

STROMBERG-CARLSON DCO ACCEPTANCE TEST PLAN

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## GENERAL

Purpose	<p>This practice describes the procedures to follow for the operational acceptance testing of Digital Century Central Office (DCO) installation, modification, or rearrangement.</p> <p>Use this practice as a guide to determine if the equipment meets all functional requirements.</p>
Acceptance Test Plan	<p>You must clearly understand the general philosophy and methodology of acceptance test planning (see Telops Practice 200-002-010, Acceptance Test General Plan).</p>

## **GENERAL, continued**

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Acronyms and  
Definitions

The chart below provides the definition; of the acronyms used in this practice.

---

ACRONYM	DEFINITION
ALIT	Automatic Line Insulation Test.
AMAF	Automatic Message Accounting Frame.
ANA	Automatic Number Announcement.
CBC	Cannot be Called.
CCF	Common Control Frame.
CDF	Combined Distribution Frame.
CEF	Common Equipment Frame.
DCO	Digital Century Central Office.
DDD	Direct Distance Dialing.
DTF	Digital Trunk Frame.
EAS	Extended Area Service.
ED	<b>Called.</b>
ESS	Emergency Switching System.
ING	<b>Calling.</b>
INS	Intra-Nodal Switching.
ITT	Inspector's Test Terminal.
LGA	Line Group Access.

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(continued)

## GENERAL, continued

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Acronyms and  
Definitions,  
continued

ACRONYM	DEFINITION
LGC	Line Group Control.
LGH	Line Group Highway.
LGHS	Line Group Highway Switch.
LGM	Line Group Mux.
LGT	Line Group Test.
LLS	Local Line Switch.
LSC	Line Switch Controller.
LSERHS	Line Switch Error History.
LSPT	Line Switch Port Test.
LTC	Line Test Circuit.
LTF	Line/Trunk Frame.
MAF	Maintenance Administration Frame.
MAH	Message Assembler Host,
MAR	Message Assembler Remote.
MC	Material Code.
MCHF	Malicious Call Hook Flash.
MCI	Malicious Call Interference.
MCTR	Malicious Call Trace.

(continued)

## GENERAL. continued

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Acronyms and  
Definitions,  
continued

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ACRONYM	DEFINITION
MCTT	Malicious Call Trap and Trace.
MDF	Main Distributing Frame.
MDT	Mismatch Detector Test.
MF	Multifrequency.
NPA	Numbering Plan Area.
ON1	Operator Number Identification.
ORG	Originating.
PRT	Power, Ringing, and Test Access Frame.
PWBA	Printed Wiring Board Assembly.
RAM	Random Access Memory.
RLS	Remote Line Switch.
RPRF	Remove Power/Ringing Frame.
SCP	Stromberg-Carlson Practice.
SDLC	Synchronous Data Link Control.
SPT	Semiautomatic Port Test.
SVR	System Version Release.
TIC	T1 Interface Controller.
TLS	Traffic Load Simulator.
TS	Time Slot.
TSI	Time Slot Interchange.

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## FORMS

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Placement/  
Distribution

The acceptance plan forms:

- Immediately follow the written procedure for a particular item of equipment.
- May be copied from this practice.

NOTE: Due to low turnover, acceptance forms must be reproduced or developed locally using the examples in this practice.

---

Hardware Audit

Stromberg-Carlson installation teams perform a hardware audit when they:

- Complete the installation.
- Begin the software system version release (SVR).
- End the software SVR.

NOTE: Acceptance personnel must participate in the hardware audit as a part of normal acceptance procedures.

## ADMINISTRATIVE PROCEDURES

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Inspection and  
Testing

Begin inspecting and testing the DCO at any time during the installation.

NOTE: Ensure that subsequent activities will not change the test results.

---

Test-Ready DCO

A test-ready DCO is one that is ready to be placed in service.

Schedule three months between test-ready and in-service dates to allow maintenance and construction personnel to perform functional and dynamic testing.

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Maintenance  
When Test-Ready

Test-ready allows:

- Construction forces to perform their work.
  - The switch to be maintained in an on-line environment.
  - Maintenance personnel to have access to the switch for at least a daily eight-hour shift.
- 

Administration  
Responsibility

From test-ready until the switch is placed into service, the maintenance and construction departments have joint responsibility for:

- Administering the switch and related peripheral equipment.
  - Preparing the switch for service.
-

## ADMINISTRATIVE PROCEDURES, continued

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Performing  
Tasks

After the test-ready date arrives, perform the tasks described in the chart below.

---

STEP	PERFORMING TASKS
1	Complete the testing and inspection of all items included on the acceptance forms.
2	Schedule the test-call generator (RTEST) to run continually.  NOTE: Analyze RTEST printouts daily to ensure that the: <ul style="list-style-type: none"><li>• Tests run properly.</li><li>• Reported faults are corrected.</li></ul>
3	Correct all deficiencies found during acceptance tests.  NOTE: This is the responsibility of the construction department.
4	Use the Traffic Load Simulator (TLS) to: <ul style="list-style-type: none"><li>• Exercise the entire switching system.</li><li>• Perform at a 99.6 percent completion rate.</li><li>• Identify and correct all deficiencies.</li></ul>
5	Initialize the traffic-metering packages.
6	With the TLS running, evaluate the performance of the switch to clear malfunctions.
7	Verify the specific office data base and correct all deficiencies identified.
8	Perform all applicable diagnostics to: <ul style="list-style-type: none"><li>• Exercise the system hardware.</li><li>• Correct all deficiencies identified.</li></ul>
9	Perform all tests applicable to the wire chief test panel and correct all deficiencies identified.
10	Initiate the backup memory disks by using the: <ul style="list-style-type: none"><li>• Copy command.</li><li>• Backup command.</li></ul>

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(continued)

## ADMINISTRATIVE PROCEDURES, continued

Performing  
Tasks,  
continued

STEP	PERFORMING TASKS
11	Operate the office in an on-line environment so that the maintenance personnel are aware of all the functions required to operate a digital office.
12	Organize office procedures, such as: <ul style="list-style-type: none"><li>• Forms.</li><li>• Practices.</li><li>• House cleaning.</li><li>• Filing cabinets.</li><li>• Telephone installations.</li><li>• General operation of the switchroom.</li></ul>

## EQUIPMENT REQUIREMENTS

References Refer to Telops Practice 200-025-000 (Systems and Equipment General Performance Requirements and Definitions) for all equipment requirements, unless otherwise specified.

## AUTOMATIC MESSAGE ACCOUNTING FRAME (AMAF)

References Other references dealing with AMAF are listed in the chart below.

FOR INFORMATION ABOUT.. .	SEE SCP...
General Description	28-005-02.
Installation	28-005-20.
Precutover Test Procedure	28-005-25.
Acceptance Test Procedure	28-005-n.
Maintenance	28-005-50.
Input/Output Message Dictionary	23-002-99.
System Operator's Manual	23-002-97.
Alarm Operation Procedures	23-214-31.
Equipment Location	23-237-51.

## **AUTOMATIC MESSAGE ACCOUNTING FRAME (AMAF), continued**

Performing  
Acceptance  
Procedures

Refer to form MC 602866 and follow the instructions in the chart below.

