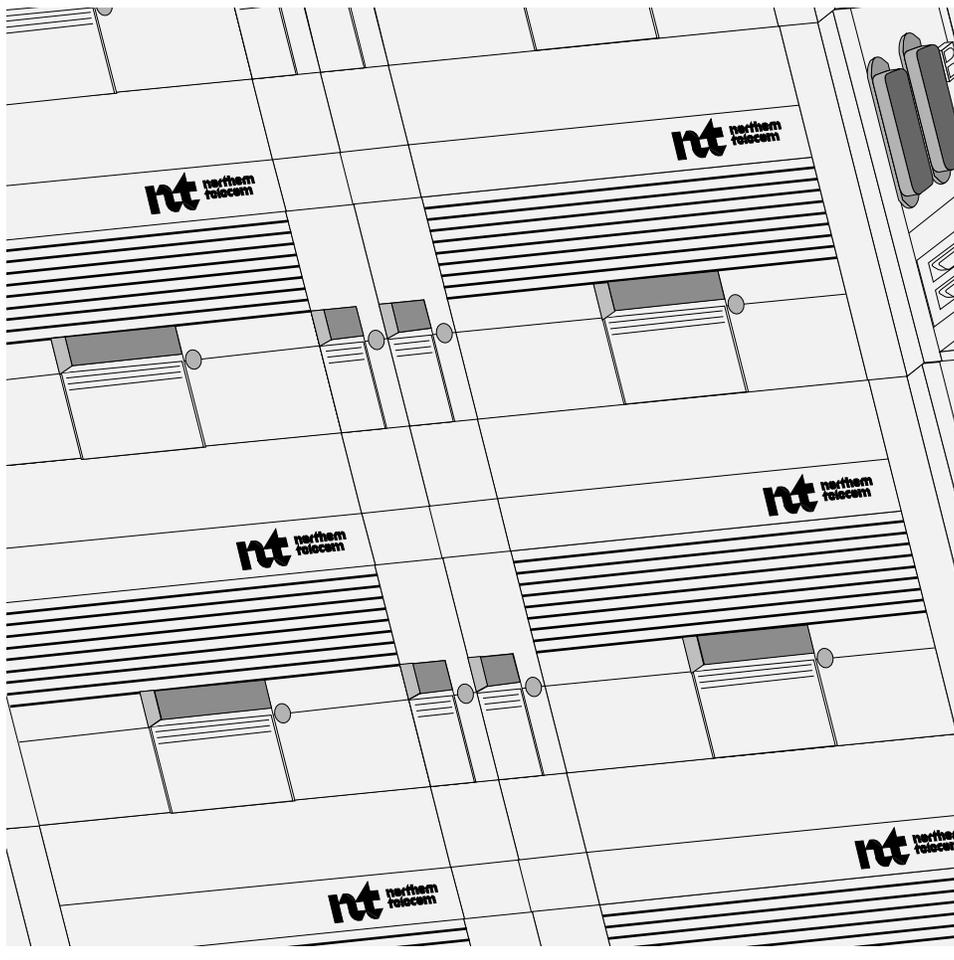**NT4K00LA**   **323-3001-223**

SONET Products

AccessNode

Line Test Interface Commissioning
Procedures

Issue 2.0   October 1999

NORTEL
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AccessNode

Line Test Interface Commissioning Procedures

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AN07 Standard release is reissued with improvements, including but not limited to the following:

• the date of issue is added to the footer on each page

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AN07 Standard release of the document.

Contents

About this document

This document has the procedures for setting up and verifying the connections between external testing systems and system equipment. Chapter 1 provides provisioning procedures for line and loop testing, including the pair gain test controller/metallic test access (PGTC/MTA) Provisioning Manager tool on the operations controller (OPC), the loop access point provisioning tool for TR-08 line and loop testing, and the tool for enabling or disabling the signature resistance for R-TEC or Teradyne testing. Chapter 2 describes how to verify the loop testing connections within the system.

The external testing or operations systems supported by the AccessNode are described in *Line and Loop Testing Overview*, 323-3001-115, *Description*, Volume 2B. It also lists the equipment required with each testing system.

Routine testing of lines can be performed remotely, using the OPC Test Manager tool, or using an external testing system such as Centralized Automated Loop Reporting System (CALRS), Digital Analog Remote Test System (DARTS), or Switched-Access Remote Test System (SARTS). Procedures for using the OPC Test Manager tool for routine line testing are contained in *Circuit Testing from the OPC User Interface*, 323-3001-548, *Maintenance*, Volume 5C. For detailed procedures on how to test circuits using external testing systems, refer to the respective manufacturer's product documentation.

Audience

This document is for maintenance technicians and experienced installers from Nortel Networks or a telephone operating company.

How to use this document

Use the chapter task list at the front of each chapter to identify the procedures that apply to your task. If you cannot successfully complete these procedures, contact your next level of support.

Warnings and safety precautions

This section has the samples of the danger and caution warnings for proper handling and operation of equipment.

To avoid injury, follow all danger warnings provided with this product, as well as safety procedures established by your company.

To avoid damage to equipment or service interruptions, follow all caution warnings provided with this product, as well as procedures established by your company.

Samples of danger and caution warnings follow.

> **DANGER**
> **Risk of personal injury**
> A danger warning informs the reader of a risk of personal injury.

> **CAUTION**
> **Risk of service interruption or equipment damage**
> A caution warning informs the reader of a risk of service interruption or equipment damage.

> **DANGER**
> **Risk of electric shock**
> This warning advises you of a possible electrical hazard. When you see this warning, proceed with care, to avoid personal injury.

OPC and NEUI command conventions

Information about how user interface commands are represented in documentation is provided in *Network Element User Interface Description,* 323-3001-300, and *OPC User Interface Description*, 323-3001-301 in *Operations, Administration, and Provisioning*, Volume 4A.

References in this document

This document has references to the following documents.

Description, Volume 2B

- *Line and Loop Testing Overview*, 323-3001-115

Commissioning and Testing, Volume 3

Operations, Administration, and Provisioning, Volume 4A

- *Network Element User Interface Description*, 323-3001-300
- *OPC User Interface Description*, 323-3001-301
- *System Administration Procedures*, 323-3001-302

Operations, Administration, and Provisioning, Volume 4B

- *Line Card Provisioning Procedures*, 323-3001-315
- *Line Card Testing Procedures*, 323-3001-316

Operations, Administration, and Provisioning, Volume 4C

- *System Expansion Procedures*, 323-3001-324

Maintenance, Volume 5A

- *Alarm and Trouble Clearing Procedures*, 323-3001-543

Installation documents

- *Bay in Central Office Installation Manual—ABM*, 323-3001-201

for BCS36 release:

- *SMA Translations Guide*, 297-2741-350

for NA002 through NA006 release:

- *XPM Translations Reference Manual*, 297-8321-815, in the *DMS SuperNode* family documentation.

Nortel document*:*

- *Model 3704 Digital Remote Test Unit (DRTU)*, 662-5021-215.

Provisioning for line/loop testing systems

This chapter provides provisioning information and procedures to permit line/loop testing systems to access subscriber lines carried on a system. Refer to *Line and Loop Testing Overview*, 323-3001-115, in *Description*, Volume 2B, for additional information about what provisioning options apply to each line/loop test system configuration.

A procedure is provided for using the pair gain test controller/metallic test access (PGTC/MTA) Provisioning Manager tool to select the PGTC or the MTA method of carrier bypass on a system universal application. PGTC tests both subscriber loops and carrier channels; MTA tests the subscriber loops.

