

**CONTROL CONSOLE NO. 1A  
OPERATION AND TEST PROCEDURES  
NO. 2 ELECTRONIC SWITCHING SYSTEM APPLICATION  
NO. 2 SWITCHING CONTROL CENTER SYSTEM**

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**NOTICE**

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**1. GENERAL**

**1.01** This section describes the operation and test of the No. 1 or No. 2 Switching Control Center System (SCCS) facilities which are unique to the No. 2 Electronic Switching System (ESS) application. The tests specified, herein, are required in addition to those specified in Section 190-110-321 and apply either to a newly installed SCCS or an in-service system to ensure the system is operating properly.

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

**1.03** The No. 2 SCCS - No. 2 ESS configuration (Fig. 1) consists of a computer subsystem (CSS) and other facilities which are concerned with the operation of a work station. Equipment in the work station area includes the critical indicator panel (CIP) - Fig. 2, the Control Console No. 1A (CC No. 1A) - Fig. 3, the central office selector and junction unit (COSJU) - Fig. 4, cathode-ray-tube monitor and associated keyboard (work station CRT) - Fig. 5, alarm video monitor (AVM) - Fig. 6, line printer, and the call director for voice communication. In addition, interface facilities are provided as required for maximum system flexibility. For detailed information on the description of equipment, features, and procedures of the No. 2 SCCS which are common to all types of central offices, reference should be made to the following sections:

- 190-110-110—No. 2 SCCS Common Application Description
- 190-110-310—No. 2 SCCS Common Application Operating Procedures
- 190-110-311—No. 2 SCCS Common Application Growth and Recent Change Procedures
- 190-110-313—No. 2 SCCS Common Application System Recovery Procedures.

**1.04** This section is concerned with the operation and test of the Control Console No. 1A when used with the No. 2 ESS and with certain functions displayed on the CIP which are unique to the No. 2 ESS application of the No. 2 SCCS.

**1.05** During normal operation, the No. 2 ESS status is continuously displayed on an

associated CIP and AVM at the SCCS. The SCCS computer subsystem (CSS) is continuously gathering TTY data from the SPCS for storage on disk or tape history files. The CSS also analyzes TTY messages for alarm conditions which are converted to visual and audible alarms at the SCCS. The alarms may be self-retiring or may require manual release from the workstation CRT, COSJU, the remote maintenance teletypewriter (TTY), or the CC No. 1A.

**1.06** The CC No. 1A and the console CRT terminal are ordinarily not connected to any particular SPCS. The CC No. 1A is a mobile unit that may be connected to a work station and may be configured for any one of several types of SPCSs. Once it is connected to a work station, operations are required to access a particular SPCS. The work station CRT is permanently associated with a work station and accesses a particular SPCS. It is not moved from one work station to another.

**1.07** In this section, the use of the term *execute* refers to the positioning of a cursor (indicated by a flashing '█' symbol) over the desired key indication (prefixed by a + plus sign) display on the console cathode-ray tube (CRT) and typing the execute character '!' (simultaneously operating the "shift" and the "1" key) on the console CRT keyboard.

**2. OPERATING MODES**

**2.01** The No. 2 SCCS can exert control in two ways:

- (a) Full MC Access via CC No. 1A
- (b) Direct TTY Mode.

**FULL MC ACCESS VIA CC NO. 1A**

**2.02** In this mode, the CC No. 1A is essentially a functional equivalent of the No. 2 ESS maintenance center (MC) with lamp status displays and remote key controls. In addition, status of miscellaneous circuitry (as assigned by TELCO), is displayed. This mode is normally used when full SCCS control of a No. 2 ESS is desired.

**DIRECT TTY MODE**

**2.03** This mode is normally used when the No. 2 ESS is unattended and operating normally,

or attended and under surveillance, and it is necessary to have full remote TTY access to the No. 2 ESS.

#### AUXILIARY TTY

**2.04** In the event of an SCCS CSS outage, a send/receive TTY can be connected to a work station to replace the remote maintenance TTY function normally performed by the work station CRT. Such an arrangement is a direct interconnection between the remote maintenance TTY and the No. 2 ESS involved, serving as a communication channel between the No. 2 ESS and the SCC.

### 3. NO. 2 ESS—SCCS CONTROL CONSOLE

**3.01** The SCCS CC No. 1A, which is used for the No. 2 ESS application, is a microcomputer-based system with a cathode-ray-tube terminal as an input/output device. This console is designed to provide remote control capability of an SPCS switching machine and is configured for a specific SPCS (No. 2 ESS in this instance) from a floppy disk which is mounted in the console (see Fig. 3).

**3.02** The CC No. 1A (together with the work station CRT) provides the primary man-machine interface for the No. 2 SCCS monitor/control functions which are unique to the No. 2 ESS application. Monitor and control functions include retiring of alarms that are remotored to the SCCS from a No. 2 ESS, observing No. 2 ESS office status, performing tests on the No. 2 ESS office or the No. 2 ESS - SCCS interface, undertaking emergency action procedures, etc. A description of the facilities unique to the No. 2 ESS application is covered in Section 190-115-110.

#### CONSOLE OPERATION

**3.03** When configured for operation with a No. 2 ESS, the CC No. 1A is dedicated to the remote surveillance and control of a No. 2 ESS office. The lamp indications on the console display (see Fig. 7, 8, and 9) show the state of the lamps on the No. 2 ESS maintenance center (MC) control and display panel. In addition, there are lamp indications for central office alarms, telemetry, and miscellaneous indications. The displays at the No. 2 ESS MC are transmitted to the SCCS via an E2A telemetry link. When a lamp on the MC

control and display panel is lighted, the console display which corresponds to a **red** key or lamp **on** is presented as bright reverse video (function name dark-background brightened). For MC **amber**, **yellow**, and **green** key or lamp **on**, console display is dim reverse video (function name dark-background dimly brightened). An illustration of the foregoing is shown in Fig. 10. For detailed information on these displays, see CC No. 1A Program Application Instruction PA-5P159 or later.

**3.04** The E2A telemetry-computer-translator (TCT), microcomputer, data set, and miscellaneous circuitry located in the console provide the capability of transmitting control and status information between the console and the E2A unit located at the SPCS. When the console is not in control, status information is transferred between the No. 2 ESS E2A and the SCCS critical indicator panel (Fig. 2) via the E2A critical indicator (CI) central located in the common equipment bay.

**3.05** When a key control on the console is executed, a command is sent via the telemetry-computer-translator to the No. 2 ESS MC control and display panel, emergency action panel, or TTY control panel. This command operates circuitry which simulates the operation of the corresponding key at the MC. Operation (execution) of a key control on the console causes the TCT to transmit a command that initiates or stops a system function that would normally be implemented by a corresponding key at the MC. If the console key control (field) is brightened when the associated key is executed, the TCT transmits a signal that simulates the release of the corresponding MC key. If the console lamp (field) indication is extinguished when the associated key is executed, the TCT sends an operate command to simulate the operation of the MC key.

#### CONSOLE DISCONNECTION, CONNECTION, AND CONFIGURATION

**3.06** The CC No. 1A is a mobile unit which is connected to a work station as needed. However, it can be configured for any one of several types of SPCS application (No. 2 ESS, No. 2B ESS, No. 3 ESS, etc) and need not be moved if it can be reconfigured. Since consoles are available for use at any work station, disconnection and connection of a console are routine operations. When a console is connected to a work station, console access is established by means of the central

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office selector and junction unit (COSJU). The functions of the COSJU dials and keys are provided in Table A.

**TABLE A**

**CENTRAL OFFICE SELECTOR AND JUNCTION UNIT (COSJU) DIALS AND KEYS**

DIAL	FUNCTION
<p>AUDIBLE ALARM RELEASE</p> <p>CHANNEL SELECT</p>	<p>Used in conjunction with the ALM RLS key to silence audible alarms transmitted via telemetry to the SCCS. Selects the SPCS channel for which the alarms are to be released.</p> <p>Selects the SPCS (by TTY channel number) to be accessed by the console and/or TTY.</p>
KEY	FUNCTION
<p>CHAN RLS (Channel Release)</p> <p>FA (Full Access)</p> <p>RO (Receive Only)</p> <p>ALM RLS (Alarm Release)</p>	<p>Releases full access to an SPCS and returns the console and/or the TTY to an idle state.</p> <p>Requests full access of the console and/or the TTY to the SPCS designated by the channel selector dial. This key is illuminated while the console or the TTY is accessing an SPCS.</p> <p>Used when a TTY is used in place of the CRT. Places the TTY in a Receive Only mode. Any number of work station TTYs may be in an RO mode simultaneously on the same channel.</p> <p>Used in conjunction with the audible alarm release dial. Silences the audible alarm which is transmitted over the channel that is selected by the dial.</p>

**3.07** When connecting or disconnecting a console at a work station, the following procedures should be performed.

**DISCONNECTING A CONSOLE**

**3.08** To remove a CC No. 1A from a work station, proceed as follows:

- (a) Operate CHAN RLS key on COSJU.
- (b) If floppy disk is in drive, remove and store in protective paper cover.
- (c) Turn console DC switch (on front of console cabinet) to OFF.
- (d) Operate circuit breaker (on rear of console cabinet) to OFF.
- (e) Disconnect console power cord from power outlet.
- (f) Disconnect console control cable from COSJU.

**CONNECTING A CONSOLE**

**3.09** Connect a console to a work station as follows:

- (a) Turn console DC switch (on front of console cabinet) to OFF.
- (b) Operate circuit breaker (on rear of console cabinet) to OFF.
- (c) Connect console power cord to power outlet.
- (d) Connect console control cable to the work station COSJU.

**CONFIGURING A CONSOLE**

**3.10** With the console connected to a work station per paragraph 3.09, proceed as follows to configure the console for operation with the No. 2 ESS:

- (a) Operate circuit breaker (on rear of cabinet) to ON. Processor "power-on" will be evident when cabinet fans are heard.
- (b) Operate console POWER switch to ON (POWER switch is on right side of CRT terminal).
- (c) Check to see that CRT terminal switch option settings are as follows:
  - (1) BAUD rate switch (rear) set to 9600.
  - (2) ECHO switch (rear) set to OUT.
  - (3) LOCAL/ON LINE switch (front) set to ON LINE.
  - (4) DIRECT/BUFFER switch (front) set to DIRECT.
- (d) Perform the GENERIC BOOT PROCEDURE as follows:
  - (1) Set the ENABLE/HALT switch to HALT to ensure that no program is running while a diskette is being loaded into the disk drive.
  - (2) Remove the appropriate diskette from its protective paper cover.

**Warning:** Handle the diskette with care. Do not crease the protective mylar cover.

- (3) Press the release button and raise the door on the disk drive 0 (left-hand drive is drive 0, right-hand drive is drive 1).
- (4) Insert the diskette. (Make sure that the label is on the top outside edge.)
- (5) Close the door and press down until latching occurs. This engages the diskette.

**Caution:** Do not open the door while any function is being performed with the diskette.

- (6) Clear the CRT screen by simultaneously depressing the SHIFT and PAGE ERASE INPUT keys on the CRT keyboard.
- (7) Set the ENABLE/HALT switch to ENABLE and the LTC ON/OFF switch to ON.
- (8) Cycle the DC ON/OFF switch on the processor front panel from OFF to ON and verify that the DC ON and RUN indicators are illuminated.
- (9) A dollar sign (\$) is displayed on the CRT screen to indicate that the processor is ready.
- (10) Boot by typing DX and operating carriage return key on the CRT keyboard.
- (11) An audible click is heard as the disk drive is reset and then proceeds to read the bootstrap loader off the diskette.
- (12) The bootstrap loader then automatically reads in the generic program and starts it running.
- (13) Upon start-up, the operating system will flash on the CRT screen the message:
 

MEM = 28672
- (14) The generic program will now attempt to access data from the No. 2 ESS. This action can be observed by viewing the lamps on the data set.

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**Note:** If the FA key on the COSJU is not depressed or if the office does not answer, the following message will appear at the bottom of the CRT screen:

Depress FA key on COSJU to put console on-line with SPCS office.

- (e) Rotate the COSJU CHANNEL SELECT dials until the desired channel number is positioned over the selection points.
- (f) Depress the COSJU FA key.
- (g) Observe the top line of the control console CRT display. It should contain the office name, office type, and E2A telemetry address. The control console is now monitoring the office. Commands to control the office can now be sent.
- (h) Adjust BRIGHTNESS and CONTRAST control on CRT terminal (right side) for optimum viewing and distinction between full and half intensity reverse video fields.

### LAYOUT OF CONSOLE DISPLAY

**3.12** When configured for operation with a No. 2 ESS, the console display layout corresponds to No. 2 ESS MC functions. These functions are described briefly in Section 190-115-110; however, for detailed information, reference should be made to existing circuit descriptions (CDs), schematic drawings (SDs), and associated BSPs.