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STEP	PERFORMING ACCEPTANCE PROCEDURES
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1	Perform diagnostics using \$Diag2 TC Select (see SCP 23-002-97).
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2	Test all tapes as follows:  A. Write VSL. B. Use diagnostics to certify.
---	---

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3	Compile a billing tape to submit to GTEDS.
---	--

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4	Verify the correct fuse requirements.
---	---------------------------------------

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5	Verify the correct alarm indications (see SCP 23-214-31).
---	---

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6	Check for the proper frame grounding (see SCP 23-100-25).
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7	Verify all command operations (see SCP 23-002-99 and SCP 23-005-50).
---	--

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8	Check the header and trailer for proper:  <ul style="list-style-type: none"><li>• Site ID.</li><li>• Site office code.</li><li>• Time after performing a time change.</li></ul>
---	---

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9	Refer to ticketing AMA acceptance form S6278.
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NOTE: If the Cook tape drives operate improperly, request a field visit from a Cook company representative.

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Ticketing AM Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	Tape units are identified (X and Y).		
5	All equipment cards are properly located per cell, SCP 23-237-51.		
6	Verify proper frame grounding, SCP 23-200-25.		
7	Verify that tape control panel is operational (Cook manual).		
8	Proper size fuses are installed.		
9	Check the electronic power supplies and monitors, SCP 23-065-05.		
10	All alarms are operational (fuses cause the applicable alarm), SCP 23-214-31.		
11	Magnetic tape unit preventive maintenance, SCP 28-005-02, has been performed including: <ul style="list-style-type: none"> <li>• Lubrication.</li> <li>• Cleaning.</li> <li>• Adjustments.</li> </ul>		
12	Verify the magnetic tapes diagnosis. All tests pass: SCP 23-002-95, including: \$DIAG2 JC Select.		
13	Verify the ticketing unit change over process: SCP 23-002-95.		
14	Verify the ticketing test tape by the off-line process: SCP 28-005-95.		
15	Generate the test tapes for verification by GTEDS.		
16	Run the acceptance test process and verify the commands, SCP 28-005-95.		
17	Write VSL and certify each tape, SCP 23-002-97.		
18	Verify the site ID and office code using \$TAPE Read.		
19	Perform the time change and check for the proper time.		
Remarks			

Exhibit 1

# BATTERY DISTRIBUTION

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References

Other references dealing with battery distribution are listed in the chart below:

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FOR INFORMATION ABOUT...	SEE...
Equipment Location	SCP 23-237-51.
Power and Alarm System Description	SCP 23-065-05.
Alarms. Operating Procedures	SCP 23-214-31.
Battery Maintenance	GTEP 205-005-200.
Emergency Generator Tests	GTEP 205-502-701.
DCO Acceptance Form Manufacturer's Manual (Inverter and Rectifiers)	MC 602873.

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Performing  
Acceptance  
Procedures

Follow the procedures outlined in the chart below.

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STEP	PERFORMING ACCEPTANCE PROCEDURES
1	<p>Test the AC inverter</p> <p>NOTE: Refer to the manufacturer's manual.</p>
2	<p>Check for correct:</p> <ul style="list-style-type: none"> <li>• Float voltage.</li> <li>• Equalized voltage.</li> <li>• Load sharing.</li> <li>• Alarms:               <ul style="list-style-type: none"> <li>- High voltage.</li> <li>- Low voltage.</li> <li>- AC input.</li> <li>- DC output.</li> </ul> </li> </ul> <p>NOTE: Refer to Scatgram 83-71, Item 12. and the manufacturer's manual.</p>

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## COMMON EQUIPMENT FRAME (CEF)

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References            Other references dealing with CEF are listed in the following chart.

---

FOR INFORMATION ABOUT.. .	SEE.. .
Equipment Location .	SCP 23-237-51.
Alarm Operation Procedures	SCP 23-214-31.
Glossary of Features	SCP 01-027-05.
Alarm Sending	Scatgram 84-121.

---

Performing  
Acceptance  
Procedures

Perform the procedures outlined in the chart below.

---

### STEP            PERFORMING ACCEPTANCE PROCEDURES

---

- |   |  |
|---|--|
| 1 | Inspect the frame for the proper embossed designations (see SCP 23-237-51).  |
| 2 | Inspect the drawings for the proper issue numbers.<br><br>NOTE: Ensure that all equipment has an associated drawing.   |
| 3 | Verify the proper location of each circuit PWBA within each cell (see SCP 23-237-51).  |
| 4 | Test the proper access of each recording announcement by: <ul style="list-style-type: none"> <li>• Dialing the appropriate access numbers.</li> <li>• Verifying that the proper announcement is reached.</li> </ul> <p style="text-align: center;">NOTE: Refer to the appropriate GTE standards for proper announcement wording.</p> |
| 5 | Verify the proper level of each recording channel (see manufacturer's documentation).  |
| 6 | Verify the proper assignment of each recording channel.  |
| 7 | Verify the correct alarm indications (see SCP 23-214-31).  |
| 8 | Verify the correct fuse requirements.  |
- 

(continued)

**COMMON EQUIPMENT FRAME (CEF), continued**

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Performing  
Acceptance  
Procedures,  
continued

---

STEP            PERFORMING ACCEPTANCE PROCEDURES

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9                Check for proper frame grounding.

---

10              Check operations of the following equipment:

- 105 Responder (see SCP 01-027-05).
- Automatic Number Announcer.
- UDC-Universal Data Coupler for TMRS.
- Datalok 10-D (see Scatgram 84-121).

---

Common Equipment Frame

		Exchange	c o
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed, SCP 31-237-51.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	All equipment cards are provided and properly located per cell, SCP 23-237-51.  <ul style="list-style-type: none"> <li>• Toll MFSD (if required).</li> <li>• DT MFSD.</li> <li>• Expansion cell (if required).</li> </ul>		
5	Verify recorders are correct (per channel).		
6	Verify that proper size fuses are installed.		
7	All alarms are operational, SCP 23-214-31.		
8	Miscellaneous equipment:  A. 105 Responder, SCP 01-027-51 and manufacturer's specifications.  B. Automatic number announcer manufacturer's specifications.  C. UDC-Universal Data Coupler (TMRS) manufacturer's specifications.  D. Datalok 10-D, Scatgram 84-121, manufacturer's specifications.		
Remarks			

Exhibit 2

## **DIGITAL TRUNK FRAME (DTF)**

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### References

Other references dealing with DTF are listed in the following chart.

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FOR INFORMATION ABOUT.. .	SEE...
General Description .	SCP 24-015-02.
Precutover Test Procedures	SCP 24-015-25.
Maintenance	SCP 24-015-50.
System Operator's Manual	SCP 23-002-97.
Alarm Operating Procedures	SCP 23-214-31.
Equipment Location	SCP 23-237-51.
Maintenance Test Facility Function and Use	SCP 23-062-05.
Power Distribution and Test	SCP 23-W-25.
Message Dictionary	SCP 23-002-99.
Digital Trunk Frame, Description and Use	SCP 23-071-05.
DSI Module, Maintenance	SCP 24-020-50.

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## DIGITAL TRUNK FRAME (DTF), continued

---

Performing  
Acceptance  
Procedures

Follow the procedures outlined in the chart below.

