indicators are lighted, restore the J3 plug to the data set.	
87	At a workstation different from the one used in Step 2, set the COSJU audible alarm release selector to channel 1 and depress ALM RLS key.	The TELEM CIP indicators for office 1 should extinguish.
88	Repeat Step 87 substituting each channel number in turn.	Corresponding TELEM CIP indicators should extinguish. When the last TELEM indicator is extinguished, the telemetry audible alarm should be silenced.
89	Repeat Steps 84 through 88 for each workstation COSJU.	This verifies the COSJU and the installer cabling.
90	Connect a CC1A to a workstation.	
91	Obtain full access (FA) to any served SPCS.	
92	Momentarily operate ALARM "+ release" key on the CC1A display.	Telemetry alarms on the CC1A display should be cleared. The CC1A and CIP should update to reflect the state of the SPCS office. ***Note:*** Failure of these two items indicates no communication with the SPCS office. Suspect cabling to the COSJU or the CC1A if previously untested.

STEP	ACTION	VERIFICATION
93	Repeat Steps 90 through 92 for each workstation.	
94	The CC1A may be disconnected, if desired.	
95	Place AUD switches in the position dictate by local conditions.	
96	If it is desired that workstation communication to a particular SPCS be via TTY, place the appropriate BSCC/ASCC switch in BSCC position for AR745 circuit pack or place the C-switch on the AR745B circuit pack in the released (out) position. If communication is via CRT, place the appropriate BSCC/ASCC switch in ASCC position for the AR745 or place the C-switch on the AR745B in the operate (in) position.	
	Hardwire SSC Console Access to SPCS	
97	Connect an SSC console to a workstation.	
98	Obtain full access (FA) to any served SPCS.	
99	Momentarily operate TELEM ALM RLS key on the hardwire SCC console.	Telemetry alarms on the upper left portion of the SCC console display panel should be cleared. The SCC console and CIP should update to reflect the state of the SPCS office. ***Note:*** Failure of these two items indicates no communication with the SPCS office. Suspect cabling to the COSJU or the SCC console if previously untested.
100	Repeat Steps 97 through 99 for each workstation.	
101	The SCC console may be disconnected, if desired.	
102	Place AUD switches in the position dictated by local conditions.	
103	If it is desired that workstation communication to a particular SPCS be via TTY, place the appropriate BSCC/ASCC switch in BSCC position for AR745 circuit pack or place the C-switch on the AR745B circuit pack in the released (out) position. If communication is via CRT, place the appropriate BSCC/ASCC switch in ASCC position for the AR745 or place the	

STEP	ACTION	VERIFICATION
	C-switch on the AR745B in the operate (in) position.	

3.10 The following is a list of BSPs containing procedures for the testing of all lamps and keys on the CC1A or hardwire SCC console. Consult Equipment Test List (ETL) Section 190-110-011 for the required performance intervals.

190-111-310	No. 4 ESS SCC Console
190-113-310	No. 1 ESS SCC Console
190-114-310	TSPS SCC Console
190-115-310	No. 2 ESS SCC Console
190-116-310	No. 2B ESS SCC Console
190-116-340	No. 2B ESS Control Console 1A
190-117-340	No. 3 ESS Control Console 1A
190-112-340	No. 1A ESS Control Console 1A

4. ABBREVIATIONS

4.01 Abbreviations used in this section are:

AIS	Automatic Intercept System
CC1A	Control Console 1A
CC	Central Control
CI	Critical Indicator
CIP	Critical Indicator Panel
COSJU	Central Office Selector and Junction Unit
CPD	Central Pulse Distributor
CRT	Cathode Ray Tube
CSS	Computer Subsystem
CU	Control Unit
DDD	Direct Distant Dialing
EPSCS	Enhanced Private Switched Communications Service
ESS	Electronic Switching System
FA	Full Access
MCC	Master Control Center
SCC	Switching Control Center
SCCS	Switching Control Center System
SPCS	Stored Program Control System
TN	Transaction Network
TTY	Teletypewriter
VSS	Voice Storage System