### 4. WORK STATION CRT MONITOR AND KEYBOARD (CRT)

**4.01** The functions associated with the work station CRT are primarily dependent upon access to (1), the remote maintenance TTY channel of the No. 2 ESS which is under SCCS SURVEILLANCE/CONTROL and (2), the data files stored in the SCCS computer subsystem. More specifically, these functions are:

- Display SPCS output TTY messages as they are received at the SCCS
- Display SPCS output TTY messages that were previously received at the SCCS
- Initiate computer analysis of data and display results

- Filter or sort on messages or parts of messages and display results
- Retire computer generated audible alarms
- Retire visual alarm indications from the alarm video monitor
- Sent TTY commands to the SPCS.

**4.02** Common functions which are performed by the work station CRT are detailed in Sections 190-110-110 and 190-110-310 and in the Users Guide for the SCCS. Briefly, these functions include operating in various modes as the primary input/output device for the SCCS computer subsystem. If, however, any of these modes of operation are peculiar to the No. 2 ESS application of the No. 2 SCCS, rather than common to all applications, they will be covered herein and/or in Section 190-115-110.

**4.03** In normal operation, the No. 2 SCCS CSS monitors the remote TTY channels from all associated SPCSs for messages being transmitted to the SCCS. All of these messages are evaluated to determine whether they are of a nature which warrants bringing them to the attention of SCC personnel. When messages are of this nature, the CSS initiates the action to bring up alarms in the SCCS.

### NO. 2 ESS—SCCS ALARM MODES

**4.04** At the SCCS, there are three alarm modes associated with the No. 2 ESS application. These modes, which are set up by TTY input messages to the No. 2 ESS office and the SCCS CSS, are as follows:

- **ALARM MODE 1** (No. 2 ESS office alarm inhibit)—This mode is normally established when the No. 2 ESS is to be left unattended and the SCCS will have control. In this mode, the audible alarms are inhibited at the No. 2 ESS and the audible and visual alarms are active at the SCCS.
- **ALARM MODE 2**—This mode is established when the No. 2 ESS central office alarm responsibility resides within the No. 2 ESS and appropriate action is taken by personnel at the central office.

- **ALARM MODE 3**—This mode is established when the No. 2 ESS is attended and alarms are desired at both the No. 2 ESS and the SCCS with the No. 2 ESS controlling. (This situation would exist when maintenance or trouble clearing tasks are being performed at the No. 2 ESS.) In this mode, the audible and visual alarms are active at both the No. 2 ESS and the SCCS. (Alarms have not been transferred to the SCCS from the No. 2 ESS.)

#### PROCEDURES FOR ESTABLISHING NO. 2 ESS—SCCS ALARM MODES

**4.05** Alarm modes are established by means of TTY input messages sent to the particular No. 2 ESS which has been accessed from the work station as follows:

- (a) Alarm Mode 1—To establish this mode, the No. 2 ESS alarms are transferred to the SCCS via TTY message:

M SY:TFR:ALM!

The No. 2 ESS should respond with "OK." This indicates that the message was received and alarms were transferred from the No. 2 ESS to the SCCS. The audible alarms at the central office will retire automatically within 30 seconds after activation. The visual alarms remain active. In the No. 2 SCCS configuration, the alarm messages are sent to the CSS which can observe them and take appropriate action.

- (b) Alarm Mode 2—To establish this mode, alarms which were transferred to the SCCS are restored by TTY message:

M SY:RST:ALM!

Audible and visual alarms will then be continuous at the No. 2 ESS until retired. At the SCCS, the audible alarms generated by the SCCS CSS are inhibited by typing the appropriate TTY message [INH:ALARMS (OFC NAME)] into the CCS via the work station CRT keyboard. See the IM in the SCCS User's Guide for details. This message will light the AUD OFF lamp on the alarm video monitor and on the CIP.

- (c) Alarm Mode 3—To establish this mode, take same action as for Mode 2 but do not inhibit audible alarms generated by the SCCS CSS.

#### PROCEDURES FOR RESTORING OR RETIRING ALARMS

**4.06** The procedures for restoring or retiring alarms are as follows:

- (a) Audible alarms generated at the SCCS, via the E2A telemetry, can be silenced by depressing the ALM RLS key located on the COSJU after selecting the correct channel on the audible alarm release dial.

- (b) Audible alarms generated at the SCCS, via transferred TTY messages (from No. 2 ESS), are silenced from the work station CRT by selecting the appropriate alarm release message [RETIRE:(SUBSYS,OFNAME!)]—see the IM for details].

- (c) Alarms at the SPCS can be retired by executing **critical**, **major** or **minor** key in ALARM RELEASE area of CC No. 1A display.

- (d) In addition to the above, there are AUD OFF switches at the SCCS which, when operated, prevent audible alarms (except the critical alarm) from sounding in the SCCS. When an AUD OFF switch for a particular No. 2 ESS office is in the OFF position, only the CRITICAL alarm will sound and the AUD OFF lamp on the CIP will be lighted.

#### 5. TESTS

##### TEST REQUIREMENTS

**5.01** The following test procedures provide a means to ensure that:

- (a) The SCCS configuration (peculiar to the No. 2 ESS application) is fully functional.
- (b) The No. 2 ESS response to commands transmitted via the SCCS-SPCS interface circuitry is correct.
- (c) The SCCS response to signals returned via the SCCS—SPCS interface circuitry is correct.

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(d) The SCCS—SPCS circuitry responds properly to commands initiated at the CC No. 1A and the work station CRT.

TEST CONFIGURATION

5.02 The tests specified herein are to be performed either prior to cutover of a No. 2 ESS or in a low traffic period to minimize the risk of affecting service. In addition, this effort should be coordinated with users of the SERVICE ORDER TTY, etc, to avoid problems that would develop when tests involve initialization of TTY hardware. The test configuration will consist of a CC No. 1A connected to a work station with the work station CRT accessing an attended No. 2 ESS office (MONITOR mode)—for No. 2 SCCS configuration. For a No. 1 SCCS configuration, the remote maintenance TTY will be connected at the work station with a CC No. 1A (in the full access mode). TTY messages are typed in on the work station CRT for No. 2 SCCS or remote maintenance TTY for No. 1 SCCS. No. 2 ESS input and output messages are covered in the system message manuals, IM-2H200 and OM-2H200. Reference should be made to these manuals as necessary. For information on CRT usage and input and output messages for the SCCS, reference should be made to the Users Guide for the No. 2 SCCS. For information on the SCCS Control Console, see OM-5P159, PA-5P159 and PD-5P159 or Generic 1ACC2 or later documentation.

5.03 After a CC No. 1A is connected to a work station and the console and the work station CRT (or TTY) are accessing the No. 2 ESS under test, the following items should be checked before any tests are performed:

- Verify that the console SYSTEM STATUS indications are normal. Any indicated No.

STEP ACTION VERIFICATION

TTY AND DATA SET DISCONNECT TESTS

1 Remove all even numbered TTYs (2, 4, and 6) from service in sequence:  
At MC TTY—  
Type in:  
  
M TT:RMV:a!  
a = channel to be removed.

2 ESS malfunction must be determined and cleared before proceeding.

- Verify that each key indication on the console display is in its normal unoperated position (associated key/lamp indication extinguished). The MC and CC No. 1A will have an ACTIVE and a RUN lamp lighted on either CU 0 or CU 1 depending on which is on-line. The off-line CU will be in STANDBY, RUN. The only other lamps lighted are NORMAL (MAINTENANCE CENTER MODE), POWER (EMERGENCY ACTION PANEL), and LAMP PWR. Also DISPLAY BUFFER lamps will be flashing.
- Establish a talking path over the DDD network between the maintenance personnel at the No. 2 ESS MC and the SCCS work station.
- Establish Alarm Mode 3—Alarms active in both No. 2 ESS office and SCCS.

5.04 The test procedures set forth in this section are separated in functional groups which correspond to the layout of the CC No. 1A display.

Note: MC or SCCS preceding test indicates that ACTION or VERIFICATION takes place at No. 2 ESS MC or at SCCS. If tests are for a No. 2 SCCS configuration, set ASCC/BSCC switch in ASCC position (for No. 1 SCCS, set switch in BSCC position) on the AR 745( ).

5.05 Set the console to the MAINTENANCE PAGE by executing the page key at the top of the display, then setting the cursor to the maintenance key at the bottom of the display and executing that key. "MAINTENANCE PAGE" will appear in about 20 seconds at the lower right side of the display.

At TTY—  
Verify from TTY printout that even numbered

STEP	ACTION	VERIFICATION
		<p>TTYs are removed from service.            At TTY control panel on MC frame—            Corresponding TELETYPEWRITER DISCONNECT lamp lighted.            At TTY STATUS area of SCCS console display—            TYPEWRITER DISCONNECT lamp lighted for each TTY channel as it is removed from service.</p>
2	<p>At TTY control panel on MC frame—            Operate POWER OFF-TA key.</p> <p><b>Note:</b> When power is removed from TTY bus A, power is removed from MC EMERGENCY ACTION PANEL when POWER key on panel is not depressed. Emergency action lamps will be lighted on console when console is powered.</p>	<p>At TTY control panel on MC frame—            POWER OFF-TA lamp lighted.            At TTY STATUS area of SCCS console display—            PWR OFF-<i>ta</i> lamp lighted.</p>
3	<p>At TTY control panel—            Release POWER OFF-TA key.</p>	<p>At MC—            POWER OFF-TA lamp extinguished.            At TTY STATUS area of SCCS console display—            POWER OFF-<i>ta</i> lamp extinguished.</p>
4	<p>At TTY control panel—            Operate TELETYPEWRITER DISCONNECT and DATA SET DISCONNECT keys for even numbered channels 2, 4, and 6 in sequence.</p>	<p>At MC—            Lamps T2, T4, and T6 and D2, D4, and D6 lighted when key is operated.            At TTY STATUS-TYPEWRITER DISCONNECT and DATA SET DISCONNECT areas of SCCS console display—            Lamps <i>t2, t4, t6, d2, d4, and d6</i> lighted.</p>
5	<p>At TTY control panel—            Release TELETYPEWRITER DISCONNECT and DATA SET DISCONNECT keys.</p>	<p>Lamps lighted in Step 4 extinguished.</p>
6	<p>At TTY control panel—            Restore the DISCONNECT keys to original position and restore channels 2, 4, and 6 to service.            At MC TTY—            Type in:</p> <p>M TT:RST:a!            a = channel to be restored.</p>	<p>At MC—            Even numbered channels restored to service.</p>
7	<p>Remove and restore channel 1.            At MC TTY—            Type in:</p> <p>M TT:RMV:1!            M TT:RST:1!</p>	<p>At TTY control panel—            DATA SET DISCONNECT-TR1 ON lamp</p>

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STEP	ACTION	VERIFICATION
		lighted. At TTY STATUS area of SCCS console display— CONTROL- <i>tr1_on</i> lamp lighted.
8	At TTY control panel on MC frame— Depress and hold TELETYPEWRITER DISCONNECT-RST key.	At MC TTY control panel— DATA SET DISCONNECT-TR1 ON lamp extinguished.  At TTY STATUS area of SCCS console display— CONTROL- <i>tr1_on</i> extinguished and <i>rst</i> lamp lighted while key is depressed.
9	At SCCS— Change the console to RECOVERY PAGE.	
10	At TTY control panel on MC frame— Operate TR1 ON key.	At MC— MTCE FORCED lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <i>mcc_forced</i> lamp lighted. At CIP— FORCED lamp lighted.
11	At TTY control panel— Release TR1 ON key and reactivate TR1 At MC TTY— Type in:  M TT:RMV:1! and M TT:RST:1!	At TTY control panel— TR1 ON lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— TTY- <i>tr1_on</i> lamp and PERIPHERAL UNIT STATUS- <i>misc</i> lamp lighted.
12	At SYSTEM STATUS & CONTROL area of SCCS console— Execute TTY- <i>reset</i> key.	At SYSTEM STATUS & CONTROL area of SCCS console display— TTY- <i>tr1_on</i> lamp extinguished. At TTY control panel on MC frame— TR1 ON lamp extinguished.
13	At SCCS console— Execute (operate) <i>tr1_on</i> key.	At CIP— FORCED lamp lighted. At TTY control panel— TR1 ON lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <i>scc_forced</i> lamp and TTY- <i>tr1</i> <i>on</i> lamp lighted. TTY is operational on channel 1.