This chapter has a procedure to enable or disable the R-TEC signature module for R-TEC or Teradyne line testing. Lastly, this chapter has two provisioning procedures for TR-08 line testing. A checklist of commissioning tasks for line and loop testing systems is given on page 1-2.

Chapter task list

The following table lists the topics in this chapter. These topics are the procedures that you follow to help you in provisioning for line/loop testing systems.

Topic	See
Selecting PGTC or MTA test method	page 1-4
Enabling or disabling the test bypass pair R-TEC signature	page 1-9
Using the LLTCFGCI tool	page 1-11
Provisioning the DMS SuperNode host switch for TR-08 line testing	page 1-17

If you cannot successfully complete these procedures, contact your next level of support.

Master commissioning checklist

The following master list provides details for setting up line/loop testing configurations for testing lines on various system applications. Not all details apply to any one architecture. To find out detailed requirements for your arrangement, refer to *Line and Loop Testing Overview*, 323-3001-115, in *Description*, Volume 2B.

- Install, terminate, and cross-connect cables, if any are required. Refer to *Bay in Central Office Installation Manual—ABM*, 323-3001-201, and related documents for installation procedures.

- Modify the access bandwidth manager (ABM) shelf to add the integrated remote test unit (IRTU), if the shelf is earlier than release 7 and not yet modified. Refer to *System Expansion Procedures*, 323-3001-324, in *Operations, Administration, and Provisioning,* Volume 4C.

- Install and test circuit packs (refer to appropriate document in this volume) for DS1/VT mapper, IRTU, and test access card (TAC).

- Install and test line cards, if required. Refer to *Line Card Testing Procedures*, 323-3001-316, in *Operations, Administration, and Provisioning*, Volume 4B.

- Refer to *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, Volume 4B, to provision the following with the operations controller (OPC) Provisioning Manager tool, if required in your configuration:

    — universal with external remote test unit (ERTU): provision line card service, for a control link and a talk/monitor link, as plain old telephone service (POTS)

    — integrated with IRTU, using DS1 tandem lines for communication links: provision system control and talk/monitor links as IRTU line card (ILC) POTS

- Refer to the DMS family BCS36 document *SMA Translations Guide*, 297-2741-350, or the NA002, NA003, and NA004 document *XPM Translations Reference Manual*, 297-8321-815, to provision the following at the DMS SuperNode MAP, if required in your configuration:

    — integrated application with test bypass pair (TBP): datafill the remote digital terminal (RDT) INV table for the remote access point TBP

    — integrated application with external remote test unit (ERTU): datafill the RDTINV table for the remote access point ERTU; provision control and talk/monitor links as RDTLSG

    — integrated application with integrated remote test unit (IRTU): datafill the RDTINV table for the remote access point IRTU; select IRTU test head 1 or test head 2; provision system control and talk/monitor links as ILCLSR, as applicable

- Refer to this document to provision the following, if required for your configuration:
  - universal applications: provision the test access method and remote access point, using the PGTC/MTA Provisioning tool
  - TR-08 integrated application: provision the RFT test access connection point
  - R-TEC testing with T-9X RTU: provision the R-TEC signature as enabled
  - Teradyne testing: provision the R-TEC signature as disabled
- SARTS or DARTS line and loop testing. Refer to *System Administration Procedures*, 323-3001-302, in *Operations, Administration, and Provisioning*, Volume 4A:
  - provision the RFT-to-OS host association using the OS Connection Manager tool on the OPC
  - configure the X.25 port on the OPC
- Verify the continuity of connections by performing a line and loop test. Refer to the appropriate document in this volume.
- If necessary, troubleshoot the metallic test access (MTA) connection in a universal application. For information on this, refer to PGTC/MTA troubleshooting in *Alarm and Trouble Clearing Procedures*, 323-3001-543, in *Maintenance*, Volume 5A.

Procedure 1-1
Selecting PGTC or MTA test method

Use this procedure to select the testing method to be used on universal and DS1 tandem circuits in a system. The pair gain test controller/metallic test access (PGTC/MTA) Provisioning tool allows you to display or change the test type and test options for network elements (NE) in the operations controller (OPC) span of control.

For further information on the PGTC/MTA Provisioning tool, see *OPC User Interface Description*, 323-3001-301, in *Operations, Administration, and Provisioning,* Volume 4A.

Requirements

Before performing this procedure, the following requirements must be met.

- obtain a userID and password that permit access to the OPC and the PGTC/MTA Provisioning manager

- read the command conventions for the interface you are using (CMT or graphical) in *OPC User Interface Description*, 323-3001-301, in *Operations, Administration, and Provisioning,* Volume 4A.

Action

Step	Action
1	Log in to the OPC and open the PGTC/MTA Provisioning Manager. *The PGTC/MTA Provisioning Manager is displayed.*
2	Select the NE you want from the list by pressing **Ctrl_A** (or Keypad **0**). *The NE list item is highlighted.*
3	Open the list item menu by pressing **Ctrl_L** (or Keypad **Enter**). *The List item menu is displayed.*
4	Select the Detail command by pressing **Space** (or Keypad **0**). *The Provisioning Option dialog is displayed.*
5	You can select one of the test options: PGTC type testing, MTA type testing, or no testing. Depending on your selection, you can select additional options.

If you plan to select	Then go to
PGTC tests	step 7
MTA tests	step 10
no tests	step 6

—continued—

Procedure 1-1 (continued)
Selecting PGTC or MTA test method

Step	Action

6 Move to the None button, using the arrow keys, then press **Ctrl_A** (or Keypad **0**).

The selector bullet is moved to the None button.

Since this option indicates that no tests are selected, you cannot select any other options in this dialog.

Go to step 14.

Selecting the PGTC Method

7 Move to the PGTC button, using the arrow keys, then press **Ctrl_A** (or Keypad **0**).

The selector bullet is moved to the PGTC button.

Note: Selection of pair gain test controller tests permits you to select the remote access point, and a test bypass pair input /output card (TBP I/O) located at the central office (CO). However, the takedown signal and line card diagnostics are not applicable to PGTC tests.

—continued—

Procedure 1-1 (continued)
Selecting PGTC or MTA test method

Step	Action

8   Tab to the Remote Access Point field and move to the access point where the testing is to take place. Press **Ctrl_A** (or Keypad **0**). Refer to the following table for guidance on making the selection.

Remote access point	Select this remote access point if	I/O cards required
TBP (default value)	• a test bypass pair from the FCOT is wired into the RDT TBP port (pins 27 and 28 of the TAP I/O card) to grant metallic test access to the loop from a test head at the maintenance center or • an external remote test unit (RTU) is wired into the RDT TBP port (pins 27 and 28 of the TAP I/O card)	• TBP I/O card in slot 51 and PGTC/MTA I/O card in slot 52 at FCOT, and TAP I/O card in slot 53 at RFT • TAP I/O card in slot 53 at RFT
External TAP 1	an external remote test unit (RTU) is wired into the Bellcore-standard 12-lead TAP interface (pins 1 to 12 of the TAP I/O card)	TAP I/O card in slot 53 at RFT
External TAP 2	metallic access is being granted to an external remote test unit (RTU) connected to pins 13 to 24 of the TAP I/O card	TAP I/O card in slot 53 at RFT
Internal TAP 1	connection to test head 1 of the internal remote test unit (IRTU) is required	TAP I/O card not required.
Internal TAP 2	connection to Test head 2 of the IRTU is required	TAP I/O card not required

9   Tab to the TBP at the Central Office button and select or deselect it by entering **Ctrl_A** (or Keypad **0**). If a TBP I/O card is installed in slot 51 at the CO, you must select this button.

Note: If this button is selected, then the TBP I/O and PGTC/MTA I/O cards must be present in the FCOT for the PGTC to operate.