---

STEP	PERFORMING ACCEPTANCE PROCEDURES
1	Emboss the frame designation.
2	Specify the drawing and issue numbers.
3	Verify that the cables are properly terminated.
4	Verify that all the equipment and cards are in the correct locations (see SCP 23-237-51).
5	Install the correct size of fuses.
6	Test the voltage levels on power: <ul style="list-style-type: none"><li>• Supplies.</li><li>• Monitors.</li></ul>
7	Verify that all alarms operate and display the proper fuse alarm indications (see SCP 23-214-31).
8	Use \$Diag2 TC to select and verify proper operation of the DTF (see SCP 23-002-97).
9	Verify that all remote channel banks are strapped for loop clock (as applicable).
10	Put both DSI modules on-line and verify that both spans remain operable.

---

Digital Trunk Frame

		Exchange	c o
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETEC	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified.		
3	Verify that cables are properly terminated.		
4	All equipment cards are in the proper location, SCP 23-237-51.		
5	Proper size fuses are installed.		
6	Verify the electronic power supplies and monitors.		
7	All alarms are operational (fuses cause applicable alarm), SCP 23-214-31.		
8	Verify second level diagnostics, SCP 23-002-97, \$DT Select.		
9	Verify that all remote channel banks are strapped for loop clock.		
10	Verify no slip or misframes on any span, \$DTIUTL RPT.		
11	Verify DTIUTL command, SCP 23-002-97.		
Remarks			

Exhibit 3

## **LINE/TRUNK FRAME (LTF)**

---

### References

Other references dealing with the LTF are listed in the chart below.

---

FOR INFORMATION ABOUT.. .	SEE SCP.. .
Input/Output Circuits.	23-053-05.
Alarm Operating Procedures	23-214-31.
Equipment Location	23-237-51.
Power Distribution and Test	23-107-31.
System Operator's Manual	23-002-97.
LTF Precutover Test Procedure	23-150-25.

---

### Performing Acceptance Procedures

Follow the procedures outlined in the chart below.

---

STEP	PERFORMING ACCEPTANCE PROCEDURES
1	Use the \$Manual overlay to perform the SPT function and the functional tests on: <ul style="list-style-type: none"><li>• MF senders.</li><li>• Loop trunks.</li><li>• Line circuits.</li><li>• MF receivers.</li><li>• Tone dial receivers.</li></ul>
2	Ensure that all \$RTEST run with no errors.
3	Verify that all recorded announcement trunks: <ul style="list-style-type: none"><li>• Are wired properly.</li><li>• Function correctly.</li></ul>
4	Verify the correct strapping on all trunk PWBAs.

---

Line/Trunk Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	All equipment cards are provided and properly located per cell, including: <ul style="list-style-type: none"> <li>• Line, SCP 23-237-51.</li> <li>• Trunk, SCP 23-237-51.</li> <li>• Line/service circuits.</li> </ul>		
5	Proper size fuses are installed.		
6	Check the electronic power supplies and monitors.		
7	All alarms are operational (fuses cause applicable alarm), SCP 23-214-31.		
8	Using *MANUAL SPT, verify the MFS, MFRs, TDRs, loop trunks, and line circuits.		
9	Verify second level diagnostics (I/O), SCP 23-002-97.		
10	Verify miscellaneous port types: <ul style="list-style-type: none"> <li>• Inspector test circuit (ITT) - DP/DTMF.</li> <li>• Milliwatt test circuit.</li> <li>• Loop around test circuit.</li> <li>• Balance term test circuit.</li> <li>• Revertive call.</li> <li>• Busy verification.</li> <li>• Remote test circuit.</li> </ul>		
11	Verify that recorded announcement trunks are wired and functioning correctly.		
12	Verify that correct strapping is on all trunk PWBA's.		
Remarks			

Exhibit 4

## LOCAL LINE SWITCH (LLS)

---

### References

Other references dealing with LLS are listed in the chart below.

---

FOR INFORMATION ABOUT.. .

SEE.. .

---

Equipment Location

SCP 23-237-51.

---

Alarms Operating Procedure

SCP 23-214-31.

---

Description and Operation

SCP 23-152-05.

---

System Operator's Manual

SCP 23-002-97.

---

Scatgrams

83-73; 84-87; 84-90; 84-91; 84-92; 84-96;  
84-104; 84-105; 84-110; 84-113; **84-124.**

---

### Performing Acceptance Procedures

Use the \$LMSC overlay to perform all tests outlined in the chart below, unless other instructions are provided.

---

IF THE TEST IS A.. .

THEN DO THE FOLLOWING...

---

System Status Test

Status requests:

- MCI.
- CBC.
- Frame summary.
- Frame.
- Line group.
- LSC LGH TS.
- LSC PGH.

---

Loop Back Test

Loop back tests:

- MCI (O-3).
- CBC (on-line and off-line O-3).

---

(continued)

## LOCAL LINE SWITCH (LLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A... .

---

THEN DO THE FOLLOWING...

---

Loop Around Test

NOTE: Do not repeat the MCI and CBC tests for each equipped LLS frame.

- MCI (O-3).
  - CBC (on-line and off-line O-3).
- 

LSC/Peripheral Loop Test  
(SCP 23-152-05)

- Test Call.
  - Origination test.
  - Test line self-test.
  - Party test self-test.
  - Voice pattern test.
  - Voice pattern self-test.
  - CS (LGHS) TSI RAM compare.
  - CS (LGHS) test switchover.
  - CS (LGHS) write/read test.
  - Line-ringing voltage test.
  - Slave device loop around test.
  - Master SDLC loop around test.
  - Mismatch detector test.
  - Coin MF receiver self-test.
  - MDC self-test.
  - LTC self-test.
  - Bypass relay test.
- 

Configuration Change Test

Remove and restore to service the following DCO system circuits:

1. Remove MCI (O-3) from service.
  2. Verify MCI status.
  3. Restore MCI to service.
  4. Verify MCI (O-3) status.
  5. Remove CBC (off-line O-3) from service.
  6. Verify CBC status.
  7. Restore CBC (off-line O-3) to service.
    - a. Verify CBC status.
  9. Switch DCO system sides (A/B).
  10. Repeat Steps 5 through 8.
- 

(continued)

## LOCAL LINE SWITCH (LLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A... .

---

THEN DO THE FOLLOWING...

---

Remove, Restore,  
and Reset LSC Test

1. Set the LSC switch on the LLS maintenance panel to "Y" on-line.
2. Remove the "X" LSC from service.
3. Pull out the "X" LSC PWBA.
4. Verify that the "X" LSC has been bypassed.
5. Reinsert the "X" LSC PWBA.
6. Reset the "X" LSC.

NOTE: A download of the off-line LSC occurs.

7. After the download is complete, verify that the "X" LSC is in service.
  8. Set the LSC switch on the LLS maintenance panel to "Auto."
  9. Switch the LSC to the "X" on-line.
  10. Set the LSC switch on the LLS maintenance panel to "X" on-line.
  11. Repeat Steps 2 through 8 for the "Y" LSC.
- 

LSC Switchover Test

1. Verify that both LSCs are in service by:
    - Placing "X" LSC on-line.
    - Setting LSC switch to "AUTO."
  2. Place a call from an LLS line to an LLS line.
  3. Switch LSCs.
  4. Verify that the LLS frame maintenance panel lamp switches to the "Y" side.
  5. Verify that the call is connected.
  6. Go on-hook with the call.
  7. Verify that the dial tone can be received.
  8. Check the frame status.
  9. Repeat Steps 1 through 8 with the "Y" LSC on-line.
- 

(continued)

## LOCAL LINE SWITCH (LLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A . . .

---

THEN DO THE FOLLOWING.. .