STEP	ACTION	VERIFICATION
14	At TTY control panel— Execute (release) <b>tr1_on</b> key.	At MC and SCCS— Lamps lighted in Step 13 extinguished and TTY is operational on channel 0.
15	At SCCS— Change the console display to MAINTENANCE PAGE.	
16	Remove the odd numbered TTYs (3, 5, and 7) from service. At MC TTY— Type in:  M TT:RMV:a! a = channel to be removed.	At TTY control panel on MC frame— DATA SET DISCONNECT lamps D3, D5, and D7 and TELETYPEWRITER DISCONNECT lamps T3, T5, and T7 lighted. At TTY STATUS area of SCCS console display— DATA SET DISCONNECT lamps <b>d3</b> , <b>d5</b> and <b>d7</b> and TYPEWRITER DISCONNECT lamps <b>t3</b> , <b>t5</b> and <b>t7</b> lighted. At MC— Odd numbered TTYs removed from service.
17	At TTY control panel on MC frame— Operate POWER OFF-TB key.	At TTY control panel— POWER OFF-TB lamp lighted. At TTY STATUS area of SCCS console display— PWR OFF- <b>tb</b> lamp lighted.
18	At TTY control panel— Release POWER OFF-TB key and depress RST key.	At TTY control panel on MC frame— Power OFF-TB, DATA SET DISCONNECT-D3, D5, and D7 and TELETYPEWRITER DISCONNECT-T3, T5, and T7 lamps extinguished. At TTY STATUS area of SCCS console display— POWER OFF- <b>tb</b> , DATA SET DISCONNECT- <b>d3</b> , <b>d5</b> , and <b>d7</b> and TYPEWRITER DISCONNECT- <b>t3</b> , <b>t5</b> , and <b>t7</b> lamps extinguished.
19	Verify TTY is still operational at MC TTY— Type in:  M TT:TIM	At MC— Time printout appears on TTY.
20	At TTY control panel on MC frame— Operate TELETYPEWRITER and DATA SET DISCONNECT keys (T3, T5, T7, D3, D5, and D7).	At TTY control panel— Lamps T3, T5, T7, D3, D5, and D7 lighted. At TTY STATUS area of SCCS console display— DATA SET DISCONNECT- d3, d5, and <b>d7</b> and TYPEWRITER DISCONNECT- <b>t3</b> , <b>t5</b> , and <b>t7</b> lamps lighted.

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STEP	ACTION	VERIFICATION
21	At TTY control panel— Release keys operated in Step 20.	At TTY control panel and at SCCS— Lamps lighted in Step 20 extinguished.
22	At TTY control panel— Restore DISCONNECT keys to original position.	
23	Restore channels 1, 3, 5, and 7. At MC TTY— Type in:  M TT:RST:a! a = channel to be restored.	At MC— Channels 1, 3, 5, and 7 restored to service.
<b>LOCAL AND REMOTE MAINTENANCE TESTS</b>		
24	At SCCS— Change to RECOVERY PAGE. At TTY control panel on MC frame— Operate LOC MTC key.	At SYSTEM STATUS & CONTROL area of SCCS console display— TTY- <i>loc_mtc</i> lamp lighted and ALARMS- <i>mcc_forced</i> lamp lighted. At TTY control panel— LOC MTC lamp lighted. At MC— MTCE FORCED lamp lighted.
25	At TTY control panel— Release LOC MTC key.	At MC and SCCS— Lamps lighted in Step 24 extinguished.
26	At TTY control panel— Operate REM MTC key.	At SYSTEM STATUS & CONTROL area of SCCS console display— TTY- <i>rem_mtc</i> lamp lighted and ALARMS- <i>mcc_forced</i> lamp lighted. At TTY control panel— REM MTC lamp lighted. At MC— MTCE FORCED lamp lighted.
27	At TTY control panel— Release REM MTC key.	At SCCS and MC— Lamps lighted in Step 26 extinguished.
28	At SYSTEM STATUS & CONTROL area of SCCS console display— Execute (operate) TTY- <i>loc_mtc</i> key.	At SYSTEM STATUS & CONTROL area of SCCS console display— TTY- <i>loc_mtc</i> lamp and ALARMS- <i>scc_forced</i> lamp lighted. At MC— LOC MTC and SCCS FORCED lamps lighted.
29	At SCCS— Execute (release) <i>loc_mtc</i> key.	At SCCS and MC— Lamps lighted in Step 28 extinguished.
30	At SCCS— Execute (operate) <i>rem_mtc</i> key.	At SYSTEM STATUS & CONTROL area of SCCS console display—

STEP	ACTION	VERIFICATION
31	At SCCS— Execute (release) <i>rem_mtc</i> key.	TTY- <i>rem_mtc</i> lamp and ALARMS- <i>scc_forced</i> lamp lighted. At MC— REM MTC and SCCS FORCED lamps lighted.  At SCCS and MC— Lamps lighted in Step 30 extinguished.
<b>MAINTENANCE CENTER MODE TESTS</b>		
32	Remove the off-line CU. At TTY— Type in:  M CU:RMV!	
33	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress NORMAL key. At AUXILIARY FUNCTIONS area— Depress OFFLINE STOPPED MANUALLY key. At MAINTENANCE CENTER MODE area— Operate OFFLINE STOP key.	At MAINTENANCE CENTER MODE area of MC control and display panel— NORMAL lamp lighted and OFFLINE STOP and MANUAL lamps extinguished. At AUXILIARY FUNCTIONS area— OFFLINE STOPPED MANUALLY lamp extinguished. At MAINTENANCE CENTER area of SCCS console display— <i>normal</i> lamp lighted and <i>manual</i> and <i>offline_stop</i> lamps extinguished. At AUX FUNCTIONS area— <i>offline_stp_man</i> lamp extinguished.
34	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress MANUAL key. At AUXILIARY FUNCTIONS area— Depress OFFLINE STOPPED MANUALLY key.	At MAINTENANCE CENTER MODE area of MC control and display panel— MANUAL lamp and OFFLINE STOP lamp lighted and NORMAL lamp extinguished. At AUXILIARY FUNCTIONS area— OFFLINE STOPPED MANUALLY lamp lighted. At MAINTENANCE CENTER area of SCCS console display— <i>manual</i> lamp <i>inter_disable</i> lamp and <i>offline_stop</i> lamp lighted and <i>normal</i> lamp extinguished. At AUX FUNCTIONS area— <i>offline_stp_man</i> lamp lighted.
35	At MAINTENANCE CENTER MODE area of MC control and display panel— Release OFFLINE STOP key.	At MAINTENANCE CENTER MODE area of MC control and display panel— OFFLINE STOP lamp extinguished. At MAINTENANCE CENTER area of SCCS console display— <i>offline_stop</i> lamp extinguished.

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STEP	ACTION	VERIFICATION
36	At MAINTENANCE CENTER MODE area of MC control and display panel— Operate ONLINE INTERRUPT key.	At MAINTENANCE CENTER MODE area of MC control and display panel— ONLINE INTERRUPT lamp lighted. At MAINTENANCE CENTER area of SCCS console display— <b>online_inter</b> lamp lighted.
37	At MAINTENANCE CENTER MODE area of MC control and display panel— Release ONLINE INTERRUPT key.	At MAINTENANCE CENTER MODE area of MC control and display panel— ONLINE INTERRUPT lamp extinguished. At MAINTENANCE CENTER area of SCCS console display— <b>online_inter</b> lamp extinguished.
38	At MAINTENANCE CENTER area of SCCS console display— Execute (operate) <b>normal</b> key.	At MAINTENANCE CENTER area of SCCS console display— <b>normal</b> lamp lighted and <b>manual</b> lamp extinguished. At SYSTEM STATUS & CONTROL-ALARMS area of SCCS console display— <b>scc_forced</b> lamp lighted. At MAINTENANCE CENTER MODE area of MC control and display panel— NORMAL lamp lighted and MANUAL lamp extinguished. At MC— SCCS FORCED lamp lighted.
39	At MAINTENANCE CENTER area of SCCS console display— Execute (operate) <b>manual</b> key.	At MAINTENANCE CENTER area of SCCS console display— <b>manual</b> lamp lighted and <b>normal</b> lamp extinguished. At SYSTEM STATUS & CONTROL-ALARMS area of SCCS console display— <b>scc_forced</b> lamp lighted. At MAINTENANCE CENTER MODE area of MC control and display panel— MANUAL lamp lighted and NORMAL lamp extinguished. At MC— SCCS FORCED lamp lighted.
40	At MAINTENANCE CENTER area of SCCS console display— Execute (operate) <b>online_inter</b> key.	At MAINTENANCE CENTER area of SCCS console display— <b>online_inter</b> lamp lighted. At SYSTEM STATUS & CONTROL-ALARMS area— <b>scc_forced</b> lamp lighted. At MAINTENANCE CENTER MODE of MC control and display panel— ONLINE INTERRUPT lamp lighted.

STEP	ACTION	VERIFICATION
		At MC— SCCS FORCED lamp lighted.
41	At MAINTENANCE CENTER area of SCCS console display— Execute (release) <b>online_inter</b> key.	At MC control and display panel and at SCCS console display— Lamps lighted in Step 40 extinguished.
42	At the STORE MARGIN TEST area of MC control and display panel— Set MARGIN key to PROGRAM STORE position.	At STORE MARGIN TST area of SCCS console display— <b>prog_store</b> lamp lighted.
43	At the STORE MARGIN TEST area of MC control and display panel— Set MARGIN key to CALL STORE position.	At STORE MARGIN TST area of SCCS console display— <b>prog_store</b> lamp extinguished and <b>call_store</b> lamp lighted.
44	At the STORE MARGIN TEST area of the MC control and display panel— Set MARGIN key to OFF position.	At STORE MARGIN TST area of SCCS console display— <b>call_store</b> lamp extinguished.
45	At SCCS— Change display from RECOVERY PAGE to MAINTENANCE PAGE.	
46	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress MANUAL key and operate OFFLINE STOP key. At AUXILIARY FUNCTIONS area— Depress OFFLINE STOPPED MANUALLY key. At DISPLAY BUFFER area— Depress all DISPLAY BUFFER keys.	At MC control and display panel and at SCCS console display— All DISPLAY BUFFER lamps lighted.
47	At DISPLAY BUFFER area of MC control and display panel— Depress (operate) CLEAR DISPLAY BUFFER key.	At DISPLAY BUFFER area of MC control and display panel— All DISPLAY BUFFER lamps extinguished and CLEAR DISPLAY BUFFER lamp lighted. At DISPLAY BUFFER area of SCCS console display— All DISPLAY BUFFER lamps extinguished and <b>clear_display_buf</b> lamp lighted.
48	At DISPLAY BUFFER area of MC control and display panel— Depress (release) CLEAR DISPLAY BUFFER key.	At DISPLAY BUFFER area of MC control and display panel— CLEAR DISPLAY BUFFER lamp extinguished. At DISPLAY BUFFER area of SCCS console display— <b>clear_display_buf</b> lamp extinguished.

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STEP	ACTION	VERIFICATION
49	At DISPLAY BUFFER area of MC control and display panel— Depress (operate) all DISPLAY BUFFER keys.	At MC control and display panel and at SCCS console display— All DISPLAY BUFFER lamps lighted.
50	At DISPLAY BUFFER area of SCCS console display— Execute (operate) <i>clear_display_buf</i> key.	At DISPLAY BUFFER area of SCCS console display— All DISPLAY BUFFER lamps extinguished and <i>clear_display_buf</i> lamp lighted. At DISPLAY BUFFER area of MC control and display panel— All DISPLAY BUFFER lamps extinguished and CLEAR DISPLAY BUFFER lamp lighted.
51	At DISPLAY BUFFER area of SCCS console display— Execute (release) <i>clear_display_buf</i> key.	At SCCS— <i>clear_display_buf</i> lamp extinguished. At MC— CLEAR DISPLAY BUFFER lamp extinguished.
52	At OFFLINE LOAD AND DISPLAY area of MC control and display panel— Depress (operate) LOAD key.	At MC— LOAD lamp lighted. At DISPLAY BUFFER area of SCCS console— <i>load</i> lamp lighted.
53	At OFFLINE LOAD AND DISPLAY area of MC control and display panel— Depress (operate) DISPLAY key.	At MC— DISPLAY lamp lighted and LOAD lamp extinguished. At DISPLAY BUFFER area of SCCS console— <i>display</i> lamp lighted and <i>load</i> lamp extinguished.
54	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress (operate) NORMAL key.	At MC— DISPLAY lamp extinguished and NORMAL lamp lighted. At DISPLAY BUFFER area of SCCS console— <i>display</i> lamp extinguished and <i>normal</i> lamp lighted.