Go to step 14.

—**continued**—

Procedure 1-1 (continued)
Selecting PGTC or MTA test method

Step	Action

Selecting the MTA method

10   Use the left or right arrow keys and move to the MTA button. Select the MTA button by entering **Ctrl_A** (or Keypad **0**).

The selector bullet is moved to the MTA button.

Note: Selecting MTA tests permits you to select the remote access point, the type of takedown signal, and whether the line card diagnostics are automatically performed as part of testing. However, the TBP at the Central Office button is not selectable because with MTA testing, the TBP I/O and PGTC/MTA I/O cards at the FCOT are mandatory. MTA is denied if the TBP I/O and PGTC/MTA I/O cards at the FCOT are not installed or have failed.

11   Tab to the Remote Access Point field, and move to the field that corresponds to the access point where the testing is to take place. Press **Ctrl_A** (or Keypad **0**). Refer to the table in step 8 for guidance on making the selection.

The selector bullet is moved to the selection.

12   Tab to the Takedown Signal field and move to the radio button that corresponds to the desired polarity of the takedown signal. Press **Ctrl_A** (or Keypad **0**).

The selector bullet is moved to the selection.

13   If the TBP remote access point is selected in step 11, then tab to the Line Card Diagnostics button, select or deselect the button by entering **Ctrl_A** (or Keypad **0**).

The selector bullet is moved to the selection.

Note: The Line Card Diagnostics button might not be disabled, but you should select it only when MTA testing and the TBP remote access point are selected. If the remote access point is a TAP, then Line Card Diagnostics should be deselected.

—**continued**—

Procedure 1-1 (continued)
Selecting PGTC or MTA test method

Step	Action
14	Tab to the OK button, then press **Ctrl_A** (or Keypad **0**) to save the selections.
	Selecting the Cancel button would remove the Provisioning Option dialog without making any changes.
	A Confirmation dialog is displayed.
15	Tab to the Yes button on the Confirmation dialog to confirm your selections, then press **Ctrl_A** (or Keypad **0**).
	The selections are saved and the dialog is removed, revealing the main window.
	Select the No button on the Confirmation dialog to return to the Provisioning Option dialog without making any changes.
16	To exit the tool:
	a. Display the Window menu by pressing **Ctrl_L W** (or Keypad **6**).
	The Window menu appears.
	b. Select the Exit command by pressing **Space** (or Keypad **0**).
	The tool disappears.

<div align="center">—**end**—</div>

Procedure 1-2
Enabling or disabling the test bypass pair R-TEC signature

Use this procedure at the remote fiber terminal (RFT) user interface to enable or disable the R-TEC signature module. The test access card (TAC) connects the R-TEC signature module to the R-TEC remote test unit (RTU) during test session setup. Use the following criteria to determine whether the R-TEC signature should be enabled or disabled (default is RTEC DISABLED):

If you are performing line/loop measurements	Then
with Teradyne equipment	disable the R-TEC signature
with R-TEC T-9X remote test unit equipment	enable the R-TEC signature

Requirements

Read the command conventions described in *Network Element User Interface Description,* 323-3001-300, in *Operations, Administration, and Provisioning,* Volume 4A.

Action

Step	Action

1   From the FWPUI screen or command interpreter (CI) screen at the RFT, access the TBP Configuration User Interface by entering:

tbpcfg↵

The FWPUI screen is displayed.

2   Query the status of the R-TEC signature, by entering the following command from the command interpreter (CI), or from an RFT FWPUI screen:

rtec   query.↵

The system displays one of the following messages:

```
RTEC signature disabled for Test Bypass Pair
RTEC signature enabled for Test Bypass Pair
```

If the R-TEC signature is	Then go to
enabled	step 3
disabled	step 4
properly set	step 5

—continued—

Procedure 1-2 (continued)
Enabling or disabling the test bypass pair R-TEC signature

Step	Action
3	Enable the RTEC signature by entering:
	rtec enable↵
	The system displays the following message:
	`RTEC signature enabled for Test Bypass Pair.`
	Skip to step 5.
4	Disable the RTEC signature by entering:
	rtec disable↵
	The system displays the following message:
	`RTEC signature disabled for Test Bypass Pair.`
5	Quit from the TBP Configuration User Interface by entering:
	quit↵
	The system displays the FWPUI screen or CI level, where you started in step 1.

<div align="center">**—end—**</div>

Procedure 1-3
Using the LLTCFGCI tool

Use this procedure to provision the digital test access pair (DTAP) circuits or the loop access method for use with TR-08, GR-303 MVI or GR-303 DMS services. The loop access method determines what interface is connected to the subscriber phone during a channel test. Provisioning is accomplished using the command interpreter (CI) tool LLTCFGCI.

Universal and DS1 tandem lines are still tested using the loop access method provisioned with the pair gain test controller/metallic test access (PGTC/MTA) Provisioning Manager tool.

Requirements

A VT100-compatible terminal is connected to the remote fiber terminal (RFT), or a remote connection is established to the RFT user interface.

Action

Step	Action
1	Log into the RFT network element user interface (NEUI). Refer to *Network Element User Interface Description,* 323-3001-300, in *Operations, Administration, and Provisioning,* Volume 4A.
2	Access the line loop test provisioning tool.

lltcfgci ↵

The following response is displayed:

```
LLTCFGCI:
Type HELP for a list of valid commands.
```

| **3** | List the commands available in the provisioning tool, by entering: |

help ↵

The command list is displayed, with an explanation of each command, similar to the list in the following table.

—continued—

Procedure 1-3 (continued)
Using the LLTCFGCI tool

Step	Action

SHOWLLT	shows the configuration settings for DTAP and the current loop access settings for the GR-303 MVI, GR-303 DMS, and TR-08 interface groups
SETDTAP	sets the configuration for a DTAP circuit
CLEARDTAP	clears the configuration for a DTAP circuit
SETIG303	sets the test access for a GR-303 MVI or GR-303 DMS interface group
SETSYS08	sets the test access for a TR08 system
HELP	shows a summary of valid commands
QUIT	leaves the LLTCFGCI tool

4   Proceed according to the following table:

If you want to	Then go to
display the current settings	step 5
provision test access for a DTAP circuit	step 6
unprovision test access for a DTAP circuit	step 7
provision test access for a GR-303 MVI or GR-303 DMS circuit	step 8
provision test access for a TR08 system	step 9
leave the LLTCFGCI tool	step 10

—**continued**—

Procedure 1-3 (continued)
Using the LLTCFGCI tool

Step	Action

5   Display the current setting for loop access method by entering:
showllt <all|dtap|ig303|sys08> ↵

where

<all|dtap|ig303|sys08>   is either:

> **all** to display all settings
> **dtap** to display DTAP settings
> **ig303** to display GR-303 settings
> **sys08** to display TR-08 settings

The current settings are displayed. For example:

```
DTAP CKT1 Configured As Nailed Up At The REMOTE
     STS Number: 1
     VT  Number: 12
     DS0 Number: 1
     DS0 Number: 2
DTAP CKT2 Configured As Nailed Up At The REMOTE
     STS Number: 1
     VT  Number: 12
     DS0 Number: 4
     DS0 Number: 5
GR303 IG 1 LLT Configuration:
     DTAP CKT1 Configured As Nailed Up
GR303 IG 2 LLT Configuration:
     DTAP CKT2 Configured As Nailed Up
GR303 IG 3 LLT Configuration:
     TBP
GR303 IG 4 LLT Configuration:
     TBP
GR303 IG 5 LLT Configuration:
     TBP
TR08 System 1 LLT Configuration:
     DTAP CKT2 Configured As Nailed Up
TR08 System 2 LLT Configuration:
     TBP
```

—continued—

Procedure 1-3 (continued)
Using the LLTCFGCI tool

Step	Action

```
TR08 System 3 LLT Configuration:
     TBP
TR08 System 4 LLT Configuration:
     TBP
TR08 System 5 LLT Configuration:
     TBP
TR08 System 6 LLT Configuration:
     TBP
TR08 System 7 LLT Configuration:
     TBP
```

Return to step 4.