---

Remove and Restore LGHS  
Test

1. Check which LSC is on-line.
2. Check which LGHS is off-line.
3. Remove the off-line LGHS from service.
4. Pull out the off-line LGHS PWBA.
5. Make a call from an LLS to an LLS line.
6. Verify the dial tone and ring.
7. Go on-hook with the call.
8. Reinsert the off-line LGHS PWBA.
9. Restore the off-line LGHS to service.
10. Switch LSCs.
11. Repeat Steps 3 to 9, then continue with Step 12.
12. Switch LGHSs.
13. Repeat Steps 3 to 9, then continue with Step 14.
14. Switch LSCs.
15. Repeat Steps 3 to 9.

---

LGHS Switchover Test

1. Check which LSC is on-line.
2. Check which LGHS in on-line.
3. Make a call from an LLS line to an LLS line.
4. Switch LGHS.
5. Verify that the switchover occurred.
6. Verify that the call is connected.
7. Switch LGHS.
8. Verify that the switchover occurred.
9. Verify that the call is connected.
10. Go on-hook with the call.
11. Switch LSC.
12. Verify that the switchover occurred.
13. Repeat Steps 3 to 10.

---

(continued)

---

## LOCAL LINE SWITCH (LLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A . . .

---

THEN DO THE FOLLOWING...

---

LGC Test

1. Remove any equipped LGC from service.
  2. Request a frame status report.
  3. Verify that the LGC is removed from service.
  4. Pull out the LGC PWBA.
  5. Reinstate the LGC PWBA.
  6. Push the reset button on the LGC PWBA.
  7. Restore the LGC to service (download starts).
  8. After you complete the download, verify that the LGC is scanning. The halt/run lamp on the LGC should blink slowly.
  9. Verify that any line in the LGC receives a dial tone.
- 

MDC Test (Scatgram 84-104,  
84-105)

1. Set the LSC and LGH switches on the LLS panel to "ON-LINE."
  2. Remove the cable connectors J24 and J26 in the 817521 cell (X controller) backplane.
  3. Remove the MDC from service.
  4. Pull out the MDC PWBA.
  5. Reinsert the MDC PWBA.
  6. Reset the MDC.
  7. Verify that the download starts.
  8. After you complete the download, reinsert the J24 and J26 cable connectors.
  9. Restore the MDC to clear the alarm bits.
  10. Set the LSC and LGH switches on the LLS panel to "AUTO."
- 

LTC Test

1. Remove the LTC from service.
  2. Pull out the LTC PWBA.
  3. Reinsert the LTC PWBA.
  4. Reset the LTC.
  5. Restore the LTC to service.
  6. Verify that the download starts.
- 

(continued)

## LOCAL LINE SWITCH (LLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

IF THE TEST IS A...	THEN DO THE FOLLOWING.. .
Line Card Test	<ol style="list-style-type: none"><li>1. Check the "CARD-BUSY" lamp.</li><li>2. If thk card is not busy, pull it out.</li><li>3. Verify the fault printout and the out-of-service report for the line card.</li><li>4. Reinsert the line card.</li><li>5. Ensure in-service report is issued, to verify that the line card is back in service.</li></ol>
Remove and Restore LSC Circuits Test	<ul style="list-style-type: none"><li>• Line.</li><li>• LGH, TS.</li><li>• LGM.</li><li>• PGH.</li><li>• PGH, TS.</li><li>• Party test.</li><li>• Line test bus.</li><li>• LSC (off-line).</li><li>• Voice pattern test.</li><li>• LGHS (off-line).</li><li>• LGA.</li></ul>
Lock and Unlock LSC, LGHS, and On-Line Test	<ol style="list-style-type: none"><li>1. Request a frame status report.</li><li>2. Verify that the LSC is unlocked.</li><li>3. Lock the LSC on-line.</li><li>4. Request a frame status report.</li><li>5. Verify that the LSC is locked.</li><li>6. Unlock the LSC.</li><li>7. Request a frame status report.</li><li>8. Verify that the LSC is unlocked.</li><li>9. Repeat Steps 1 to 8 for LGHS.</li></ol>
Assign and Release LSC Virtual Spare Test	<ol style="list-style-type: none"><li>1. Assign "virtual spare" to any equipped line.</li><li>2. Request a status report on the line group containing the line in Step 1 (see Line-to-Line Group Assignment on Page 27).</li><li>3. Verify that the status report shows the line which has been assigned the virtual spare.</li><li>4. Release the virtual spare.</li><li>5. Repeat Step 2.</li><li>6. Verify that the status report shows that the virtual spare has been released.</li></ol>

(continued)

## LOCAL LINE SWITCH (LLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A . . .

---

THEN DO THE FOLLOWING.. .

---

Mask Control Test

1. Mask all the LSC circuits.
  2. Unmask all the LSC circuits.
  3. Mask all the LGCs.
  4. Unmask all the LGCs.
  5. Mask a specified LGC.
  6. Unmask the specified LGC in Step 5.
  7. Mask the MDC.
  8. Unmask the MDC.
  9. Mask the LTC.
  10. Unmask the LTC.
  11. Mask the LGHS.
  12. Unmask the LGHS.
- 

LS Circuit Test

Reset:

- LSC.
  - MDC-1.
  - LGT.
  - LGC.
- 

LSPT, LSERHS, and  
Background Test

Ensure that tests run with no errors.

---

ORG Test

Verify that the test is mounted and runs with no errors.

---

Verifying  
Acceptance  
Tests

To verify acceptance tests, ensure that:

- Lines XXX-O-O and XXX-O-59 are unassigned in the data base.

NOTE: Use these lines for the test line and the virtual spare.

- Use \$Manual or \$LSMC to verify that all port group highways assigned operate.
-

## LOCAL LINE SWITCH (LLS), continued

---

Line-to-Line  
Group  
Assignment

Perform acceptance procedures according to the following chart:

---

IF THE LINE GROUP IS...	THEN USE LINES. . .
0	0- 89
1	90 - 179
2	180 - 269
3	270 - 359
4	360 - 449
5	450 - 539
6	540 - 629
7	630 - 719
8	720 - 809
9	810 - 899
10	900 - 989
11	990 - 1079

---

Local Line Switch Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	Proper size fuses are installed.		
5	All alarms are operational, SCP 23-214-31.		
6	System status test performed.		
7	Loop back test performed.		
8	Loop around test performed.		
9	LSC/peripheral loop test performed.		
10	Configuration change test performed.		
11	Remove, restore, and reset the LSC test.		
12	LSC switchover test performed.		
13	Remove and restore the LGHS test.		
14	LGHS switchover test performed.		
15	Remove and restore the LGC test.		
16	Remove and restore the MDC test.		
17	Remove and restore the LTC test.		
18	Remove and restore the line card test.		
19	Remove and restore various LSC circuits test.		
20	Lock and unlock the LSC, LGHS, on-line test.		
21	Assign/release the LSC virtual spare test.		
22	Mask control test performed.		
23	Reset the LS circuit test.		
24	Verify that the LSPT, LSERHS, and all background tests run with no errors.		
25	Verify that the ORGTST is mounted and running with no errors.		
26	Verify that test lines XXX-O-O and XXX-O-59 are unassigned in the data base.		
27	Verify that all port group highways are operational.		
Remarks			

Exhibit 5

## MAINTENANCE ADMINISTRATION FRAME (MAF/CMF/CCF)

### References

Other references dealing with MAF/CMF/CCF are listed in the chart below.