ALARM and COMPARATOR INPUT SWITCHES TESTS

55	At SCCS console— Change console page to RECOVERY PAGE.	
56	At the EMERGENCY ACTION PANEL of MC— Depress (operate) the ENABLE key.	Major alarm sounds at MC and SCCS. At EMERGENCY ACTION PANEL of MC— ENABLE lamp lighted. At SYSTEM STATUS area of MC control and display panel— MAJOR ALARM lamp lighted. At SCCS console display— <i>mj</i> lamp lighted. At EMERGENCY ACTION area of SCCS— <i>enable</i> lamp lighted.

STEP	ACTION	VERIFICATION
57	At the EMERGENCY ACTION PANEL of MC— Depress (release) ENABLE key.	At the EMERGENCY ACTION PANEL of MC— ENABLE lamp extinguished. At EMERGENCY ACTION area of SCCS console display— <b>enable</b> lamp extinguished.
58	At the SYSTEM STATUS & CONTROL-ALARM RELEASE area of the SCCS console display— Execute (operate) <b>major</b> key.	At MC and SCCS major alarm silenced. At MC— SCCS FORCED lamp lighted. At SYSTEM STATUS area of MC control and display panel— MAJOR ALARM lamp extinguished. At SCCS console display— <b>mj</b> lamp extinguished. At ALARMS area— <b>scc_forced</b> lamp lighted.
59	At SYSTEM STATUS area of MC control and display panel— Depress MAJOR ALARM-RST key.	At ALARMS area of SCCS console display— <b>scc_forced</b> lamp extinguished. At MC— SCCS FORCED lamp extinguished.
60	Remove the dial pulse receiver test circuit(s) (group 40) from service— At MC TTY— Type in:  M SV:RMV:40 0!  <b>Note:</b> Perform Step 61 within 5 seconds.	At SYSTEM STATUS area of MC control and display panel— MINOR ALARM lamp lighted. At top line of SCCS console display— <b>mn</b> lamp lighted.
61	At ALARM RELEASE area of SCCS console display— Execute (operate) <b>minor</b> key.	At MC and SCCS minor alarm silenced. At SYSTEM STATUS area of MC control and display panel— MINOR ALARM lamp extinguished. At MC— SCCS FORCED lamp lighted. At top line of SCCS console display— <b>mn</b> lamp extinguished. At ALARMS area— <b>scc_forced</b> lamp lighted.
62	At ALARM RELEASE area of SCCS console display— Execute (release) <b>minor</b> key.	At MC— SCCS FORCED lamp extinguished. At ALARMS area of SCCS console display— <b>scc_forced</b> lamp extinguished.

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STEP	ACTION	VERIFICATION
63	Restore dial pulse receiver test circuit(s). At MC TTY— Type in:  MH SV:RST:40 0!	At MC— Circuit(s) restored.
64	At SCCS console— Change console display to MAINTENANCE PAGE.	
65	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress the NORMAL key and then request a repetitive diagnostic on the off-line CU. At MC TTY— Type in:  MR CU:DGN:1!	At TEST STATUS area of MC control and display panel— PASS lamp lighted upon completion of diagnostics. At TEST CONTROL area of SCCS console display— <b>pass</b> lamp lighted upon completion of diagnostics.
66	At SYSTEM STATUS area of MC control and display panel— Depress MAJOR ALARM key and hold key depressed.	At TEST STATUS area of MC control and display console— PASS lamp extinguished and FAIL lamp lighted. At TEST CONTROL area of SCCS console display— <b>pass</b> lamp extinguished and <b>fail</b> lamp lighted.
67	At SYSTEM STATUS area of MC control and display panel— Release MAJOR ALARM key.	At SYSTEM STATUS area of MC control and display console— FAIL lamp extinguished. At TEST CONTROL area of SCCS console display— <b>fail</b> lamp extinguished.
68	At TEST CONTROL area of SCCS console display— Execute (operate) <b>execute</b> key, then release.	At TEST CONTROL area of SCCS console display— <b>pass</b> or <b>fail</b> lamp lighted when diagnostic completes.
69	Remove the diagnostic request. At MC TTY— Type in:  M SY:CLR!	

STEP	ACTION	VERIFICATION
<b>REMOVAL AND TRANSFER FUNCTION TESTS</b>		
70	At SCCS console— The display should be on MAINTENANCE PAGE.	
71	Remove the off-line CU. At MC TTY— Type in:  M CU:RMV!	At MC— Verify that the off-line CU - OUT OF SERVICE and MAINTENANCE CENTER-INTERRUPT DISABLE lamps are lighted and the on-line CU-ACTIVE and RUN lamps are lighted. At SCCS— Verify that the off-line CU-MAINTENANCE CENTER-CU- <i>oos</i> and <i>inter_disable</i> lamps are lighted and the on-line CU- <i>active</i> and <i>run</i> lamps are lighted.
72	Switch control units. At MC TTY— Type in:  M CU:UPS!	At MC and SCCS— Verify that CU just going off-line changes to active and active CU changes to standby.
73	At MC— Repeat Steps 71 and 72.	At MC and SCCS— Same results as Steps 71 and 72 for the other CU.
74	At COMPARATOR INPUT SWITCHES area of the MC control panel— Set each switch to the 1 position and then set back to 0 position.	At the DISPLAY BUFFER area of the MC control panel— Corresponding lamp lighted when switch is at 1 position and extinguished for 0 position. At the COMPARATOR INPUT SWITCHES area of SCCS console display— Corresponding lamp is a 1 when switch is at 1 position and a 0 for 0 position.
75	At COMPARATOR INPUT SWITCHES area of SCCS console display— Position cursor to flag (#) and execute key.	At SCCS console display— DATA INSERT: appears at the bottom line of console display.
76	At SCCS console keyboard— Type in:  S0!	At COMPARATOR INPUT SWITCHES (CIS) area of SCCS console display— CIS 0 changes to 1 (set).

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
77	At SCCS console keyboard— Type in:  C0!	At CIS area of SCCS console display— CIS 0 changes back to 0 (cleared).
78	At SCCS console keyboard— Type in:  S1!	At CIS area of SCCS console display— CIS 1 is set.
79	At SCCS console keyboard— Type in:  C1!	At CIS area of SCCS console display— CIS 1 is cleared.
80	At SCCS console keyboard— Repeat Steps 78 and 79 for each CIS by setting (Sx!) and clearing (Cx!) the appropriate key. (x = switch number)	At CIS area of SCCS console display— CISs 2-23 are set and cleared.
81	At SCCS console— Change the display to RECOVERY PAGE. Remove the MC from service. At MC TTY— Type in:  M MC:RMV!	At SYSTEM STATUS-MAINTENANCE CENTER area of MC control panel— OUT OF SERVICE lamp lighted. At MAINTENANCE CENTER area of SCCS console display— <b>oos</b> lamp lighted.
82	At POWER CONTROL area of MC— Depress MAINTENANCE CENTER CIRCUIT key to remove MC power.	At POWER CONTROL area of MC— MAINTENANCE CENTER CIRCUIT lamp lighted. At POWER CONTROL area of SCCS console display— <b>mtc_ckt</b> lamp lighted. At SCCS console display— <b>mcc_pwr</b> lamp lighted on top line of display.
83	Depress key to restore power.	At MC and SCCS— Lamps lighted in Steps 81 and 82 extinguished.

STEP	ACTION	VERIFICATION
84	Restore MC. At TTY— Type in:  MH MC:RST!	At MAINTENANCE CENTER area of MC control panel— OUT OF SERVICE lamp extinguished. At MAINTENANCE CENTER area of SCCS console— <b>oos</b> lamp extinguished.
85	Inhibit audits. At MC TTY— Type in:  M AU:INH!	At SYSTEM STATUS area of MC control panel— AUTOMATIC TEST INHIBIT lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display. ALARMS— <b>auto_tst_inhib</b> lamp lighted.
86	Restore audits. At MC TTY— Type in:  M AU:RST!	At MC and SCCS— Lamps lighted in Step 85 extinguished.
87	Transfer alarms. At MC TTY— Type in:  M SY:TFR:ALM!	At SYSTEM STATUS area of MC control console— ALARMS TRANSFERRED lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <b>alm_trfr</b> lamp lighted.
88	Restore alarms. At MC TTY— Type in:  M SY:RST:ALM!	At MC and SCCS— Lamps lighted in Step 87 extinguished.

**LAMPS POWER AND OFF-LINE CONTROL TESTS—**

89	At SCCS— Change console display to MAINTENANCE PAGE.	
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STEP	ACTION	VERIFICATION
90	At AUXILIARY FUNCTIONS area of MC control and display panel— Operate LAMP-TEST key.	At MC control and display panel and SCCS console display— All MAINTENANCE CENTER lamps are lighted. At CIP— All lamps except BLDG INH lighted.
91	At MC control and display panel— Release LAMP-TEST key.	At MC control and display panel and SCCS console display— All lamps extinguished.
92	At AUXILIARY FUNCTIONS area of MC control and display panel— Release and operate LAMP-POWER key.	At MC control and display panel— LAMP-POWER lamp is extinguished and then lighted. At AUX FUNCTIONS area of SCCS console display— <b>lamp_power</b> lamp is extinguished and then lighted.
93	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress the MANUAL key and operate the OFFLINE STOP key. At AUXILIARY FUNCTIONS area of MC control panel— Depress OFFLINE STOPPED MANUALLY key.	At MC control and display panel— Corresponding lamps lighted. At MAINTENANCE CENTER area of SCCS console display— <b>manual</b> and <b>offline_stop</b> lamps lighted. At AUX FUNCTIONS area— <b>offline_stp_man</b> lamp lighted.
94	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Depress SYSTEM RESET & CLEAR key.	At MC control and display console— SYSTEM RESET & CLEAR lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>system_reset_&amp;_clear</b> lamp lighted.
95	At MC control and display panel— Repeat Step 93 and depress PROGRAM EXECUTE key.	At AUXILIARY FUNCTIONS area of MC control and display panel— PROGRAM EXECUTE lamp lighted and OFFLINE STOPPED MANUALLY lamp extinguished. At AUX FUNCTIONS area of SCCS console display— <b>program_execute</b> lamp lighted and <b>offline_stp_man</b> lamp extinguished.
96	At AUXILIARY FUNCTIONS area of MC control and display panel— Depress OFFLINE STOPPED MANUALLY	

STEP	ACTION	VERIFICATION
	<p>key and load program address with O(177) as follows:</p> <p>(a) At DISPLAY BUFFER area of MC control panel— Depress keys 6 to 0.</p> <p>(b) At OFFLINE LOAD AND DISPLAY area of MC control panel— Depress LOAD key.</p> <p>(c) Depress PA key.</p> <p>(d) At DISPLAY BUFFER area of MC control panel— Depress CLEAR DISPLAY BUFFER key.</p> <p>(e) At ONLINE LOAD AND DISPLAY area of MC control panel— Depress DISPLAY key.</p> <p>(f) Depress PA key to verify.</p>	<p>At MC control and display panel and at SCCS console display— Corresponding lamps are lighted or extinguished.</p>
97	<p>At MAINTENANCE CENTER FUNCTIONS area of SCCS console— Execute (operate) <i>system_reset_&amp;_clear</i> key.</p>	<p>At MC— SYSTEM RESET &amp; CLEAR lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <i>system_reset_&amp;_clear</i> lamp lighted.</p>
98	<p>Execute (release) <i>system_reset_&amp;_clear</i> key.</p>	<p>At MC control and display panel and SCCS console display— Lamps lighted in Step 97 extinguished.</p>
99	<p>At MC control and display panel— Repeat Steps 96 d, e, and f.</p>	<p>At DISPLAY BUFFER area of MC control— Verify that program address contains O(177).</p>
100	<p>At COMPARATOR INPUT SWITCHES of MC control and display panel— Set the keys to O(22). At AUXILIARY FUNCTIONS area— Depress INHIBIT AUTOMATIC DISPLAY key. At MAINTENANCE CENTER FUNCTIONS area— Operate the COMPARE CSA-CIS key.</p>	<p>At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— COMPARE CSA-CIS lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <i>compare_csa_cis</i> lamp lighted.</p>
101	<p>At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release COMPARE CSA-CIS key and operate DYNAMIC CALL STORE READ key.</p>	<p>At MAINTENANCE CENTER FUNCTIONS area of MC control and display— COMPARE CSA-CIS lamp extinguished and DYNAMIC CALL STORE READ lamp lighted.</p>

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STEP	ACTION	VERIFICATION
102	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release DYNAMIC CALL STORE READ key and operate DYNAMIC PROGRAM STORE READ key.	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>compare_csa_cls</b> lamp extinguished and <b>dynamic_cs_read</b> lamp lighted.  At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC CALL STORE READ lamp extinguished and DYNAMIC PROGRAM STORE READ lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>dynamic_cs_read</b> lamp extinguished and <b>dynamic_ps_read</b> lamp lighted.
103	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release DYNAMIC PROGRAM STORE READ key and operate COMPARE PSB-CIS key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC PROGRAM STORE READ lamp extinguished and COMPARE PSB-CIS lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>dynamic_ps_read</b> lamp extinguished and <b>compare_psb_cis</b> lamp lighted.
104	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release COMPARE PSB-CIS key and operate COMPARE EXTERNAL-CIS key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— COMPARE PSB-CIS lamp extinguished and COMPARE EXTERNAL-CIS lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>compare_psb_cis</b> lamp extinguished and <b>compare_external_cis</b> lamp lighted.
105	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release COMPARE EXTERNAL-CIS key and operate COMPARE PA-CIS key.	At MAINTENANCE CENTER FUNCTIONS area of MC control panel— COMPARE EXTERNAL-CIS lamp extinguished and COMPARE PA-CIS lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS control console— <b>compare_external_cis</b> lamp extinguished and <b>compare_pa_cis</b> lamp lighted.
106	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Repeat key operations of Steps 101 through 105.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel and SCCS console display— Same results as Steps 101 through 105.
107	At AUX FUNCTIONS area of SCCS console display— Execute <b>program_execute</b> key.	At AUXILIARY FUNCTIONS area of MC control panel— PROGRAM EXECUTE and INHIBIT AUTOMATIC DISPLAY lamps lighted.