6 Use the SETDTAP command to provision a DTAP circuit on an AccessNode. It is used to provision the STS/VT/DS0 pair associated with a nailed-up DTAP circuit.

setdtap <ckt1|ckt2><sts><vt><ds0><ds0><co|rem> ↵

where

<ckt1|ckt2>	**ckt1** or **ckt2**
<sts>	the sts number, from **1** to **6**
<vt>	the vt number, from **1** to **28**
<ds0><ds0>	the numbers of consecutive DS0s within the same DS1, from **1** to **24**
<co|rem>	**co** or **rem**. The default is **rem**.
	Note: Specify **co** only on an AccessNode with no provisioned lines.

To confirm the changes, use the **showllt** command as described in step 5.

Return to step 4.

—**continued**—

Procedure 1-3 (continued)
Using the LLTCFGCI tool

Step	Action

7 Use the CLEARDTAP command to unprovision a DTAP circuit on an AccessNode. This command disconnects the DS0 pair which was nailed up previously with the SETDTAP command.

cleardtap <ckt1|ckt2> ↵

where

<ckt1|ckt2> **ckt1** or **ckt2**

To confirm the changes, use the **showllt** command as described in step 5.

Return to step 4.

8 Use the SETIG303 command to assign the test access path to an MVI or DMS interface group (IG).

setig303 <ig><tbp|tap1|tap2|dtap<ckt1|ckt2>> ↵

where

<ig> is the interface group from **1** to **5**

<tbp|tap1|tap2|dtap<ckt1|ckt2>> is either:

tbp for test bypass pair

tap1

tap2

dtap ckt1, or

dtap ckt2

To confirm the changes, use the **showllt** command as described in step 5.

Return to step 4.

9 Use the SETSYS08 command to assign the test access path to a TR08 system.

setsys08 <sys><tbp|tap1|tap2|dtap<ckt1|ckt2>> ↵

—continued—

Procedure 1-3 (continued)
Using the LLTCFGCI tool

Step	Action

where

<sys>	is the TR08 system from **1** to **7**
<tbp|tap1|tap2|dtap<ckt1|ckt2>>	is either:

    tbp for test bypass pair

    tap1

    tap2 (do not use this option with single test head IRTU, NT4K57BA)

    dtap ckt1, or

    dtap ckt2

To confirm the changes, use the **showllt** command as described in step 5.

10   Leave the LLTCFGCI tool by entering:

quit ↵

<div align="center">**—end—**</div>

Procedure 1-4
Provisioning the DMS SuperNode host switch for TR-08 line testing

Use this procedure to provision the host switch for testing TR-08 lines using the integrated remote test unit (IRTU) on the system. This procedure is intended to complement information in the DMS-100 family of documentation. Detailed switch datafill information is provided in *XPM Translations Reference Manual*, 297-8321-815. Overview information is provided in *Line and Loop Testing Overview*, 323-3001-115, in *Description*, Volume 2B.

Requirements

You must have access to the appropriate portions of the MAP user interface of the Digital Multiplex System (DMS) SuperNode host switch.

Action

Step	Action

Note: Steps 1 to 7 provide a sample provisioning session at the DMS SuperNode MAP. Refer to DMS switching documentation to determine the correct details for your application.

1   In table LNINV, add a TR-08 POTS service (for the IRTU control path) to the remote carrier SLC (RCS) peripheral where this system is connected and specify cardcode SCD203. Enter the following at the MAP user interface:

table lninv ↵

add rcsW 0 0 X Y SCD203 stdln hasu n nl n nil ↵

    where

    W   RCS number, as defined in table RCSINV, for the RCS where the system is connected

    X   assigned DS1 link number: enter 0, 1, 2, or 3 (for link A, B, C, or D respectively)

    Y   assigned DS0 slot number (zero-based)

    quit ↵

        —continued—

Procedure 1-4 (continued)
Provisioning the DMS SuperNode host switch for TR-08 line testing

Step	Action
2	To make changes to SERVORD, enter the following at the MAPCI user interface:

servord ↵

The system responds with the following:

SO:

Enter the following:

new ↵

The system responds with the following:

SONUMBER: NOW 94 5 21 AM

Enter the following carriage return:

↵

The system responds with the following:

DN:

Enter the following:

VW0XYY ↵

> **where**
>
> V   RCS prefix, as defined in table RCSINV, for the RCS where the system is connected
>
> W, X, and Y   same as in step 1

The system responds with the following:

LCC:

Enter the following:

1fr ↵

The system responds with the following:

LATANAME:

Enter the following:

nillata ↵

The system responds with the following:

LEN_OR_LTID:

—continued—

Procedure 1-4 (continued)
Provisioning the DMS SuperNode host switch for TR-08 line testing

Step	Action
	Enter the following:
	rcsW 0 0 X Y ↵
	where
	W, X, and Y same as in step 1
	The system responds with the following:
	OPTION:
	Enter the following:
	dgt ↵
	The system responds with the following:
	OPTION:
	Enter the following:
	$ ↵
	The commands as entered are repeated for your review. You are requested to confirm, edit, or reject the entries.
	After you have confirmed the entries, enter the following:
	quit ↵
	SERVORD quits.
3	Repeat steps 1 and 2 for the second TR-08 POTS line (IRTU talk/monitor path).
4	Datafill table MTAVERT to assign a vertical to the desired RCS. Provision the Vertsel parameter to S, the Selector to L, and the Linemod to RCSW 0 0, where W is the RCS number, same as in step 1.
5	Datafill table TRKGRP to provision the NTT as MLT, with the DGTTST parameter set for INTRCVR.
6	Make sure no major alarms exist on the RCS. Enter the following:
	pm; post rcs rcsW 0 0 ↵
	where
	W same as in step 1
	The status screen for the RCS is displayed. The RCS must show InSv.

—continued—

Procedure 1-4 (continued)
Provisioning the DMS SuperNode host switch for TR-08 line testing

Step	Action
7	Verify the status of the TR-08 links. Enter option 5:
	trnsl ↵
	The status of provisioned TR-08 links (A, B, C, and D) is displayed. The MsgCond of all four links must be OPN.
	This completes the switch provisioning necessary for testing TR-08 lines with the IRTU. Further provisioning for TR-08 is indicated in the following steps.
8	Provision the system for TR-08 test access method, as given in Procedure 1-3 on page 1-11. Specify TAP1 to test with IRTU test head 1, or TAP2 to test with IRTU test head 2.
9	Use the Provisioning Manager tool on the OPC to provision the system with two ILCPOTS services. For each service, specify the termination point (IRTU test head 1 or 2) and type (one control path and one talk/monitor path). Refer to *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, Volume 4B, for details.

—**end**—

Verifying line/loop test system connections

Use this chapter to verify line and loop testing system connections for system equipment. The number of line and loop testing configurations supported by the system is so numerous that verification procedures for all combinations cannot be documented. Verification procedures are provided for certain commonly expected testing arrangements.

Do the procedures in this chapter only when the system is being prepared for service or when the test access method or external testing system is modified.

Chapter task list

The following table lists the topics in this chapter. These topics are the procedures that you follow to line/loop test system connections. If you cannot successfully complete these procedures, contact your next level of support.