---

FOR INFORMATION ABOUT.. .	SEE SCP...
Common Control Description and Operation	23-064-05.
System Operator's Manual	23-002-97.
Equipment Location	23-237-51.
Alarms Operation Procedures	23-214-31.
Power Down Power Up Procedures	23-107-31.
Synchronous Network Clock Description and Oscillator Calibration	23-228-51.
Procedure	23-ST.
Call Processor A/B Precutover Test Procedure	23-251-25.
Maintenance Processor System Precutover Test Procedure	23-201-25.
Master Clock Generator and Distribution Precutover Test Procedure	23-108-25.
Alarm Sending and Checking Circuit Precutover Test Procedure	23-172-25.
One Generator and Distributor Precutover Test Procedure	23-102-25.
Power Equipment Distribution Test Procedure	23-107-25.
Wire Chief Test Panel	23-209-10.

---

## MAINTENANCE ADMINISTRATION FRAME (MAF/CMF/CCF), continued

Performing  
Acceptance  
Procedures

To perform acceptance procedures, follow the steps outlined in the chart below.

---

IF THE CELL IS A... THEN DO THE FOLLOWING...

---

Maintenance and  
Administration Cell

1. Connect the appropriate data device to each port to test all the data ports on the multitasking serial line unit.
2. Verify the correct startup of the maintenance processor (see SCP 23-002-97, Page 13, Table 2).
3. Test the proper operation of the Winchester@ disk drive and/or floppy disk drives.
4. Test using a digital voltmeter or oscilloscope to ensure that the proper voltages are supplied to the:
  - Frame.
  - All PWBA's.

NOTE: Ensure that all power monitors are on.

5. Verify that all PWBA's are installed in the proper location.
6. Check all cables for proper termination.
7. Unmask all devices that are equipped on the MBI bus.

NOTE: Perform \$MBI command to verify.

8. Assign a test number in \$STASND and create an actual alarm to verify the proper administration and operation of the 7-10 digit alarm sending.

---

Maintenance and Test  
Access Selector Control  
Cell

1. Verify proper operation of RTEST and RTOPT.
2. Perform functional tests of remote testing equipment (4TEL, Badger, etc.).
3. Verify the proper operation of the wire chief test panel (see SCP 23-209-10).
4. Verify that correct voltages are being supplied to:
  - The frame.
  - All PWBA's.
5. Ensure that all power monitors are on.
6. Verify the proper operation of power and fuse alarms.
7. Ensure that all PWBA's are installed in the proper location and that cables are properly terminated.

---

(continued)

**MAINTENANCE ADMINISTRATION FRAME (MAF/CMF/CCF), continued**

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE CELL IS A.. .      THEN DO THE FOLLOWING...

---

CPU Cell

1. Perform call processor start-up on ail call processors (see SCP 23-002-97, Table 2).
  2. Perform all call processor diagnostics (see SCP 23-002-97).
-

Maintenance Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	Proper size fuses are installed.		
5	All alarms are operational, SCP 23-214-31.		
6	Check the electronic power supplies and monitors.		
7	All equipment cards are provided and properly located, SCP 23-237-51.		
8	Verify that the blower motors are operational and the filters are clean.		
9	Check the floppy disk unit preventive maintenance procedures, SCP 23-002-69 SC.		
10	Verify the system operation* CP-A and B and MP is <b>up</b> .		
11	<b>Verify</b> the system operation* MP is down, SCP 23-002-97.		
12	Verify the MP start-up procedures: SCP 23-007-31.		
13	Verify the MP diagnostics* \$DIAG2 MA Select, SCP 23-007-31.		
14	Check the toll MF generator tones: SCP 23-102-25.		
15	Check the precise tone generator tones: SCP 23-102-25.		
Remarks			

## **POWER, RINGING, AND TEST ACCESS FRAME (PRT)**

---

References

Other references dealing with PRT are listed in the chart below:

---

FOR INFORMATION ABOUT.. .

SEE...

---

Alarm Operation Procedures

SCP 23-214-31.

---

Power and Alarm Systems

SCP 23-065-05.

---

Equipment Location

SCP 23-237-51.

---

Power Up/Power Down Procedures

SCP 23-107-31.

---

Performing  
Acceptance  
Procedures

Perform test as outlined on the PRT acceptance form on Page 36.

---

Power, Ringing, and Test Access Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM ITEMS TO BE VERIFIED AND ACCEPTED NO.		COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	Proper size fuses are installed.		
5	All alarms are operational (fuses cause applicable alarm), SCP 23-214-31.		
6	Switch and meters are operational, SCP 23-065-05.		
7	Ringing frequency and voltages are correct.*		
8	Pay station voltages are correct.*		
9	Receiver off hook; tone generator is checked.		
10	Transfer functions are checked - TTY and/or manual request.		
11	All equipment cards are provided and properly located, SCP 23-237-51, including: <ul style="list-style-type: none"> <li>• Ring monitors.</li> <li>• ANI tests.</li> <li>• Test access selectors (TAS).</li> <li>• Test call generators.</li> </ul>		
12	Verify the circuit breakers, SCP 23-167-31.		
13	Verify the circuit breakers are labeled correctly, SCP 23-107-31, including: <ul style="list-style-type: none"> <li>• A power.</li> <li>• B power.</li> </ul>		
Remarks			

Exhibit 8

Maintenance Frame, continued

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
	Maintenance Frame, continued		
16	Verify the basic maintenance panel, SCP 23-200-31. <ul style="list-style-type: none"> <li>• All lamps and buzzers are operational, SCP 23-214-31.</li> <li>• All alarm indications are correct. Manual switchover controls.</li> <li>• Local/remote alarm send and timer test. 7-10 digit alarm sending \$MANUAL ALM.</li> <li>• Last resort alarm test.</li> <li>• MP sanity test and watchdog timer.</li> </ul>		
17	Verify the wire chief test access, SCP 23-209-210.		
18	Check the realtime clock operation, SCP 23-108-25, including: Power fail tests.		
19	Check the wire chief test panel operations per SCF?		
20	Verify the TTY operation.		
21	Verify the operation control of full period CKT on TTO (RMCS/TTY) \$TTY TST		
22	Verify the ports on the multitasking unit.		
23	Verify that all the power monitors are on and the voltages are correct.		
24	Verify that all the devices on the MBI are equipped and unmasked.		
25	Verify RTEST (operation and RTOPT).		
26	Verify 4TEL or Badger operation.		
Remarks			

Common Control Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	Proper size fuses are installed.		
5	All alarms are operational, SCP 23-214-31.		
6	All equipment cards are provided and properly located, SCP 23-237-51.		
7	Check the electronic power supplies and the monitors for correct voltages.		
8	Verify that all the blower motors are operational and the filters are clean.		
9	Check that the system operation is in-sync and all the systems up, SCP 23-002-97, Page 13, Table 2.		
10	Check system operation: A is up, B is down, SCP 23-002-97, Page 14, Table 3.		
11	Check system operation: B is up, A is down, SCP 23-002-97.		
12	Transfer all X and Y units, SCP 23-002-97. Verify the second level CC diagnostics: SCP 23-107-31. (\$DIAG2 CC Select)  A. Restore. B. Repair. C. Select. D. Abort. E. Stop.		
13	Verify fault detector check diagnostics: SCP 23-002-99, including:  • Non-side specific. • Side specific.		
14	Verify the CP start-up procedures: SCP 23-002-97.		
Remarks			

Exhibit 7

## REMOTE LINE SWITCH (RLS)

### References

Other references dealing with RLS are-listed in the following chart:

FOR INFORMATION ABOUT.. .	SEE...
General Description	SCP 24-025-02.
Installation Instructions	SCP 24-025-20.
Supervisory Panel Operation and Installation	SCP 24-025-31.
Maintenance and Trouble Shooting	SCP 24-025-50.
MAH/MAR PWBA Replacement	Scatgram 84-95.
Host/RLS Span Removal	Scatgram 84-127.
Frequency Drift in Clock Frequency Converter	Scatgram 85-130.