STEP	ACTION	VERIFICATION
		At AUX FUNCTIONS area of SCCS console display— <b>program_execute</b> and <b>inhib_auto_displ</b> lamps lighted. At DISPLAY BUFFER area of MC control and display panel and SCCS console display— Verify that the display buffer contains O(21).
108	At AUX FUNCTIONS area of SCCS console display— Execute (operate) <b>inhib_auto_displ</b> key and then release key.	At AUXILIARY FUNCTIONS area of MC control and display panel— INHIBIT AUTOMATIC DISPLAY lamp extinguished. At AUX FUNCTIONS area of SCCS console display— <b>inhib_auto_displ</b> lamp extinguished.
109	At AUXILIARY FUNCTIONS area of MC control and display panel— Depress OFFLINE STOPPED MANUALLY key. At MAINTENANCE CENTER FUNCTIONS area— Release COMPARE PA-CIS key, and operate EXECUTE ONE WORD NO ADVANCE key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— EXECUTE ONE WORD NO ADVANCE lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>exec_one_word_no_adv</b> lamp lighted.
110	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release EXECUTE ONE WORD NO ADVANCE key and operate EXECUTE ONE INSTRUCTION & ADVANCE key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— EXECUTE ONE WORD NO ADVANCE lamp extinguished and EXECUTE ONE INSTRUCTION & ADVANCE lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>exec_one_word_no_adv</b> lamp extinguished and <b>exec_one_inst_&amp;_adv</b> lamp lighted.
111	Release EXECUTE ONE INSTRUCTION & ADVANCE key and operate REPEAT EXECUTE ONE WORD key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— EXECUTE ONE INSTRUCTION & ADVANCE lamp extinguished and REPEAT EXECUTE ONE WORD lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>exec_one_inst_&amp;_adv</b> lamp extinguished and <b>rpt_exec_one_word</b> lamp lighted.
112	Release REPEAT EXECUTE ONE WORD key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— REPEAT EXECUTE ONE WORD lamp extinguished. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>rpt_exec_one_word</b> lamp extinguished.



STEP	ACTION	VERIFICATION
118	At SYSTEM STATUS area of MC control and display panel— Release LOCK CU0 ACTIVE key.	At MC and SCCS— Lamps lighted in Step 117 extinguished.
119	At MC— Verify that CU 0 is active. At POWER CONTROL area of MC control and display panel— Set the CONTROL UNIT SWITCH INHIBIT switch to the CONTROL UNIT 0 ACTIVE position.	At POWER CONTROL area of MC control and display panel— CONTROL UNIT SWITCH INHIBIT lamp lighted. At SYSTEM STATUS area of MC control and display panel— CONTROL UNIT 0-ACTIVE lamp lighted. At MC— MTCE FORCED lamp lighted and relay PD0 operated. At SYSTEM STATUS & CONTROL area of SCCS console display— MANUAL CU CONTROL- <b>cu_0_act</b> lamp, <b>cu_switch_inhib</b> lamp, and ALARMS- <b>mcc_forced</b> lamp lighted.
120	At POWER CONTROL area of MC control and display panel— Set the CONTROL UNIT SWITCH INHIBIT switch to the OFF position.	At MC control and display panel— Lamps lighted in Step 119 extinguished and relay PD0 released. At SCCS— Lamps lighted in Step 119 extinguished.
121	Verify CU 0 is active. At the MANUAL CU CONTROL area of SCCS console display— Execute (operate) <b>cu_0_act</b> key.	At SYSTEM STATUS & CONTROL area of console display— MANUAL CU CONTROL- <b>cu_0_act</b> lamp and ALARMS— <b>scc_forced</b> lamp lighted. At MC— SCCS FORCED lamp lighted. At POWER CONTROL area of MC control and display panel— CONTROL UNIT SWITCH INHIBIT lamp lighted.
122	At MANUAL CU CONTROL area of SCCS console display— Execute (release) <b>cu_0_act</b> key.	At MC control and display panel and at SCCS console display— Lamps lighted in Step 121 extinguished.
123	At SYSTEM STATUS area of MC control and display panel— Operate LOCK CU0 ACTIVE key. At POWER CONTROL area— Operate OFFLINE CONTROL UNIT key.	At POWER CONTROL area of MC control and display panel— SEQUENCE FAILURE-BUS B lamp lighted momentarily while power is sequencing and OFFLINE CONTROL UNIT lamp lighted. At MANUAL CU CONTROL area of the SCCS console display— <b>seq_fail_bus_b</b> lamp lighted momentarily while power is sequencing and <b>offline_cu_pwr</b> lamp lighted.

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STEP	ACTION	VERIFICATION
124	Restore power. At POWER CONTROL area of MC control and display panel— Release the LOCK CU0 ACTIVE key.	At POWER CONTROL area of MC control and display panel— OFFLINE CONTROL UNIT lamp extinguished. At POWER CONTROL area of SCCS console display— <i>offline_cu_pwr</i> lamp extinguished.
125	Verify that CU diagnostics pass all tests. At MC local maintenance TTY— Type in: M CU:DGN!	At MC local maintenance TTY— ATP printed.
126	Switch CUs. At MC TTY— Type in:  M CU:UPS!	At SYSTEM STATUS area of MC control and display panel— CONTROL UNIT 1-ACTIVE and RUN lamps lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— CU 1- <i>active</i> and <i>run</i> lamps lighted.
127	At SYSTEM STATUS & CONTROL area of SCCS console display— Execute (operate) CU 1- <i>lock</i> key.	At SYSTEM STATUS area of the MC control and display panel— LOCK CU1 ACTIVE lamp lighted At MC— SCCS FORCED lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— CU 1- <i>lock</i> lamp and ALARMS- <i>scc-forced</i> lamp lighted.
128	Attempt to switch CUs. At MC local maintenance TTY— Type in:  M CU:UPS!	At MC local maintenance TTY— Verify that RL response is received.
129	At SYSTEM STATUS & CONTROL area of the console display— Execute (release) CU 1- <i>lock</i> key.	At SYSTEM STATUS area of MC control and display panel— LOCK CU1 ACTIVE lamp extinguished. At MC— SCCS FORCED lamp extinguished. At SYSTEM STATUS & CONTROL area of SCCS console display— CU 1- <i>lock</i> lamp and ALARMS- <i>scc_forced</i> lamp extinguished.

STEP	ACTION	VERIFICATION
130	At SYSTEM STATUS area of MC control and display panel— Verify that control unit 1 is active, then operate LOCK CU1 ACTIVE.	At SYSTEM STATUS area of MC control and display panel— LOCK CU1 ACTIVE lamp lighted. At MC— MTCE FORCED lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— CU 1- <i>lock</i> lamp and ALARMS- <i>mcc_forced lamp lighted.</i>
131	At SYSTEM STATUS area of MC control and display panel— Release LOCK CU1 ACTIVE key.	At MC and SCCS— Lamps lighted in Step 130 extinguished.
132	At MC— Verify that CU 1 is active. At POWER CONTROL area of MC control and display panel— Set the CONTROL UNIT SWITCH INHIBIT switch to the CONTROL UNIT 1 ACTIVE position.	At POWER CONTROL area of MC control and display panel— CONTROL UNIT SWITCH INHIBIT lamp lighted. At SYSTEM STATUS area of MC control and display panel— CONTROL UNIT 1-ACTIVE lamp lighted. At MC— MTCE FORCED lamp lighted and relay PD1 operated. At SYSTEM STATUS & CONTROL area of SCCS console display— MANUAL CU CONTROL- <i>cu_1_act</i> lamp, <i>cu_switch_inhib</i> lamp, and ALARMS- <i>mcc_forced</i> lamp lighted.
133	At POWER CONTROL area of MC control and display panel— Set the CONTROL UNIT SWITCH INHIBIT switch to the OFF position.	At MC control and display panel— Lamps lighted in Step 132 extinguished and relay PD1 released. At SCCS— Lamps lighted in Step 132 extinguished.
134	Verify CU 1 is active. At the MANUAL CU CONTROL area of SCCS console display— Execute (operate) <i>cu_1_act</i> key.	At SYSTEM STATUS & CONTROL area of console display— MANUAL CU CONTROL- <i>cu_1_act</i> lamp and ALARMS- <i>scc_forced</i> lamp lighted. At POWER CONTROL area of MC control and display panel— CONTROL UNIT SWITCH INHIBIT lamp lighted.
135	At MANUAL CU CONTROL area of SCCS console display— Execute (release) <i>cu_1_act</i> key.	At MC control and display panel and at SCCS console display— Lamps lighted in Step 134 extinguished.
136	At SYSTEM STATUS area of MC control and display panel—	At POWER CONTROL area of MC control and display panel—

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STEP	ACTION	VERIFICATION
	Operate the LOCK CU1 ACTIVE key. At POWER CONTROL area— Operate OFFLINE CONTROL UNIT key.	SEQUENCE FAILURE BUS A lamp lighted momentarily while power is sequencing and OFFLINE CONTROL UNIT lamp lighted. At MANUAL CU CONTROL area of the SCCS console display— <b>seq_fail_bus_a</b> lamp lighted momentarily while power is sequencing and <b>offline_cu_pwr</b> lamp lighted.
137	Restore power. At POWER CONTROL area of MC control and display panel— Release OFFLINE CONTROL UNIT key and release the LOCK CU1 ACTIVE key.	At POWER CONTROL area of MC control and display panel— OFFLINE CONTROL UNIT lamp extinguished. At MANUAL CU CONTROL area of SCCS console display— <b>offline_cu_pwr</b> lamp extinguished.
138	Verify that CU diagnostics pass all tests. At MC TTY— Type in:  M CU:DGN!	At MC TTY— MR CU DGN message printed.