Topic	See
Verifying the DRTU setup for CALRS Set up and test the CALRS-DRTU connections (UDLC)	page 2-7
Verifying the IRTU setup for CALRS Set up and test the CALRS-IRTU connections (GR-303 DMS)	page 2-12

Cable pair and I/O card pinout details

Table 2-1 on page 2-2, Table 2-2 on page 2-3, and Table 2-3 on page 2-4 list cable pair and card pinout details for the cables used with the pair gain test controller/metallic test access (PGTC/MTA) input/output card, the test bypass pairs (TBP) input/output (I/O) card, and the test access path (TAP) I/O card.

Note: The TAP cable (NT4K85EA, EB, EC, and ED) is used with both the TBP I/O card and the TAP I/O card.

Table 2-1
Pin details for the PGTC/MTA I/O cable, NT4K85BA

Signal	Pin	Pair	Color	Signal	Pin	Pair	Color
1 Ring	1	1	BL 1W	1 Tip	26	1	W 1BL
2 Ring	2	2	O 1W	2 Tip	27	2	W 1O
3 Ring	3	3	G 1W	3 Tip	28	3	W 1G
4 Ring	4	4	BR 1W	4 Tip	29	4	W 1BR
2 Sleeve	5	5	S 1W	1 Sleeve	30	5	W 1S
4 Sleeve	6	6	BL 1R	3 Sleeve	31	6	R 1BL
2 OH	7	7	O 1R	1 OH	32	7	R 1O
4 OH	8	8	G 1R	3 OH	33	8	R 1G
2 Proceed	9	9	BR 1R	1 Proceed	34	9	R 1BR
4 Proceed	10	10	S 1R	3 Proceed	35	10	R 1S
2 Lock	11	11	BL 1BK	1 Lock	36	11	BK 1BL
4 Lock	12	12	O 1BK	3 Lock	37	12	BK 1O
		13	NC			38	NC
		14	NC			39	NC
		15	NC			40	NC
		16	NC			41	NC
T Mjr		17	G 1BK	Tst Alm	42	42	BK 1G
		18	NC			43	NC
		19	NC			44	NC
		20	NC			45	NC
		21	NC			46	NC
Sezby		22	BR 1BK	Seize	47	47	BK 1BR
		23	NC			48	NC
		24	NC			49	NC
		25	NC			50	NC
NC = no connection							

Table 2-2
Pin details for the TAP cable (NT4K85EA, EB, EC, ED) used with the TBP I/O card

Signal	Pin	Pair	Color	Signal	Pin	Pair	Color
Bypass 1R	1	1	BL 1W	NC	23	12	NC
Bypass 1T	2	1	W 1BL	NC	24	12	NC
Bypass 2R	3	2	O 1W	NC	25	13	NC
Bypass 2T	4	2	W 1O	NC	26	13	NC
Bypass 3R	5	3	G 1W	NC	27	14	NC
Bypass 3T	6	3	W 1G	NC	28	14	NC
Bypass 4R	7	4	BR 1W	NC	29	15	NC
Bypass 4T	8	4	W 1BR	NC	30	15	NC
Bypass 5R	9	5	S 1W	NC	31		NC
Bypass 5T	10	5	W 1S	NC	32		NC
Bypass 6R	11	6	BL 1R	NC	33		NC
Bypass 6T	12	6	R 1BL	NC	34		NC
NC	13	7	NC	NC	35		NC
NC	14	7	NC	NC	36		NC
NC	15	8	NC	NC	37		NC
NC	16	8	NC	NC	38		NC
Inhibit 1	17	9	BR 1R	NC	39		NC
Inhibit 2	18	9	R 1BR	NC	40		NC
Inhibit 3	19	10	S 1R	NC	41		NC
Inhibit 4	20	10	R 1S	NC	42		NC
Inhibit 5	21	11	BL 1BK	NC	43		NC
Inhibit 6	22	11	BK 1BL	NC	44		NC
NC = no connection							

Table 2-3
Pin details for the TAP cable (NT4K85EA, EB, EC, ED) used with the TAP I/O card

Signal	Pin	Pair	Color	Signal	Pin	Pair	Color
1 A In R	1	1	BL 1W	2 C Out R	23	12	O 1BK
1 A In T	2	1	W 1BL	2 C Out T	24	12	BK 1O
1 A Out R	3	2	O 1W	MTA R	25	13	G 1BK
1 A Out T	4	2	W 1O	MTA T	26	13	BK 1G
1 B In R	5	3	G 1W	RDT TBP R	27	14	BR 1BK
1 B In T	6	3	W 1G	RDT TBP T	28	14	BK 1BR
1 B Out R	7	4	BR 1W	Ext TBP R	29	15	S 1BK
1 B Out T	8	4	W 1BR	Ext TBP T	30	15	BK 1S
1 C In R	9	5	S 1W	NC	31		NC
1 C In T	10	5	W 1S	NC	32		NC
1 C Out R	11	6	BL 1R	NC	33		NC
1 C Out T	12	6	R 1BL	NC	34		NC
2 A In R	13	7	O 1R	NC	35		NC
2 A In T	14	7	R 1O	NC	36		NC
2 A Out R	15	8	G 1R	NC	37		NC
2 A Out T	16	8	R 1G	NC	38		NC
2 B In R	17	9	BR 1R	NC	39		NC
2 B In T	18	9	R 1BR	NC	40		NC
2 B Out R	19	10	S 1R	NC	41		NC
2 B Out T	20	10	R 1S	NC	42		NC
2 C In R	21	11	BL 1BK	NC	43		NC
2 C In T	22	11	BK 1BL	NC	44		NC

NC = no connection

The following explains some of the symbols used in the Signal column:

1 = external TAP1 connection; 2 = external TAP2 connection

A = T/ R pair; B = T1/ R1 pair; C = E/ M pair

Examples:

1 B In R = external TAP1, T1/ R1 pair, towards the line card, ring lead

2 A out T = external TAP2, T/ R pair, towards the loop (drop), tip lead

Wiring the test bypass pair to the TAP I/O card at the RFT

The following additional information relates to wiring a test bypass pair to the TAP I/O card at the remote fiber terminal (RFT). The remote digital terminal test bypass pairs R (RDT TBP R) and RDT TBP T pins provide the test bypass pair connection to the central office (CO) equipment to the fiber central office terminal (FCOT) in a universal system, or to the CO switch in an integrated system, or to both, in a combined system.

The Ext TBP R and Ext TBP T pins extend the test bypass pair connection to other remote equipment (such as another co-located RFT in a DS1-fed system application), passing on the test bypass pair connection from the CO equipment (this is supplied to the RFT on the RDT TBP T and R pins). An example arrangement is shown below.
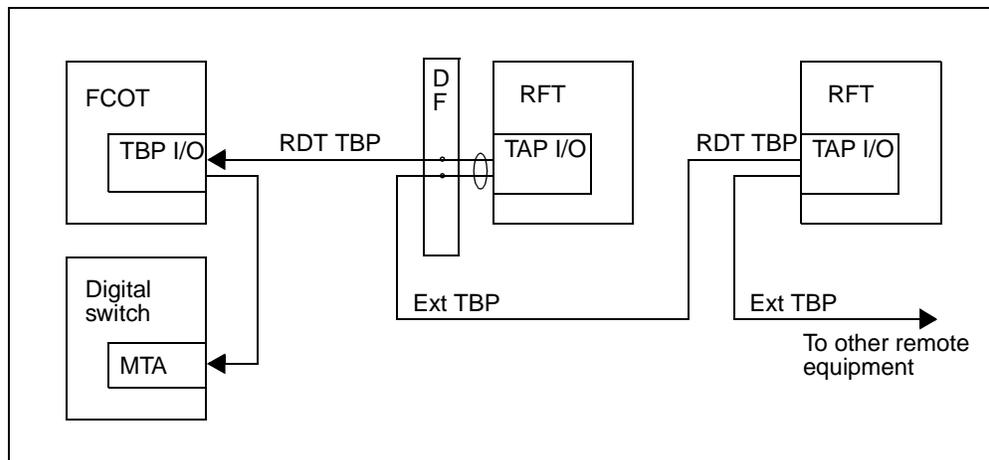
Wiring the R-TEC TBTU to the TAP I/O card

When connecting the R-TEC signature module, the test bus termination unit (TBTU) for line and loop testing, the MTA R and MTA T pins (pins 25 and 26) on the TAP I/O card are used. Refer to *Line and Loop Testing Overview*, 323-3001-115, in *Description*, Volume 2B, for additional information about Reliance TSD line and loop testing equipment.