### Performing Acceptance Procedures

Use the \$LMSC overlay to perform all tests as outlined in the chart below, unless other instructions are provided.

IF THE TEST IS A...	THE DO THE FOLLOWING...
System Status Test	<ul style="list-style-type: none"> <li>• MCI.</li> <li>• CBC.</li> <li>• Frame summary.</li> <li>• Frame.</li> <li>• Line group.</li> <li>• LSC, LGH, TS.</li> <li>• LSC, PGH.</li> <li>• MAH.</li> <li>• MAR.</li> <li>• Message span.</li> <li>• DS1M/span.</li> </ul>
Loop Back Test	<ul style="list-style-type: none"> <li>• MCI (O-3).</li> <li>• CBC (on-line and off-line O-3).</li> <li>• MAH (O-X).</li> <li>• MAR (X and Y per RLS).</li> </ul>
Loop Around Test	<p>Do <b>not</b> repeat the MCI and CBC test for each equipped RLS frame:</p> <ul style="list-style-type: none"> <li>• MCI (O-3).</li> <li>• CBC (on-line and off-line O-3).</li> <li>• MAH (O-X).</li> <li>• MAR (X and Y per RLS).</li> </ul>

(continued)

## REMOTE LINE SWITCH (RLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A...

---

THEN DO THE FOLLOWING...

---

LSC/Peripheral Loop Test  
(SCP 23-152-05)

- Test call.
  - Origination test.
  - Test line self-test.
  - Party test self-test.
  - Voice pattern test.
  - Voice pattern self-test.
  - CS (LGHS) TSI RAM compare.
  - CS (LGHS) test switchover.
  - CS (LGHS) write/read test.
  - Line-ringing voltage test.
  - Slave device loop around test.
  - Master SDLC loop around test.
  - Mismatch detector test.
  - Coin MF receiver self-test.
  - MDC self-test.
  - LTC self-test.
  - Bypass relay test.
- 

Configuration  
Change Test

Remove and restore to service the following DCO circuits:

1. Remove MCI (O-3) from service.
  2. Verify MCI status.
  3. Restore MCI to service.
  4. Verify MCI (O-3) status.
  5. Remove the CBC (off-line O-3) from service.
  6. Verify the CBC status.
  7. Restore the CBC (off-line O-3) to service.
  8. Verify the CBC status.
  9. Switch the DCO system sides (A/B).
  10. Repeat Steps 5 through 8.
- 

Remove, Restore, and  
Reset LSC Test

1. Set the LSC switch on the LLS maintenance panel to "Y" on-line.
2. Remove the "X" LSC from service.
3. Pull out the "X" LSC PWBA.
4. Verify that the "X" LSC has been bypassed.
5. Reinsert the "X" LSC PWBA.
6. Reset the "X" LSC.

NOTE: A download of the off-line LSC occurs.

7. When the download is complete, verify that the "X" LSC is in service.
- 

(continued)

## REMOTE LINE SWITCH (RLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A...

THEN DO THE FOLLOWING...

---

Remove, Restore, and Reset  
LSC Test, continued

8. Set the LSC switch on the RLS maintenance panel to "AUTO."
  9. Switch the LSC to "X" on-line.
  10. Set the LSC switch on the RLS maintenance panel to "X" on-line.
  11. Repeat Steps 2 through 8 for "Y" LSC.
- 

LSC Switchover Test

1. Verify that both LSCs are in service by:
    - Placing the "X" LSC on-line.
    - Setting the LSC switch to "AUTO."
  2. Place a call from an RLS line to an RLS line.
  3. Switch LSC.
  4. Verify that the RLS frame maintenance panel lamp is switched to the "Y" side.
  5. Verify that the call is connected.
  6. Go on-hook with call.
  7. Verify that the dial tone can be received.
  8. Check the frame status.
  9. Repeat Steps 1 through 8 with "Y" LSC on-line.
- 

LGHS Test

1. Check which LSC is on-line.
  2. Check which LGHS is off-line.
  3. Remove the off-line LGHS from service.
  4. Pull out the off-line LGHS PWBA.
  5. Make a call from an RLS line to an RLS line.
  6. Verify the dial tone and ring.
  7. Go on-hook with the call.
  8. Reinsert the off-line LGHS PWBA.
  9. Restore the off-line LGHS to service.
  10. Switch LSC.
  11. Repeat Steps 3 to 9, then continue with Step 12.
  12. Switch LGHS.
  13. Repeat Steps 3 to 9, then continue with Step 14.
  14. Switch LSC.
  15. Repeat Steps 3 to 9.
- 

(continued)

## REMOTE LINE SWITCH (RLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A... .

---

THEN DO THE FOLLOWING...

---

LGHS Switchover Test

1. Check which LSC is on-line.
  2. Check which LGHS is on-line.
  3. Make a call from an RLS line to an RLS line.
  4. Switch LGHS.
  5. Verify that the switchover occurred.
  6. Verify that the call is connected.
  7. Switch LGHS.
  8. Verify that the switchover occurred.
  9. Verify that the call is connected.
  10. Go on-hook with the call.
  11. Switch LSC.
  12. Verify that the switchover occurred.
  13. Repeat Steps 3 to 10.
- 

LGC Test

1. Remove any equipped LGC from service.
  2. Request a frame status report.
  3. Verify that the LGC has been removed from service.
  4. Pull out the LGC PWBA.
  5. Reinsert the LGC PWBA.
  6. Push the reset button on the LGC PWBA.
  7. Restore the LGC to service.
- NOTE: A download starts.
8. After you complete the download, verify that the LGC is scanning. The halt/run lamp on the LGC should blink slowly.
  9. Verify that any line in the LGC receives a dial tone.
- 

MDC Test (Scatgram 84-104;  
84-105)

1. Set the LSC and LGH switches on the RLS panel to "ON-LINE".
  2. Remove the J25 and J30 cable connectors in the 817558 cell (X controller) backplane.
  3. Remove the MDC from service.
  4. Pull out the MDC PWBA.
  5. Reinsert the MDC PWBA.
  6. Reset the MDC.
- 

(continued)

## REMOTE LINE SWITCH (RLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A...

---

THEN DO THE FOLLOWING...