MAINTENANCE CENTER FUNCTIONS TESTS

139	At SCCS console display— Change display to MAINTENANCE PAGE. Remove CU from service (if not already out of service). At MC TTY— Type in:  M CU:RMV!	At MC local maintenance TTY— OK printed on TTY.
140	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress MANUAL key and operate OFFLINE STOP key. At AUXILIARY FUNCTIONS area— Depress OFFLINE STOPPED MANUALLY key.	At MAINTENANCE CENTER MODE area of MC control and display panel— MANUAL lamp and OFFLINE STOP lamps lighted. At AUXILIARY FUNCTIONS area— OFFLINE STOPPED MANUALLY lamp lighted. At MAINTENANCE CENTER area of SCCS console display— <b>manual</b> lamp and <b>offline_stop</b> lamp lighted. At AUX FUNCTIONS area of SCCS console display— <b>offline_stp_man</b> lamp lighted.
141	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Operate COMPARE EXTERNAL-CIS key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— COMPARE EXTERNAL-CIS lamp lighted. At MAINTENANCE CENTER FUNCTIONS

STEP	ACTION	VERIFICATION
142	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Operate (in sequence) DYNAMIC CALL STORE READ and COMPARE PA-CIS keys, verify results, and release keys.	area of SCCS console display— <b>compare_external_cis</b> lamp lighted.  At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— COMPARE EXTERNAL-CIS lamp extinguished when key is operated and lighted when key is released. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>compare_external_cis</b> lamp is extinguished when key is operated and lighted when key is released.
143	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Execute (in sequence) <b>dynamic_ps_read</b> , <b>dynamic_cs_read</b> , <b>compare_pa_cis</b> , and <b>compare_csa_cis</b> keys; verify results, and release keys.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— COMPARE EXTERNAL-CIS lamp extinguished as key is executed and lighted when key is released. At MC— SCCS FORCED lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>compare_external_cis</b> lamp extinguished when key is operated and lighted when key is released. At OFF NORMAL area— <b>scc_forced</b> lamp lighted.
144	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release COMPARE EXTERNAL-CIS key and operate DYNAMIC CALL STORE READ key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— COMPARE EXTERNAL-CIS lamp extinguished and DYNAMIC CALL STORE READ lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>compare_external_cis</b> lamp extinguished and <b>dynamic_cs_read</b> lamp lighted.
145	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Operate the COMPARE PA-CIS key, verify results, and release key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC CALL STORE READ lamp extinguished when key is operated and lighted when key is released. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>dynamic_cs_read</b> lamp extinguished when key is operated and lighted when key is released.
146	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display—	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel—

STEP	ACTION	VERIFICATION
Execute (in sequence) <b><i>dynamic_ps_read</i></b> and <b><i>compare_pa_cis</i></b> keys; verify results, and release keys.	DYNAMIC CALL STORE READ lamp extinguished when key is executed and lighted when key is released. At MC— SCCS FORCED lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b><i>dynamic_cs_read</i></b> lamp extinguished when key is executed and lighted when key is released. At OFF NORMAL area— <b><i>scc_forced</i></b> lamp lighted.	
147 At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release the DYNAMIC CALL STORE READ key and operate DYNAMIC PROGRAM STORE READ key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC CALL STORE READ lamp extinguished and DYNAMIC PROGRAM STORE READ lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b><i>dynamic_cs_read</i></b> lamp extinguished and <b><i>dynamic_ps_read</i></b> lamp lighted.	
148 At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Operate COMPARE CSA-CIS key, verify results, and release key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC PROGRAM STORE READ lamp extinguished when key is operated and lighted when key is released. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b><i>dynamic_ps_read</i></b> lamp extinguished when key is operated and lighted when key is released.	
149 At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Execute <b><i>dynamic_cs_read</i></b> key and <b><i>compare_csa_cis</i></b> key in sequence, verify results, and release keys.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC PROGRAM STORE READ lamp extinguished as keys are executed and lighted when key is released. At MC— SCCS FORCED lamp lighted. At MAINTENANCE CENTER FUNCTIONS area of SCCS console— <b><i>dynamic_ps_read</i></b> lamp extinguished as keys are executed and lighted when key is released. At OFF NORMAL area— <b><i>scc_forced</i></b> lamp lighted.	
150 At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release the DYNAMIC PROGRAM STORE READ key.	At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— DYNAMIC PROGRAM STORE READ lamp extinguished.	

STEP	ACTION	VERIFICATION
		At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— <b>dynamic_ps_read</b> lamp extinguished.
151	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Execute the following keys in sequence. <b>compare_pa_cis, compare_csa_cis, dynamic_ps_read, dynamic_cs_read.</b>	At MC control and display panel and at SCCS console display— Verify that execution of each key causes the corresponding lamp to light and operation of any other of the four keys has no effect while the indicated key is executed.
152	Activate the detection tests. At SCCS workstation CRT terminal— Type in:  M CU:DET:1!	At MC and SCCS— OK is printed.
153	At COMPARATOR INPUT SWITCHES area of SCCS console display— Set the CIS keys to the address of 30000. At MAINTENANCE CENTER FUNCTIONS area of MC control and display panel— Release COMPARE PSA-CIS key. At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Execute (operate) <b>dynamic_ps_read</b> key. At AUXILIARY FUNCTIONS area of MC control and display panel— Depress the INHIBIT AUTOMATIC DISPLAY key.	At DISPLAY BUFFER area of MC control and display panel and at DISPLAY BUFFER area of the SCCS console display— Contents of DISPLAY BUFFER match the program listing at the CIS address. (Read Program at address 30000 by typing in UB PS:RP 30000! should match DISPLAY Buffer.)
154	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Execute (release) <b>dynamic_ps_read</b> key and (operate) <b>dynamic_cs_read</b> key. At COMPARATOR INPUT SWITCHES area— Set the CIS keys to the address of SYSTIM in LAYOUT by positioning cursor to flag (#) in front of COMPARATOR INPUT SWITCHES and executing key. "ENTER DATA" appears on bottom of CRT. Type in:  O'(address of SYSTIM)!	At MC control display panel and SCCS console display— Verify that the display buffers are counting.
155	At MAINTENANCE CENTER FUNCTIONS area of SCCS console display— Execute (release) <b>dynamic_cs_read</b> key. At MAINTENANCE CENTER area—	At MAINTENANCE CENTER MODE area of MC control and display panel— NORMAL lamp lighted. At MAINTENANCE CENTER area of SCCS

STEP	ACTION	VERIFICATION
	Execute (release) <i>online_inter</i> key. At COMPARATOR INPUT SWITCHES area— Release all CIS keys. At MAINTENANCE CENTER area— Execute <i>normal</i> key.	console display— <i>normal</i> lamp lighted.
<b>EMERGENCY ACTION TESTS</b>		
156	At SCCS console display— Change console display to RECOVERY PAGE.	At EMERGENCY ACTION area of SCCS console display— <i>power</i> lamp lighted. At MC EMERGENCY ACTION PANEL— POWER lamp lighted.
157	At EMERGENCY ACTION area of SCCS console display— Execute (operate) the <i>enable</i> key.  <i>Caution: The enable key sets the            function for initialization. DO NOT            execute the ready AND go keys after            the enable key is executed.</i>	At EMERGENCY ACTION area of SCCS console display— <i>enable</i> and <i>ready</i> lamps lighted. At SYSTEM STATUS & CONTROL area— ALARMS- <i>sccs_forced</i> lamp lighted. At EMERGENCY ACTION PANEL of the MC— ENABLE AND READY lamps lighted. At MC— SCCS FORCED lamp lighted. At MC local maintenance TTY— MA SY EAP 000002 printed. At MC and SCCS— Major alarm sounds.
158	At EMERGENCY ACTION area of SCCS console display— Execute (operate) <i>ready</i> key.	At MC— SCCS FORCED lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <i>scc_forced</i> lamp lighted.
159	At EMERGENCY ACTION area of SCCS console display— Execute (release) <i>enable</i> key.	At MC— SCCS FORCED lamp extinguished. At EMERGENCY ACTION PANEL of the MC— READY lamp extinguished. At EMERGENCY ACTION area of the SCCS console display— <i>ready</i> lamp extinguished. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <i>scc_forced</i> lamp extinguished.
160	At EMERGENCY ACTION area of SCCS console display— Execute (operate) <i>stable</i> key.	At EMERGENCY ACTION area of SCCS console display— <i>stable</i> lamp lighted. At SYSTEM STATUS & CONTROL area— ALARMS- <i>scc_forced</i> lamp lighted.

STEP	ACTION	VERIFICATION
		At MC— SCCS FORCED lamp lighted. At EMERGENCY ACTION PANEL of MC— STABLE lamp lighted. At MC local maintenance TTY— MA SY EAP 000010 printed.
161	At EMERGENCY ACTION area of SCCS console display— Execute (release) <b>stable</b> key.	At MC and SCCS— Major alarm sounds.
162	At EMERGENCY ACTION area of SCCS console display— Execute (operate) <b>rec_chg</b> key.	At EMERGENCY ACTION area of SCCS console display— <b>rec_chg</b> lamp lighted. At EMERGENCY ACTION PANEL of MC— REC CHNG lamp lighted. At MC local maintenance TTY— MA SY EAP 000004 printed.
163	At EMERGENCY ACTION area of SCCS console display— Execute (release) <b>rec_chg</b> key.	At MC and SCCS— Major alarm sounds.
164	At EMERGENCY ACTION PANEL at MC and at EMERGENCY ACTION area of SCCS console display— Verify ENABLE key is not operated. At SCCS— Execute <b>go</b> key.	At EMERGENCY ACTION PANEL of MC— GO lamp lighted. At MC— SCCS FORCED lamp lighted. At EMERGENCY ACTION area of SCCS console display— <b>go</b> lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <b>scc_forced</b> lamp lighted.
165	At EMERGENCY ACTION area of SCCS console display— Execute (operate) <b>enable</b> and <b>ready</b> keys.  <b>Note:</b> System will initialize when the sequence ENABLE, READY, and GO keys at the MC (or <b>enable</b> , <b>ready</b> , and <b>go</b> keys at the SCCS) are operated in that order.  Initialize the system.  <b>Caution: System should only be initialized during a low traffic period.</b>	At EMERGENCY ACTION PANEL of MC— ENABLE and READY lamps lighted. At EMERGENCY ACTION area of SCCS console display— <b>enable</b> and <b>ready</b> lamps lighted.
166	At EMERGENCY ACTION area of SCCS console display— Execute the <b>go</b> key.	At EMERGENCY ACTION area of SCCS console display— <b>ready</b> lamp extinguished. At SYSTEM STATUS & CONTROL area—

STEP	ACTION	VERIFICATION
167	<p>At EMERGENCY ACTION area of the SCCS console display— Execute (release) <b>enable</b> key, then execute ALARM RELEASE-<b>major</b> key.</p> <p><b>Caution: TTY messages will be interrupted briefly while test is in progress.</b></p>	<p>ALARMS-<b>sync_loss</b> lamp and ALARM RELEASE-<b>major</b> lamp lighted. At top line of display— <b>mj</b> lamp lighted. At MC— System initialization occurred. At EMERGENCY ACTION PANEL of MC— READY lamp extinguished. At SYSTEM STATUS area of MC control and display panel— MAJOR ALARM lamp and SERVICE LOSS lamp lighted.</p> <p>At SYSTEM STATUS area of MC control and display console— MAJOR ALARM lamp extinguished. At SYSTEM STATUS &amp; CONTROL area of SCCS console display— ALARM RELEASE-<b>major</b> lamp extinguished.</p>
168	<p>At EMERGENCY ACTION area of SCCS console display— Execute the <b>tty_init</b> key.</p>	<p>At EMERGENCY ACTION PANEL of MC— TTY INIT lamp lighted. At MC— SCCS FORCED lamp lighted. At EMERGENCY ACTION area of SCCS console display— <b>tty_init</b> lamp lighted. At SYSTEM STATUS &amp; CONTROL area of SCCS display console— ALARMS-<b>scc_forced</b> lamp lighted. At MC and SCCS— Major alarms sound.</p>
169	<p>At EMERGENCY ACTION area of SCCS console display— Execute (operate) <b>power</b> key.</p>	<p>At EMERGENCY ACTION area of SCCS console display— <b>power</b> lamp lighted. At SYSTEM STATUS &amp; CONTROL area of SCCS console display— ALARMS-<b>scc_forced</b> lamp lighted. At MC— SCCS FORCED lamp lighted. At EMERGENCY ACTION PANEL of MC— POWER lamp lighted.</p>
170	<p>At EMERGENCY ACTION area of SCCS console display— Execute (operate) <b>enable</b> key and <b>ready</b> key.</p>	<p>At EMERGENCY ACTION area of SCCS console display— <b>enable</b> lamp and <b>ready</b> lamp lighted. At EMERGENCY ACTION PANEL of MC— ENABLE lamp and READY lamp lighted.</p>

STEP	ACTION	VERIFICATION
171	At EMERGENCY ACTION area of SCCS console display— Execute (release) <b>enable</b> key.	At EMERGENCY ACTION area of SCCS console display— <b>ready</b> lamp and <b>enable</b> lamp extinguished. At EMERGENCY ACTION PANEL of MC— READY lamp and ENABLE lamp extinguished.
172	At EMERGENCY ACTION area of SCCS console display— Execute (release) <b>power</b> key.	At EMERGENCY ACTION area of SCCS console display— <b>power</b> lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <b>scc_forced</b> lamp extinguished. At EMERGENCY ACTION PANEL of MC— POWER lamp lighted. At MC— SCCS FORCED lamp extinguished.
173	At workstation CRT keyboard of SCCS— Type in:  M CU:RMV!	
174	At MAINTENANCE CENTER area of SCCS console display— Execute the <b>manual</b> key and (operate) <b>online_inter</b> key.	At MAINTENANCE CENTER area of SCCS console display— <b>online_inter</b> lamp lighted. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <b>scc_forced</b> lamp lighted. At MC— SCCS FORCED lamp lighted. At MAINTENANCE CENTER MODE area of MC control and display panel— ONLINE INTERRUPT lamp lighted.
175	At MC— Operate the SCCS ACCESS DISABLE key.	At MC— SCCS FORCED lamp extinguished. MTC FORCED lamp and REM PWR OFF lamp lighted. At MAINTENANCE CENTER MODE area of MC control and display panel— ONLINE INTERRUPT lamp extinguished. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <b>scc_forced</b> lamp extinguished and <b>mcc_forced</b> lamp lighted. At MAINTENANCE CENTER area of SCCS console display— <b>online_inter</b> lamp extinguished. At SCCS console display— <b>cont_inh</b> lamp lighted.