Wiring external test equipment to the TAP I/O card

The following additional information relates to wiring external test equipment to the test access path (TAP) input/output (I/O) card.

Pins 1 to 24 on the TAP I/O card are used to connect to external test equipment, and can accommodate up to two remote test units (RTUs). Pins 1 to 12 provide access to external TAP 1, and pins 13 to 24 provide access to external TAP 2. Each of these two TAPs provide the capability to test a 2-wire, 4-wire, or 6-wire circuit in the TEST IN direction (towards the line card) and in the TEST OUT direction (towards the loop).

Table 2-4 is derived from Table 2-3 on page 2-4; it lists the wiring details for connecting external test equipment to the TAP I/O card.

Table 2-4
Connecting external test equipment to the TAP I/O card

Test direction	Desig.	External TAP 1		External TAP 2	
		Signal	Pin	Signal	Pin
Test in (towards the line card)	R	1 A In R	1	2 A In R	13
	T	1 A In T	2	2 A In T	14
	R1	1 B In R	5	2 B In R	17
	T1	1 B In T	6	2 B In T	18
	M	1 C In R	9	2 C In R	21
	E	1 C In T	10	2 C In T	22
Test out (towards the loop)	R	1 A Out R	3	2 A Out R	15
	T	1 A Out T	4	2 A Out T	16
	R1	1 B Out R	7	2 B Out R	19
	T1	1 B Out T	8	2 B Out T	20
	M	1 C Out R	11	2 C Out R	23
	E	1 C Out T	12	2 C Out T	24
The following explains some of the symbols used in the Signal column:					
1 = external TAP1 connection; 2 = external TAP2 connection					
A = T/R pair; B = T1/ R1 pair; C = E/M pair					
Examples:					
1 B In R = external TAP1, T1/ R1 pair, towards the line card, ring lead					
2 A out T = external TAP2, T/ R pair, towards the loop (drop), tip lead					

The following table indicates how to wire the Nortel digital remote test unit (DRTU), model 3704, to external TAP 2 on the TAP I/O card.

Test direction	Desig.	External TAP 2	
		Signal	Pin
Test in (towards the line card)	R	2 A In R	13
	T	2 A In T	14
Test out (towards the loop)	R	2 A Out R	15
	T	2 A Out T	16

Procedure 2-1
# **Verifying the DRTU setup for CALRS**

Use this procedure to verify the line test operation involving a digital remote test unit (DRTU). The setup in Figure 2-1 below shows a universal digital loop carrier (UDLC) system using the DRTU dedicated control path.

The system supports DRTU line testing from a Local Test Cabinet (LTC), or from the Centralized Automated Loop Reporting System (CALRS) through an LTC or an enhanced line test unit (ELTU).

The commands given in this procedure are DRTU-level, followed by the equivalent LTC key. The DRTU commands are used only if you have connected a VT100-compatible terminal directly to the DRTU or ELTU. The equivalent commands issued from the CALRS user interface can be different. Refer to the CALRS product documentation for details.

Figure 2-1
CALRS testing using a DRTU in a universal application

PC-10737

LCDC: Line card diagnostic circuitry
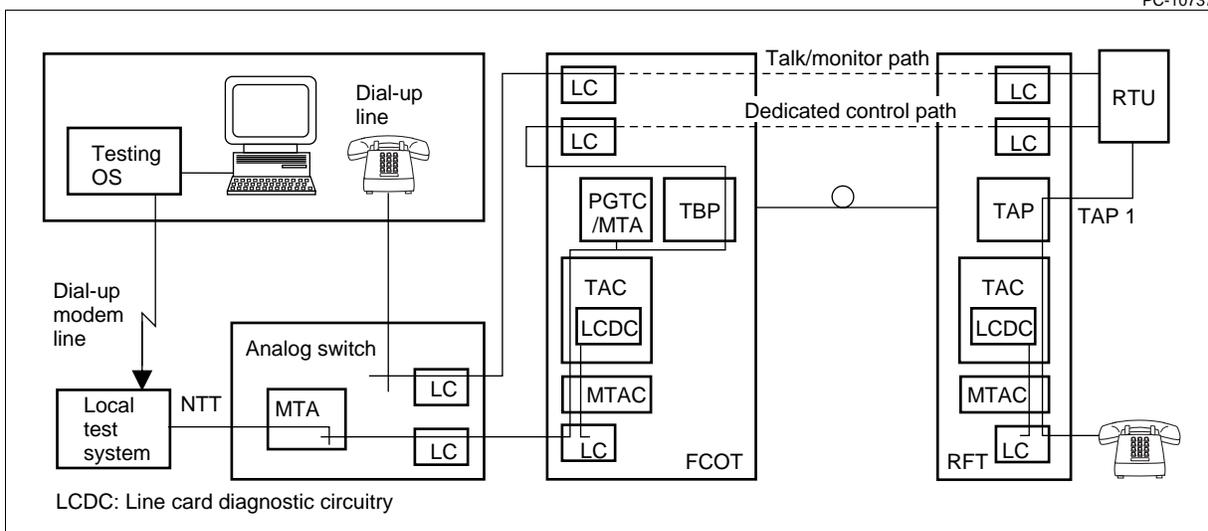
Requirements

The system equipment listed in the following table must be installed, cabled to the main distribution frame (MDF), and cross-connected to the specified termination.

—continued—

Procedure 2-1 (continued)
Verifying the DRTU setup for CALRS

System termination	System cable to MDF	Note
FCOT TBP I/O, slot 51	NT4K85EA, EB, EC, or ED	test bypass pairs (TBP) I/O pins 1 and 2 are connected to a fiber central office terminal (FCOT) line card for the control channel.
FCOT PGTC/MTA I/O, slot 52	NT4K85BA plus an extension to the MDF	the cable is required only if pair gain test controller (PGTC) equipment is used.
remote fiber terminal (RFT) TAP I/O, slot 53	NT4K85EA, EB, EC, or ED	TAP I/O pins 1 to 4 (if TAP 1 is used), or pins 13 to16 (if TAP 2 is used), are connected to the DRTU test in and test out pairs.
2 FCOT line cards		one is connected to the FCOT TBP I/O card for the control path and a second is connected to the switch for the callback (talk/monitor) path.
2 RFT line cards		connected to the DRTU: one for the dedicated control path, and a second for the callback path.

Additional requirements include:

- the line cards used for the control and callback paths are equipped and provisioned as POTS; refer to *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, Volume 4B.

- the pair gain test controller/metallic test access (PGTC/MTA) Provisioning Manager is used to provision the test method and the remote access point; refer to Chapter 1.

- determine what line number the Digital Remote Test Unit (DRTU) can dial to establish the callback connection and provision the local test cabinet (LTC) with this number if testing from the LTC.