---

MDC Test (Scatgram 84-104;  
84-105), continued

7. Verify that the download starts.
  8. Reinsert the J25 and J30 cable connectors after the download is complete.
  9. Restore the MDC to clear the alarm bits.
  10. Set the LSC and LGH switches on the RLS panel to "AUTO."
- 

LTC Test

1. Remove the LTC from service.
  2. Pull out the LTC PWBA.
  3. Reinsert the LTC PWBA.
  4. Reset the LTC
  5. Restore the LTC to service.
  6. Verify that the download starts.
- 

Line Card Test

1. Check the "CARD BUSY" lamp.
  2. If the card is not busy, pull it out.
  3. Verify the fault printout and the out-of-service report for the line card.
  4. Reinsert the line card.
  5. Ensure in-service printout is issued, to verify that the line card is back in service.
- 

Remove and Restore LSC  
Circuit Tests

- Line.
  - LGH, TS.
  - LGM.
  - PGH.
  - PGH, TS.
  - Party test.
  - Line test bus.
  - LSC (off-line).
  - Voice pattern test.
  - LGHS (off-line).
  - LGA.
  - ALIT.
  - MDC-2.
  - CFC.
  - MAH.
  - MAR (off-line).
  - Remote DSIM.
  - Remote span.
- 

(continued)

## REMOTE LINE SWITCH (RLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

---

IF THE TEST IS A . . .

THEN DO THE FOLLOWING...

---

CFC Switchover Test

Verify the test.

---

MAR Switchover Test

1. Verify the MAR status.
  2. Make a call from an RLS line to an RLS line.
  3. Go on-hook with the call.
  4. Switch the MAR.
  5. Verify that the MAR switch occurred.
  6. Make a call from an RLS line to an RLS line.
  7. Go on-hook with the call.
- 

Remote Span Switchover  
Test

1. Verify the remote span status.
  2. Make a call from an RLS line to an RLS line.
  3. Go on-hook with the call.
  4. Switch remote span.
  5. Verify that the switchover occurred.
  6. Make a call from an RLS line to an RLS line.
  7. Go on-hook with the call.
- 

Remote DSIM Switchover  
Test

1. Verify the remote DSIM status.
  2. Verify that the TIC on-line lamp at the RLS coincides with the status report.
  3. Make a call from an RLS line to an RLS line.
  4. Switch remote DSIM.
  5. Verify from the status report and the TIC on-line lamp at RLS that the switchover occurred.
  6. Make a call from an RLS line to an RLS line.
  7. Go on-hook with the call.
- 

Lock and Unlock LSC, LGHS,  
and On-Line Test

1. Request a frame status report.
  2. Verify that the LSC is unlocked.
  3. Lock the LSC on-line.
  4. Request a frame status report.
  5. Verify that the LSC is locked.
  6. Unlock the LSC.
  7. Request a frame status report.
  8. Verify that the LSC is unlocked.
  9. Repeat Steps 1 to 8 for LGHS.
- 

(continued)

## REMOTE LINE SWITCH (RLS), continued

---

Performing  
Acceptance  
Procedures,  
continued

IF THE TEST IS A . . .	THEN DO THE FOLLOWING.. ,
Assign and Release LSC Virtual Spare Test	<ol style="list-style-type: none"><li>1. Assign "virtual spare" to any equipped line.</li><li>2. Request a status report on the line group containing the line in Step 1 (see "Line-to-Line Group Assignment*" on Page 44).</li><li>3. Verify that the status report printout shows the line which has been assigned to the virtual spare.</li><li>4. Release the virtual spare.</li><li>5. Repeat Step 2.</li><li>6. Verify that the status report shows that the virtual spare has been released.</li></ol>
Mask Control Test	<ol style="list-style-type: none"><li>1. Mask all LSC circuits.</li><li>2. Unmask all LSC circuits.</li><li>3. Mask all LGCs.</li><li>4. Unmask all LGCs.</li><li>5. Mask a specified LGC.</li><li>6. Unmask the LGC in Step 5.</li><li>7. Mask the MDC.</li><li>8. Unmask the MDC.</li><li>9. Mask the LTC.</li><li>10. Unmask the LTC.</li><li>11. Mask the LGHS.</li><li>12. Unmask the LGHS.</li><li>13. Mask the MDC-2.</li><li>14. Unmask the MDC-2.</li><li>15. Mask all the MDC-2 alarms.</li><li>16. Unmask all the MDC-2 alarms.</li><li>17. Mask a specific MDC-2 alarm.</li><li>18. Unmask the MDC-2 alarm in Step 17.</li></ol>
Reset LSC Circuit Test	<ul style="list-style-type: none"><li>• LS.</li><li>• MDC-1.</li><li>• LGT.</li><li>• LGC.</li><li>• MDC-2.</li><li>• MAH.</li><li>• MAR.</li><li>• Remote DSIM.</li><li>• Remote DSIM/counter.</li></ul>
LSPT, LSERHS, and Background Test	Ensure that the tests run with no errors.
ORG Test	Verify that the test is mounted and runs with no errors.

**REMOTE LINE SWITCH (RLS), continued**

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Verifying  
Acceptance  
Tests

To verify the acceptance tests, ensure that:

- Lines XXX-O-O and XXX-O-59 are unassigned in the data base.  
NOTE: Use these lines for the test line and the virtual spare.
  - Use \$Manual or \$LSMC to verify that all port group highways assigned operate.
  - Test for the:
    - Proper operation of the emergency switching system (ESS).
    - Proper operation of intra-nodal switching (INS).
    - Proper tones in ESS mode.
    - Proper operation of all ESS tone dial receivers.
    - Correct adjustment of all clock frequency converters (CFC).
  - Verify recorded announcement when system is in ESS mode.
  - Check that an established call is not affected by entering the ESS mode (local to local and local to voice span).
- 

Line-to-Line  
Group  
Assignment

Perform acceptance procedures according to the chart below.

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IF THE LINE GROUP IS. . .	THEN USE LINES. . .
0	0- 89
1	90 - 179
2	180 - 269
3	270 - 359
4	360 -449
5	450 - 539
6	540 - 629
7	630 - 719
8	720-809
9	810 - 899
10	900 - 989
11	990 - 1079

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Remote Line Switch Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawings and issue numbers are specified/processed if marked.		
3	Verify that cables are properly terminated.		
4	All equipment cards are provided and properly located.		
5	Proper size fuses are installed.		
6	Check the electronic power supplies and the monitors for correct voltages.		
7	All alarms are operational, SCP 23-214-31.		
8	Verify system status TEST6.		
9	Loop back test performed.		
10	Loop around test performed.		
11	LSC/peripheral loop test performed.		
12	Configuration change test performed.		
13	Remove, restore, and reset the LSC test.		
14	Remove and restore the LGHS test.		
15	LSC switchover test performed.		
16	Remove and restore the LGC test.		
17	Remove and restore the MDC test.		
18	Remove and restore the LTC test.		
19	Remove and restore the line card test.		
20	Remove and restore various LSC circuits tests.		
21	CFC switchover test performed.		
22	MAR switchover test performed.		
23	Remote span switchover test performed.		
24	Remote DS1M switchover test performed.		
25	Lock and unlock the LSC, LGHS, and CFC on-line test.		
26	Assign/release the LSC virtual spare test.		
27	Mask control test performed.		
28	Reset the LS circuit test.		
Remarks			

Exhibit 9

## SOFTWARE ADMINISTRATION

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### References

Other references dealing with software administration are available:

- SCP 23-002-64, On-line Recent Change Administration.
  - SCP 23-002-68, Source Destination Traffic Separation System Administration.
  - SCP 23-002-97, System Operator's Manual.
  - SCP 23-062-05, Maintenance Test Facility Description.
  - Scatgram 80-24; 81-45; 84-98.
  - Software Administration DCO Acceptance Form (MC 602865).
- 

### Performing Acceptance Procedures

Use form MC 602865 in this section (see Software Administration) to perform the functions in the overlays.