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STEP	ACTION	VERIFICATION
176	At MC— Operate the SCCS DISCONNECT key. At MAINTENANCE CENTER area of the SCCS console display— Execute (release) <i>online_inter</i> key.	At MC— SCCS FORCED lamp and MTC FORCED lamp extinguished. At SCCS console display— <i>cont_inh</i> lamp extinguished. At SYSTEM STATUS & CONTROL area of SCCS console display— ALARMS- <i>scc_forced</i> lamp and <i>mcc_forced</i> lamp extinguished.
177	At MAINTENANCE CENTER MODE area of MC control and display panel— Depress NORMAL key. Restore the off-line CU to service. At MC TTY— Type in:  M CU:RST!	At MC— Off-line CU restored to service.
178	At MC— Sequentially ground each of the following points:	At TELCO ALARMS area of SCCS console display— Corresponding lamps lighted.

<u>Terminal</u>	<u>Lamp</u>
TSA-54	<i>a</i>
-56	<i>b</i>
-58	<i>c</i>
-42	<i>d</i>
-44	<i>e</i>
-51	<i>f</i>
TSB-48	<i>coml_pwr</i>

179	At MC— Temporarily ground 030-07-11. At SYSTEM STATUS area of MC control and display panel— Depress MAJOR ALARM-RST key.	At ALARM RELEASE area of SCCS console display— <i>critical</i> lamp is lighted and extinguished when MAJOR ALARM is reset.
180	At MC— Check voltage at terminal 030-01-16, initially, and when each of the following functions is activated and released:  LOCK CU0 ACTIVE or LOCK CU1 ACTIVE (whichever is on-line) SCCS ACCESS/DISABLE At ALARM RELEASE area of SCCS console	

STEP	ACTION	VERIFICATION
	display— Execute <i>major</i> key. At MC— Activate AUTOMATIC TEST INHIBIT as follows: At MC TTY— Type in:  M AU:INH! (to inhibit) M AU:RST! (to restore)	At MC— At terminal 030-01-16, 22 volts appears initially and drops to 0 when each function is activated and returns to 22 volts when it is released.
181	Remove MC from service. At MC TTY— Type in:  M MC:RMV!  At MC— Remove MC power and remove circuit packs A420 from locations 030-46, 030-47 and 030-48 and then restore power.	At MAINTENANCE CENTER area of MC control and display panel— OUT OF SERVICE lamp is extinguished.
182	At MC— Ground the following terminals:	At PERIPHERAL UNIT STATUS area of SCCS console display— The following lamps are lighted when terminals are grounded.
	030-46-16 -18 030-47-25 -24 -23 -21 030-48-15 -16	<i>net</i> <i>scan</i> <i>ama</i> <i>misc</i> <i>bldg_pwr</i> <i>ckt_lim</i> <i>traffic</i> <i>dsp</i>
183	At MC— Remove MC power, replace circuit packs which were removed in Step 188, and restore CU and MC. At MC TTY— Type in:  MH MC:RST!	At MAINTENANCE CENTER area of MC control and display panel— OUT OF SERVICE lamp extinguished.

SECTION 190-115-340

STEP	ACTION	VERIFICATION
184	At MC— Display the ferrod row for the E2A telemetry carrier alarm on the DISPLAY BUFFER. At MC TTY— Type in:  UB TS:RSN:aabb! (aabb = scanner assignment for E2A carrier alarm ferrod).	At MAINTENANCE CENTER area of the SCCS console display— <b>oos</b> lamp extinguished. At MC and SCCS— Lamps are lighted indicating off-line CU has been restored to service (tests on CU completed ATP).
185	At SCCS— Remove power from console and then clear utility request. At the workstation CRT keyboard— Type in:  UB SY:CLB!	At MC and SCCS— Ferrod row displayed in DISPLAY BUFFER. Designated scanner assignment ferrod indicated saturated (lamp extinguished).  At MC— Ferrod will go unsaturated (lamp lighted).

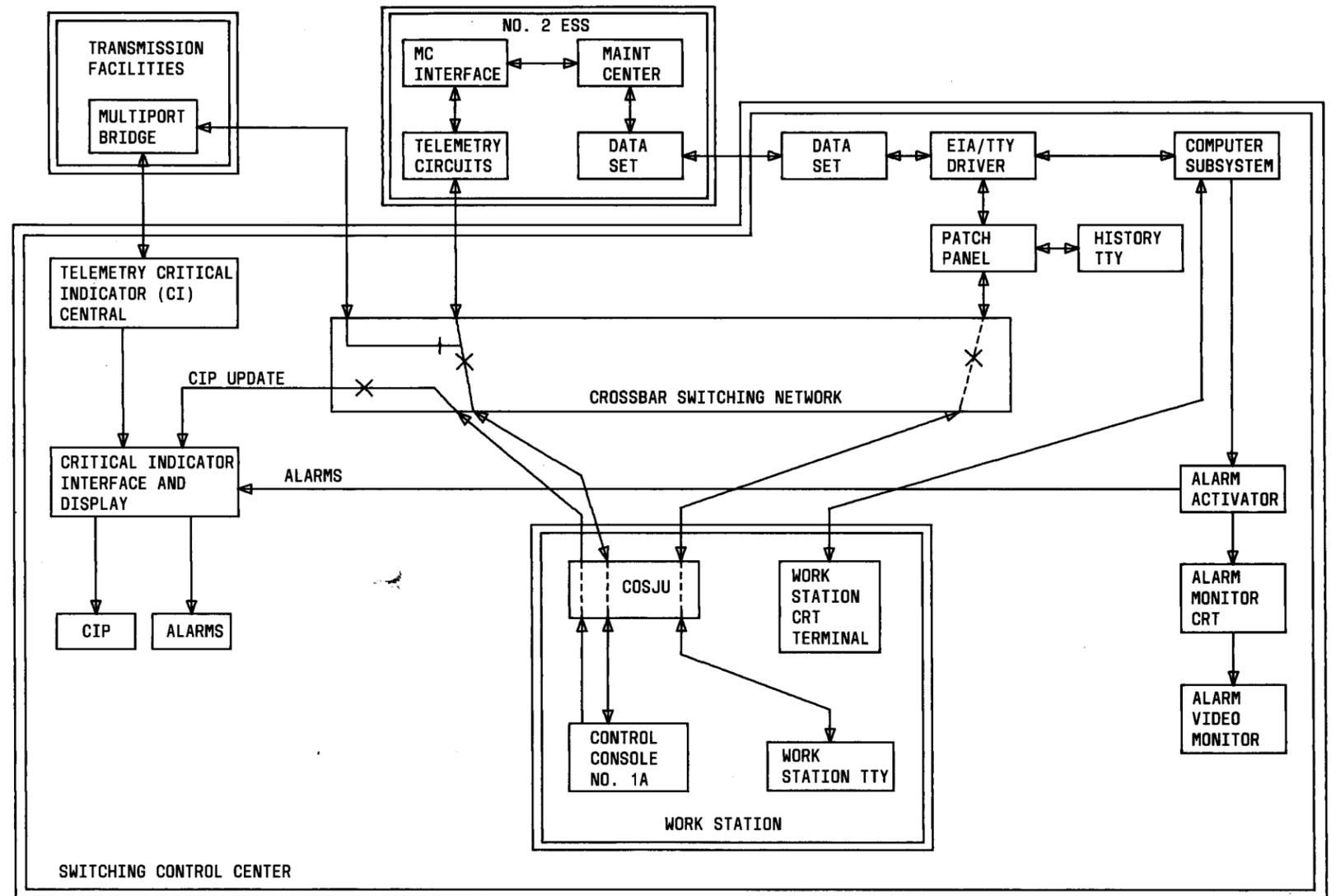


Fig. 1—No. 2 SCCS Configuration



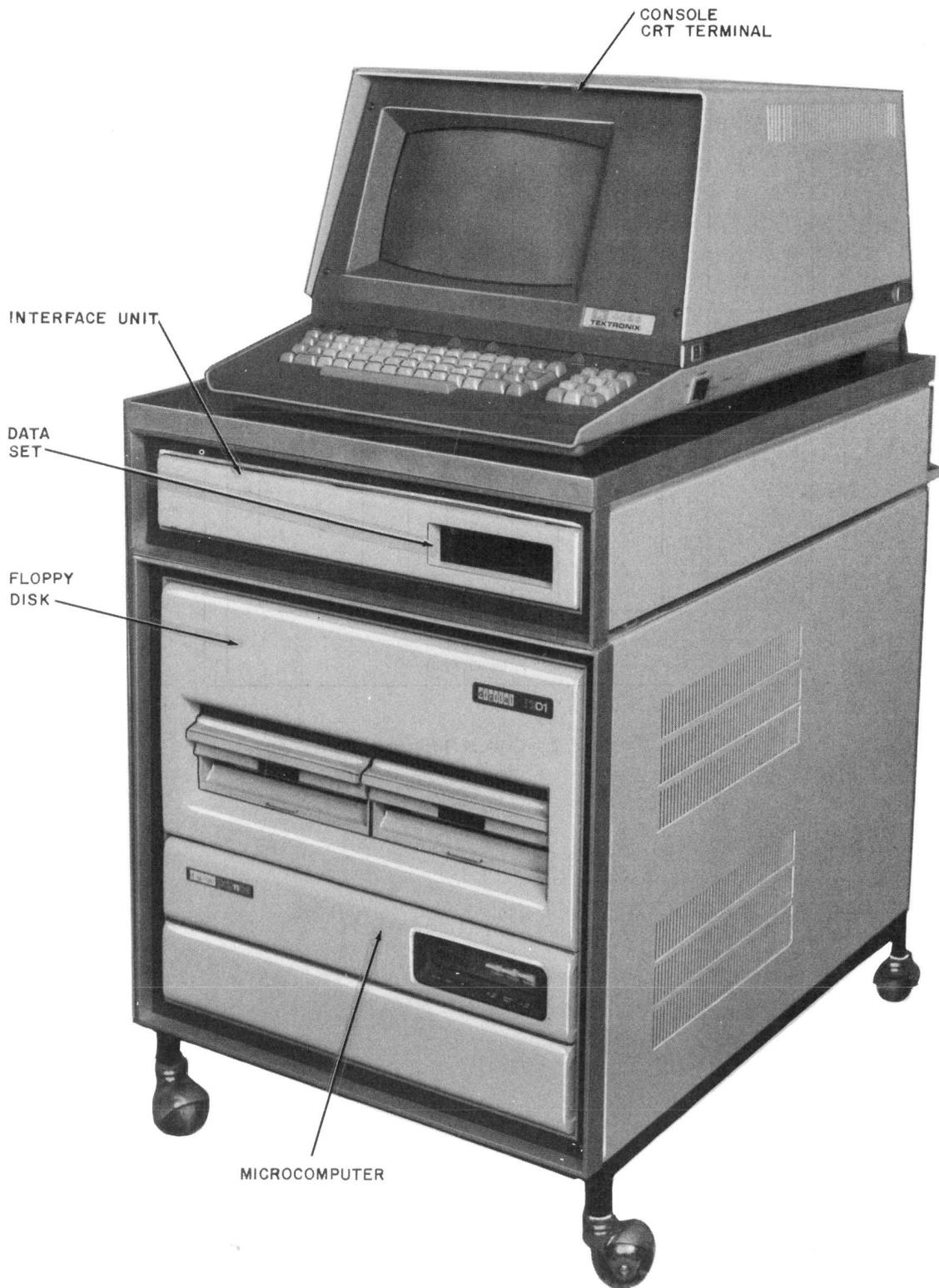


Fig. 3—SCCS Control Console No. 1A (Used with No. 2 ESS)