The DRTU is described in Nortel Networks document *Model 3704 Digital Remote Test Unit (DRTU)*, 662-5021-215. The document includes installation, operation, and maintenance information useful to the technician preparing for this procedure.

—continued—

Procedure 2-1 (continued)
Verifying the DRTU setup for CALRS

Obtain the cooperation of central office (CO) test personnel in order to complete this procedure. Simultaneous testing of other lines can interfere with or prevent its completion, so it is recommended that any other line testing activities on this system be suspended when performing this procedure.

Action

Step	Action
1	Verify that the cables are properly connected for testing, according to your configuration.
2	Log in to the Centralized Automated Loop Reporting System (CALRS) user interface, if it is part of this test system.
3	Establish test access to an installed line card by entering the command appropriate to your LTC or enhanced line test unit (ELTU) system: ACC, LEN, SACC, or SLEN.
	The LTC or ELTU establishes a connection to the fiber central office terminal (FCOT) line card through the local switch using a no test trunk.
4	Verify that the line card is on a carrier system by entering the following:
	VFY ↵
	(or press the LTC key: Meas)
	The signature resistance of the FCOT line card indicates that the line under test is on a carrier system.
5	Initiate a metallic bypass by entering the following:
	REM ↵
	(or press the LTC key: Rem On)
	A high voltage is generated on the tip lead of the test trunk to inform the FCOT that a bypass is requested. The FCOT establishes a bypass connection to the dedicated control path. This provides DRTU access to the In and Out directions of the test tip-ring appearance on the loop side of the RFT line card. The DRTU is ready to accept commands.
6	Verify communication to the DRTU by entering the following:
	WHO ↵
	(or press the LTC key: SLF or Self Test Key)
	The DRTU responds with its unit name and software version, indicating that continuity between the LTC or ELTU is achieved.

—continued—

Procedure 2-1 (continued)
Verifying the DRTU setup for CALRS

Step	Action

7   Perform a test of the line by entering the following:

VFY ↵

(or press the LTC key: Meas)

The measurement is taken in the out direction, toward the subscriber. The response varies depending on what is on the drop, but for a normal phone that is on-hook, the response should be similar to the following:

VFY OK			
	T-R	T-G	R-G
ACV	0	0	0
DCV	0	0	0
RES	INF	INF	INF
CAP	0.480	0.000	0.000
RINGERS	YES	NO	NO
DISTANCE IN MILES	0.1		

8   Establish the callback connection and verify its operation, by entering

CLB T, <xxx-yyyy> ↵
 where

 <xxx-yyyy>   is the callback line telephone number

(or press the LTC key: Ring)

The callback set rings.

If you	Then go to
did not obtain the results given here	step 9
obtained the results given here	step 14

9   Verify the following:

- the control path continuity from the LTC/ELTU to the DRTU
- the test access continuity to the line card under test
- all equipment involved in the test: DRTU, LTC/ELTU, test access card (TAC), MTACs, I/O cards, line cards, metallic test access (MTAs) equipment in the switch, and PGTC equipment

—continued—

Procedure 2-1 (continued)
Verifying the DRTU setup for CALRS

| Step	Action
10	Verify that the TAC equipment is in service. In FWPUI, enter:
	eq tac ↵
	The TAC Equipment screen is displayed.
11	Verify that the MTAC equipment is in service. In FWPUI, enter:
	eq mtac ↵
	The MTAC Equipment screen is displayed listing the installed MTACs. If the MTACs are in service (IS), then IS appears on the screen.
12	To verify that the ACC command is placing the line under test at the RFT into metallic access, display the line under test on the RFT user interface. In FWPUI, enter:
	eq lc <CDS shelf> <slot> ↵
	If the line card goes into a MTA state shortly after the ACC command is issued from the LTC, then the REM command is ready to be issued.
13	To verify that the switch is ringing down the control path of the DRTU when a REM ON key is pressed at the LTC, display the control path line card at the RFT user interface. In FWPUI, enter:
	eq lc <CDS shelf> <slot> ↵
	If the line card is traffic busy, then the control path is functional.
14	Terminate the test session with the DRTU command:
	REL ↵
	(or press the LTC key: Rel)
	Requirements:
	• the modem session between the ELTU/LTC and the DRTU is discontinued
	• the no-test-trunk is released
	• the test-in and test-out relays on the FCOT and RFT line cards are deactivated
	• the test bypass pair at the FCOT is released
	• the TAP at the RFT is deactivated, releasing the DRTU
15	Log out of FWPUI. For the logout procedure, refer to *Network Element User Interface Description*, 323-3001-300, in *Operations, Administration, and Provisioning,* Volume 4A.

—**end**—

Procedure 2-2
Verifying the IRTU setup for CALRS

Use this procedure to verify the line testing operation involving the Centralized Automated Loop Reporting System (CALRS), an integrated remote test unit (IRTU) emulating a digital remote test unit (DRTU), and a customer line terminating on a remote fiber terminal (RFT). The setup in Figure 2-2 below shows an integrated application using the IRTU.

This procedure tests a digital multiplex switch (GR-303 DMS) system using DS1 tandem services to support the emulated DRTU dial-up control and monitor paths, as the figure below shows. Switch software in BCS36 release supports a single metallic test access (MTA) point, meaning only one DRTU (DRTU emulation in this case) is supported at the remote fiber terminal (RFT) for each switch. The multihosting feature permits two switches to utilize two IRTU test heads running DRTU emulation.

The commands given in this procedure are DRTU and Local Test Cabinet (LTC) commands. The equivalent commands issued from the CALRS user interface may be different. The DRTU commands are used only if you have connected a VT100-compatible terminal directly to an enhanced line test unit (ELTU), an alternative to LTC. Refer to the CALRS product documentation for details.

Figure 2-2
CALRS testing using an IRTU in an integrated application (BCS36 release)
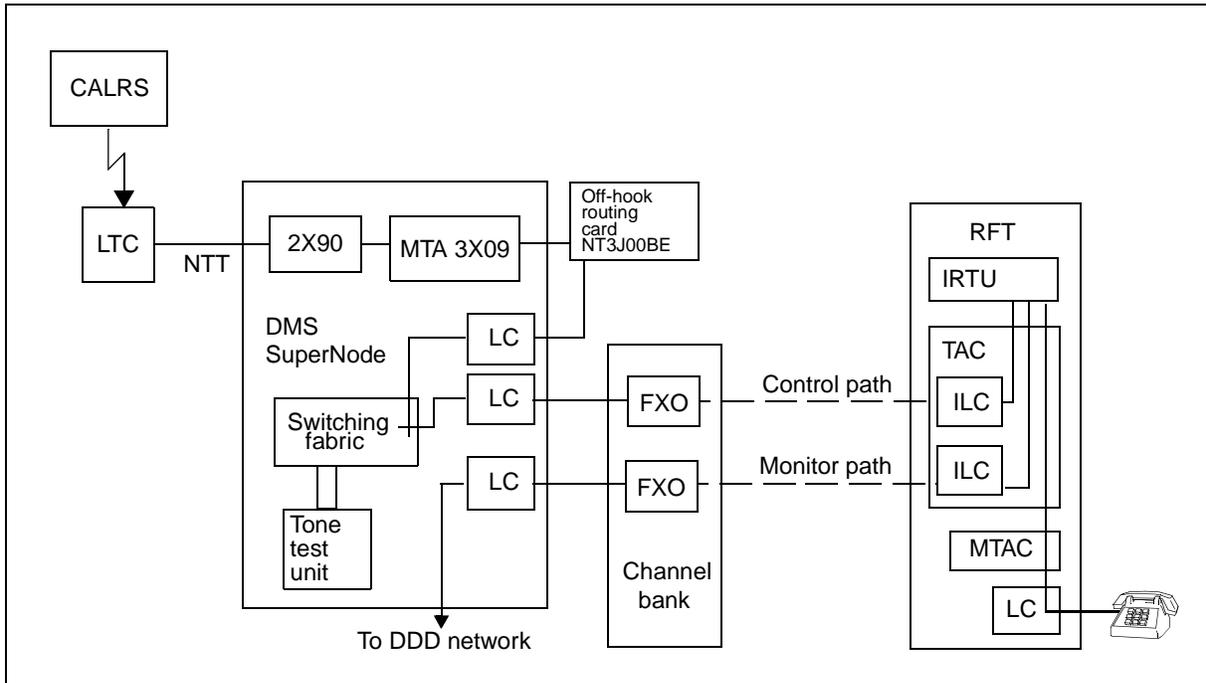
—continued—