NOTE: Functions are listed on the form.

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Software Administration Frame

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Service order overlay: DSO, \$DSO is off, SCP 23-002-64, SCP 23-002-68, SCP 23-001-97. DISP, LIST, CHNG.		
2	PBX overlay: \$PBX, \$PBX is off, SCP 23-002-97. DISP, LIST, CHNG ADD, DEL.		
3	Line class of service overlay: \$LCOS, \$LCOS is off, SCP 23-002-97. DISP, LIST, ADD, DEL, DERV, ACTV, CHNG.		
4	Trunk class of service overlay: \$TCOS, \$TCOS is off, SCP 23-23-002-OFF. DISP, LIST, ADD, DEL, CHNG.		
5	Translation table overlay: \$TTU, \$TTU is off, SCP 23-002-97. CODE, DISP, LIST, CHNG SCREEN, DISP, LIST, CHNG.		
6	Route treatment update: \$RTR, \$RTR is off, SCP 23-002-97. DISP, LIST, ADD, DEL, ACTV, PURG, CHNG.		
7	Fixed call address: \$FIX, \$FIX is off, SCP 23-002-97.		
8	Copy the on-line data base: \$COPY ONL DB, SCP 23-002-97.		
9	Disk backup: \$BACKUP, SCP 23-002-97. Scatgrams 80-24 and 8145.		
10	Custom calling overlay: \$CCAL, SCP 23-002-97. DISP, CHNG, LIST.		
11	Manual control of ports overlay: \$MANUAL. IOS, ROS, RPS, STC, MTC, CAN, PSS, ALM, TSS, ASC, BUS, CSM. SCP 23-002-97.		
12	Port status overlay: \$PORTST, SCP 23-002-97. LNLOUT, TKLOUT, LIMITS, OSPORTS, DISP, ALPORTS, BUSY, TK, TRAF.		
13	Time and time change and disk access count, SCP 23-002-97.		
14	Mount and demount utilities, SCP 23-002-97. ONPRNT, AUTO CPSU, DIAG2, DISK, etc.		
Remarks			

Software Administration Frame, continued

		Exchange	CO
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
	Software Administration Frame, continued		
15	Control commands, SCP 23-002-97. CLEAR AL, CPREST, SWITCH, UNSYNC, RECOV, UNMASK.		
16	Information commands, SCP 23-002-97. DIRECT STATE, STATUS, ALARMX, etc.		
17	Miscellaneous maintenance commands, SCP 23-002-97. MBI, UNMASK, MSDX, SGD, PCDX, MSDHX, SYMMDP, PLDX, SWCX.		
18	Administrable options: \$AMOPT, SCP 23-002-97. DISP, CHNG.		
19	7/10 digit alarm sending, SCP 23-002-97. DISP, CHNG, LIST.		
	<b>NOTE:</b> It is important to verify that a billing number is assigned to alarm sending.		
Remarks			

**MAIN DISTRIBUTION FRAME/COMBINED DISTRIBUTION FRAME (MDF/CDF)**

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Items To Be  
Verified and  
Accepted

See Exhibit 11 on Page 50 for the items to be verified and accepted.

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Main Distribution/Combined Distribution Frame

	Exchange	c o	
	Accepted By	Date	
	Work Order No.	Supervisor	
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	Frame designation is embossed.		
2	Drawing and issue numbers are specified/processed if marked.		
3	Block designations are embossed.		
4	Talk, battery, and ground jacks are operational.		
5	Spare protector modules have been tested and are operational.		
6	Protector alarm is operational.		
7	Test shoe circuit is operational.		
8	Frame speaker system has been tested and is operational.		
9	All nonassignable circuits are properly identified.		
Remarks			

Exhibit 11

## DATA BASE VERIFICATION

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Performing  
Acceptance  
Procedures

Verify the data base as follows:

1. 0- calls.
2. 0+ calls.
3. 1+7 digit calls.
4. 1+10 digit calls.
5. Forced 7-digit dialing.
6. Forced 10-digit dialing.
7. International DDD.
8. 1+411 information calls.
9. 1+ONI 4-party call.
10. 0+ONI 4-party call.
11. EAS trunk groups.
12. Toll-completing trunk groups.
13. Operator intercept.
14. Operator verification.
15. Verify all NPAs.
16. Verify home NPA NNXs.
17. Recorded announcement routing.
18. Automatic number announcement (ANA).
19. Inspector's test terminal (ITT).
20. Wire chief test panel routing.
21. Wire chief test panel incoming 711.
22. Remote test unit routing (4TEL or Badger).
23. 0- coin call.
24. 0+ coin call.
25. 0+ coin credit card call.
26. 7-10 digit alarm-sending data base.

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(continued)

## **DATA BASE VERIFICATION, continued**

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Performing  
Acceptance  
Procedures,  
continued

27. Temporary disconnect routing (fix call forwarding to the Customer Billing Center).
  28. Temporary disconnect recorded announcement routing (ED and ING).
  29. Revertive call announcement routing (recorded announcement to ING party and tick tone to ED party).
  30. Malicious call routing (MCTT, MCTR, MCHF).
  31. Custom-calling features.
  32. 950 call routing.
  33. Hotel/motel 1+, 0+, 0-.
  34. 911 emergency calling.
-

Data Base Verification Frame

		Exchange	c o
		Accepted By	Date
		Work Order No.	Supervisor
ITEM NO.	ITEMS TO BE VERIFIED AND ACCEPTED	COMPLETED	ACCEPTED
1	0- calls.		
2	0+ calls.		
3	1+ calls.		
4	1+10 digit calls.		
5	Forced 7-digit dialing.		
6	Forced IO-digit dialing.		
7	International DDD.		
8	1+411 information calls.		
9	1+ONI 4-party call.		
10	O+ONI 4-party call.		
11	EAS trunk groups.		
12	Toll completing trunk groups.		
13	Operator intercept.		
14	Operator verification.		
15	Verify all NPAs.		
16	Verify home NPA NNXs.		
17	Recorded announcement routing.		
18	Automatic number announcement (ANA).		
19	Inspector's test terminal (ITT).		
20	Wire chief test panel routing.		
21	Wire chief test panel incoming 711.		
22	Remote test unit routing (4TEL or Badger).		
23	0- coin call.		
24	0+ coin call.		
25	0+ coin credit card.		
26	7-10 digit alarm sending data base.		
27	Temp. disconnect routing (fix call forwarding to Customer Billing Center).		
28	Temp. disconnect recorded announcement routing (ED and ING).		
29	Revertive call announcement routing (recorded announcement to ING party and tick tone to ED party).		
30	Malicious call routing (MCTT, MCTR, MCHF).		
31	Custom calling features.		
32	950 call routing.		
Remarks			

Exhibit 12