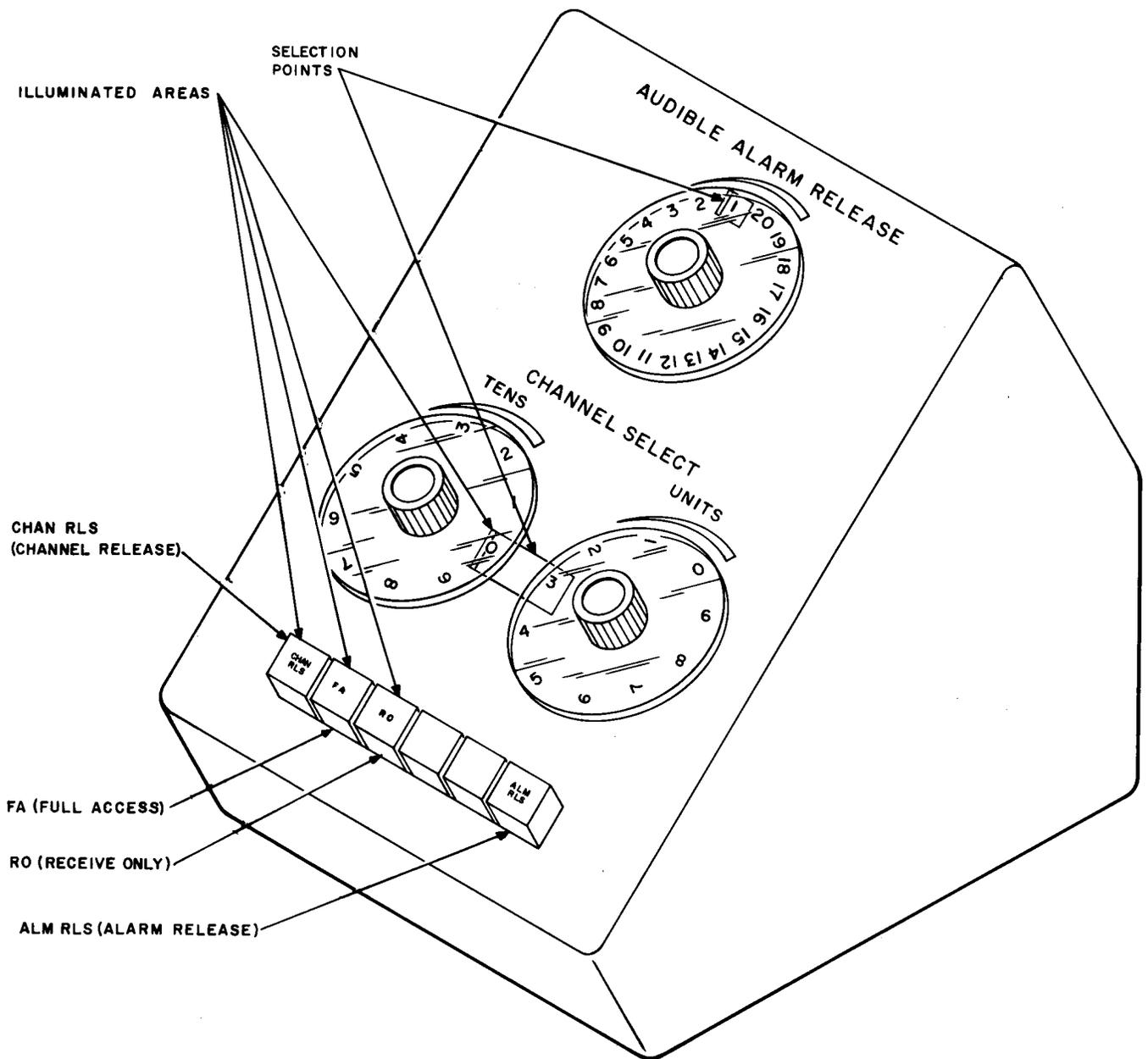
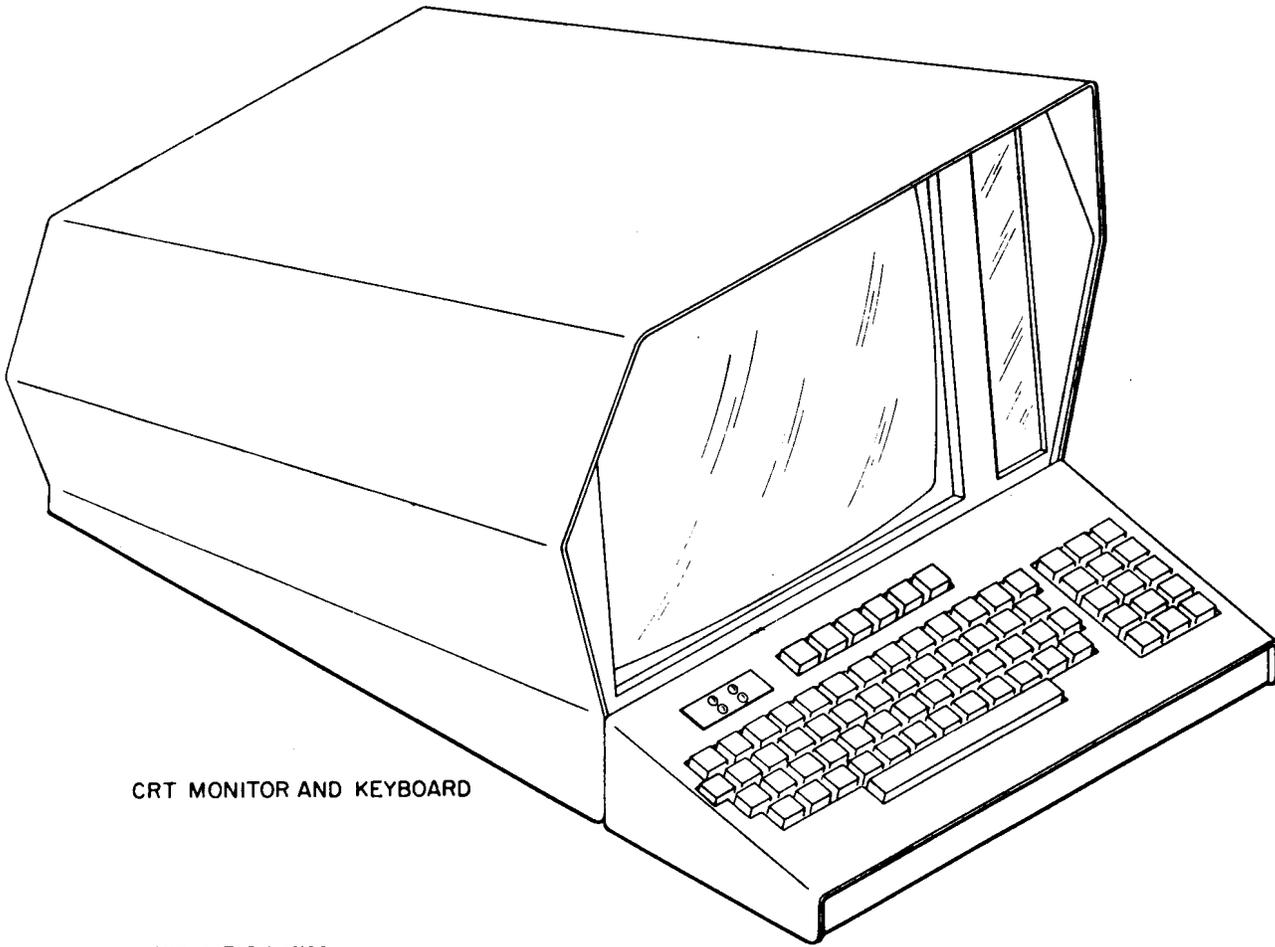


Fig. 4—Central Office Selector and Junction Unit (COSJU)



CRT MONITOR AND KEYBOARD

INDICATOR LAMPS

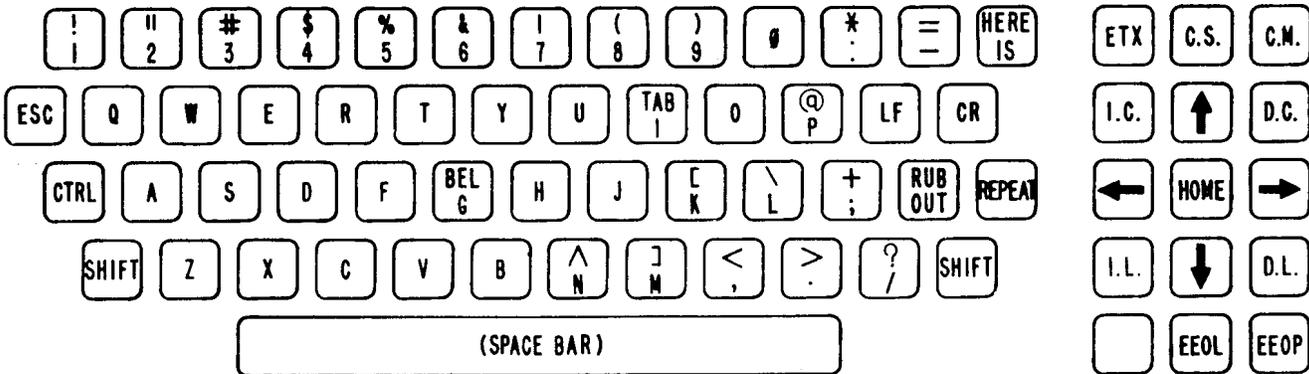
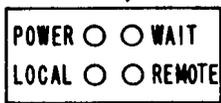


Fig. 5—Work Station CRT Terminal

OFC. NAME ON LINE CRITICAL * MESSAGE	MAJOR *	MINOR *	AUD. OFF *				

(SPACE FOR FIVE ONE-LINE MESSAGES)

\* ONE OF THESE FOUR INDICATIONS WILL BE DISPLAYED DURING AN ALARM CONDITION.  
IF THE ALARMS ARE INHIBITED, THE AUD OFF INDICATION WILL BE DISPLAYED.

Fig. 6—Alarm Video Monitor (AVM)

```

.....(..)-2 ESS - crit  mj  mn  [  {0}  ] e2a #page +lamps_on +lamps_off

-----EMERGENCY ACTION-----
+enable +ready +go +stable +rec_chg +tty_init +line_trfr +power power

                SYSTEM STATUS & CONTROL
-----CU 0-----CU 1-----ALARM RELEASE-----TTY-----
[  {1}  ] [  {1}  ] +critical +major +minor : +trl_on +rem_mtc
+lock    +lock    : +reset +loc_mtc
run      run
---MANUAL CU CONTROL--- auto_tst_inh [  {2}  ] alm_trfr --STORE MARGIN TST-
+cu_0_act +cu_1_act fuse mcc_forced scc_forced [  {3}  ]

offline_cu_pwr -----PERIPHERAL UNIT STATUS----- ---AUX FUNCTIONS---
seq_fail_bus_a net scan ama misc bldg_pwr offline_stp_man
seq_fail_bus_b ckt_lim traffic dsp +inhib_auto_displ
tst_mode_reversal +program_execute
cu_switch_inhibit lamp_power
-----DISPLAY BUFFER----- +manual +online_inter lamp_test
21 18 15 12 9 6 3 0 : +normal offline_stop
. . . . . : oos inter_disable

TELCO ALARMS com1_pwr a b c d e f -RECOVERY PAGE-

```

Note: The fields '[ {No.} ]' on the above page display are interpreted as follows: '{No.}' cross references the associated page display field to the following text and indicates that the field contains mutually exclusive strings. The strings are shown priority ordered from left to right. The left and right brackets '[ ]' define the length of the string.

- {0} cont\_inh mcc\_pwr
- {1} active standby oos
- {2} svc\_loss svc\_loss svc\_loss svc\_loss
- {3} prog\_store call\_store

Fig. 7—Control Console No. 1A Display (Recovery Page) for No. 2 ESS



.....(..)-2 ESS - crit mj mn [ {0} ] e2a #page +lamps\_on +lamps\_off

SUMMARY STATUS

STATUS POINTS

```

CRITICAL
MAJOR
MINOR
BLDG/PWR      a   b   c   d   e   f   coml_pwr
SYS_EMER      [ {1} ]
INT_DIS       inter_disable
NET           net
SCAN          scan
AMA           ama

MISC          misc
CKT_LIM       ckt_lim
FORCED        mcc_forced scc_forced auto_tst_inh
BLDG_INH      SOFTWARE INHIBIT SET IN THE NO. 2 ESS FOR A TELCO ALARM(S)
TRAFFIC       traffic
    
```

TELCO ALARMS coml\_pwr a b c d e f -SUMMARY PAGE-

Note: The fields '[ {No.} ]' on the above page display are interpreted as follows: '{No.}' cross references the associated page display field to the following test and indicates that the field contains mutually exclusive strings. The strings are shown priority ordered from left to right. The left and right brackets '[ ]' define the length of the string.

```

{0}    cont_inh    mcc_pwr
{1}    svc_loss    svc_loss    svc_loss    svc_loss
    
```

Fig. 9—Control Console No. 1A Display (Summary Page) for No. 2 ESS

EXAMPLE OF	SCREEN DISPLAY
LAMP OFF	
KEY OFF	+key_off
RED LAMP ON	lamp_on
RED KEY ON	+key_on
YELLOW, GREEN OR WHITE LAMP ON	lamp_on
YELLOW, GREEN OR WHITE KEY ON	+key_on
TITLE	-BINARY NUMBER-
STRING	101 000 101 001

Fig. 10—Display Convention Examples