Requirements

The network elements (NEs) are installed, powered, tested, and ready for end-to-end system testing. The following equipment and provisioning is required:

• IRTU, NT4K57AA or NT4K57AB or NT4K57BA, in slot 21, RFT

• the control and callback IRTU line cards (ILCPOTS) are provisioned as DS1 tandem for the appropriate test head at the RFT, using the operations controller (OPC) Provisioning Manager tool. Refer to document *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, Volume 4B.

• the no-test trunk (NTT) at the Digital Multiplex System (DMS) SuperNode switch is provisioned as BASIC in table TRKGRP

• the switch is equipped with a signature shelf with an off-hook routing card (signature card)

• the switch RDTINV table is provisioned for the remote access point (IRTU), the MTA vertical, and the metallic test access unit (MTAU) and MTAPT selections; in BCS36 release, the IRTU test head is selected as follows:
MTAU/MTAPT = 1 1, to select IRTU test head 1
MTAU/MTAPT = 1 2, to select IRTU test head 2

Refer to *Subscriber Carrier Module—100 Access Translation Guide*, 297-2741-350. For releases NA002 through NA006 provisioning details, refer to *XPM Translations Reference Manual*, 297-8321-815.

• three line cards are provisioned at the switch: two line cards facing the pulse-code modulation (PCM) channel bank for the control path and the monitor path, and an automatic line (AUL) card that is used to ring down the dial-up control path to the IRTU test head

• a PCM channel bank is provided with two foreign exchange office (interface) (FXO) line cards

• determine the line number that the IRTU can dial to establish the callback connection; provision the LTC with this number, if testing from the LTC

Obtain the cooperation of central office (CO) test personnel in order to complete this procedure.

> **CAUTION**
> **Suspend line testing activities**
> Simultaneous testing of other lines can interfere with or prevent its completion. Suspend other line testing activities on this system when performing this procedure.

—continued—

Procedure 2-2 (continued)
Verifying the IRTU setup for CALRS

Action

Step	Action
1	Log in to the CALRS user interface, if it is part of this test system.
2	Establish test access to an installed line card by entering the command appropriate to your LTC/ELTU system: ACC, LEN, SACC, or SLEN.

The LTC/ELTU establishes metallic test access (MTA) to the line under test at the RFT and a carrier signature is provided by a signature card to the LTC/ELTU.

3   Verify that the line card is on a carrier system by entering the following:

VFY ↵

(or press the LTC key: Meas)

The signature resistance of the signature card indicates that the line under test is on a carrier system. This resistance can be 75.50 kΩ or 37.50 kΩ, depending on how the resistors in the signature card are installed. Both values indicate a carrier system. The response is similar to the following:

VFY OK			
	T-R	T-G	R-G
ACV	0	0	0
DCV	0	0	0
RES	75.50	75.50	75.50
CAP	NMM	NMM	NMM
RINGERS	UNK	UNK	UNK
DISTANCE IN MILES	NMM		

4   Simulate a metallic bypass by entering the following:

REM ↵

(or press the LTC key: Rem On)

A high voltage is generated on the tip lead of the test trunk that causes the off-hook routing card to ring down the DRTU dial-up control path. After the modems connect and initial handshaking is complete, the IRTU is ready to accept commands.

—continued—

Procedure 2-2 (continued)
Verifying the IRTU setup for CALRS

Step	Action
5	Verify communication to the IRTU by entering the following:

WHO ↵

(or press the LTC key: SLF or Self Test Key)

The IRTU responds with its unit name (DRTU) and software version (V1.0-025) indicating continuity to the LTC or ELTU is achieved.

6 Perform a test of the line by entering the following:

VFY ↵

(or press the LTC key: Meas)

The measurement is taken in the out direction, toward the subscriber. The response varies depending on what is on the drop, but for a normal phone that is on-hook, the response should be similar to the following:

VFY OK			
	T-R	T-G	R-G
ACV	0	0	0
DCV	0	0	0
RES	INF	INF	INF
CAP	0.480	0.000	0.000
RINGERS	YES	NO	NO
DISTANCE IN MILES	0.1		

7 Establish the callback connection and verify its operation, by entering

CLB T, <xxx-yyyy> ↵
 where

 <xxx-yyyy>　　　　　　is the callback line telephone number

(or press the LTC key: Ring)

The callback set rings.

　　　　　　　　—continued—

Procedure 2-2 (continued)
Verifying the IRTU setup for CALRS

Step **Action**

If you	Then
obtained the results given here	go to step 13
did not obtain the results given here	perform steps 8 to 12 to verify the following: • control path continuity from the LTC or ELTU to the IRTU • the callback path continuity from the IRTU to its switch termination • the test access continuity to the line card under test • all external equipment involved in the test: IRTU, LTC/ELTU, TAC, MTAC, input/output cards, and metallic test access equipment in the switch

8 Verify that the IRTU equipment is in service. In FWPUI, enter the following:

eq irtu ↵

The IRTU Equipment screen is displayed. The IRTU circuit pack provisions automatically when inserted and the automatic in-service (AINS) parameter defaults to ON.

9 Verify that the TAC equipment is in service. In FWPUI enter the following:

eq tac ↵

The TAC Equipment screen is displayed.

10 Verify that the MTAC equipment is in service. In FWPUI enter the following:

eq mtac ↵

The MTAC Equipment screen appears listing the installed MTACs. If the MTACs are in service (IS), then IS appears on the screen.

11 To verify that the ACC command is placing the line under test at the RFT into metallic access, display the line under test on the RFT user interface. In FWPUI enter:

eq lc <CDS shelf> <slot> ↵

If the line card goes into a metallic test access state shortly after the ACC command is issued from the LTC, then the REM command is ready to be issued.

—**continued**—

Procedure 2-2 (continued)
Verifying the IRTU setup for CALRS

Step	Action

12 To verify that the switch is ringing down the emulated control path of the DRTU when a REM command is issued from the LTC, display the control path IRTU line card on the RFT user interface. In FWPUI enter:

eq lc <CDS shelf> <slot> ↵

If the line card goes traffic busy shortly after the REM command is issued from the LTC, then the control path is functional and the test session should become active.

13 Terminate the test session by entering the following DRTU command:

REL ↵

(or press the LTC key: Rel)

The modem session between the ELTU/LTC and the IRTU is discontinued, the no-test-trunk is released, the test-in and test-out relays on the RFT line card are deactivated, and the TAP at the RFT is deactivated, releasing the IRTU.

14 Log out of FWPUI. For the logout procedure, refer to the *Network Element User Interface Description*, 323-3001-300, in *Operations, Administration, and Provisioning,* Volume 4A.

—**end**—

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C

Cable
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